What Explains Educational Realignment Among White Americans?

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Abstract

Over the past 40 years, college-educated white voters have become aligned with Democrats, while the white working class has become reliable Republicans. This study examines the issue basis of this realignment by generating over-time estimates of public opinion across four issue domains from 1984 to 2020 and developing a theoretical framework to understand how issue attitudes translate into electoral coalitions. I find that both economic and cultural issues contribute to the realignment. Since the mid-2000s, college-educated whites have become more liberal on economic issues, while cultural issues have gained electoral salience for the working class. Consequently, the conservative cultural attitudes of working-class whites translate into Republican support at a higher rate than in the past. These results suggest a nuanced role for economic and cultural issues in structuring political coalitions. The educational realignment is deeply rooted across issue domains, suggesting the stability of these new coalitions into the foreseeable future.

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Since the 1990s, there has been a dramatic realignment in the social basis of party support: the Democratic party has been shedding white working-class voters. In 1992, George H.W. Bush captured about 45% of the two-party vote among white voters without a college degree — compared to 52% among white college-educated voters. In 2020, Donald Trump captured nearly 65% of the two-party vote among non-college whites, compared to just 42% among whites with college degrees.[1]

Figure 1 documents the white working class's slow turn toward the GOP and evolution of college-educated whites into a reliable Democratic voting bloc. It plots net Republican votes within groups defined by race and education in presidential elections from 1984 to 2020.[2] Educational polarization among white voters was nearly non-existent in the 1984 election. In the elections between 1984 and 2000, white college-educated voters supported the Republican candidate at a higher rate than white non-college voters — though this group never supported Reagan's successor candidates at as high a rate. The 2000 election marked the beginning of a process of educational polarization among white voters that continued at least through 2020. While punditry during and after the 2016 election claimed that Donald Trump uniquely mobilized white working class voters, in reality, his strong performance among this group represents the continuation of a long-term trend (Carnes and Lupu, 2021).[3]

This realignment represents a substantial change in American electoral coalitions. The Democratic Party has traditionally been the party of labor and the working class, while the Republican Party has been the party of business and the upper class.[4] What this realignment

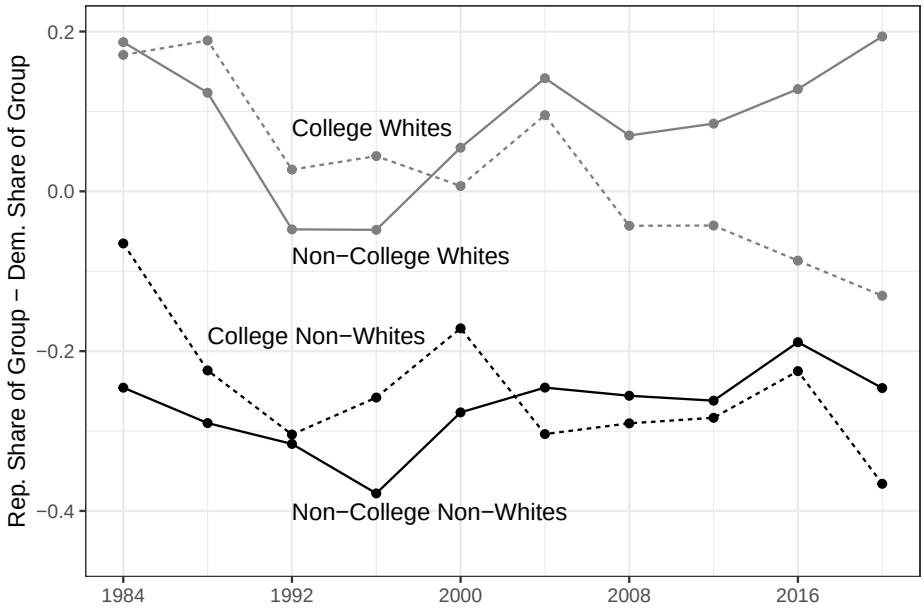
[1]This calculation, and subsequent statistics, are based on data from the ANES (1984-2020) and the CCES (2008-2020).

[2]Net Republican votes is the share of a group that voted for the Republican minus the share that voted for the Democrat. This outcome measure is affected by both turnout and vote choice and is more relevant for assessing a group's contribution to election outcomes than vote share among those who turn out (Axelrod, 1972; Grimmer, Marble and Tanigawa-Lau, 2023).

[3]Over the same time period, educational polarization among non-whites is relatively muted, and has in fact declined compared to its peak in the early 1980s. While non-white college-educated now support Democratic candidates at a higher rate than non-white non-college voters, these differences are small compared to the extent of educational polarization among white voters. Still, there is some evidence that an education gap may be emerging among minorities voters (e.g., Fraga, Velez and West, 2024).

[4]I use the term "working class" as convenient shorthand to refer to people without a college degree,

Figure 1: Net Republican Votes in Presidential Races, By Race and Education



Notes: "Net Republican votes" is defined as the proportion of a group that votes for the Republican candidate minus the proportion that votes for the Democratic candidate. Source: ANES (1984-2020) and CCES (2008-2020). All estimates include survey weights.

means for the American party system depends to a large extent on the factors driving it. On the one hand, the realignment is surprising when viewed through the lens of economic voting. The economic prospects of non-college-educated workers have stagnated (Autor, 2019), which might be expected to push non-college educated voters leftward to demand higher levels of redistribution. However, the trend is less surprising when considering that there is a growing role for cultural issues, such as moral traditionalism and racial identity, in structuring party cleavages (Sides, Tesler and Vavreck, 2019; Frank, 2004; Ballard-Rosa, Scheve and Jensen, 2021; Baccini and Weymouth, 2021).

Ultimately, there is little research explaining the sources of the growing educational divide among white voters over time. Noting that "we still have a lot to learn about the white working class's slow move towards the GOP," Carnes and Lupu (2021, 67) pose a

while acknowledging that class is a multidimensional concept that depends on factors beyond educational attainment. Still, class and education are highly correlated in the United States. In ANES data from 2000 to 2016, about 58% of those without a college degree self-identify as working class, compared to 24% of those with a college degree.

question answered by this paper: "Are there particular issues or policies that Republican candidates have emphasized that are attracting the white working class?"

I study the issue basis of the educational realignment in American politics over the past four decades. I generate new over-time estimates of issue-specific opinion and develop a theoretically grounded methodology to interpret the relationship between issue attitudes and vote choices. Using these tools, I present a nuanced picture of educational realignment, with both economic and non-economic issues playing important roles. Broadly, I argue that white college-educated voters have become increasingly liberal on economic issues, pushing them toward the Democratic party. Simultaneously, non-college voters have come to base their voting decisions more heavily on their conservative cultural attitudes. Together, these two trends account for the observed realignment.

The foundation of my empirical contribution is a new set of issue-specific ideal point estimates covering four broad issue areas: economics, moral and social values, race and civil rights, and foreign policy. These issue domains cover most salient political issues, including taxation and spending, LGBT rights, abortion access, immigration, foreign wars, and affirmative action. I use ANES and CCES survey data to generate estimates of attitudes on these issues over the past 40 years, enabling me to track cleavages in public opinion.

I begin by documenting three facts about public opinion across educational groups. First, I show that ideological constraint has risen dramatically among both those with and without college degrees. This rise in constraint — by which I mean correlation in attitudes across issues — means that there is more room for polarization between groups, as voters tend to line up ideologically on multiple issue domains. Second, I find that white working class voters have long been more conservative on moral values, race, and foreign policy — consistent with prior accounts of class dynamics. These issues have become more important for electoral coalitions because the parties increasingly compete on non-economic dimensions (Layman and Carsey, 2002). Third, I show that polarization is not limited to cultural issues, but in recent decades has extended to core economic issues as well. In contemporary politics, white

college-educated voters express consistently more liberal views on economic issues — related to taxation, safety net spending, and redistribution — than non-college voters. College-educated voters have thus become more aligned with the Democratic Party, and the working class with the Republican Party, across all issue areas that I examine.

But voters' issue attitudes are only one component of their electoral choices. To fully understand Figure 1 in light of the public opinion trends I document, we need a framework through which to interpret the relationship between issues attitudes and vote choice. I outline a multidimensional spatial voting model to structure my analysis of electoral coalitions. The model suggests that, within elections, differences in voting patterns across groups can be due to either (1) differences in the distribution of preferences across groups or (2) differences in the weights that groups attach to different issues. Across elections, an additional source of changes in group voting patterns is (3) changes in candidate positioning.

The payoff of this approach is a theoretically grounded interpretation of regressions of vote choice on issue attitudes. I show that the coefficients from this regression combine the effects of issue weights — the importance that voters place on different policy dimensions — with candidates' platforms on these issues. In this framework, increases in correlations between vote choice and an attitudes on a given policy dimension could be due to either increased importance of that dimensions or due to increased divergence in candidates' stances on that dimension. Without suitable data on candidate platforms, it is not possible to disentangle these explanations across elections. However, within elections, I show how to identify *differences* in issue weights across subgroups of the electorate. The key insight is that candidates' platforms are fixed within an election, so differences in the correlation between vote choice and attitudes across groups can be attributed to differences in issue weights.

Applying this framework to my empirical analysis, I show that there has been a convergence in the importance that college- and non-college-educated voters place on different issues. In the 1990s, college-educated white voters were more consistently "issue voters" than their counterparts without college degrees — in that their vote choice was more strongly

correlated with their issue attitudes. This was especially true for moral issues, on which college-educated voters are substantially more liberal. In recent years, however, non-college white voters have become issue voters. Since 2008, the weight placed on each of the four issues has been nearly identical for college and non-college voters.

The fact that white working class voters did not place much weight on non-economic issues in the past hampered Republicans' ability to capitalize on their conservative cultural attitudes. Similarly, economic issues prevented Democrats from converting many college-educated whites, despite their alignment on cultural issues. Both of these conditions have changed in recent years. The increasing economic liberalism of college-educated whites and the steady rise in the weight on cultural issues for working class whites have combined to generate large-scale educational realignment.

These findings yield support for some prominent theories about the realignment of American politics over the past several decades, while adding a new explanation for the growing educational divide. Scholars and pundits debated the extent to which cultural and moral issues were supplanting economic issues in the early 2000s (e.g., Frank, 2004; Bartels, 2006; Hillygus, 2005; Gelman, 2009). My findings suggest that these issues have been important for college-educated white voters since at least the 1980s, but gained salience for the white working class only more recently.

Cultural issues are only part of the story. My findings on economic issues have been less recognized previously. Instead of growing economic inequality leading the highly educated to the economic right and the working class to the left (McCarty, Poole and Rosenthal, 2016), I find the opposite. College-educated voters have become more liberal on economic issues, aligning their economic preferences with their cultural preferences. This trend is inconsistent with standard models of redistribution (Meltzer and Richard, 1983), but is consistent with other political economy arguments focusing on insurance motivations for public spending (Moene and Wallerstein, 2001), a desire to avoid negative externalities associated with inequality (Rueda and Stegmueller, 2016), and the interplay between informal social insti-

tutions and economic migration (Marble and Lim, 2023). It is also consistent with a smaller public opinion literature documenting liberal economic views among the economically well-off (Gilens and Thal, 2017; Broockman, Ferenstein and Malhotra, 2019).

The rest of the paper is structured as follows. First, I review potential explanations for the growing education gap. Next, in Section 2, I outline a simple multidimensional spatial voting model. The model suggests that differences in voting behavior across groups can naturally be decomposed into differences in issue attitudes and differences in the weights placed on different issues. Section 3 introduces the survey data and measurement strategy that form the empirical core of this paper. In Section 5, I document trends in public opinion across these issue domains. In Section 6, I analyze the weights attached to different issue dimensions in determining vote choices. Section 7 discusses issues in interpreting the results. Finally, I conclude.

1 Morals, Race, and Economics as Drivers of Electoral Outcomes

What explains the growing educational divide among white voters? Various strands of the literature argue that some combination of moral values, race-based identity concerns, and economic decline are responsible for changing voting patterns. While each of these accounts has evidence in its favor, their relative importance for explaining macro-level trends is unclear. I briefly review these perspectives, then argue that comprehensive over-time data on issue attitudes are necessary for parsing out the relative explanatory power of these accounts.

