

# Ideological Constraint and Polarization in the American Electorate\*

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## Abstract

At the half-century mark of Converse's (1964) field-defining essay, the nature of political ideology in the mass public remains enigmatic. To test the ideological structure of American public opinion, I develop and implement a Bayesian dynamic ordinal item response theory (IRT) model. In contrast to static scaling procedures, this method allows for changes in the mappings between issue attitudes and the underlying ideological dimension over time. The results indicate that over the last thirty years, mass political attitudes have increasingly conformed to a unidimensional ideological structure. As among political elites, the liberal-conservative dimension has come to encompass a wide range of policy and value divides in the mass public. In addition, partisans have become not only sorted, but polarized, along this dimension.

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# 1 Introduction

How, and to what extent, are Americans' political attitudes ideologically structured? At the half-century mark of Converse's (1964) field-defining essay "The Nature of Belief Systems in Mass Publics," this question remains hotly contested. Political ignorance remains widespread in the mass public (Delli Carpini and Keeter, 1996), but an expansive literature has shown that citizens can at least partially overcome limited political information by using heuristic devices such as elite cues (Lupia, 1994; Hinich and Munger, 1994; Lupia and McCubbins, 1998), group affect (Brady and Sniderman, 1985), and core values and religious beliefs (Feldman, 1988; Layman and Carmines, 1997; Jacoby, 2006; Goren, 2013) to approximate ideological thinking, structure their political attitudes, and make reasoned political choices that are in line with their basic predispositions. The recent surge of elite-level polarization (McCarty, Poole and Rosenthal, 2006) has also sparked renewed interest in the role of the political environment in promoting ideological thinking among citizens (e.g., Sniderman and Bullock, 2004). Has partisan polarization served to better constrain mass political attitudes along a single liberal-conservative dimension, or do citizens' policy preferences remain multidimensional?

The degree of liberal-conservative ideological constraint in American public opinion has important consequences for the health of democratic representation. Given the vast expanse of policy issues, ideology provides a mechanism for citizens to reduce the cognitive load of the political world and a more feasible mechanism for elites to communicate their policy stances with voters (Downs, 1957; Hinich and Munger, 1994). If voters do not possess meaningful ideological positions—either because they do not possess "real" attitudes or because their attitudes are not systematically connected with each other—then mass-elite policy linkages are hindered. But, the opposite scenario also presents dangers. If mass policy attitudes conform to a unidimensional or mostly unidimensional ideological structure, as with political elites, the absence of cross-cutting divisions serves to concentrate and heighten conflict along the primary liberal-conservative dimension. Layman and Carsey (2002*a,b*)

term this phenomenon “conflict extension,” in contrast to “conflict displacement.” Under conflict displacement, new issues arise to replace the primary dimension of competition. With conflict extension, new divisions are simply absorbed into existing lines of political conflict. For example, voters who previously disagreed about universal health care and the estate tax now also disagree about abortion and the size of the military. In this understanding, polarization is not simply about the distribution of voters in ideological space, but about the *meaning* of the ideological dimension(s) dividing voters.

Mass ideological constraint is also of interest to campaign scholars. To the extent that voters’ policy preferences are multidimensional, political candidates and parties have greater opportunity to use “wedge issues” on secondary dimensions to attract cross-pressured voters (Hillygus and Shields, 2008). But, even along a single ideological dimension, there are also opportunities to target cross-pressured voters. For instance, if attitudes on a particular issue are constrained—but only weakly so—along the dominant dimension, then there will be many voters who are cross-pressured between their preferences on that issue and their partisanship, social group membership, or other predispositions. In addition, even along the liberal-conservative dimensions, issues may divide voters differently (Jacoby, 1990), and so campaigns may seek to prime different issues on the same dimension on which they enjoy an advantage. For example, Democrats might seek to prime the minimum wage, while Republicans might seek to prime tax cuts. Neither example involves heresthetical maneuvering (Riker, 1990) in multiple dimensions, but both are nonetheless strategies that make use of information about the spatial positions of voters in ideological space.

Despite extensive progress on these questions, there are reasons to believe that an alternative methodological approach can shed new light on old problems. Because ideology is a latent concept that is measured from observed, error-laden manifestations such as survey items gauging respondents’ policy preferences, the analysis of ideological structure is a measurement problem that requires the use of appropriate measurement methods. Most existing studies of attitudinal structure in American public opinion rely on factor analysis rather

than unfolding methods (Lewis-Beck et al., 2008, p. 240). However, as I detail, unfolding procedures (Coombs, 1964)—like Poole and Rosenthal’s (1997) NOMINATE method for the analysis of legislative roll call voting data—are more appropriate for the analysis of political choice data because they are explicitly built upon models of choice behavior (specifically, the spatial model of voting; see Poole, 2005). In addition, dynamic unfolding methods (e.g., Martin and Quinn, 2002) are theoretically attractive when analyzing choice data that span several decades, but have thus far not been widely used to study ideology in the mass public (for an exception, see Caughey and Warshaw, 2013).

In this paper, I develop a dynamic version of the Bayesian ordinal item response theory (IRT) model and use it to examine changes in the ideological structure of Americans’ political attitudes between 1984 and 2012. I focus on changes in the relationship between economic, social, and foreign policy issues as well as values and candidate evaluations to the recovered dimension. My results indicate that Americans’ policy attitudes have, over time, exhibited greater levels of ideological constraint. I also find that social/cultural issue attitudes and value predispositions have become increasingly absorbed into the primary liberal-conservative dimension, and that—contrary to much of the existing literature on mass polarization—partisans have become both ideologically sorted *and* polarized in contemporary American politics. I conclude by discussing the implications of these results for mass-elite linkages and political polarization in American democracy.

## 2 Ideological Structure in American Public Opinion

The scholarly dispute over the degree to which Americans are “ideologically innocent” (e.g., Feldman and Zaller, 1992) was launched by Converse’s (1964) famous essay. Converse’s results unambiguously supported the proposition that only a small proportion of Americans can be characterized as ideological, with the rest lacking a meaningful understanding of ideological terms and holding unstable policy preferences across time. Survey respondents’

attitudes also exhibited negligible levels of constraint, or a systematic organization of policy preferences. The observed correlations between pairs of respondents' issue attitudes were extremely low, rarely greater than 0.3 and in many cases negative. Converse's pessimistic assessment of citizens' ideological capabilities has been tremendously resilient (Lewis-Beck et al., 2008), anchored by the consistent finding of widespread political ignorance in the American electorate (Zaller, 1992; Delli Carpini and Keeter, 1996).

Over time, though, Converse's conclusions have been challenged on multiple fronts. First, attitudinal constraint is argued to be tied to the amount and clarity of ideological conflict in the political environment. Later studies found considerably higher intercorrelations between issue attitudes, and attributed this result to a shift from the relatively ideologically tranquil environment of the 1950s to the more tumultuous period of the 1960s (Nie, Verba and Petrocik, 1979). Greater ideological conflict on salient issues like civil rights, social welfare programs, and Vietnam seemed to clarify the ideological connections between policy issues for voters. Unfortunately, though, these changes also coincided with a change in survey questions from an "approve"/"disapprove" or "agree"/"disagree" response format to the use of issue scales with labeled endpoints such as "government should decrease defense spending"/"government should increase defense spending" that was responsible for much of the observed increase in mass ideological constraint (Sullivan, Piereson and Marcus, 1978). Nonetheless, it remains reasonable to expect that the political environment serves to promote the level of attitudinal constraint in the mass public by structuring and communicating competing "menus" of policy positions to voters (Sniderman, 2000; Sniderman and Bullock, 2004).<sup>1</sup>

Indeed, contemporary elite-level polarization (McCarty, Poole and Rosenthal, 2006) has been shown to clarify the ideological positions of the two parties and generate partisan

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<sup>1</sup>Sniderman and Levendusky (2007) argue that the updated question format more accurately reflects the nature of political choices facing citizens because they present issues in terms of competing alternatives, rather than the extent to which respondents approve of or agree with a stated policy goal. Indeed, citizens do appear to appreciate that the endpoints of these seven-point issue scales represent competing policy alternatives on the given issue (Jacoby, 1993).

sorting—the alignment of ideology and partisanship—in this mass public (Abramowitz and Saunders, 1998; Levendusky, 2009). And, if partisans recognize the policy stances of the parties, they are more likely to adopt the position of their party on issues that are not highly salient to them (Carsey and Layman, 2006). This result helps explain why polarization should strengthen ideological constraint in Americans’ policy attitudes, a proposition that is also supported (particularly among politically sophisticated and wealthy citizens) by Baldassarri and Gelman (2008).

There have also been methodological challenges to Converse’s results and, more generally, the use of issue intercorrelations to assess ideological structure. Single issue scales are especially vulnerable to measurement error (for example, due to vague or poorly worded survey instruments), and this downwardly biases observed levels of attitudinal stability and constraint (Achen, 1975). Aggregating multiple issue questions helps to cancel out random error in the individual scales and yields more stable and constrained estimates of respondents’ policy preferences (Ansolabehere, Rodden and Snyder, 2008; see also Jackson, 1983).

Finally, scholars have become increasingly appreciative of the role of core values in structuring citizens’ political attitudes. The idea that core values (or “crowning postures”) could serve to link policy preferences along overarching principles also has roots in Converse (1964, pp. 210-211), and has been empirically demonstrated in a number of subsequent studies (Hurwitz and Peffley, 1987; Feldman, 1988; Jost, Federico and Napier, 2009; Jacoby, 2014). Goren (2013) also shows that both politically sophisticated and unsophisticated citizens derive specific issue attitudes from core principles concerning the size of government, traditional morality, and military strength. Hence, to the extent that core values coincide with ideological divides, values can be a gateway to achieving ideological structure in mass policy preferences.

These factors help explain a long lineage of work which finds that a complex set of political attitudes concerning policy items and/or political figures can be effectively represented in low-dimensional space (Weisberg and Rusk, 1970; Poole and Rosenthal, 1984; Poole, 1998; Ja-

coby, 2009). Indeed, in response to these results, Melvin Hinich and his colleagues developed the basic space theory to explain how a largely unsophisticated electorate can nonetheless engage in ideological reasoning (Cahoon, Hinich and Ordeshook, 1976; Enelow and Hinich, 1984; Hinich and Munger, 1994, 1997). According to the basic space theory, ideology serves as a simplifying “mechanism for transmitting information and persuading, a generally consistent set of ideas about what is the ‘good’ in politics and social intercourse” (Hinich and Munger, 1994, p. 19). Citizens have incentives to adopt ideologies because they provide a means of reducing the informational burdens of a complex political world. Ideology also provides parties and candidates a means to concisely communicate their policy stances to the electorate, which in turn allows voters to make electoral choices based on those broad policy commitments. That is, voters can infer specific policy positions from general or symbolic political commitments (e.g., support for social welfare programs or traditional moral values) by political elites. That citizens would use a low-dimensional ideological space to process a complex stream of political information is consistent with a vast amount of work in psychology (Miller, 1956; Simon, 1985; Larkin and Simon, 1987; Gärdenfors, 2000).

Ideology, then, can be understood as a solution to the “democratic dilemma”: the problem of how an uninformed and inattentive electorate can make meaningful political choices (Lupia and McCubbins, 1998). Indeed, the basic space theory helps explain why political conflict takes place not issue-by-issue, but across broad ideological lines; or, in spatial terms, in the low-dimensional ideological space rather than the complex high-dimensional space containing all policy issues. The basic space theory interprets ideologies as bridges between comprehensive visions of the “good” and specific issue positions. A host of political elites craft these ideological “packages” of what often seem to be unrelated issues (e.g., taxes and abortion), and citizens are cued about “what goes with what” among a host of issues (Hinich and Munger, 1994; see also Noel, 2013). Citizens are apt to follow cues concerning a specific issue if they view the elite source as sharing their general predispositions about the desired end states of public policy (see also Zaller, 1992). Of course, in reality, citizens are

frequently unaware of or immune to elite policy stances, and consequently citizens remain far less ideologically constrained than political elites (Jennings, 1992). But the basic space theory helps to theoretically ground the existence of low-dimensional ideological constraint in mass publics.