Prominent research and punditry in the early 2000s claimed that poor or working class whites were moving to the Republican Party due to religious and cultural issues. Frank (2004) exemplifies this analysis, arguing that Republicans have captured the votes of less well-off citizens by appealing to "cultural wedge issues like guns and abortion and the rest whose hallucinatory appeal would ordinarily be far overshadowed by material concerns" (254). This analysis sparked an important debate, which broadly concluded that while moral and

cultural issues are relevant, they are more important in explaining the voting patterns of richer voters, not the working class (Bartels, 2006; Gelman, 2009; Hillygus, 2005).

This literature on moral values voting appeared midway through the process of educational realignment. Writing in 2006, Bartels notes that white college graduates supported Republicans at a higher rate than non-college whites from the 1950s through the 1970s. Since 1980, he writes, "there has been no consistent difference in voting behavior between whites with college degrees and whites without college degrees. From this perspective, class ... has become much *less* politically relevant over the past half-century" (207). As seen in Figure 1, that conclusion came at the midpoint of a realignment process, rather than a steady state of educational depolarization. It is thus worth revisiting the role of cultural and moral values in educational realignment in historical perspective.

More recently, a second account argues that the realignment in American politics is due not merely to moral issues, but to racial identity-based concerns in particular. For example, Sides, Tesler and Vavreck (2019) argue that demographic changes have threatened whites' position as the dominant group in society. White people have responded to these changes by increasing their identification with their racial group (Jardina, 2019). Populist politicians such as Donald Trump have then capitalized on these fears, making identity concerns central to their politics and positioning themselves as protectors of white American traditionalists (Smith and King, 2021). In this account, attitudes on racial issues are primary drivers of the populist turn among working class whites (Mutz, 2018; Reny, Collingwood and Valenzuela, 2018).

A third account emphasizes economic changes in explaining electoral change. Over the past half-century, the working class has seen its relative status decline. Globalization has led to offshoring of jobs (Autor, Dorn and Hanson, 2013), computers have replaced mid-level professional jobs that did not require a college degree (Autor and Dorn, 2013; Autor, 2019), and labor unions have lost power (Farber et al., 2021). Regions most exposed to these trends have responded electorally by punishing incumbents, electing more extreme legislators, and

rewarding politicians with more protectionist stances (Jensen, Quinn and Weymouth, 2017; Che et al., 2016; Feigenbaum and Hall, 2015; Autor et al., 2020). In the U.S. and other industrialized countries, such areas have voted for right-wing populist candidates at high rates (Autor et al., 2020; Colantone and Stanig, 2018).

Finally, a growing literature seeks to unify the identity- and economics-based accounts. The declining economic status of the white working class may lead them to emphasize other aspects of their identity that help them preserve psychological status — such as white identity or authoritarian cultural values (Shayo, 2009; Ballard-Rosa, Scheve and Jensen, 2021; Baccini and Weymouth, 2021). Rather than understanding economic insecurity and identity concerns as competing explanations, they are mutually reinforcing.

While each of these arguments finds empirical support, it is difficult to assess the relative importance of each mechanism for generating realignment. Researchers often study each of these phenomena in isolation and in a limited number of years. This approach often generates stronger claims to internal validity, but it leaves unresolved the question of how much each mechanism can explain macro-level trends. Moreover, different arguments have different levels of specificity about the underlying mechanisms. The moral values explanation, for instance, has clear individual-level empirical implications: namely, that citizens' attitudes on moral issues should be increasingly correlated with their vote choice over time. In contrast, studies about the effects of economic change are often conducted at an aggregate level. This leaves open the possibility for multiple mechanisms, such as retrospective evaluation or issue voting concentrated on trade.

This paper makes two contributions to help overcome these limitations. First, I develop over-time measures of issue attitudes that are comparable over several decades. This over-time data allows me to take a longer view on the question of electoral realignment than most studies. Second, I rely on a theoretical framework that clearly specifies the relationship between issue attitudes and vote choice. This framework helps to distinguish between changes in public opinion that are and are not important for generating educational realignment, and

clarifies the interpretation of correlations between vote choice and issue attitudes.

2 Theoretical Framework

I adopt an issue-voting framework in order to understand the sources of vote choice. I introduce a simple multidimensional spatial voting model, whose purpose is to highlight different sources of group voting patterns. In this framework, differences in voting across groups can be attributed to differences in the distribution of public opinion across groups and/or to differences in the importance that different groups attach to different issues.

The model clarifies which substantive quantities of interest can be identified using different types of data. I show that a commonly used analysis strategy — namely, regression of vote choice on issue attitudes — cannot recover the importance of any given issue in voters' decision-making. However, comparisons across groups within the same election can isolate the *relative* importance of different issue across groups, under easily interpreted assumptions. I use this theoretical discussion to motivate my subsequent empirical analysis.

2.1 A Multidimensional Spatial Voting Model

To begin, I assume that in each election there are two candidates competing against each other.[5] Candidates are characterized by their policy platforms on each of K policy dimensions. These platforms are denoted by $\mathbf{x}_j = (x_j^1, \ldots, x_j^K)$, for $j \in \{d, r\}$. Voters have ideal points in the same K-dimensional space, denoted $\Theta_i = (\theta_i^1, \ldots, \theta_i^K)$.

The utility that a voter receives from candidate j is a function of the distance between her ideal point and the candidate's ideal point. Each voter has a weighting vector $\mathbf{w}_i = (w_i^1, \ldots, w_i^K)$ that describes how much weight she attaches to each dimension. The utility voter i gets from candidate j is a function of the $\mathbf{w}_i$-weighted distance between the voter

[5] Extending the setup to multiple candidates is straightforward, while yielding no additional insights.

and candidate's respective ideal points:

$$V_{ij} = -\sum_{k=1}^{K} w_i^k (x_j^k - \theta_i^k)^2. \tag{1}$$

Voter's utility from a candidate also contains an additive, independently distributed error term for each candidate, denoted by u_{ij}.[6] Total utility for a candidate is given by $U_{ij} = V_{ij} + u_{ij}$.

Voters vote for the candidate who gives them higher utility. A distributional assumption about the differences in error terms for each candidate — namely, that $(u_{ij} - u_{ij'}) \sim F_u$, with F_u symmetric about 0 — yields choice probabilities of the form

$$\begin{aligned} p_{ir} = \Pr(i \text{ votes for } r) &= \Pr(V_{ir} + u_{ir} > V_{id} + u_{id}) \\ &= F_u(V_{ir} - V_{id}) \\ &= F_u\left(\left[\sum_{k=1}^{K} w_i^k (x_d^k - \theta_i^k)^2\right] - \left[\sum_{k=1}^{K} w_i^k (x_r^k - \theta_i^k)^2\right]\right). \end{aligned} \tag{2}$$

In the application section, I maintain the assumption that the errors follow an extreme value distribution, yielding logit choice probabilities.[7]

The vote share for the Republican candidate within a given group g is obtained by integrating over the distributions of Θ_i and $\mathbf{w}_i$ among members of group g:

$$v_g = \int p_{ir} dF_g(\Theta) dF_g(\mathbf{w}), \tag{3}$$

where $F_g(\Theta)$ and $F_g(\mathbf{w})$ are, respectively, the distributions of ideal points and weights within

[6]This term could correspond to valence qualities of the candidate, such as perceived competence, or other determinants of vote choice that are not related to policy positions.

[7]So far, I have ignored turnout decisions. A "calculus-of-voting" model of turnout, in which voters abstain if the difference in utility between the candidates is sufficiently small (i.e. $|V_{id} + u_{id} - V_{ir} - u_{ir}| < c$), yields an ordinal regression model that is very similar to the binary choice model presented here. The implications of the model are unchanged in that case, so I focus on the simpler case here for expositional clarity. In my subsequent empirical analyses, I estimate ordinal models to take turnout into account.

group g.

This framework identifies two potential sources of differences in Republican vote share across groups. Within an election, differences could arise due to (1) differences in the distribution of ideal points, $F_g(\Theta)$, or (2) differences in the distribution of weights, $F_g(\mathbf{w})$. Additionally, vote shares within a group could change across elections — even absent changes in that group's ideal point or weight distributions — due to changes in candidate position, captured by $\mathbf{x}_d$ and $\mathbf{x}_r$.

2.2 Interpreting Regressions of Vote Choice on Issue Attitudes

Directly estimating the parameters of the spatial voting model outlined above is infeasible in the absence of data measuring both candidates' platforms ($\mathbf{x}_j$) and voters' ideal points (Θ_i) on the same scale. Such data are occasionally available for specific elections and specific issues (e.g. Alvarez and Nagler, 1998).[8] However, comprehensive over-time data are unavailable.

A straightforward alternative is to regress vote choice on voters' issue attitudes. This approach yields a theoretically interpretable quantity under the assumption that the issue weights $\mathbf{w}_i$ are homogeneous. Then, if we regress an indicator for voting Republican on issue attitudes, the intercept and slope parameters are functions of the issue weights within that group:

$$\beta^k = 2w^k(x_r^k - x_d^k) \qquad \text{and} \qquad \alpha = \sum_k w^k(x_d^k - x_r^k)(x_d^k + x_r^k). \tag{4}$$

This result can be derived by grouping terms in Equation 2. The slope coefficients β^k are the product of the weight placed on issue k and the candidates' platform divergence on that issue, while the intercept is a function of the weights and platforms on all issues.[9]

[8] A large "joint scaling" literature places voters and candidates in a comparable unidimensional policy space (Jessee, 2012; Gerber and Lewis, 2004; Bafumi and Herron, 2010). In that literature, issues of comparability have received a great deal of attention (e.g., Jessee, 2016). But issue weights play no role in the unidimensional setting.

[9] A slightly weaker assumption that still allows for a "structural" interpretation of this regression is due to Rivers (1988). Suppose there is unobserved individual-level heterogeneity in issue weights and that this

Intuitively, this result is straightforward. If voters highly weight an issue (large w^k) or if the candidates stake out drastically different positions on an issue (large difference between x_r^k and x_d^k), then small changes in respondents' ideal points correspond to large changes in the vote choice probabilities. Conversely, if voters do not care about an issue ($w^k = 0$) or if candidates' positions are very similar to each other ($x_r^k = x_d^k$), then respondents' ideal points on that issue should not be correlated with their vote choice.

The fact that the slope coefficients contain both issue weights and candidate platforms presents an inferential challenge: the issue weights are not identified. This makes over-time statements about voters' priorities difficult to sustain. For example, an increase in the correlation between vote choice and racial attitudes from one election to the next could correspond to an increase in the salience of racial issues (i.e., an increase in w^k), or it could correspond to an increase in the platform divergence between the candidates in the two elections (i.e., an increase in $x_r - x_d$).

This observation has implications for understanding electoral realignment generally, and educational realignment in particular. For example, in his dialogue with Frank (2004), Bartels (2006) estimates the correlations between vote choice and attitudes on economic and non-economic issues. He writes that "the parameter estimates for each issue reflect the apparent weight of that issue in accounting for the presidential votes of white voters without college degrees and white voters with college degrees" (212). But the discussion here shows that these estimates are in fact a combination of weights and candidates' platform divergence. The issue weight interpretation of these estimates can only be sustained under the untenable assumption that candidates' platform divergence is fixed from one election to the next.[10]

heterogeneity is uncorrelated with issue preferences. Then, this regression yields functions of the *average* issue weights within the sample. If the weights are correlated with preferences — for instance, if people with more extreme preferences on an issue dimension also place higher weight on that dimension — then the reduced-form coefficients are not interpretable in terms of structural parameters.

[10]Other work, particularly in the priming literature, also refers to the coefficients obtained from vote choice-attitude regressions as "weights" (Lenz, 2009; Tesler, 2015). Several phenomena documented in that literature can be accommodated in the formal framework presented here, with "priming" corresponding to changes in issue weights, "learning" corresponding to changes in the perceptions of candidate platforms, and "opinion change" corresponding to changes in voters' ideal points.

2.3 Identifying Relative Issue Weights Across Groups

Given the difficulty of measuring candidate platforms on the same scale as voters' ideal points, the prospects for inferring issue weights appear grim. However, progress can be made by comparing different groups within the same election. All voters in a given election face the same candidate platforms. Thus, the ratio of slope coefficients across groups recovers the relative weight that the groups place on the issue.

Denote the slope coefficients and weights among two groups, g and g', using subscripts. The ratio of coefficients is then equal to the ratio of weights:

$$\frac{\beta_g^k}{\beta_{g'}^k} = \frac{w_g^k(x_r^k - x_d^k)}{w_{g'}^k(x_r^k - x_d^k)} = \frac{w_g^k}{w_{g'}^k}. \tag{5}$$

If the coefficients are identical, it implies that the two groups place equal weight on the issue, and the ratio is 1. If $\beta_g^k/\beta_{g'}^k = 2$, it implies that group g places twice as much weight on issue k as does group g'.

I use this straightforward result to study the relative importance of different issues across education groups. For example, if the white working class is especially motivated by racial identity concerns, then we should observe that the weight attached to racial issues is higher in that group. Additionally, adopting this framework allows me to study trends in the relative issue weights — enabling me to revisit the conclusion that non-economic issues are especially important for the votes of the well-off (Bartels, 2006; Gelman, 2009).

3 Construction of Issue Scales

A core goal of this paper is to investigate the issue basis of voting patterns across education groups. This goal necessitates generating measures of issue preferences that cover a relatively long time span, are comparable over time, and cover a range of important public policy issues that could plausibly be related to voting decisions.

To construct such measures, I combine a large number of survey questions from the American National Election Studies (ANES) and the Cooperative Congressional Election Study (CCES) together using an ideal point model. I begin by defining four issue areas covering a wide range of important public policies and which are plausible drivers of voting decisions. I then categorize over 190 survey questions from the ANES and CCES into these issue categories and fit separate ideal point models to generate preference estimates for each issue area.

The ANES data covers 1984-2020 and I obtain ideal point estimates for roughly 40,800 ANES respondents.[11] The CCES data covers 2006-2020 and I obtain ideal point estimates for roughly 413,000 respondents. The remainder of this section details each step of the measurement strategy.

3.1 Defining Issue Areas

The first two issue domains that I examine have been investigated extensively in prior research. The first domain, Economics, taps attitudes related to government spending and the extent of the state's intervention in the economy. This dimension is the primary axis of conflict in Congress throughout American history and is the traditional divide between left and right parties worldwide (Poole and Rosenthal, 2007).

The second domain, Moral and Social Issues, taps into attitudes on the extent to which the state should regulate in favor of moral conduct and, particularly, whether the state should favor moral traditionalism. This second dimension has been the axis of much conflict in modern American politics — especially since the rise of the "New Left" in the 1960s and the rise of Evangelical conservatism in the 1980s. Prior research has documented distinct attitudes in the public on questions of economic and moral policy (Treier and Hillygus, 2009; Ansolabehere, Rodden and Snyder, 2006).

[11] I choose 1984 as the start of the analysis because many questions on the ANES are first asked consistently in this year. Further, the 1984 election was a low point for educational polarization among whites, as seen in Figure 1.

The third issue domain, Race and Civil Rights, taps into racial attitudes, primarily towards Black Americans. The importance racial issues for electoral politics has waxed and waned over the course of American history (Schickler, 2016; Poole and Rosenthal, 2007). But racial politics is central to American political development and the organization of American government. Recently, there is renewed attention on the importance of racial attitudes for electoral politics — especially since the 2016 election (Sides, Tesler and Vavreck, 2019; Hopkins, 2019).[12]

The final dimension, Foreign Policy, taps into attitudes related to the United States' place in the world, including attitudes towards militarism, international cooperation, immigration, and international trade. The role of foreign policy in presidential campaigns has varied over time — from an early Cold War bipartisan consensus, to the divisive politics of Vietnam and Iraq (Aldrich et al., 2006). More recently, the issue of immigration has taken center stage in electoral politics (Hainmueller and Hopkins, 2015). While attitudes about immigration may be related to racial attitudes, the policy choices are fundamentally about the United States government's stance toward citizens of other states. Therefore, I include immigration as part of the foreign policy issue domain.

3.2 Critiques of the Measurement Approach

These issue categories are designed to trade off parsimony and nuance in an attempt to study the substantive sources of electoral realignment. Nonetheless, any effort to define issue areas in this way is subject to benefits and drawbacks, which I briefly discuss here.

First, these issue areas are broad enough that they lump together distinct issues. For example, though the politics of income taxation may differ from the politics of government involvement in health insurance markets, both issues are classified into the economics issue domain. There are important gains to be made by studying the politics surrounding indi-

[12]Racial attitudes may be related to attitudes about the role of traditional values in society — as noted by analysts of "symbolic racism" or racial resentment (Kinder and Sears, 1981; Sniderman et al., 1991). But there is no necessary reason why moral conservatism should go along with conservative racial attitudes, so I treat them as separate issue domains.

vidual issues (e.g., Campbell, 2012). But the salient policy questions in any given domain change from one election to the next, making it is difficult to study long-run realignment through the lens of individual policy battles. By defining relatively broad issue areas, I hope to capture broad contours of public opinion, while making distinctions across theoretically distinct bundles of issues.[13] Moreover, combining responses to a number of survey questions reduces measurement error and generates more reliable estimates of public opinion, even if it sacrifices some important variation on individual policy proposals (Ansolabehere, Rodden and Snyder, 2008).

Second, the issue domains are not exhaustive — notably, they exclude some salient policies such as criminal justice, gun control, and voting rights. Nonetheless, the issue areas that I define cover a large portion of salient policies over which citizens are likely to have more-or-less reliable attitudes and which politicians stake out visible issue positions.

Third, by defining the issue areas a priori, I am imposing structure on the problem that may not reflect the way citizens see politics. An alternative approach would be to use unsupervised methods to discover latent structure in public opinion — letting the data "speak for itself." This approach has the advantage of being agnostic about the particular way that public opinion is structured. I begin my analysis in Section 4 with an unsupervised analysis, which allows me to measure constraint in public opinion across education groups.

However, the bulk of my analyses focus on investigating changes in electoral coalitions in politically meaningful terms. Unsupervised methods discover a best-fitting latent dimension of public opinion, but this dimension may not map onto substantively interpretable issue domains. Therefore, in most of my analyses I take the approach of using substantive knowledge to group together survey questions tapping into similar political orientations.

Ultimately, any measurement strategy has costs and benefits. By taking this approach, I hope to provide a relatively parsimonious account of changes in educational polarization

[13]Note that my approach already employs more "splitting" of issues than many studies of long-run change in public opinion and representation, which often adopt a one-dimensional summary measure of ideology (e.g., Caughey and Warshaw, 2018).

over time, while preserving some of the nuance across issue domains that prior research has found to be important.

3.3 Categorizing Survey Questions into the Four Issue Domains

Most questions fall relatively naturally into one of these categories. To guide my categorizations, I rely on prior research that conducted similar exercises for economic and moral issue domains. While there is inevitably some subjectivity involved in these coding decisions, each issue scale typically contains a large number of questions, muting the effect of any given question on determining the meaning of the scale. Coding decisions for each included question, as well as temporal coverage of each question, are displayed in Appendix A.

To begin, I follow coding decisions made by researchers in prior studies of economic and moral ideology (Ansolabehere, Rodden and Snyder, 2006; Treier and Hillygus, 2009). Questions related to government spending, taxation, redistribution, social insurance, and the role of government in the economy were placed in the Economics category.

Questions related to abortion, LGBT rights, the role of religion in public life, and the role of women in society were placed in the Moral/Social issues category. Items related to racial integration, racial resentment, government spending on racial/ethnic minorities, and affirmative action were placed in the Race and Civil Rights category. Additionally, questions about welfare and solutions to "urban unrest" were also placed in this category due to their strongly racialized connotations in American politics (Gilens, 1999).[14]

Finally, the Foreign Policy category contains the most heterogeneous set of questions. Questions related to international security and terrorism — including defense spending, the importance of international cooperation, willingness to use military force, and concern about war were placed in this category. A relatively small number of questions about international

[14]Unfortunately, early years of the CCES had relatively few questions related to race and civil rights. In 2008, the only question in this category assess respondents' support for affirmative action using a 4-point outcome scale. Helpfully, this question is also asked in other years and on the ANES, making it possible to obtain ideal point estimates. However, these estimates are subject to more uncertainty than estimates based on more survey responses.

political economy — related to tariffs, outsourcing, and free trade agreements — were placed in this category. The final subcategory is immigration, which includes questions about whether the U.S. should increase or decrease immigration, whether the U.S. should increase border patrols, and how to deal with undocumented immigrants.

3.4 Estimating Policy Preferences

Using these question categorizations, I estimate separate ideal points for each issue domain using an ordinal logistic item-response theory (IRT) model, similar to the sorts of models used to generate ideology estimates from roll-call voting data (Clinton, Jackman and Rivers, 2004). In recent years, such models have been widely applied to public opinion data (Jessee, 2016; Tausanovitch and Warshaw, 2013; Bafumi and Herron, 2010). The primary difference between my approach and other studies is the "unbundling" of issues: most analysts include all survey questions in a unidimensional ideal-point model, while I estimate four separate models on different subsets of questions.

Appendix C contains a detailed discussion of modeling and estimation, including: a formal description of the statistical model; description of "bridging" assumptions necessary to compare ideal point estimates over time and across surveys; estimation details; and item parameter estimates.

4 Growing Ideological Constraint in the Mass Public

Before examining trends on individual issue areas, I begin the empirical analysis by considering ideological constraint over time. Ideological constraint, which dates at least to Converse (1964), is the extent to which the public knows "what goes with what" — i.e., the extent to which attitudes on one issue predict attitudes on another. High levels of constraint make political cleavages between groups easier to sustain, as it implies that individuals hold consistent bundles of policy preferences. In a population with low constraint, people may hold a mix of liberal and conservative attitudes across issues, meaning that candidate-level

competition on different issues may generate cross-pressures that push against polarization.

To measure constraint, I employ a cross-validation estimator that compares the out-of-sample predictive performance of an "intercept-only" null model — which does not share information across survey items — to the performance of a unidimensional ideal point model (Marble and Tyler, 2021). The ideal point model is simply a convenient method of summarizing the information contained in the other survey questions. To the extent that knowledge of a respondents' position on one issue helps predict their opinion on another — that is, to the extent that respondents' attitudes are constrained — the ideal point model will outperform the null model. To summarize how well the ideal point model performs relative to the null model, I generate an out-of-sample pseudo-R^2 measure.[15] Value close to 1 indicate that a unidimensional ideal point model explains nearly all of the variation, indicating that attitudes are highly constrained. Values closer to 0 indicate that there is relatively little constraint.

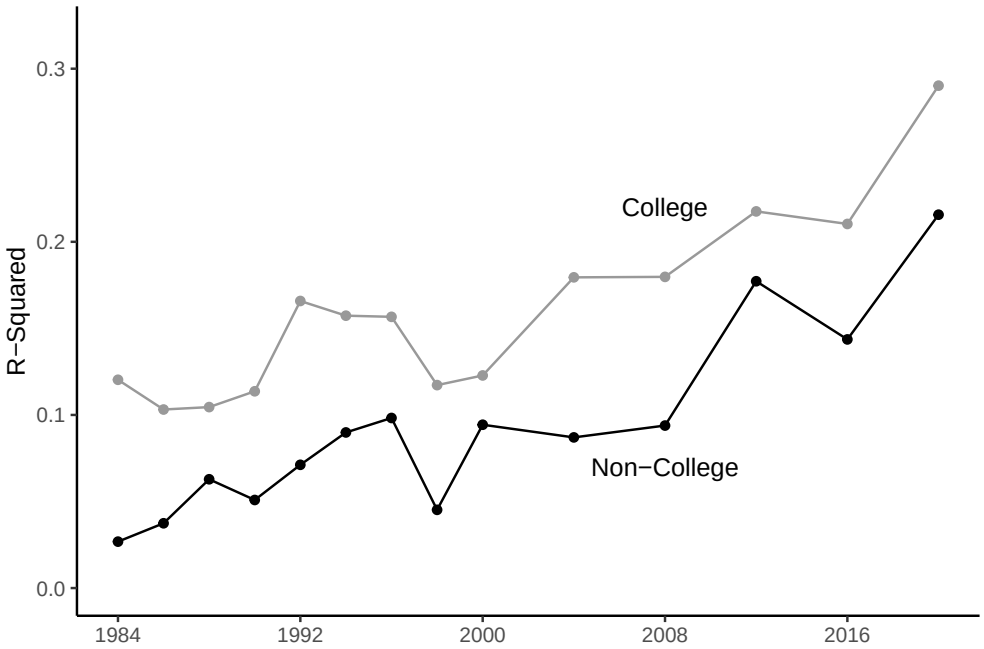
I adapt that approach here by estimating unidimensional ideal point models using the ANES questions from 1984 to 2020.[16]As discussed previously, most of my analysis involves grouping survey questions into substantive issue areas. However, here I treat all questions symmetrically, without grouping them a prior. This allows me to investigate the changing structure of public opinion while being agnostic about how issues relate to each other.