Beyond the level of constraint that is present in American public opinion, what about the nature of the latent ideological dimension(s) structuring mass policy attitudes? Most work has concluded that issue attitudes are constrained along separate economic and social (and occasionally additional racial and foreign policy) dimensions (Layman and Carsey, 2002*a*; Treier and Hillygus, 2009; Feldman and Johnston, 2014). However, the two main dimensions of economic and social ideology are highly intertwined (Jost, Federico and Napier, 2009; Federico, 2012). And, there is some suggestion that Americans' policy preferences conform to a single liberal-conservative dimension to a greater extent than previously thought. Jessee (2012), for example, finds that a unidimensional Bayesian IRT model explains about 80% of respondents' binary policy choices. Stimson (2004), who emphasizes the role of a two-party system in structuring a single policy dimension in the minds of the electorate, also concludes that the process of issue evolution has largely collapsed social issue attitudes onto the liberal-conservative dimension.

Attitudinal constraint and dimensionality are also variable within subsets of the electorate, particularly across levels of political sophistication. Citizens with higher levels of education and political sophistication have long been shown to possess more highly constrained, unidimensional attitude structures (Stimson, 1975; Jacoby, 1991). The same is also true of the politically engaged (Abramowitz, 2010). Hence, while aggregate studies are useful in assessing the ideological structure of policy attitudes in the electorate as a whole, such an approach masks wide heterogeneity underneath the surface of public opinion.



### 3 The Bayesian Dynamic Ordinal Item Response Theory (IRT) Model

In political science, scaling methods such as Poole and Rosenthal's (1997) NOMINATE procedure and Clinton, Jackman, and Rivers' (2004) IDEAL procedure are used to extract measures of legislator ideology from observed choices (e.g., roll call votes). These methods employ an explicit model of choice behavior based on the spatial theory of voting: that individuals and alternatives can be represented in an abstract policy space, and that individuals derive greater utility from alternatives closer to their ideal (or most preferred) point. More specifically, NOMINATE and IDEAL are examples of unfolding procedures (Coombs, 1964) that employ the random utility framework of McFadden (1976) to model voting probabilistically. Namely, individuals will be more likely to choose the alternative closest to their ideal point, but this probability declines as the relative distance between the individual and the alternatives declines.

However, factor analytic methods, which are used in the majority of studies of ideological structure in the mass public (Lewis-Beck et al., 2008, p. 240), are not based on any such model of choice behavior. Factor analysis is a method for analyzing the relationships (i.e., correlations) between variables, not the choices themselves (Jackman, 2001, p. 230). This makes its application to the analysis of respondents' policy preferences theoretically unsound. If we wish to estimate a spatial model of mass ideology, then we should use a measurement method *based* on the spatial model. There are also empirical concerns about the use of factor analysis to analyze mass political attitudes, including the frequent assumption that the variables are distributed multivariate normal (which is violated when using binary or ordinal survey items) and the well-known problem that factor analysis has a tendency to overstate the number of factors (dimensions) needed to reproduce the inter-item correlations (Coombs and Kao, 1960; Brazill and Grofman, 2002; Treier and Hillygus, 2009).

Rather than using factor analysis to analyze ideological structure in public opinion, I

employ the two-parameter ordinal item response theory (IRT) model that has gained traction in political science over recent years (see, for instance, Clinton, Jackman and Rivers, 2004; Treier and Hillygus, 2009; Jessee, 2012). IRT models have a long lineage in psychological and educational testing, where they have been used to derive estimates of both subjects' latent ability and information about the test items. Specifically, this includes two parameters about each item: the difficulty parameter (which indicates the difficulty of the test item) and the discrimination parameter (which measures how well the test item distinguishes correct and incorrect answers on the basis of subjects' estimated ability).

The IRT model has been adapted in political science by substituting ideology for ability, and issue positions (measured through indicators such as roll call votes and public opinion survey questions) for test items. For instance, an issue that is only weakly related to the ideological dimension would have a discrimination parameter with a low (absolute) value, while an issue that is closely connected to the ideological divide (e.g., private vs. government health care) would have a discrimination parameter with a high (absolute) value. The sign on the discrimination parameter simply indicates whether higher scores on the ideological dimension correspond to an increase or decrease in the probability of answering with an affirmative response (e.g., a Yea roll call vote). Likewise, the difficulty parameter provides information about how conservative or liberal a respondent must be in order to be classified as supporting a given policy position.

The IRT model is comparable to Poole and Rosenthal's (1985; 1991; 1997) NOMINATE procedure in that individuals' ideological positions are calculated using their stated preferences on an array of policy issues. Moreover, both methods assume that individuals makes choices probabilistically (that is, with error). In this case, we are using public opinion survey responses rather than roll call votes to derive ideological estimates, but the basic intuition remains the same.

In the two-parameter ordinal IRT model, let  $z_{ij}$  represent the choice by respondent  $i$  ( $i = 1, \dots, n$ ) on issue  $j$  ( $j = 1, \dots, p$ ). Each issue  $j$  provides a total of  $C$  response categories ( $c =$

$1, \dots, C$ ). Following the standard two-parameter IRT setup,  $z_{ij}$  is modeled using Equation 1. The item difficulty parameter ( $\alpha_{jc}$ ) provides the  $C - 1$  cutpoints between the response categories, while the item discrimination parameter ( $\beta_j$ ) represents the loading of issue  $j$  onto the latent ideological dimension.  $\theta_i$  are the respondent ideal points and  $\beta_j$  is the item discrimination parameter. The error term,  $\varepsilon_{ij}$ , is assumed to be normally distributed and the errors to be iid.

$$z_{ij} = \alpha_{jc} + \beta_j \theta_i + \varepsilon_{ij} \quad (1)$$

The probability of respondent  $i$  providing response  $c$  ( $c = 1, \dots, C$ ) to issue  $j$  at time  $t$  is modeled using the logistic cumulative distribution function, shown in Equations 2-4. As in standard ordered logit/probit, the cutpoints ( $\alpha_{jc}$ ) are ordered consecutively.

$$\pi[z_{ij} = 1] = \frac{\exp(\alpha_{j1} - \beta_j \theta_i)}{1 + \exp(\alpha_{j1} - \beta_j \theta_i)} \quad (2)$$

$$\pi[z_{ij} = c] = \frac{\exp(\alpha_{jc} - \beta_j \theta_i)}{1 + \exp(\alpha_{jc} - \beta_j \theta_i)} - \frac{\exp(\alpha_{j(c-1)} - \beta_j \theta_i)}{1 + \exp(\alpha_{j(c-1)} - \beta_j \theta_i)} \quad (3)$$

$$\pi[z_{ij} = C] = 1 - \frac{\exp(\alpha_{j(C-1)} - \beta_j \theta_i)}{1 + \exp(\alpha_{j(C-1)} - \beta_j \theta_i)} \quad (4)$$

$$(5)$$

To examine changes in the ideological structure of American public opinion over time, I add a dynamic component to this model (see Fariss, 2014 for another recent application of the dynamic ordinal IRT model in political science). Specifically, I index the item parameters  $\alpha_j$  (the issue difficulty parameter) and  $\beta_j$  (the issue discrimination parameter) by time  $t$  ( $t = 1, \dots, T$ ). The respondent ideal points ( $\theta_i$ ) are not indexed by  $t$  since no respondent participates in more than one survey. Hence, in this model, the probability of respondent  $i$  ( $i = 1, \dots, N$ ) choosing response category  $c$  ( $c = 1, \dots, C$ ) for item  $j$  ( $j = 1, \dots, q$ ) is

provided by Equations 6-8:

$$\pi[z_{ijt} = 1] = \frac{\exp(\alpha_{j1t} - \beta_{jt}\theta_i)}{1 + \exp(\alpha_{j1t} - \beta_{jt}\theta_i)} \quad (6)$$

$$\pi[z_{ijt} = c] = \frac{\exp(\alpha_{jct} - \beta_{jt}\theta_i)}{1 + \exp(\alpha_{jct} - \beta_{jt}\theta_i)} - \frac{\exp(\alpha_{j(c-1)t} - \beta_{jt}\theta_i)}{1 + \exp(\alpha_{j(c-1)t} - \beta_{jt}\theta_i)} \quad (7)$$

$$\pi[z_{ijt} = C] = 1 - \frac{\exp(\alpha_{j(C-1)t} - \beta_{jt}\theta_i)}{1 + \exp(\alpha_{j(C-1)t} - \beta_{jt}\theta_i)} \quad (8)$$

In this model, normal priors are used for  $\theta_i$ ,  $\beta_{jt}$ , and  $\alpha_{jct}$ , with diffuse inverse Gamma priors placed on the precision terms. At time  $t > 1$ , the priors for  $\alpha_{jct}$  and  $\beta_{jt}$  are centered at the value of those parameters at  $t - 1$ .<sup>2</sup> The use of “normal-walk priors” in dynamic spatial voting models is adopted from Martin and Quinn (2002) and is intuitively appealing: our best estimate of the value of  $\alpha_{jct}$  and  $\beta_{jt}$  is its value at the previous time point. More importantly, though, indexing the item parameters by  $t$  allows issues to be more or less strongly linked to the underlying ideological dimension over time. Permitting the meaning of the recovered ideological dimension to evolve places the model in line with seminal measurement methods in political science like Poole and Rosenthal’s NOMINATE procedure.

$$\theta_i \sim N(0, \tau_A) \quad (9)$$

$$\beta_{j1} \sim N(0, \tau_B) \quad (10)$$

$$\beta_{jt} \sim N(\beta_{j(t-1)}, \tau_C) \quad (11)$$

$$\alpha_{jc1} \sim N(0, \tau_D) \quad (12)$$

$$\alpha_{jct} \sim N(\alpha_{jc(t-1)}, \tau_E) \quad (13)$$

$$\tau_{A:E} \sim \text{Gamma}(1, 0.1) \quad (14)$$

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<sup>2</sup>The WinBUGS code used to estimate this model is provided in the Appendix. I run each of the four models for 10,000 iterations, discarding the first 5,000 iterations and thinning the remaining iterations by 5. The unimodality of the posterior distributions and the Gelman-Rubin diagnostic indicate convergence.

## 4 Liberal-Conservative Constraint in the American Electorate, 1984-2012

There is now broad consensus that American politics is organized around conflict along a single ideological dimension. At the elite level (as well as to no small extent in the mass public) “sorting” has dwindled the ranks of liberal Republicans and conservative Democrats (McCarty, Poole and Rosenthal, 2006; Levendusky, 2009). It is now very difficult to find political candidates or elected officials who advocate economically liberal and social conservative (or vice versa) platforms. A polarized, two-party system has aligned a diverse set of policy disputes along a single, remarkably stable ideological configuration. New issues that do arise are mostly absorbed into the existing dimension, with those that are not (such as domestic surveillance) comprising the remainder of a “one plus”-dimensional ideological system (Carmines and Stimson, 1989; Stimson, 2004).

Work by Geoffrey Layman and colleagues on a phenomenon they term “conflict extension” indicates that the public has responded to elite polarization by bringing their positions on economic, social, and racial issues into greater unidimensional alignment (Layman and Carsey, 2002*a,b*; Layman et al., 2010). This effect has been most pronounced among party identifiers and those aware of ideological differences between the parties (Baldassarri and Gelman, 2008; Claassen and Highton, 2009). Indeed, when partisans hold a position on an issue that is incongruent with their party’s stance, they appear to respond to knowledge of the incongruity in one of two ways. If they do not find the issue salient, they are much more likely to change their issue attitudes to fit their party’s position. If they do find the issue salient, they become more likely to switch parties, but many nonetheless continue to switch their position on the issue (Carsey and Layman, 2006).

In this section, I test the theory of conflict extension by assessing changes in unidimensional ideological constraint in the mass public over the last thirty years. Specifically, I examine the loading of 15 political issues onto a single latent ideological dimension among

the electorate as a whole and among three subsets: whites, partisans (strong and weak party identifiers), and those who correctly identify the Democratic Party as being more liberal than the Republican Party.<sup>3</sup> I isolate (non-Hispanic) white respondents because previous research indicates that whites more closely connect their economic and social/cultural issue attitudes along liberal-conservative lines (Hetherington and Weiler, 2009). I use data from the 1984 through 2012 American National Election Studies (ANES), deleting only respondents who provide responses to less than three of the items. This leads to a total of 19,563 respondents analyzed in the complete model, 13,960 non-Hispanic white respondents, 12,197 partisan respondents, and 12,483 respondents who provided a correct ideological ordering of the parties.

The motivation behind using a dynamic IRT model to study changes in the meaning of the ideological dimension underlying citizens' political attitudes is that this provides an appropriate measurement method that accounts for the ordinal nature of survey responses, estimates uncertainty bounds for the latent variables, and allows the loadings of the issues (and hence, the meaning of the liberal-conservative dimension) to evolve over time. The results provide for a richer understanding of the nature of mass polarization in the contemporary American electorate in two ways. First, the issue loadings indicate the degree to which citizens' policy attitudes have conformed to a unidimensional ideological structure. This is an important—but often overlooked—aspect of polarization: what is the *nature* of ideological conflict (i.e., how many policy disputes does it encompass) dividing citizens and elite actors? Second, a dynamic measurement model allows for some survey items (e.g., abortion) to be better indicators of latent ideology in some years than others. This method produces ideological scores for survey respondents that are not based on the assumption that the relationship between issues and the latent ideological dimension is constant across time. In the next section, I exploit this feature to track changes in the means and 80% ranges of the party coalitions over the last thirty years.

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<sup>3</sup>A matrix of the survey items used from the 1984-2012 ANES Time Series Studies is provided in the Appendix.

Figure 1 plots the means and 95% credible intervals for the discrimination parameters of fifteen issues from the four models over time. Consistent with the theory of conflict extension, none of the fifteen issues have meaningfully declined in their relationship to the underlying ideological dimension during this period. Instead, we see dramatic increases in the discrimination parameters of the liberal-conservative identification, candidate thermometers, abortion, environment-jobs, and government-private health insurance items. The increase in the loading of candidate evaluations onto the latent dimension is particularly striking, with the candidate thermometers discrimination parameter approximately doubling overall and across groups between 1984 and 2012.

We find scant evidence that newer social/cultural policy conflicts are displacing longstanding disagreements over economic and social welfare issues in Figure 1. While the latent dimension has increasingly absorbed social/cultural issues such as abortion and the environment among groups and overall, the discrimination parameters of the economic items (i.e., government spending and services, guaranteed jobs and income, government-private health insurance) federal spending on the poor, and federal spending on welfare) have all remained stable or increased over this period. Indeed, the government-private health insurance discrimination parameter has nearly doubled over this period (with the largest increase occurring between 2008 and 2012). To the extent that the government aid to blacks item taps into economic preferences, the modest growth of its discrimination parameter since 1984 is also indicative of the continuing relevance of economic issues to the ideological structure of American public opinion.

Though the discrimination parameters of the gay rights and gun control items do not exhibit a marked increase over this period, citizens' attitudes already conformed to a unidimensional ideological structure since their inclusion in the ANES. At the same time, attitudes on abortion and, to a lesser extent, environmental tradeoffs have become increasingly constrained along the latent ideological dimension. Consequently, cultural and moral conflict in American society is manifested in the the contemporary ideological divide. Far from

being relegated to a secondary dimension, Americans' social/cultural attitudes comprise an important part of the latent ideological dimension structuring mass political preferences. Since liberal-conservative identification also taps into citizens' broad social/cultural postures (Conover and Feldman, 1981; Ellis and Stimson, 2012), the increase of its discrimination parameters provides additional support for this claim.

Of course, there are some important differences in the issue discrimination parameters estimated for the entire electorate and the three sub-groups studied. Many of these differences are apparent from Figure 1, but Table 1 provides a more systematic analysis by listing the magnitude and probability of the differences in posterior means of the discrimination parameters between groups in the 2012 ANES. The probabilities of differences are Bayesian  $p$ -values calculated by comparing the proportion of sampled posterior values that are larger for the corresponding group than the electorate as a whole. Hence, higher values correspond to greater certainty that there are differences between groups.

Table 1 indicates that the greatest differences in issue discrimination parameters between whites and the electorate as a whole are for liberal-conservative identification and social/cultural issues (especially the gay rights and abortion items), no doubt owing to high rates of social conservatism among otherwise left-leaning minority groups (see also Hetherington and Weiler, 2009). Indeed, whites have statistically indistinguishable or lower discrimination parameters for the candidate thermometers and economic issue items. Partisans differ most markedly from the entire electorate in the discrimination parameter of the candidate thermometers item, with most other differences being substantively minor (though, as hypothesized, positive).

Consistent with Layman and Carsey (2002*a,b*), awareness of policy differences between the parties appears to have a consistent effect in promoting attitudinal constraint along a single ideological dimension (see also Palfrey and Poole, 1987). The differences in discrimination parameters for respondents who correctly ordered the parties on the liberal-conservative scale and the electorate as a whole are largest on the candidate thermometers and liberal-



conservative identification items, but are also meaningful across social issues and most economic issues. It is these respondents who are most likely to constrain their political attitudes along the liberal-conservative dimension structuring American political competition. It is also important to note that this group has steadily grown over recent decades in response to elite polarization (Levendusky, 2009).

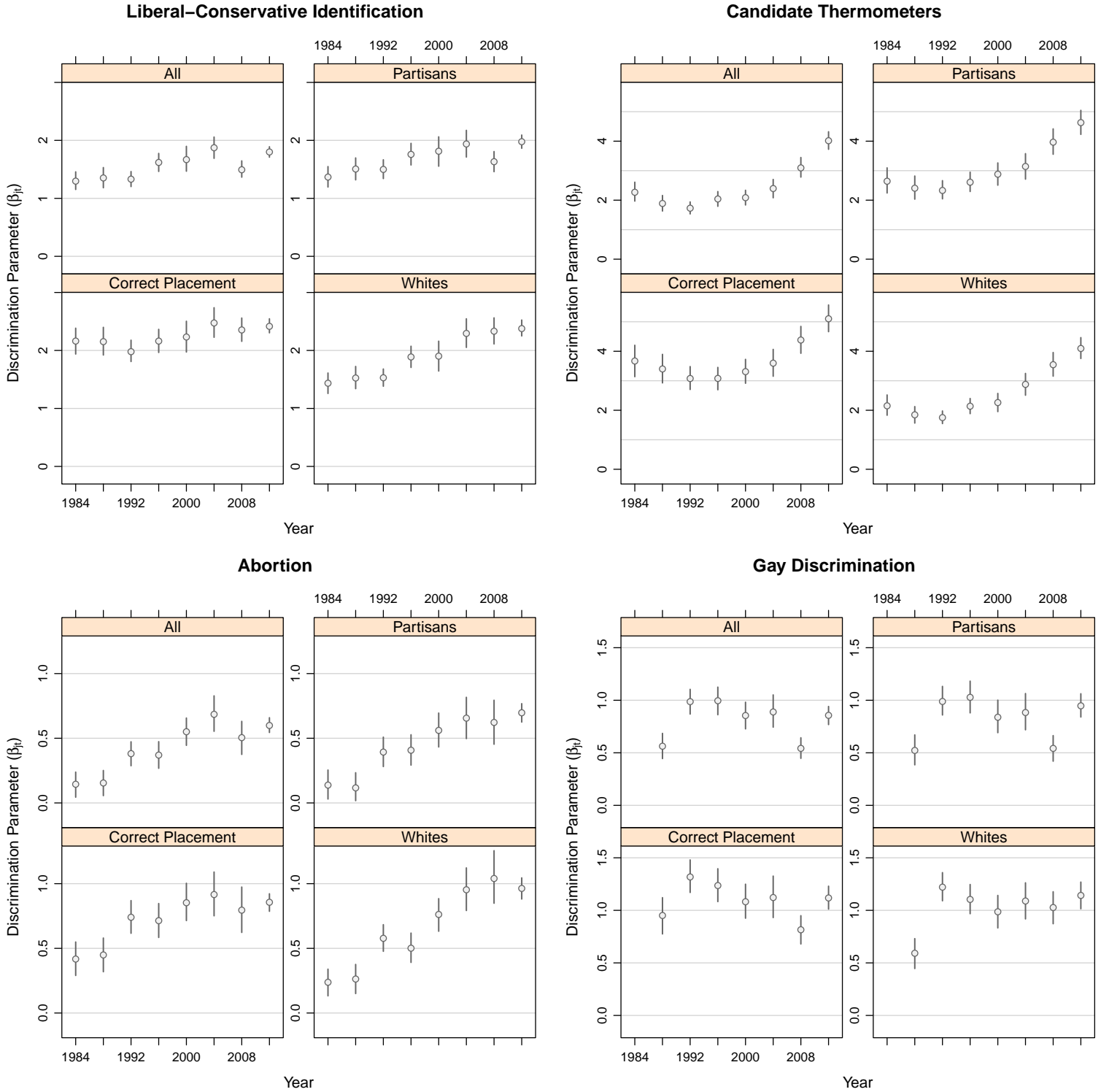
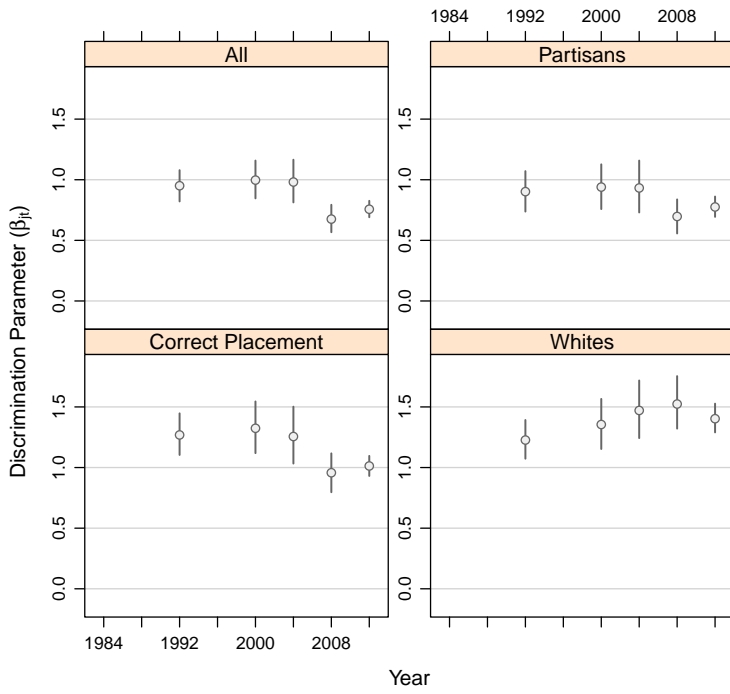
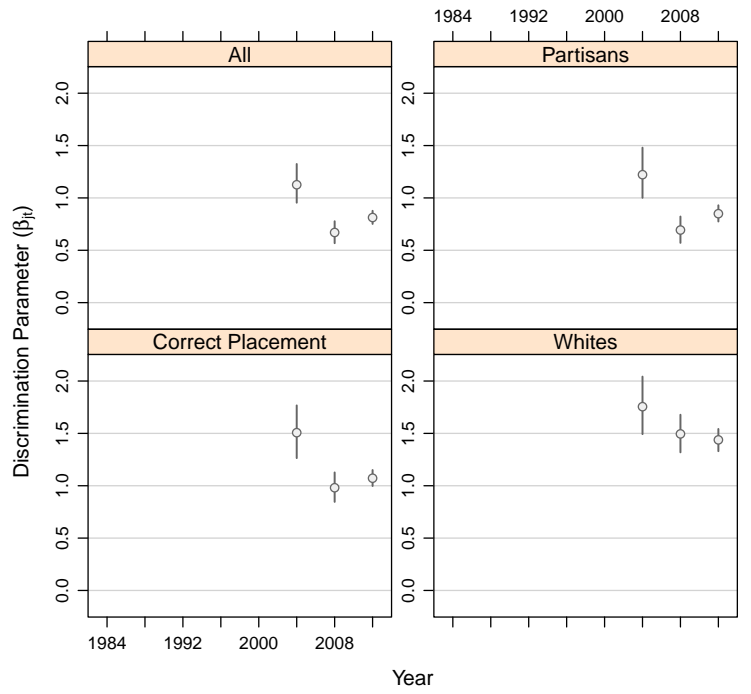


Figure 1: Issue discrimination parameters from Bayesian dynamic ordinal IRT (American National Election Study, 1984-2012)