Figure 2 plots this measure of constraint over time among white voters, by education level. Throughout the entire study period, constraint is higher for college-educated voters, in line with prior findings that those with high levels of education tend to have more consistent policy views. However, there is a clear uptick in constraint over time, indicating an increase in constraint. While this trend holds for both educational groups, it is especially notable

[15]For a held-out observation y_i that is not used to estimate the parameters of the model, I generate the predicted probability of the observed response using an ideal point model, $\hat{y}_i^{\mathcal{M}}$, and using a null model, $\hat{y}_i^{\mathcal{N}}$. I then define the pseudo-R^2 as the proportional reduction in squared error that the ideal point model achieves relative to the null model: $R^2 = 1 - \frac{\sum(\hat{y}_i^{\mathcal{M}} - y_i)^2}{\sum(\hat{y}_i^{\mathcal{N}} - y_i)^2}$. This measure accounts for the fact that public opinion is lopsided on some issues, making prediction easy, even without knowledge of respondents' other attitudes. Other measures, such as predictive accuracy and held-out likelihood, produce subsantively similar results.

[16]See Marble and Tyler (2021, 331) for details on the intercept-only null model.

Figure 2: Ideology Constraint Among White Voters



Notes: This figure shows the out-of-sample R^2 for a unidimensional ideal point model using the 1984-2020 ANES. Ideological constraint is consistently higher among college-educated voters, but the gap has shrunk over time as both groups have seen significant increases in constraint since the 1980s.

for those without a college degree because constraint among this group started out at such a low level. There was a slow, steady increase in this measure of constraint among non-college white voters through the 1980s and 1990s, until it leveled off at around 10% in the early 2000s. This plateau gave way to dramatic increases in constraint during the Obama presidency, which have continued at least through 2020. In 2020, about 20% of the variation in survey responses among the white working class can be explained by a unidimensional ideal point model — a level of ideological constraint that is higher than most of the time series for college-educated voters.

The upshot of this analysis is that there is more room for partisan polarization along educational lines. As opinions have become more correlated across issues, we should expect to see voting blocs emerge. The remainder of this paper further explores the substantive basis of these trends.

5 The Rise of Consistent Polarization Across Issue Areas

I now turn to a description of the education gap in public opinion across multiple issue domains among white Americans. Using the issue-specific ideal point estimates discussed in Section 3, I regress respondents' estimated issue positions on an indicator for holding a college degree, along with demographic controls for age, sex, and income. I run separate regressions for each presidential election year between 1984 and 2020 and plot the estimated coefficient on the college indicator. The coefficient estimate is the average difference in college versus non-college issue-specific ideal point, after adjusting for the control variables.[17] Because the scales are standardized to have unit variance, coefficients can be interpreted in terms of standard deviations. Figure 3 presents the results.[18] I begin by discussing the non-economic issues, then discuss the results for the economics issue scale.

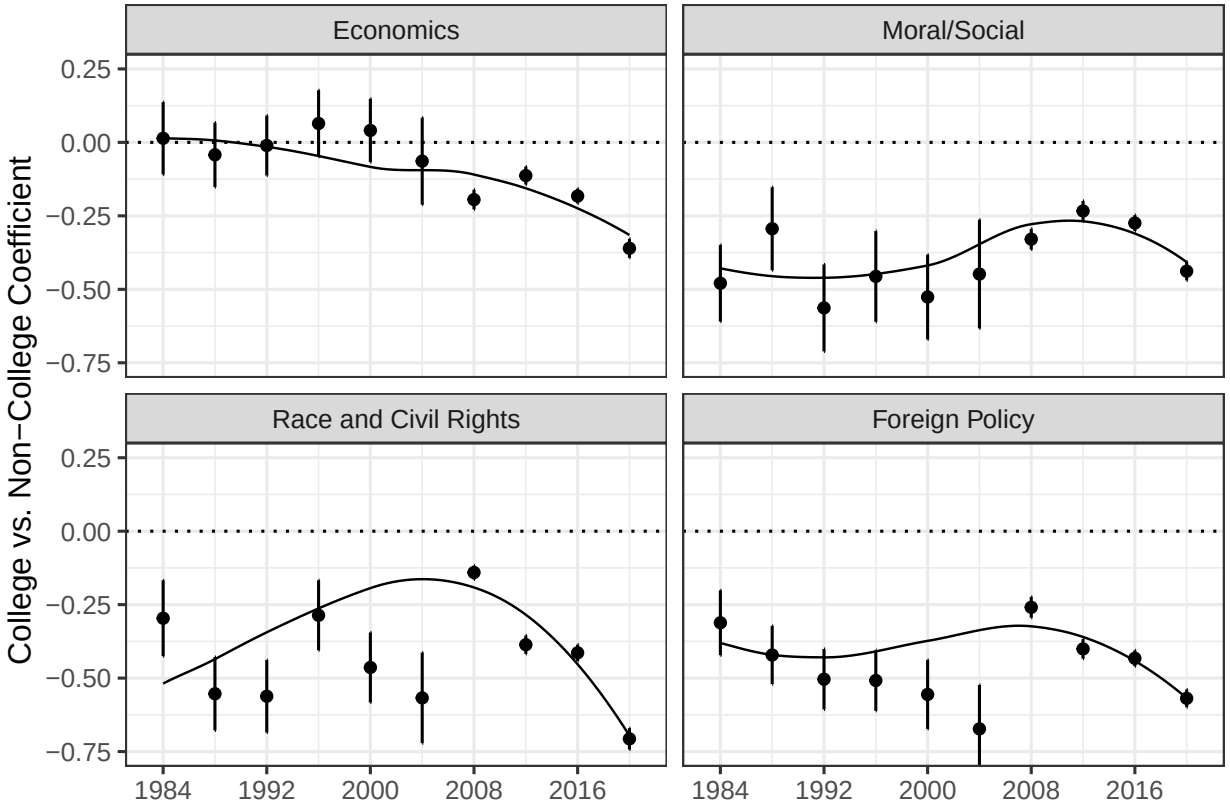
5.1 The Longstanding Educational Divide on Non-Economic Issues

For non-economic issues, college-educated voters have long been consistently more liberal than non-college voters. As far back as the mid-1980s, the education gap on moral issues was well over a quarter of a standard deviation of the issue scale. College-educated voters tend to prefer less restrictive policies toward abortion, more recognition of the rights of sexual minorities, more supportive of women's rights, and less insistent that policy should reflect traditional moral and cultural values. Attitudes on this issue dimension in the population writ large have moved substantially leftward over the time period that I study — coinciding with advances in gay rights and increasing gender equality in society. But the gap between college- and non-college voters on this issue domain has remained essentially constant.

[17] These control variables are important, as broadening access to higher education means that the demographic makeup of the two educational groups is significantly different today than in the 1980s.

[18] Full regression results, including coefficients on control variables, are reported in Appendix E.1. Figure A-15 plots the results of the same analysis without control variables. The magnitude of the differences varies compared to the results presented here, but the trends are similar. The largest difference is that college graduates previously were substantially more conservative than non-graduates on economic issues. This flipped in the late 2000s, and college graduates are now more liberal on this domain.

Figure 3: Differences in Attitudes Between College and Non-College Voters



Notes: Points are coefficient estimates from a linear regression of ideal point estimates on an indicator for having a four-year college degree, among whites. Bars indicate robust 95% confidence intervals. The curved line is a loess line fit to the estimates, weighted by the inverse of their variance. Models also include controls for age, race, sex, and income. All regressions include survey weights.

A similar pattern applies to racial issues and foreign policy. Since the 1980s, college-educated voters have been more liberal on these policy domain than non-college voters. While there have been short-term fluctuations in the education gap on these policy domains, over the long term differences have remained constant. College-educated voters are more amenable towards policies aimed at benefiting racial and ethnic minorities, such as affirmative action and assistance to Black Americans. College graduates also express lower levels of racial resentment, consistent with prior research (e.g. Smith, Kreitzer and Suo, 2020). On foreign policy, white college graduates express more welcoming attitudes towards immigrants and more opposition to foreign wars.

These educational differences on non-economic policy domains are consistent with the theory of "postmaterialist" values. In the 1960s, student-led movements eschewed traditional values of safety and security in favor of advancing environmental protection, enabling self-expression, and incorporating marginalized populations into political life (Inglehart, 1981). They are also consistent with work in American politics on the importance of non-economic issues among high-income and high-education voters (Gelman, 2009; Bartels, 2006).

5.2 The Increasing Economic Liberalism of the College Educated

A key part of the story of educational realignment is displayed in the top-left panel of Figure 3. From at least the early 1980s to the mid-2000s, there was essentially no difference in average attitudes on economic policy between college and non-college voters, after accounting for other covariates. In the unadjusted differences presented in Figure A-15, college-educated voters were substantially more conservative than non-college voters until 2012.

Since the mid-2000s, however, college-educated whites have become more liberal on economic issues than non-college whites. This change begins to occur in 2004, continuing steadily through the next decade and a half. By 2020, college-educated whites were about 0.37 points more liberal on the economic policy scale, on average, after applying demographic controls. Without demographic controls, the difference is about 0.27. For reference, the average difference in economic policy among white Democrats and white Republicans in 1984 was 0.67 and in 2020 was 1.75 (after adjusting for identical controls). Thus, in recent years, the *education* gap on this policy dimension is about half as large in magnitude as the *party* gap was in the 1980s — a time before "culture war" issues took center stage in electoral politics.

The prior pattern of minimal differences between college- and non-college voters on economic policy was reflected in the voting patterns during this time. As presented in Figure 1, college-educated white voters supported Republican presidential candidates at a higher (or similar) rate compared to non-college whites until the 2000 election. However, starting in

that election, college-educated whites have increasingly supported the Democratic candidate in presidential elections — a trend that coincides with with the increasing economic liberalism of college-educated voters on economic policy.

I probe the robustness of this finding in Appendix B. I show that the pattern appears with or without control variables and when using only ANES respondents. Also, I examine individual economic policy items that have been asked consistently over the entire study period, finding a similar trend.

As economic issues are especially important in shaping voters' preferences, the realignment of economic policy preferences across educational lines is likely to be a large part of the story of the electoral realignment of white voters. I turn to this question more formally in the subsequent section.

6 Convergence of Issue Weights Across Educational Groups

In the previous section, I documented how college-educated white voters have become more liberal than working-class whites on economic issues. This change coincided with the growing educational polarization in presidential elections presented in Figure 1. But the shifting coalitions may have coincided with an increasing importance of non-economic issues in political life (Frank, 2004; Bartels, 2006; Hopkins, 2019; Mutz, 2018; Gelman, 2009). Because college-educated whites have long been more liberal than non-college whites on these issue areas, the potentially increased importance of these issues may also explain the realignment.

As outlined in Section 2, the correlation between attitudes and vote choice depends on both the candidate platforms and the weight voters attach to different issues. As presidential candidates have staked out distinct issues on non-economic issues (Sides, Tesler and Vavreck, 2019; Hacker and Pierson, 2020), the correlation between attitudes on these issues and vote choice may have increased — even if the underlying importance of the issues to voters is unchanging. However, it may also be that different educational groups weigh different issues differently — and that this pattern has changed over time.

In this section, I study the importance of two different mechanisms — differential attitude change and changing issue weights — in accounting for educational realignment. Broadly, I find convergence between the weights that college- and non-college whites place on different issues. Non-college voters have become "issue voters" that resemble college voters, thereby activating their conservative cultural views.