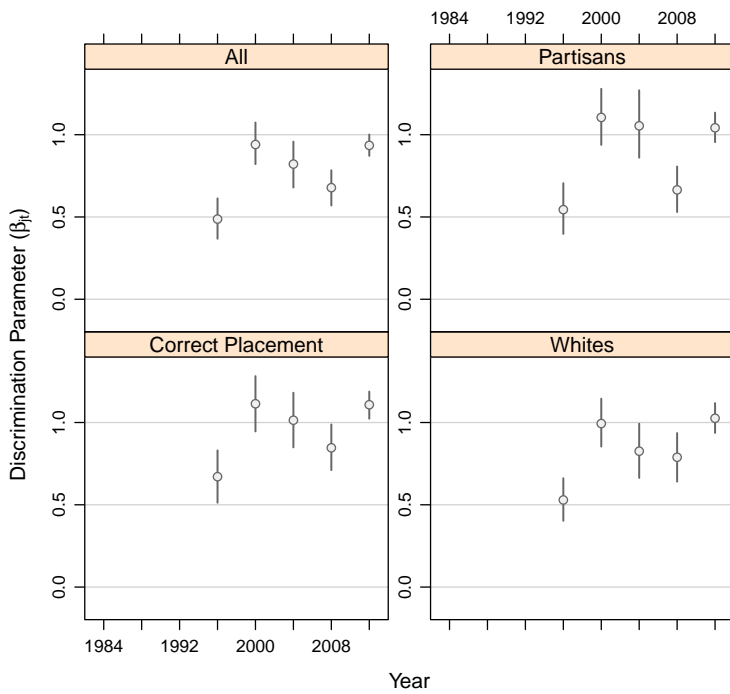
### Gay Adoption



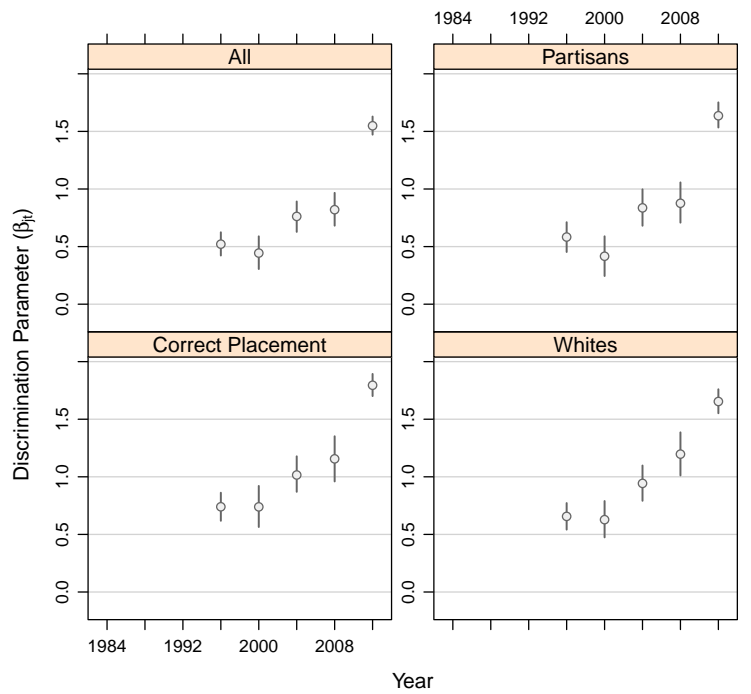
### Gay Marriage



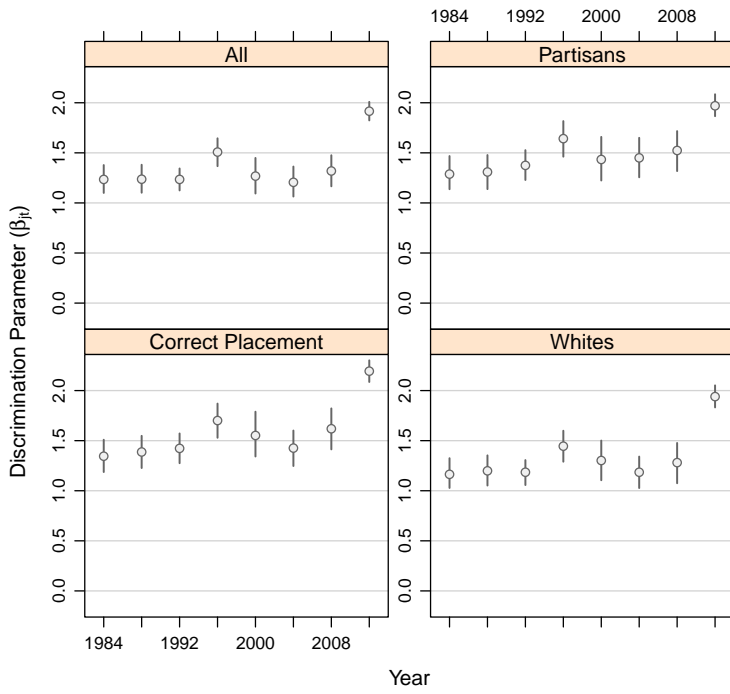
### Gun Control



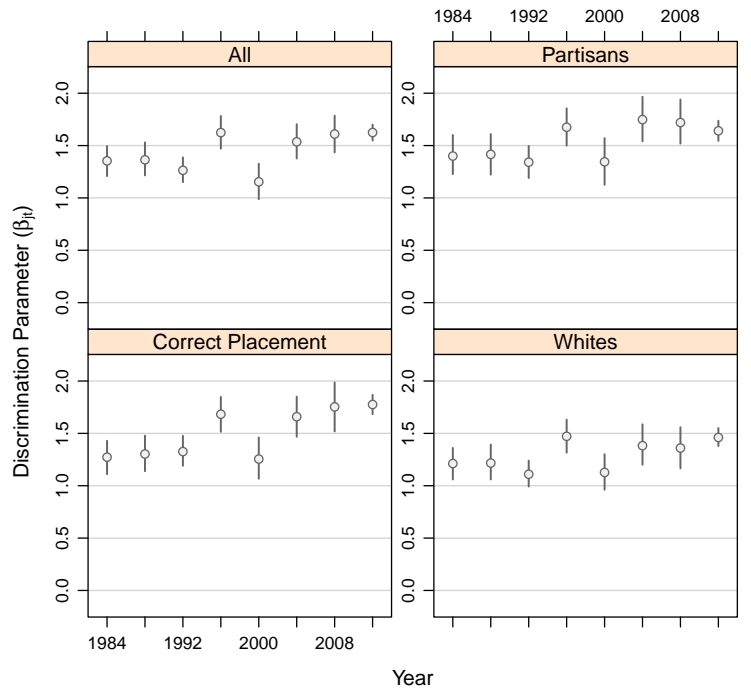
### Environment-Jobs



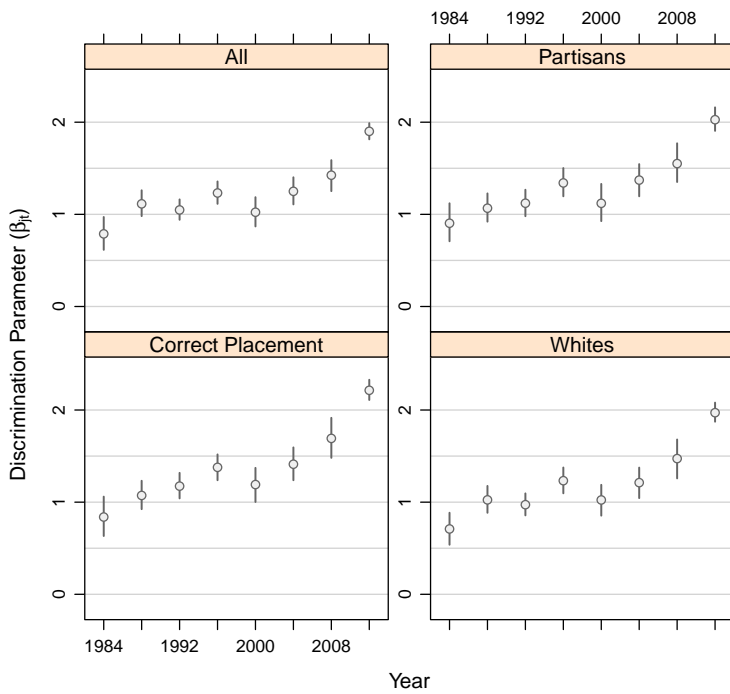
### Government Spending and Services



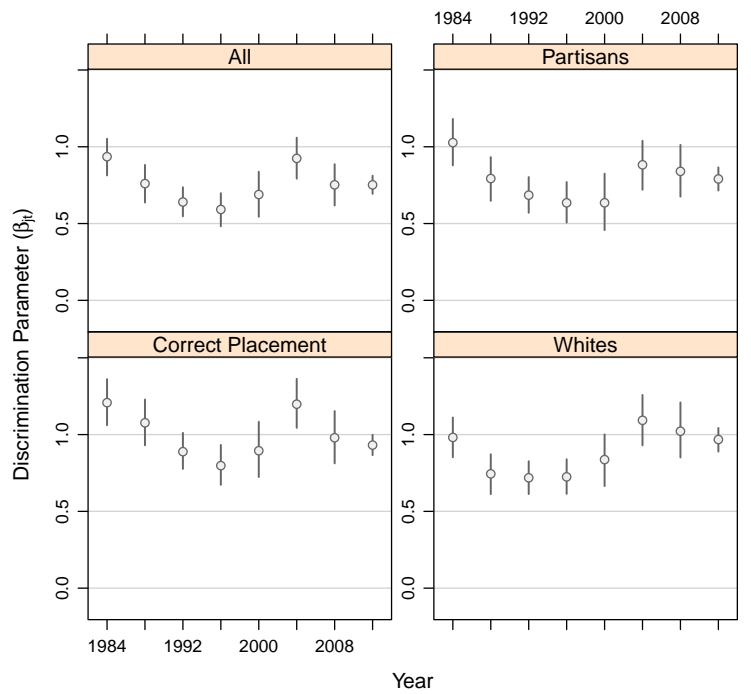
### Guaranteed Jobs



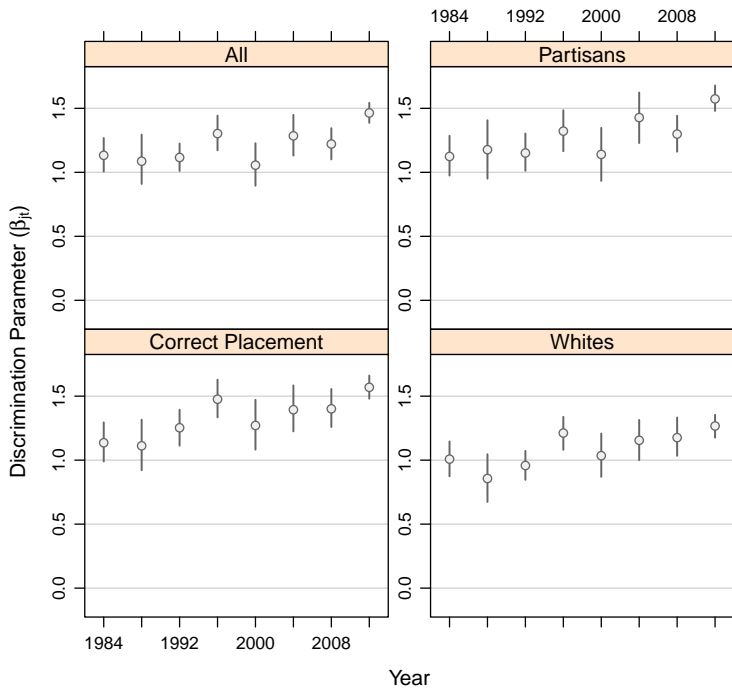
### Government-Private Health Insurance



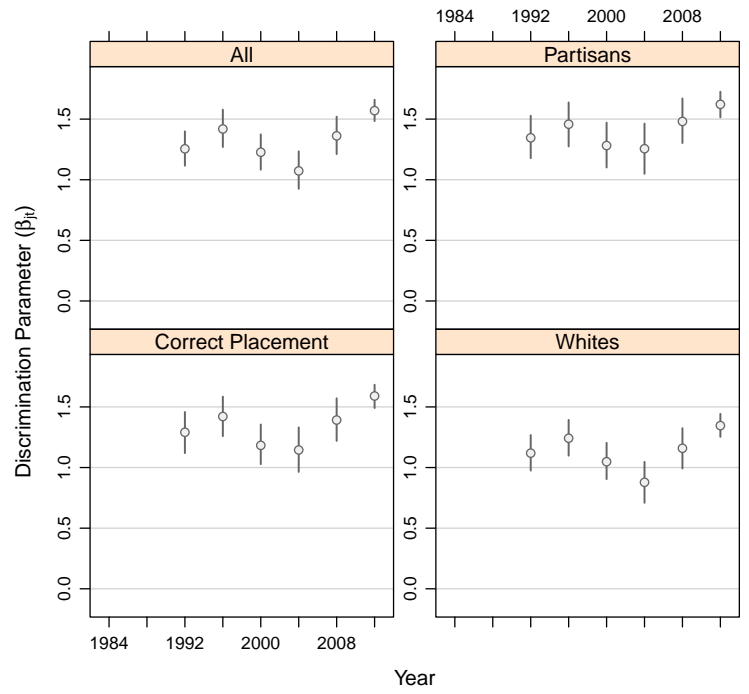
### Defense Spending



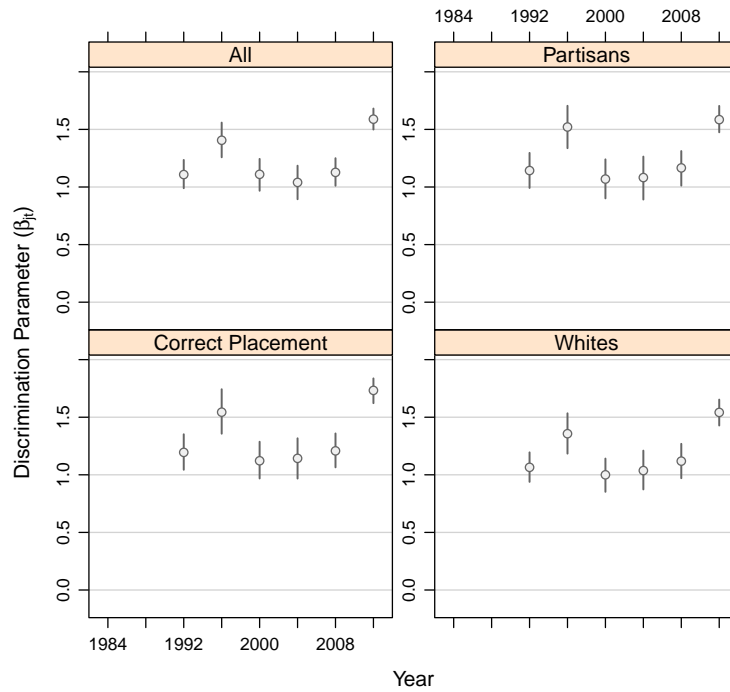
### Aid to Blacks



### Poor Spending



### Welfare Spending



	<b>Whites</b>	<b>Partisans</b>	<b>Correct Placement</b>
Candidate Thermometers	0.08 (0.62)	0.61 (0.99)	1.09 (1.00)
Liberal-Conservative ID	0.58 (1.00)	0.18 (0.99)	0.62 (1.00)
<b>Economic Issues</b>			
Govt Spending and Services	0.02 (0.63)	0.05 (0.77)	0.28 (1.00)
Guaranteed Jobs	-0.16 (1.00)	0.02 (0.59)	0.15 (0.99)
Health Insurance	0.07 (0.84)	0.13 (0.94)	0.31 (1.00)
Welfare Spending	-0.05 (0.75)	0.00 (0.46)	0.14 (0.97)
Poor Spending	-0.22 (1.00)	0.05 (0.78)	0.02 (0.61)
Aid to Blacks	-0.20 (1.00)	0.11 (0.96)	0.11 (0.97)
<b>Social Issues</b>			
Abortion	0.36 (1.00)	0.10 (0.98)	0.26 (1.00)
Gay Discrimination	0.29 (1.00)	0.09 (0.90)	0.26 (1.00)
Gay Adoption	0.65 (1.00)	0.02 (0.63)	0.26 (1.00)
Gay Marriage	0.63 (1.00)	0.04 (0.76)	0.26 (1.00)
Gun Control	0.09 (0.94)	0.11 (0.97)	0.17 (1.00)
Environment-Jobs	0.11 (0.94)	0.09 (0.90)	0.25 (1.00)

Entries are absolute differences in discrimination parameter posterior means between all respondents and selected groups, with Bayesian  $p$ -values in parentheses. Positive values indicate higher issue discrimination parameters among the selected group than among all respondents, while negative values indicate the reverse.

Table 1: Comparison of issue discrimination parameters from Bayesian dynamic ordinal IRT between all respondents and selected groups in the 2012 American National Election Study.

The previous discussion examined how mass attitudes on an array of policy issues have become increasingly structured along a single latent ideological dimension over the last thirty years. But how relevant is this finding? To what extent has a single dimension of political conflict incorporated facets of political behavior other than policy preferences? If it has not, unidimensional ideological constraint is of limited consequence.

However, past work—especially the literature on “sorting” in the mass electorate—indicates that the linkages between ideology, partisanship, and vote choice have steadily grown over recent decades (Bartels, 2000; Baldassarri and Gelman, 2008; Levendusky, 2009; Bafumi and Shapiro, 2009). Less clear—but no less consequential—is how the relationship between core values and beliefs and political attitude structures has evolved in a polarized political environment. It is well-established that core values influence attitudes on specific political issues and divide partisans in the contemporary mass electorate (Goren, 2013; Jacoby, 2014), but are citizens’ basic value predispositions related to changes in the ideological structure of American public opinion? The theory of conflict extension leads to the hypothesis that the latent ideological dimension that I measure in this paper has increasingly encompassed core values and beliefs relating to economic and social policies over the last thirty years. Stated otherwise, basic value postures towards both economic and social behavior should be increasingly connected to the primary dimension structuring competition in contemporary American politics.

Figure 2 tests this hypothesis by comparing the over-time correlations between four core value indices and respondent ideological scores from the dynamic ordinal IRT model. These value indices are composed of the same value items used in Section 2.4 and calculated as simple additive scales. With the exception of authoritarianism, the value indices correlate at least moderately (and increasingly) well with ideology throughout this period. The strength of the relationship between moral traditionalism and ideology—particularly among whites—has shown the most marked increase, but egalitarianism has also become increasingly connected with ideology since 1988 (when these two value batteries were added to

the regular ANES time series studies). The correlation between ideology and score on the government role battery also resumes its increase in 2012 after a decline in 2004 and 2008.

It is also important to note that the correlations between values and ideology in Figure 2 are only marginally higher for partisans and respondents who correctly placed the parties on the liberal-conservative scale than for the electorate as a whole. The slopes of the over-time correlations for these groups are also flatter, further shrinking the gap between the politically active and aware and the entire electorate. These results are consistent with the findings in Goren (2001, 2004, 2013) that core values serve as a pathway to policy reasoning for both the sophisticated and unsophisticated. These results indicate that partisans and respondents with correct placements do not systematically organize their political attitudes in line with their core values any more so than the electorate as a whole.

The patterns between values and the ideology shown in Figure 2 correspond to the patterns found between specific issue attitudes and ideology in the previous section in two ways. First, there has generally been a steeper increase in the loading of social issues and values (specifically, moral traditionalism) onto the latent ideological dimension than for economic issues and values. But, consistent with the theory of conflict extension, social issues and values have not displaced the loading of either economic issues or values onto the latent ideological dimension. Indeed, both the government role and, especially, the egalitarianism value indices have become more correlated with ideology during this period.

In the contemporary American electorate, ideology strongly reflects divisions over both economic and social matters. But it is important to emphasize that ideological divides encompass not only specific economic and social policy controversies, but run deeper to fundamental value cleavages over private and public morality, the extent to which society should promote economic equality, and the general role of government in American society. The results are consonant with Jacoby's (2014, p. 24) assertion that: "In the past, values were regarded as an alternative to ideology, providing organizational parsimony for political attitudes among people who did not conceptualize the world in abstract terms (Feldman



1988). In contrast, the present findings suggest that value orientations actually reinforce ideological distinctions.”

Finally, Figure 3 displays the correlation between partisanship and the ideological scores for the entire electorate and the three sub-groups since 1984. Issue preferences do appear to be increasingly predictive of party identification over the last thirty years. Moreover, the differences between the four groups are slight, with strong and weak party identifiers having only a slightly higher correlation between partisanship and ideology than for the electorate as a whole. These findings support the scholarly consensus that as partisanship has experienced a resurgence in the mass electorate, it has also reemerged in a form that is more tightly connected with policy attitudes (Abramowitz and Saunders, 1998; Bafumi and Shapiro, 2009).

## ANES 1988–2012: Bayesian Dynamic Ordinal IRT

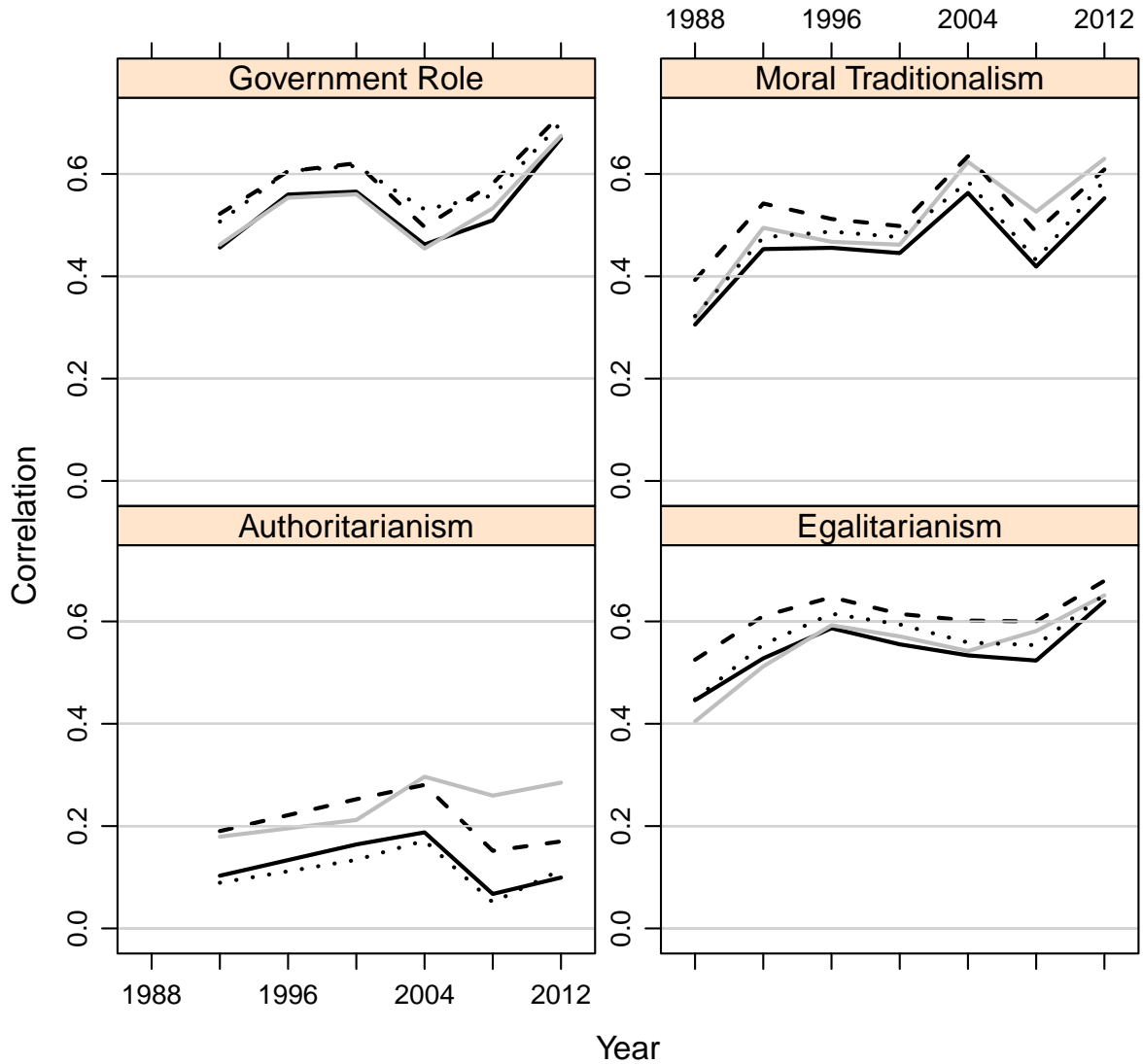


Figure 2: Correlation between value indices and ideological scores for respondents over time. All respondents shown with solid black line; white respondents shown with solid gray line; partisan respondents shown with dashed black line; respondents with correct liberal-conservative placements shown with dotted black line.