My analysis strategy is relatively straightforward, following the theoretical discussion. I estimate ordered logistic regressions of the form:

$$Y_i = f(\Theta_i'\beta_g + X_i'\gamma, c). \tag{6}$$

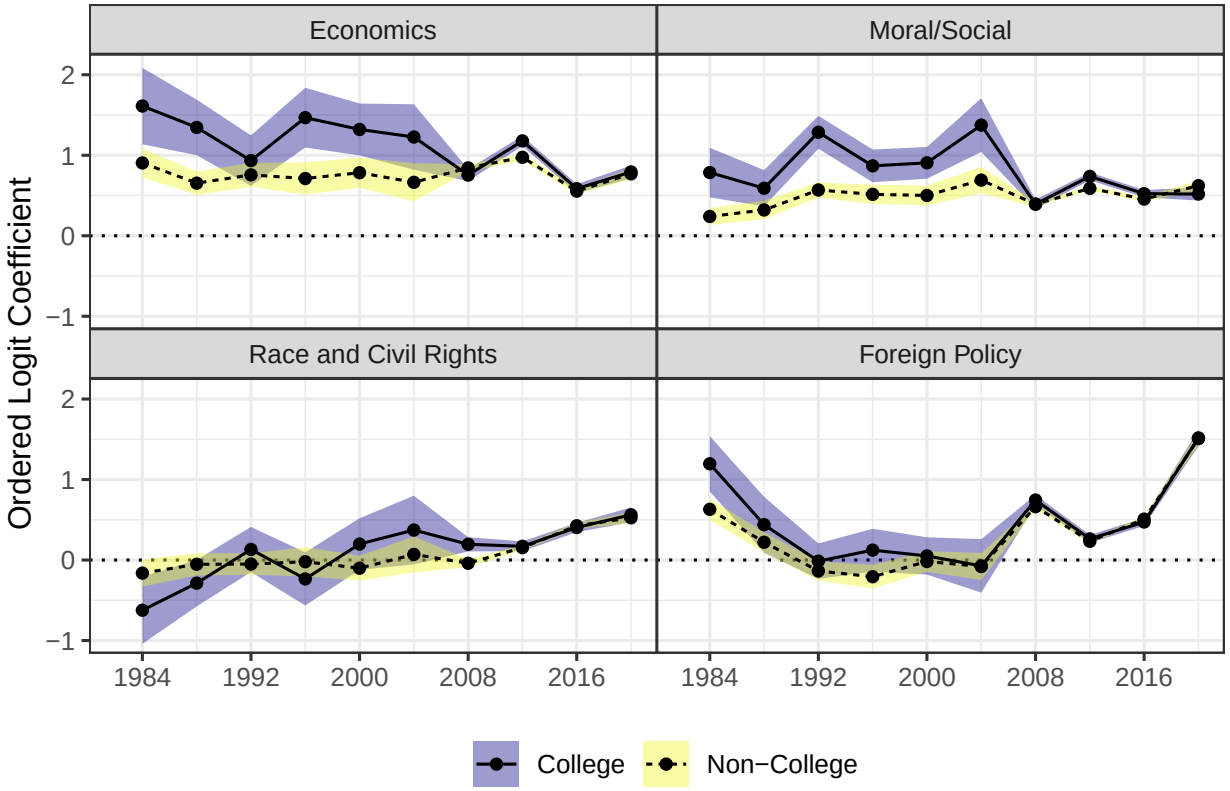
The left hand-side variable is an ordered variable where -1 indicates a vote for the Democratic, 0 indicates abstention or a third-party vote, and 1 indicates a vote for the Republican.[19] Respondents' estimated ideal points on the four issue dimensions are given by the vector Θ_i, and the relationship between vote choice and Θ_i is allowed to vary by education group, as indicated by the subscript on β_g. Finally, X_i is a vector of control variables for age, sex, and income.[20] The function f is the cumulative logistic link, which also depends on a vector of "cutpoint" parameters c. I estimate this regression separately for each year from 1984 to 2020. All regressions include survey weights.

Under the assumption that issue weights are constant within groups, the coefficients β_g are proportional to the product of the group's issue weight and the difference between the candidates' platforms, as indicated in Equation 5. Changes in coefficients from year to year thus reflect a combination of changes in candidate platforms and changes in issue weights. Within an election, differences across groups are attributable to differences in issue weights; namely, the ratio coefficients across two groups is equal to the ratio of issue weights.

[19]The discussion in Section 2 abstracted away from the turnout decision and presents a binary choice model. The ordered model follows from a standard "calculus of voting" turnout rule. All of the implications about the mapping between the reduced-form and structural parameters remain unchanged.

[20]In line with the issue voting framework adopted in this paper, I do not control for party identification because it may be a product of issue positions. Instead, I control only for non-political variables that may influence perceptions of candidates independent of issue positions. I discuss this issue further in Section 7.

Figure 4: Marginal Effect of Issue Attitudes on Vote Choice Among White Voters



Notes: Points are regression coefficients from ordered logit model predicting vote choice (Democrat, other/no vote, Republican) as a function of issue-specific ideal points, along with controls for age, sex, and income. All models are estimated by maximum quasi-likelihood, applying survey weights. Bands plot 95% confidence intervals.

6.1 The Growing Importance of Non-Economic Issues for Vote Choice

The estimates of the coefficients β_g are presented graphically in Figure 4.[21] Recall that these estimates reflect the combination of issue weights and candidate platform divergence. Four primary patterns emerge.

First, especially in the 1980s and 1990s, attitudes on economics tend to be strongly correlated with vote choice. Given the centrality of economics in the American party system (Poole and Rosenthal, 2007), this finding pattern is unsurprising.

Second, attitudes on moral issues have been important predictors of vote choice among

[21]Full regression tables are presented in Appendix E.1. Analogous results using only ANES data are presented in Figure A-17.

college-educated whites since the 1980s, while being less important for non-college whites. There was a large increase in this coefficient in 2004, especially, consistent with (contested) post-election narratives that "moral values" drove vote choice in this election (Hillygus, 2005). However, the coefficients on moral issue positions have been lower in elections since 2008 for college-educated voters, while remaining steady for non-college voters.

Third, the correlations between vote choice and attitudes on both race and civil rights and foreign policy were relatively low during the 1990s, in both education groups. However, their relevance began to increase around 2004 for racial attitudes and 2008 for foreign policy attitudes.[22] There were especially large coefficients on foreign policy during the Trump elections. This finding is consistent with the candidates staking out strikingly different policy platforms on foreign policy issues — especially immigration — and is also consistent with voters placing more weight on these issues in making their decisions.

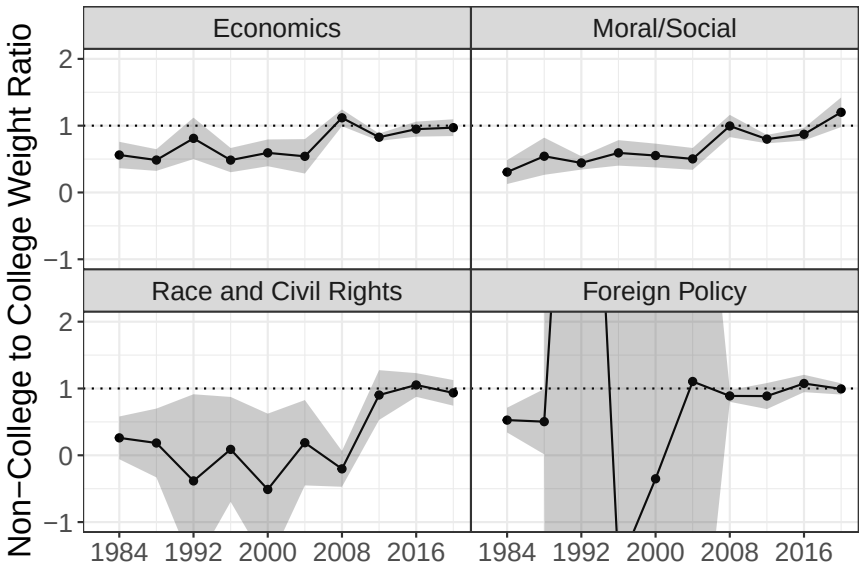
Finally, the coefficients across educational groups are converging. This is shown directly in Figure 5. The first panel plots the ratio of estimated coefficients on issue attitudes for whites without a college degree to the coefficient for whites with a college degree — i.e., $\beta_{noncollege}/\beta_{college}$. Following the result in Equation 5, this ratio can be interpreted as the relative weight placed on each issue across groups, under the assumption of homogeneous weights within groups.[23] This interpretation enables over-time comparisons in substantively meaningful terms. The second panel in Figure 5 plots the interaction coefficient directly — i.e., $\beta_{noncollege} - \beta_{college}$. Within each year, this difference is proportional to the difference in issue weights (scaled by the candidate platform divergence). These quantities are more precisely estimated than the ratios, but comparisons over time do not reveal relative issue weights directly without further assumptions about the changes in the candidate platforms.

[22]The relatively small coefficient on racial attitudes in 2008 may be a result of noisy measurement of this issue attitude in the CCES (see footnote 14), leading to attenuation bias. The ANES-only results in Figure A-17 suggest that racial attitudes were more correlated with vote choice in 2008 than in 2004 for both educational groups.

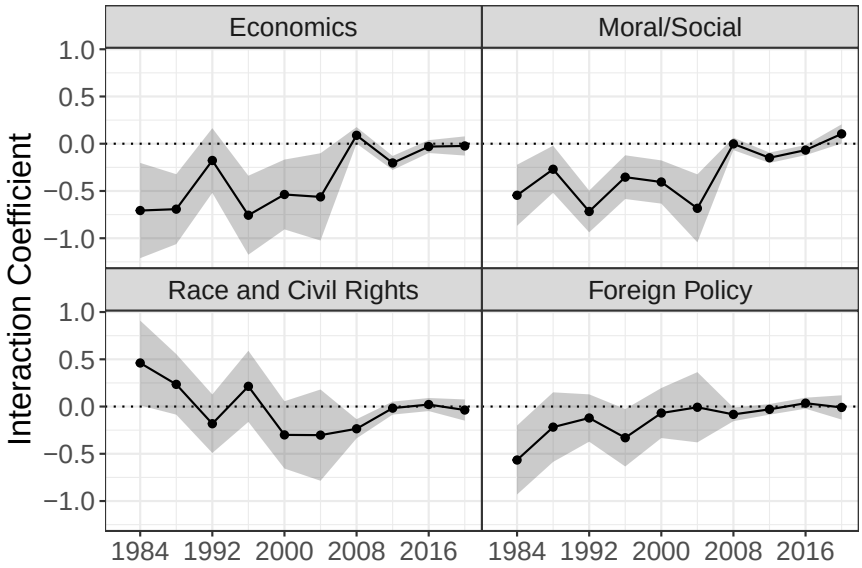
[23]Standard errors are calculated using the delta method. This method is straightforward technically, but may have poor coverage properties if the denominator is close to 0, as the sampling distribution of the ratio of coefficients may have non-finite moments. However, in those cases the delta-method standard errors are extremely large, so I refrain from making strong conclusions in those cases anyway.

Figure 5: Relative Issue Weights Between Non-College and College-Educated Whites

(a) Ratio of Coefficients



(b) Interaction Term



Notes: (Top) Relative weight that non-college whites place on issue dimension relative to college-educated whites in each presidential election, 1984-2020. Bands show 90% confidence intervals calculated using the delta method. (Bottom) Estimates of the interaction between issue attitudes and an indicator for not having a 4-year college degree. Bands show 90% confidence intervals. In both panels, lower coefficients imply that non-college-educated voters place less weight on an issue in their voting decision than do college-educated voters. All estimates are derived from an ordered logit model predicting vote choice (Democrat, other/no vote, Republican) as a function of issue attitudes, where effects are allowed to vary by college attainment. The models also control for age, sex, and income. Models are estimated by maximum quasi-likelihood, applying survey weights.

For most years, non-college whites place lower weight on all issue dimensions than college-educated whites. Generally, non-college voters' issues positions and their vote choice are less tightly correlated than college voters' — implying that they base their votes less on policy platforms.[24]

However, these differences have narrowed over time, to the point where there is virtually no difference in issue weights in recent elections. There have been especially dramatic shifts on the moral issue dimension. In the 2000 election, I estimate that non-college whites placed roughly half as much weight on moral issues as did college-educated whites. By 2020, they placed slightly *higher* weight on this dimension as did college graduates.