### ANES 1984–2012: Bayesian Dynamic Ordinal IRT

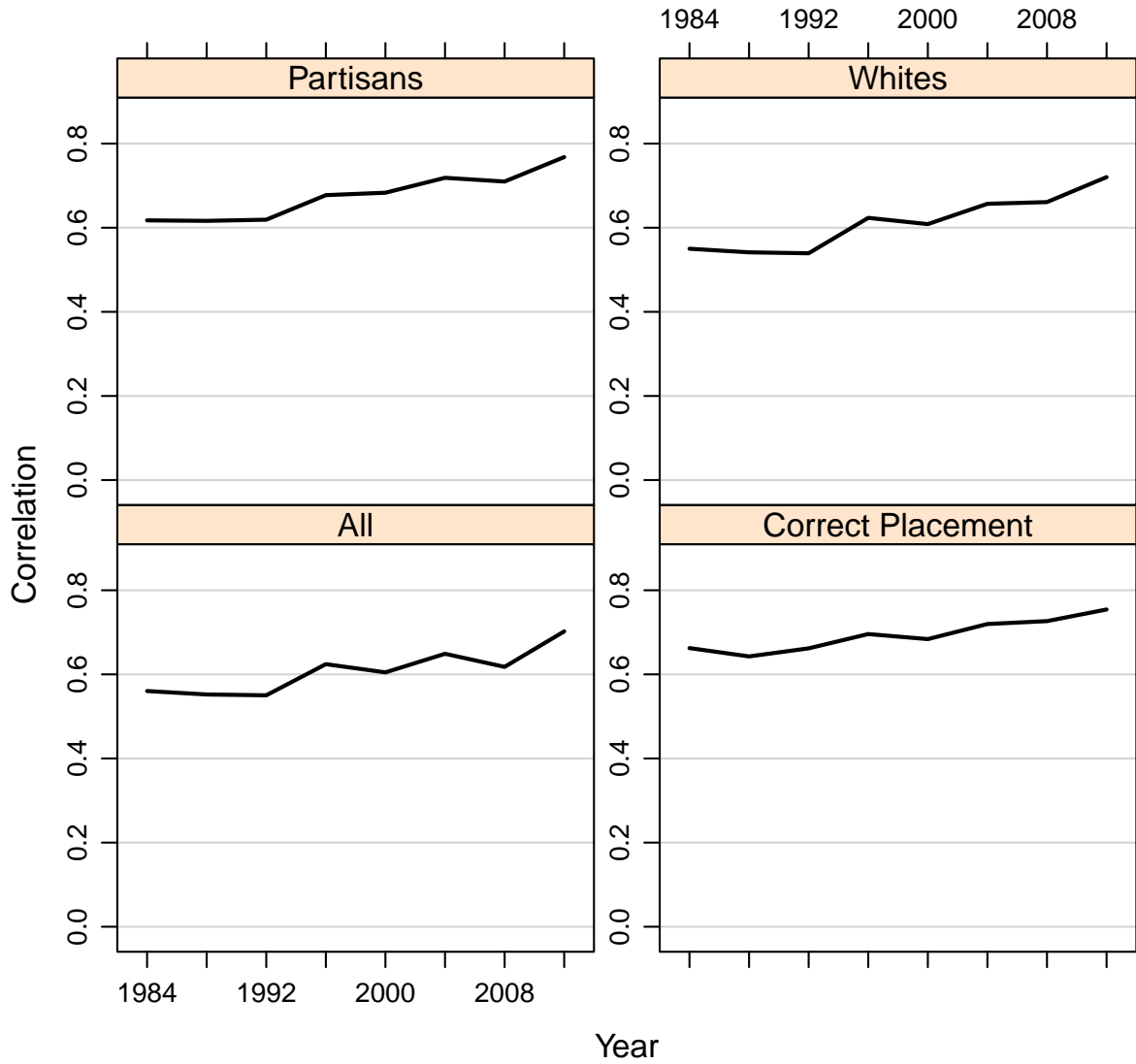


Figure 3: Correlation between party identification (seven-point measure) and ideological scores for respondents over time.

## 5 Measuring Mass Polarization on a Dynamic Ideological Dimension

One readily apparent application of the ideological scores from the dynamic ordinal IRT model is to the study of mass polarization. The fierce debate over the extent to which the American public mirrors polarization among political elites has relentlessly persisted over the last fifteen years (Fiorina, Abrams and Pope, 2011; Abramowitz and Saunders, 2008; Levendusky, 2009). However, so far this debate has lacked a measure of citizens' ideological positions that allows the meaning of the ideological dimension (more specifically, the loading of issues onto the latent scale) to change over time. This is theoretically unsatisfying, as certain issues (e.g., abortion) are demonstrably more related to partisan and ideological conflict now than in previous decades. It is also unrealistic to assume that the cutpoints or thresholds between the item response categories are static when there are regular shifts in public opinion on a range of policy issues (one dramatic example being attitudes towards gay rights over recent decades) (Erikson, MacKuen and Stimson, 2002; Stimson, 2004).

The dynamic ordinal IRT model allows for changes in the ways that specific issues relate the latent dimension at separate time points, as well as to recover estimates of citizens' ideological positions that are comparable across time. Figure 4 plots the mean scores and 80% ranges of Democratic and Republican identifiers/leaners and independents between 1984 and 2012 on the ideological dimension estimated by the dynamic ordinal IRT model. In line with polarization in Congress over recent decades (McCarty, Poole and Rosenthal, 2006), these data show strong evidence of asymmetric polarization in the entire electorate and among the three sub-groups, with Republicans moving away from the center while Democrats remain fairly ideologically static. The correlation between the difference in the party means in the House of Representatives and the electorate over this period is 0.92 ( $r = 0.94$  for the Republican party mean trends and  $r = 0.69$  for the Democratic party mean trends).<sup>4</sup>

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<sup>4</sup>Party means in the House of Representatives are calculated using DW-NOMINATE scores (Poole and Rosenthal, 1997).

Figure 5, which plots the proportion of ideologically moderate and extreme partisans over this period, indicates that the asymmetric trend of polarization in the electorate is attributable to both an increase in the number of very conservative Republicans and the disappearance of moderate and liberal Republicans. Indeed, there has been a nearly symmetric switch in the proportion of ideologically moderate and very conservative Republicans between 1984 and 2012. Over the same period, the proportion of ideologically moderate and extreme respondents in the Democratic coalition has remained fairly stable. There also do not appear to be major differences in either party between the four groups examined in Figure 5.

Figure 4 also illustrates that the overlap between the two parties on the ideological dimension (represented by the purple shaded regions) has substantially diminished over the last thirty years. There are also meaningful differences between the overlap regions in each group. The overlap for higher information respondents who correctly order the parties on the liberal-conservative dimension and strong/weak partisans is smaller and has diminished more rapidly than for whites and the electorate as a whole. This is consistent with the finding that the process of sorting has been accelerated among partisans and citizens who recognize policy differences between the parties (Carsey and Layman, 2006; Levendusky, 2009).

Why does the dynamic ordinal IRT model recover asymmetric trends in mass polarization? This is clearly a promising avenue for future research, but an initial glance at the response patterns of Republican and Democratic respondents on twelve items shown in Figures 6-7 suggests that asymmetric mass polarization may be largely attributable to a Republican shift to the right on economic issues. An increasing proportion of Republicans have taken conservative positions on the government spending and services, guaranteed jobs and income, health insurance, and government aid to blacks items since 1984. Such a trend is not evident on the social issue of abortion and the reverse trend is seen in Republican responses to the gay adoption and gay discrimination items. Both Democratic and Republican responses to the liberal-conservative and environment-jobs items have both polarized over this period, but otherwise the Democrats have mirrored Republicans in being fairly stable

on the economic issue items and moving to the left on the social issues of abortion and gay rights. However, the entire electorate (including Republicans) has also moved leftward on issues involving homosexuality during this period, and so this would not necessarily lead to more liberal scores on the ideological dimension for Democratic respondents.

Indeed, this method provides a useful way to track these sorts of changes in American public opinion and model how they relate to the underlying ideological dimension. Figure 8, for instance, shows the estimated cutpoints (calculated in IRT models as the issue difficulty parameter divided by the discrimination parameter, or  $\frac{\alpha_{jt}}{\beta_{jt}}$ ) dividing the four response categories in the gay discrimination question since that item's addition to the ANES in 1988. There have been remarkable changes in public opinion on gay rights over this period, but how well do these changes track the liberal-conservative dimension? Figure 8 indicates that the leftward shift in gay rights attitudes do indeed correspond to a rightward shift in the cutpoints of the gay discrimination item for the entire electorate and the three sub-groups. In other words, over this period, a respondent must be increasingly conservative to be classified as opposing laws prohibiting gay discrimination. Changes in public opinion on gay rights since the 1980s can be effectively modeled using the primary liberal-conservative dimension of American politics.

## ANES 1984–2012: Bayesian Dynamic Ordinal IRT

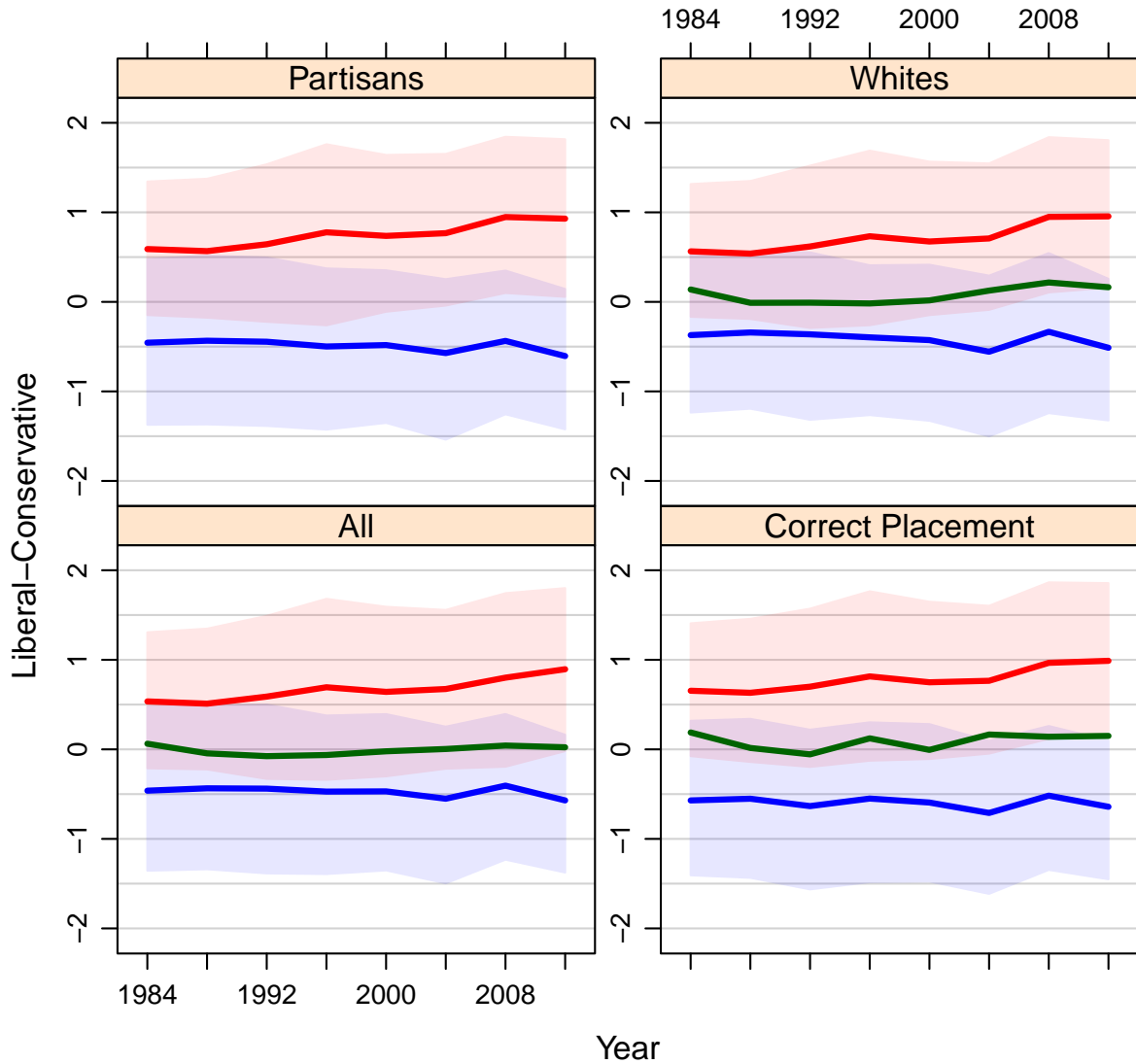


Figure 4: Means and 80% ranges of ideological scores for respondents over time. Mean scores of Democratic identifiers (including leaners) shown with solid blue line; mean scores of Republican identifiers (including leaners) shown with solid red line; mean scores of independents shown with solid green line. 80% ranges of party identifiers shown in blue (Democratic) and red (Republican) shaded regions.