Similarly, in 2004, there was essentially no correlation between vote choice and attitudes on race among non-college whites, while there was a significant correlation among college graduates. The point estimate suggests that the weight placed on this dimensions among the working class was about 18% of the weight placed on it by college graduates. By 2020, both groups based their votes on racial policy, weighting it nearly exactly the same.

College-educated whites have long been pulled toward the Democratic Party because of non-economic issues. Until more recently, however, these issues were *not* important for the white working class. Republican politicians thus had difficulty translating the conservative cultural attitudes of the working class into votes. However, issue weights have now converged, meaning that issue attitudes translate to electoral support in a more symmetric way across education groups.

6.2 Decomposing Group Voting Patterns

The implication of converging issue weights is that attitude polarization — on both economic and non-economic issues — is becoming an increasingly important explanation for educational polarization in voting. The relatively conservative views of whites without a college degree on cultural issues have become more important in their voting decisions relative to

[24]In the context of the spatial voting model in Section 2, this is equivalent to saying that the variance of the non-spatial utility u_{ij} is higher for non-college voters than for college voters.

college-educated whites.

To decompose the education gap into the contribution from changes in the distribution of attitudes and changes in relative issue weights, I conduct simple simulations.

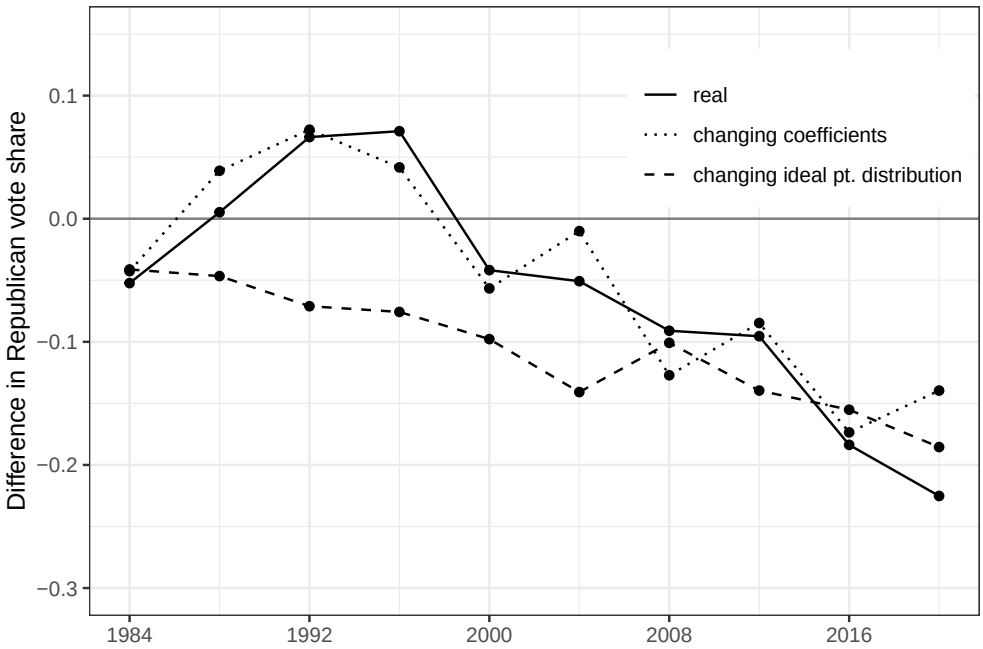
First, I regress vote choice on attitudes using data from the earliest year in the study, 1984. I then predict what the education gap in voting would have been in each subsequent year if these coefficients remained fixed, but allowing the distribution of ideal points to evolve. This simulation effectively holds fixed both issue weights and the difference in candidate platforms at their 1984 levels — following Equation 4. If attitude change is primarily responsible for growing educational polarization in vote choice, then the simulated vote shares should match the observed gap closely.

Second, I conduct the opposite exercise: I hold fixed the distribution of ideal points at their levels in the 1980s (pooling together data from 1984 and 1988), while allowing the vote choice coefficients to vary over time. If changes to candidate platforms and issue weights are primarily responsible for educational polarization then this simulation should track the observed education gap.

The results are plotted in Figure 6. The solid line plots the difference in observed two-party vote share and shows the now-familiar trend whereby college-educated white voters are voting for the Democratic candidate at higher rates than non-college-educated white voters. The dotted line shows the simulated differences when only the coefficients are allowed to vary and the dashed line shows the simulated differences when only the preference distributions are allowed to vary.

The dotted line closely approximates the solid line over essentially the entire time period — indicating that changes in the candidate platforms and issue weights are able to account for a large portion of the growing education gap in presidential elections. The dashed line implies a much higher degree of educational polarization than is actually observed between 1984 and 2004. However, from 2008 to 2020, the observed level of educational polarization

Figure 6: Simulated Education Gap Among White Voters



Notes: The solid lines plots the difference in observed two-party vote share for the Republican between college-educated and non-college-educated white voters. Values above 0 indicate that Republican vote share among the college-educated was higher than among the non-college-educated. The other lines plot simulated differences under two counterfactual scenarios. In the first, shown in the dotted lines, the distribution of ideal points within groups is held fixed at its 1984 level, while the coefficients relating vote choice to attitudes (as in Equation 6) are re-estimated for each year. In the second, shown in the dashed lines, the distribution of ideal points is allowed to evolve, but the coefficients relating vote choice to attitudes are held fixed at their estimated 1984 values. Estimates are derived from an ordered logit model without covariates. All quantities are estimated applying survey weights in both model estimation and calculation of simulated vote shares.

is qualitatively similar to what is implied by changing preference distributions.[25]

These results, at least through 2004, are broadly consistent with strategic candidate positioning. As preference distributions evolve, candidates may adopt platforms that offset would-be changes in voting patterns. As a result, changes in group-based voting patterns are muted relative to what we would expect purely examining changes in public opinion. The results after 2004, paired with the convergence in issue weights, suggest the limits of this dynamic. College and non-college voters are now consistently polarized on each issue, in the

[25]Figure A-19 plots raw simulated vote share in each group, rather than the gap between groups. The broad patterns identified here also hold when looking at levels within groups.

same direction, and place relatively equal weights on each issue dimension. Politicians thus have little ability to position themselves in a way that offsets the issue polarization.

In sum, during the 1990s and early 2000s, educational polarization on non-economic issues was relatively unimportant for voting patterns. During this time, college-educated voters were no more liberal on economic issues than non-college voters — and this issue dimension was most important for explaining voting patterns. The minimal importance of non-economic issues among non-college voters meant that the white working class voted primarily for Democrats during this time period. However, two shifts in the mid-2000s led to the growing education gap. First, college-educated white voters began to become more liberal on economic issues — pushing them toward the Democratic Party relative to non-college whites. Second, non-college-educated white voters began to base their votes on non-economic issues to the same extent as college-educated whites. This pushed the white working class more toward the Republican Party, as their conservative cultural attitudes began to influence vote choice more.

7 Issues of Interpretation

Thus far, I have argued that the growing education gap among whites in presidential elections is partly due to the increased liberalism of whites with college degrees, and partly due the increasingly important role that non-economic issues for vote choice among white without college degrees. I based this conclusion on an analysis of issue-specific ideal points and a theoretically grounded analysis of correlations between vote choice and issue positions. In this section, I discuss two issues in interpreting these results: first, the assumptions under which the estimates can be interpreted as causal and, second, the distinction between expressed and genuine preferences.

7.1 Description and Causal Inference

The first half of the empirical analyses, examining trends in issue positions over time, is clearly descriptive in nature. But it is worthwhile to clarify the conditions under which assumptions the analysis in the second half of the paper — examining the relationship between voting and issue attitudes — should be regarded as descriptive versus causal. There are at least two distinct causal questions that could be of interest in this analysis.

The most straightforward causal question asks how a voter's choice would change if their attitude on one issue were to change, holding all else equal. Under the spatial voting model, the "all else equal" condition implies that both candidate platforms and respondents' issue weights are held constant, in addition to the non-spatial component of utility. Clearly, this is a difficult causal question to answer because issue attitudes are not randomly assigned. There may be other factors that jointly determine a respondent's issue attitudes and the way they vote.[26] I address some of these factors by controlling for sociodemographic variables, but of course there may be unobserved confounders.

However, if the data-generating process is indeed well-described by the spatial voting model, the estimates can be interpreted as causal. There is now ample experimental evidence that citizens base their voting decisions, to a significant extent, on the policy positions of candidates (Bullock 2011; Boudreau and MacKenzie 2014; Peterson 2017; Mummolo, Peterson and Westwood 2019; see Bullock 2020 for a recent review). In particular, voters base their decisions on the proximity between their own preferred policies and the candidates' platforms (Tomz and Van Houweling, 2008). This research provides some justification for the structural (i.e., causal) interpretation that I give the estimates.

A particularly salient factor that could be argued to directly influence vote choice but which I do not control for is partisan identification. Partisan identification is malleable, responding to external events, the candidates that the parties field, and policy changes over

[26] Formally, in the notation of Section 2, a correlation between respondents' issue positions, Θ_i, and the non-spatial component of utility for a candidate, v_{ij}, would induce omitted-variables bias.

time (Montagnes, Peskowitz and McCrain, 2019; Fowler, 2020).[27] If policy positions influence party identification in the same way that they influence voting, party identification would be a post-treatment control variables that is properly excluded from the vote choice regressions. Moreover, the sort of within-party comparisons that would be made by controlling for party would not be particularly useful for explaining long-term realignment that this paper studies. More generally, answering the question, "Why do voters support the Republican candidate?" with, "Because they identify as Republicans" is unsatisfying because it merely pushes the question up a level (for more discussion, see Jessee, 2012, p. 179).

A separate but equally important causal question is how a candidate's vote share would change if their platform were to change (again, holding all else fixed). This question is the crux of a large literature on electoral accountability (cf. Ansolabehere, Snyder and Stewart, 2001; Canes-Wrone, Brady and Cogan, 2002), but is difficult to address directly with the analyses presented here. In the spatial voting model, the effect of changing candidate platforms is governed by voters' issue weights — which cannot be separately identified from candidate platforms without additional data. Additionally, because I estimate these regressions separately for each year, there is no variation in candidate platforms. However, given that *relative* issue weights can be identified, we can reason that the effect of changing candidate platforms would be larger for groups that have larger issue weights.

Setting aside questions of causality, the results I present should be of interest even under a strictly descriptive interpretation. I have shown that the partial correlations between vote choice and issue attitudes have changed over time — with a stronger correlation on racial and foreign policy issues in recent elections, and a convergence in the correlations across educational groups. The spatial voting model gives a neat interpretation to these correlations, but other models of candidate choice may yield alternative interpretations.

[27] In addition, most evidence in favor of identity-based explanations for partisan behavior is observationally equivalent to issue-based explanations; see Orr, Fowler and Huber (2023).

7.2 Expressive and Genuine Preference

I argue that college-educated whites have become more liberal on economic issues, despite the rising relative status of college graduates compared to non-graduates. One concern is that these voters are expressively responding to survey items. They may express liberal policy views when it is costless, but would mobilize in opposition to policies that materially threatened their own interests — even if those policies aligned with their stated ideological preferences.

Nothing in my data can definitively rule out this possibility. However, there are several patterns that caution against this interpretation. First, even relatively ambitious policy proposals discussed at the national level and included in the economic policy scale, such as Medicare for All, would impose relatively low costs on most wealthier citizens. Some of these policies may even benefit well-off citizens, either by mitigating some externalities of inequality (Rueda and Stegmueller, 2016) or by providing expanded social insurance programs (Moene and Wallerstein, 2001; Rehm, 2016). Research on the role of self-interest in politics finds that it is most important when the stakes are clear and relatively large (Marble and Nall, 2021; de Benedictis-Kessner and Hankinson, 2019) — descriptions that may not apply to many national-level economic policy proposals.

Second, even as parts of the Democratic Party has embraced more left-wing economic ideas in recent years, college-educated white voter have continued to vote for Democrats at high rates. And the estimates of the vote choice-attitude relationship presented in Figure 4 suggest that the more conservative college graduates are on economic policy, the more likely they are to vote for the Republican candidate, even after accounting for other attitudes. Of course, this does not rule out a mismatch between stated and genuine preferences. However, it does suggest that stated liberal economic preferences do in fact translate to support for more liberal candidates.

8 Conclusion

Over the past 40 years, and especially since 2000, there has been a realignment along educational lines among white voters. College-educated whites are now a reliable voting bloc for Democrats in presidential elections, while whites without a college degree are an increasingly solid Republican voting bloc. In this paper, I take an issue voting approach to studying this realignment. I construct issue scales based on survey responses covering four important policy domains and investigate trends in these attitudes. Using the framework of a multidimensional spatial voting model, I evaluate the changing relationship between vote choice and issue attitudes across educational groups.

I find that both economic and non-economic issues have contributed to the realignment. College-educated whites have become more economically liberal in recent years, resulting in consistent educational polarization across all issue areas. At the same time, the criteria on which both educational groups base their votes are converging. College-educated voters have traditionally been more solid issue voters — on both economic and cultural issues. Beginning in the mid-2000s, non-college voters, too, have come to base their votes more heavily on non-economic issues. This has pushed non-college voters toward the Republican Party.

What do these findings mean for the American party system? The observed educational realignment is due to both economic and cultural issue attitudes. Democrats have long appealed to the liberal cultural values of college-educated white voters. Only more recently have Republicans been successful in attracting the white working class on the basis of their more conservative cultural values. Cultural attitudes on race and moral traditionalism are now drivers of vote choice for both the working and professional class.

Punditry often suggests that this pattern presents a dilemma for both parties. Should the Democratic Party embrace cultural liberalism, alienating the white working class? Or should it center economic policy, at the risk of alienating wealthy cultural liberals? Repub-

licans could face a similar dilemma. Embracing identity politics may pay dividends among the working class, the argument goes, but could alienate the business wing of the party. Conversely, if Republicans emphasize their conservative economic platform, it could drive away the working class.

My findings regarding economic policy views suggest this dilemma is illusory. Economic preferences have become increasingly aligned across educational lines, and now reflect the same patterns observed on non-economic issues. Whites with a college degree have become more economically liberal than those without a degree — suggesting that a focus on economic policy may not fracture these nascent coalitions. Instead, the deep roots of the educational realignment across multiple issue domains suggests that these coalitions are likely to be stable into the foreseeable future.

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What Explains Educational Realignment Among White Americans?

William Marble

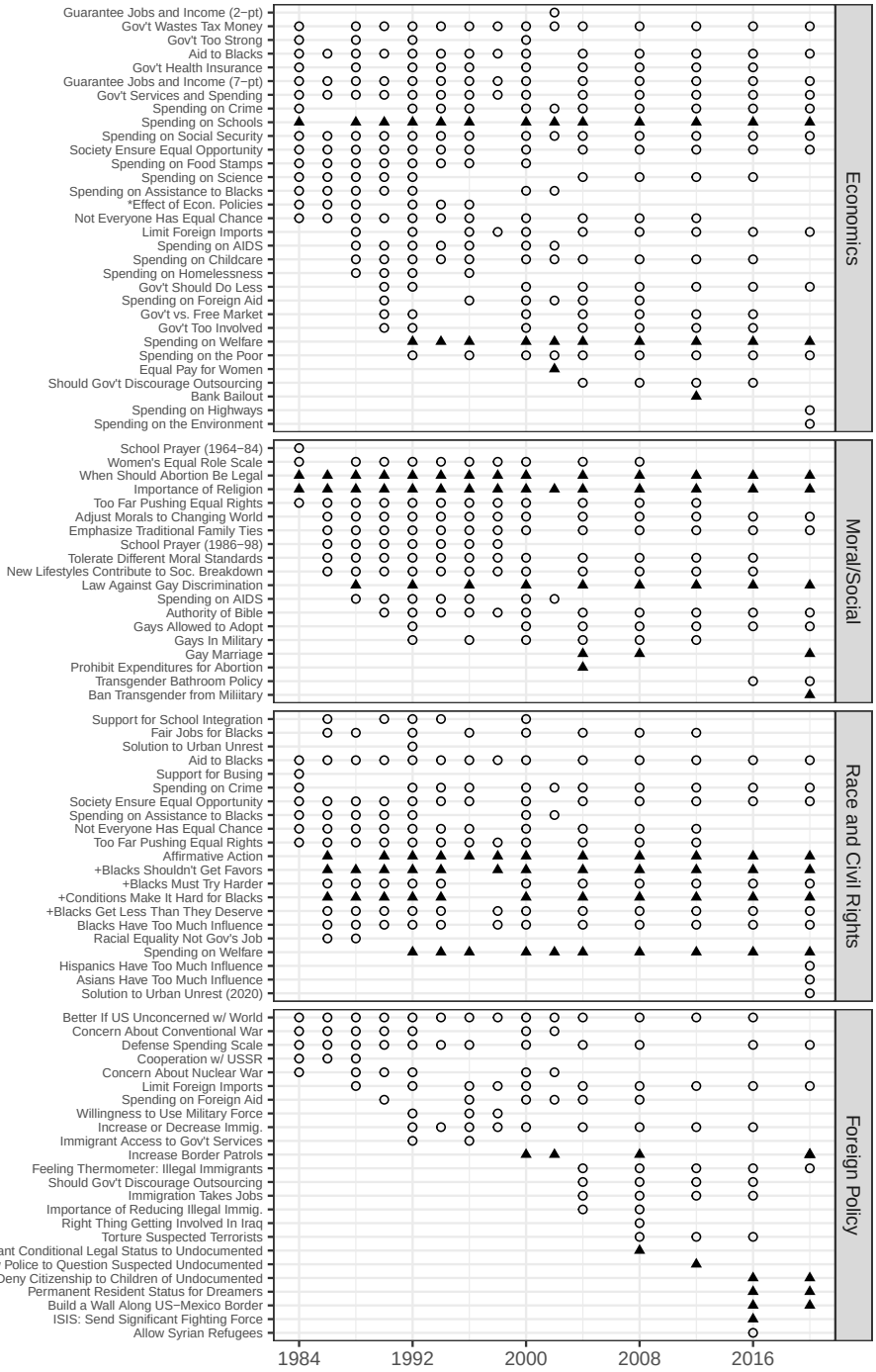
Online Appendix

Contents

A Question Coding and Coverage

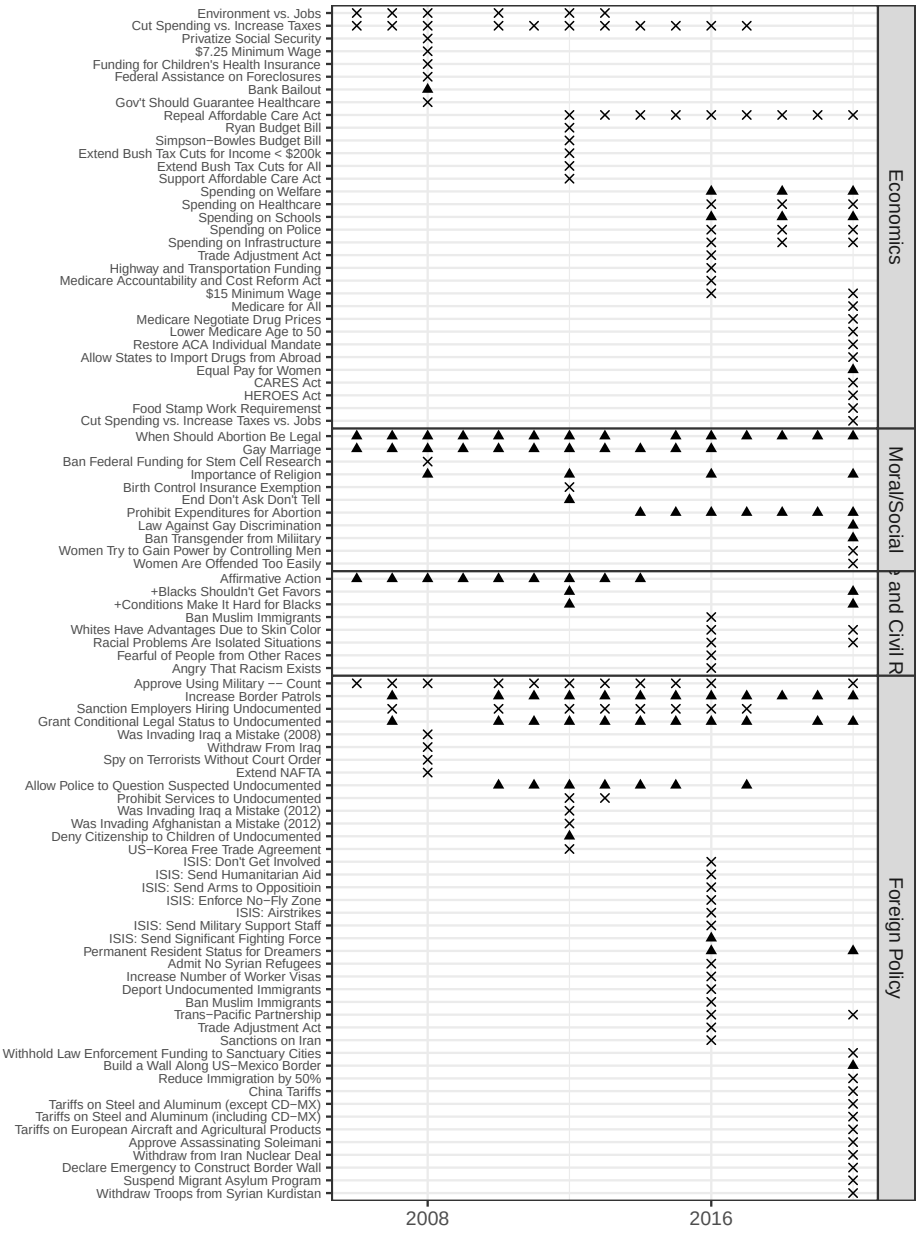
Figures A-1 and A-2 graphically display the temporal coverage of questions in the ANES and CCES, respectively. These figures also show the categorization of each question into each of the issue domains. In these figures, "bridging" questions that appear on both the ANES and the CCES are indicated by traingles.

Figure A-1: ANES Question Coverage for Items Used in Issue Scales



Notes: Circles indicate questions that were asked only the ANES, while triangles indicate "bridge" questions that were also asked on the CCES. $*$ indicates that the question parameters were allowed to vary by year. $+$ indicates that the question is part of the racial resentment battery.

Figure A-2: CCES Question Coverage for Items Used in Issue Scales



Notes: X's indicate questions that were asked only the CCES, while triangles indicate "bridge" questions that were also asked on the ANES. + indicates that the question is part of the racial resentment battery.