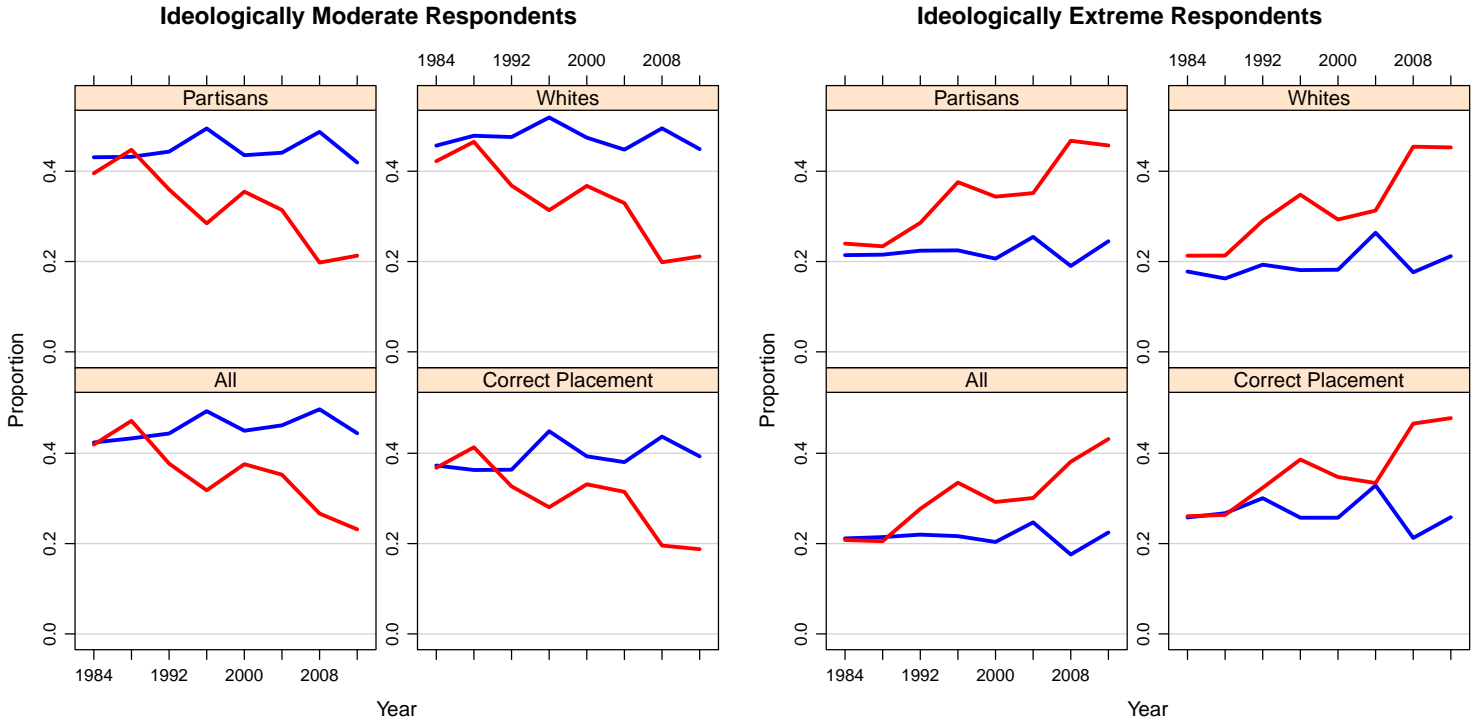


Figure 5: Proportion of ideologically moderate (left panel) and extreme (right panel) respondents among party identifiers (including leaners) over time. Republicans shown in red; Democrats in blue. Ideologically moderate respondents are those with scores between -0.5 and 0.5 and ideologically extreme respondents are those with scores greater or less than 1/-1. Scores from Bayesian dynamic ordinal IRT model (American National Election Study, 1984-2012).



### Raw Issue Scale Responses: Republicans

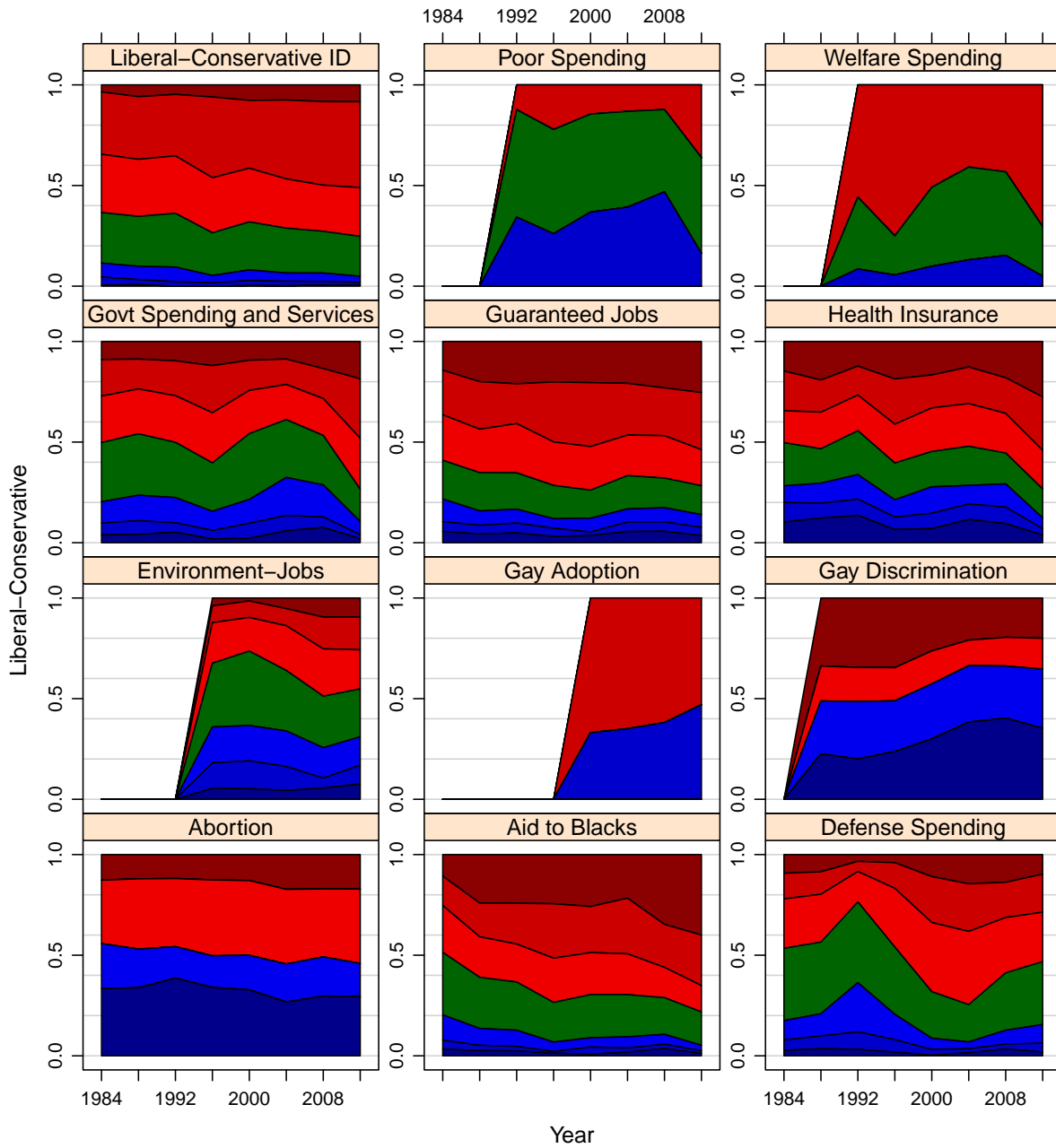


Figure 6: Over-time distribution of the policy preferences of Republican identifiers and leaners (American National Election Study, 1984-2012). More liberal responses are shown in darker shades of blue and more conservative responses are shown in darker shades of red.

### Raw Issue Scale Responses: Democrats

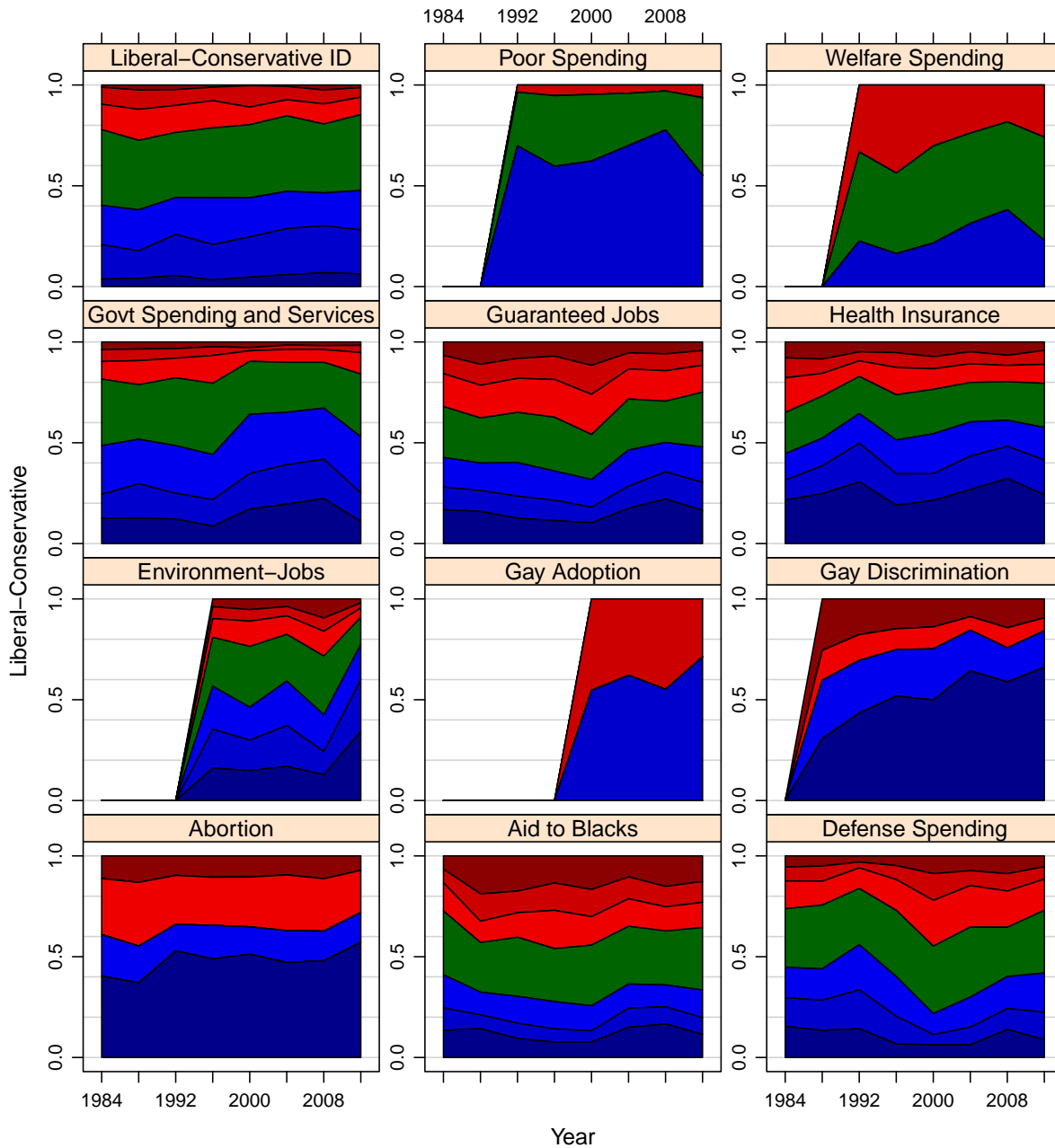


Figure 7: Over-time distribution of the policy preferences of Democratic identifiers and leaners (American National Election Study, 1984-2012). More liberal responses are shown in darker shades of blue and more conservative responses are shown in darker shades of red.

## ANES 1988–2012: Bayesian Dynamic Ordinal IRT

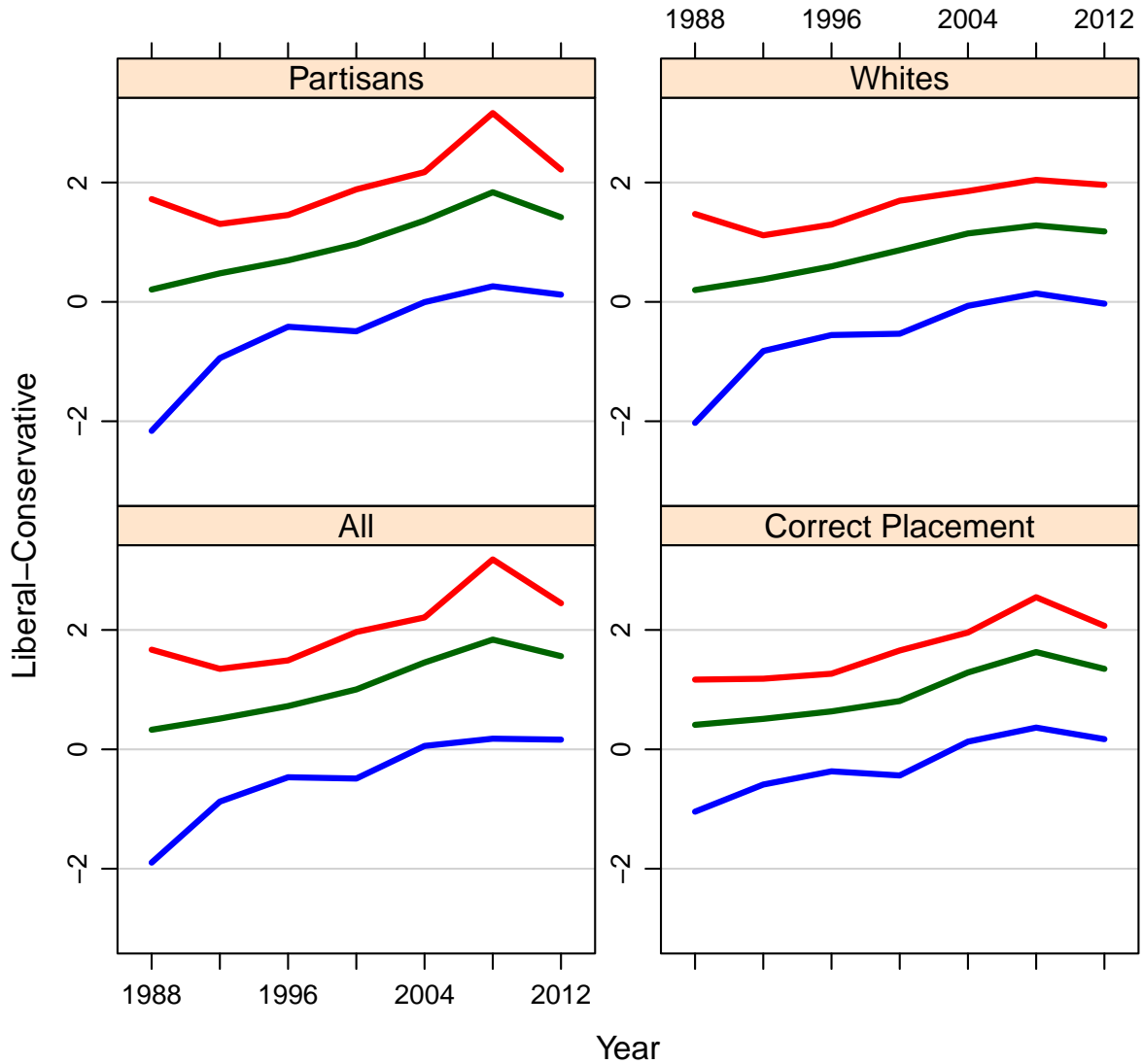


Figure 8: Cutpoints ( $\frac{\alpha_{jt}}{\beta_{jt}}$ ) between categories of American National Election Study measure gauging support for laws that prohibit discrimination against homosexuals. The blue line separates respondents classified as “strongly support” from respondents classified as “somewhat support”, the green line separates “somewhat support” from “somewhat oppose”, and the red line separates “somewhat oppose” from “strongly oppose.”

## 6 Discussion

One of the curious things about political opinions is how often the same people line up on opposite sides of different issues. The issues themselves may have no intrinsic connection with each other. They may range from military spending to drug laws to monetary policy to education. Yet the same familiar faces can be found glaring at each other from opposite sides of the political fence, again and again. It happens too often to be coincidence and it is too uncontrolled to be a plot. A closer look at the arguments on both sides often shows that they are reasoning from fundamentally different premises. These different premises—often implicit—are what provide the consistency behind repeated opposition of individuals and groups on numerous, unrelated issues. They have different visions of how the world works. — Thomas Sowell, *A Conflict of Visions* (2007, p. 3)

This paper offers separate methodological and substantive contributions to the study of ideological constraint in the American electorate. The development of a Bayesian dynamic ordinal IRT model with time-varying item parameters offers a method to measure mass ideology that accounts for changes in public opinion over time. Substantively, the application of this model to public opinion survey data collected over the last thirty years provides considerable support for the theory of conflict extension in the mass electorate (Layman and Carsey, 2002*a,b*; Layman et al., 2010). Indeed, the results presented in this paper show that much of the conflict extension literature understates the degree to which citizens' policy attitudes have collapsed to a single ideological dimension. Ideology is not unidimensional in the contemporary American electorate, but the two primary ideological dimensions (economic and social/cultural) have become increasingly intertwined over the last thirty years—particularly among whites, partisans, and those with awareness of ideological differences between the parties.

Combustible social/cultural issues that speak to moral and religious divides have been increasingly folded into already contentious divides over economic and social welfare policy, but this has not been the only important change to the ideological structure of American public opinion. Fundamental cleavages involving values like economic egalitarianism and moral traditionalism have also been absorbed into the same dimension. The primary ide-

ological dimension underlying political attitudes increasingly reflects both policy and value divisions on both economic and social/cultural matters. This is an important but often overlooked aspect of political polarization: the meaning of the ideological dimension and the structure of political competition—what partisans are fighting about—surely shapes the nature of ideological and partisan conflict in American politics. These results indicate that polarization in the American electorate has increased in two respects: more conflicts have been absorbed into the ideological dimension, and partisans have moved further apart on this dimension.

This finding has important implications for mass-elite linkages in American politics. There is little disagreement that American political elites operate in unidimensional ideological space (e.g., McCarty, Poole and Rosenthal, 2006; Poole and Rosenthal, 2007; Bonica, 2013, 2014). That voters' attitudes are better mapped into this same space means that voters may be better able to connect their policy preferences to political behaviors such as party identification and vote choice (see also Levendusky, 2010). Of course, increasing unidimensional ideological structure in American public opinion is also at least potentially dangerous for the health of a pluralistic democracy, with the same groups continually engaging in multiple (and often emotional) policy and value conflicts. It seems only natural that partisans would like each other less, view the other side as illegitimate, and be less amenable to compromise (Iyengar, Sood and Lelkes, 2012). The structure and content of ideology in the contemporary American electorate appears to foster rather than suppress political polarization.

## 7 Appendix

### 7.1 WinBUGS Code for Dynamic Ordinal IRT Model

```
model {

# SEVEN-POINT ISSUE SCALES
for (i in 1:n){
  for (j in 1:p){
    Y[i, j] ~ dcat(Pi[i, j, 1:7])

    logit(Z[i, j, 1]) <- alpha[j, 1, time[i]] - beta[j, time[i]]*x[i]
    logit(Z[i, j, 2]) <- alpha[j, 2, time[i]] - beta[j, time[i]]*x[i]
    logit(Z[i, j, 3]) <- alpha[j, 3, time[i]] - beta[j, time[i]]*x[i]
    logit(Z[i, j, 4]) <- alpha[j, 4, time[i]] - beta[j, time[i]]*x[i]
    logit(Z[i, j, 5]) <- alpha[j, 5, time[i]] - beta[j, time[i]]*x[i]
    logit(Z[i, j, 6]) <- alpha[j, 6, time[i]] - beta[j, time[i]]*x[i]

    Pi[i, j, 1] <- Z[i, j, 1]
    Pi[i, j, 2] <- Z[i, j, 2] - Z[i, j, 1]
    Pi[i, j, 3] <- Z[i, j, 3] - Z[i, j, 2]
    Pi[i, j, 4] <- Z[i, j, 4] - Z[i, j, 3]
    Pi[i, j, 5] <- Z[i, j, 5] - Z[i, j, 4]
    Pi[i, j, 6] <- Z[i, j, 6] - Z[i, j, 5]
    Pi[i, j, 7] <- 1 - Z[i, j, 6]
  }
}

# PRIORS ON X
for (i in 1:n){
  x[i] ~ dnorm(0, 1)
}

# PRIORS ON BETA
for(j in 1:p){
  beta[j,1] ~ dnorm(0, tau.A)I(0,)
  for(t in 2:T){
    beta[j,t]~dnorm(beta[j,t-1], tau.B)I(0,)
  }
}

# PRIORS ON ALPHA
for (j in 1:p){
  for (k in 1:(K[j]-1)){
    alpha.star[j, k, 1] ~ dnorm(0, tau.C)
    alpha[j, k, 1] <- ranked(alpha.star[j, 1:(K[j]-1), 1], k)
  }
}
```

```
for(t in 2:T){
alpha.star[j, k, t] ~ dnorm(alpha.star[j,k,t-1], tau.D)
alpha[j, k, t] <- ranked(alpha.star[j, 1:(K[j]-1), t], k)
}}

# HYPER PRIORS ON PRECISION TERMS
tau.A ~ dgamma(1, .1)
tau.B ~ dgamma(1, .1)
tau.C ~ dgamma(1, .1)
tau.D ~ dgamma(1, .1)

}
```

## 7.2 Survey Items from the 1984-2012 American National Election Studies

Variable	1984	1988	1992	1996	2000	2004	2008	2012
therms (2)	V840290/ V840301	V880154/ V880155	V923305/ V923306	V960272/ V960273	V000360/ V000361	V043038/ V043039	V083037a/ V083037b	ft_dpc/ ft_rpc
abortion (4)	V840423	V880395	V923732	V960503	V000694	V045132	V085086	abortpre_4point
gaydiscrim (4)		V880853	V925924	V961194	V001481	V045156a	V083211x	gayrt_discstd_x
gayadopt (2)					V000748	V045158	V083213	gayrt_adopt
gayadopt (4)			V925928					
gaymarriage (4)						V043210	V083214	gayrt_marry
guncontrol (2)				V961217				
guncontrol (3)							V083164	gun_control
guncontrol (5)					V000731	V043189		
welfarespend (3)			V923726	V960497	V000676	V043169	V083145	fedspend_welfare
poorspend (3)			V923817	V960565	V000680	V043172	V083148	fedspend_poor
libcon (7)	V840369	V880228	V923509	V960365	V000440	V043085	V083069	libcpre_self
govtspend (7)	V840375	V880302	V923701	V960450	V000545	V043136	V083105	spsrvpr_sself
guarjobs (7)	V840414	V880323	V923718	V960483	V000615	V043152	V083128	guarpr_self
healthins (7)	V841058	V880318	V923716	V960479	V000609	V043150	V083119	inspre_self
envjobs (7)				V960523	V000708	V043182	V083154	envjob_self
aidtoblacks (7)	V840382	V880332	V923724	V960487	V000641	V043158	V083137	aidblack_self
defspend (7)	V840395	V880310	V923707	V960463	V000581	V043142	V083112	defsppr_self
libcon.branch (7)					V000446			
govtspend.branch (5)					V000549			
guarjobs.branch (5)					V000619			
healthins.branch (5)					V000613			
envjobs.branch (5)					V000712			
aidtoblacks.branch (7)					V000644			
defspend.branch (5)					V000586			
govtspend.new (7)							V083108x	
univ.health (7)							V083124x	
defspend.new (7)							V083115x	

Cells are colored blue if the survey item is not available in the corresponding year. The number of response categories for the survey item listed in parentheses.



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