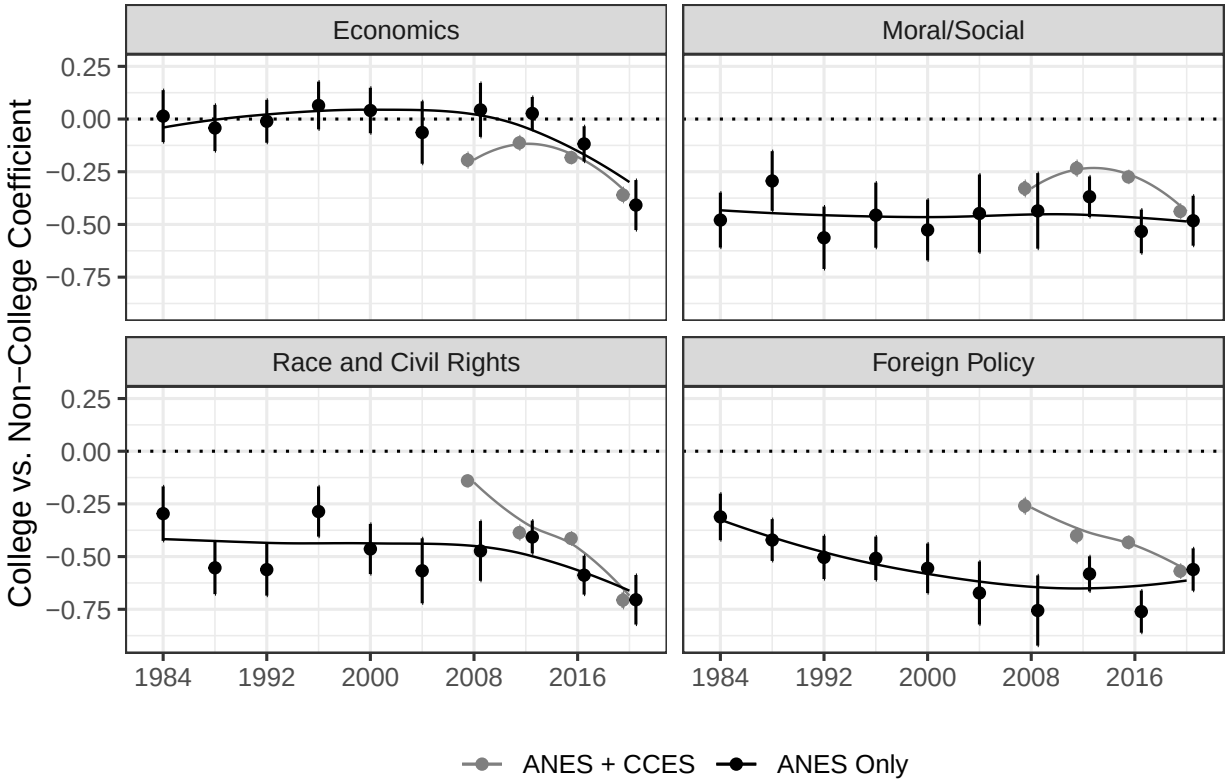
B Assessing the Effect of Survey Source on Economic Policy Trends

In this section, I probe the extent to which the results on economic policy are an artifact of the data sources or measurement strategy. The results in the main text suggest that college-educated voters started becoming more liberal on economic issues vis-a-vis non-college voters around the mid-2000s. This timing coincides with the introduction of the CCES in 2008. While the CCES is a much larger sample, improving the statistical precision of the estimates, it also contains a largely separate set of questions than the ANES. If the CCES questions happen to be questions that more clearly separate college and non-college voters than the ANES questions, then the trends may be an artifact of the survey source rather than a legitimate change in public opinion.

To assess this possibility, I take several approaches. First, Figure A-3 repeats the same regression analysis as above, but separates out the ANES during the entire time period to maximize the over-time comparability of the estimates. This analysis shows the same general pattern of an increasing gap between college and non-college voters on economic issues, though the timing is later than what is suggested from the combined ANES-CCES sample. The ANES-only results show that white college-educated voters became more liberal than white non-college voters beginning 2016, with an even larger increase in 2020. In contrast, the combined sample shows white college-educated voters being more liberal than non-college whites since at least 2008.

Second, I examine educational differences in responses to individual survey items, without aggregating responses together to form an issue scale. I focus my attention to 9 ANES questions that have been consistently asked over a long time span. These questions cover topics including: whether the respondent favors government-provided health insurance, a scale measuring preferences for government services and spending, questions about whether the government should intervene in the free market, whether the government should work to guarantee jobs and income, and several questions related to public spending. I recode

Figure A-3: Differences in Attitudes Between College and Non-College Voters, by Survey Source

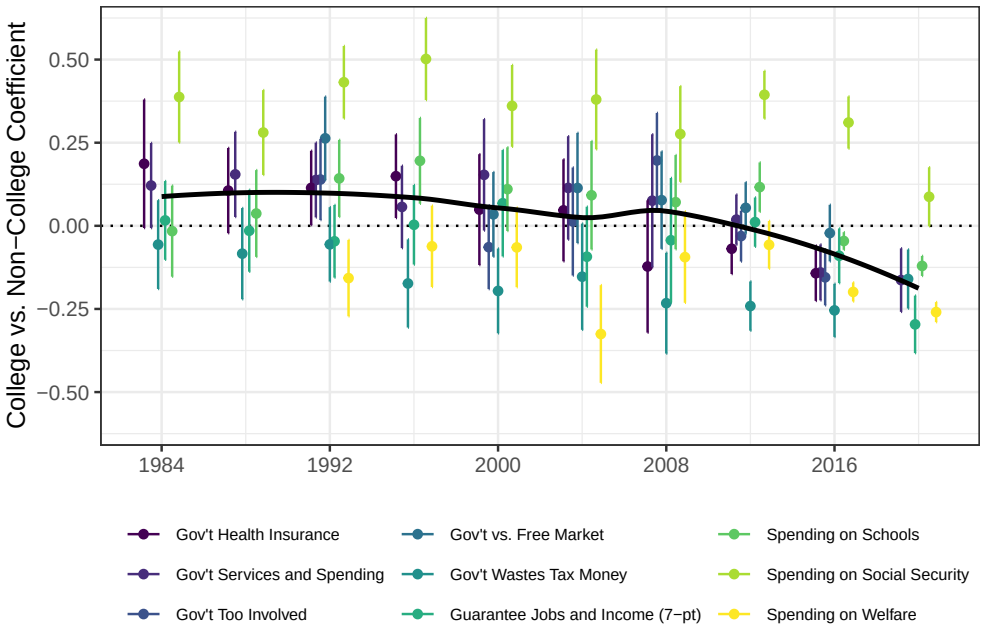


Notes: Points are coefficient estimates from a linear regression of ideal point estimates on an indicator for having a four-year college degree, among whites. Bars indicate robust 95% confidence intervals. The curved line is a loess line fit to the estimates, weighted by the inverse of their variance. Models also include controls for age, sex, and income. Estimates for the entire time series using only ANES data are plotted in black. Gray points include the larger combined ANES-CCES sample for 2008-2020. All regressions include survey weights.

responses so that higher values indicate more conservative responses, and I standardize items to have mean 0 and unit variance. I then estimate the same models as before among whites, regressing the (recoded) response on an indicator for college, age, sex, and income.

If changes in survey questions or the aggregation of survey responses to issue scales are driving the patterns I document, then these patterns should not be evident when staying closer to the raw data. However, Figure A-4 shows that even when looking at individual survey questions, non-college whites have become more conservative relative to college-educated whites. The coefficient estimates on the college indicator tend to be around 0 or positive dur-

Figure A-4: Individual Economic Policy Items Show Education Realignment Among Whites



Notes: Points are coefficient estimates from a linear regression of standardized survey responses on an indicator for having a four-year college degree for select economic policy items. Bars indicate robust 95% confidence intervals. The curved line is a loess line fit to the coefficient estimates, weighted by the inverse of their variance. Models also include controls for age, sex, and income. All regressions include survey weights.

ing the 1980s and (for some items) the 1990s. These differences began to narrow in the early- to mid-2000s, and by 2012 had essentially disappeared. In 2016 and 2020, college-educated whites expressed more liberal responses, on average, on all but one of these items.

Overall, these results suggest that the pattern is not entirely attributable to differences in survey source, but raise some concerns that the differences may be sensitive to the inclusion of different questions in the economics issue scale across the ANES and CCES. There are notable differences in the types of questions asked on the two survey sources. The CCES has more detailed and current policy questions compared to the ANES, which asks more general questions. For example, in 2008, the CCES economic policy questions included items related to concrete policy proposals such as a minimum wage increase, privatization of Social Security, federal assistance for home foreclosures, and funding for the Children's Health Insurance Program. In contrast, the ANES economic policy questions tend to be more

general and less tied to current policy debates. These included questions about increasing or decreasing spending on different policy areas, opinion about whether the government tends to waste tax money, and whether the government should guarantee jobs and income.[28]

A priori, it is unclear which question style is more appropriate for studying educational differences in public opinion. The more narrow questions asked by the CCES relate more directly to current government policy, and thus may be more indicative of politically relevant opinion on this issue dimension. On the other hand, this style of question may be more sensitive to differing levels of political information. If college-educated voters have better information about the content of these policies, they may express more consistent views — which could lead to less moderate estimates of public opinion in this subgroup (Broockman, 2016).[29] Regardless of which type of question better measures economic policy preferences, it is notable that both generate the same conclusion about the current state of educational polarization on economic policy.

In sum, these analyses suggest that the main finding on economic policy — that college-educated whites have become more liberal than non-college whites — is not merely an artifact of the measurement strategy. While there is some ambiguity over the exact timing of the shift, both survey sources suggest similar levels of educational polarization in 2016 and 2020 over economic policy.

[28]The only overlapping economic policy question asked on both the ANES and CCES in 2008 relates to the bank bailouts following the global financial crisis.

[29]Even if this latter case explains the differences across survey sources, it would be noteworthy if well-informed respondents tend to express more liberal policy views. If college-educated voters were truly more conservative, then their potentially more consistent answers would result in them being placed at the conservative end of the issue scales.

C IRT Model Details

I estimate respondents' issue-specific ideal points using an ordinal logistic item-response theory (IRT) model, estimated separately for each issue area. The model is similar to classic binary IRT model used to analyze roll call vote data (Clinton, Jackman and Rivers, 2004). In those models, each data point is a yea or nay vote on a particular bill or resolution. However, survey questions typically have multiple ordered response options that provide more nuanced information about respondents' issue positions. For example, a standard ANES question about when abortion should be legal (VCF0838) has four response options:

1. By law, abortion should never be permitted.

2. The law should permit abortion only in case of rape, incest, or when the woman's life is in danger.

3. The law should permit abortion for reasons other than rape, incest, or danger to the woman's life, but only after the need for the abortion has been clearly established.

4. By law, a woman should always be able to obtain an abortion as a matter of personal choice.

The fact that there are more than two response options means that the standard binary ideal point model cannot be applied, at least without recoding the responses. One option is to collapse the question down to two response options — for example, treating responses (1) and (2) as the same and responses (3) and (4) as the same. However, this binarization obscures differences in the tails of the ideal point distributions. Someone who is generally pro-life is likely to answer option (1) or (2). However, those who answer (1) are likely to be very conservative on moral issues, even compared to pro-life respondents who answer response option (2). Instead of collapsing categories, I opt to preserve the full informational content of the question by using an ordinal model.

C.1 Model Definition

The full model is specified as follows. Index respondents by $i = 1, \ldots, N$, questions by $j = 1, \ldots, J$. Each question has K_j possible response categories. The observed data are survey responses $y_{ij} \in \{1, \ldots, K_j\}$. Each respondent has a scalar ideal point θ_i, which is our main object of interest. Each question has a set of item parameters. The first is the "discrimination" parameter, denoted $\beta_j \in \mathbb{R}$, which indicates how strongly the question taps into attitudes. Second is a set of ordered "cutpoint" parameters, denoted $c^j = (c^j_1, \ldots, c^j_{(K_j-1)}) \in \mathbb{R}^{(K_j-1)}$ with $c^j_k < c^j_{k+1}$. Denote the full set of parameters by $\Omega = \{(\theta_1, \ldots, \theta_N); (\beta_1, \ldots, \beta_J); (c^1, \ldots, c^J)\}$.

The probability of observing response y_{ij} is given by

$$p(y_{ij} = k \mid \Omega) = \begin{cases} F(c^j_k - \theta_i\beta_j) & \text{if } k = 1 \\ F(c^j_{k+1} - \theta_i\beta_j) - F(c^j_k - \theta_i\beta_j) & \text{if } k > 1 \text{ and } k < K_j \\ 1 - F(c^j_{k-1} - \theta_i\beta_j) & \text{if } k = K_j \end{cases} \tag{A-1}$$

where $F(x) = \frac{1}{1+e^{-x}}$ is the logistic cumulative distribution function. In the case of a survey question with just two response options ($K_j = 2$), the model reduces to the standard binary IRT model with a logistic link function. Assuming conditional independence across items and respondents, the likelihood of the data is:

$$p(y \mid \Omega) = \prod_{i=1}^{N} \prod_{j=1}^{J} \prod_{k=1}^{K_j} p(y_{ij} = k \mid \beta_j, c^j, \theta_i)^{I(y_{ij}=k)}. \tag{A-2}$$

To identify the scale and location of the model, I place a standard normal prior distribution on the ideal points θ_i (Clinton, Jackman and Rivers, 2004; Rivers, 2003). This ensures local, but not global, identification: we could reverse the polarity of the ideal point space without affecting the likelihood by multiplying each θ_i and β_j by -1. I resolve this issue by estimating the (globally) unidentified model and post-processing the MCMC output to

ensure that each chain is oriented in the same direction.

The question parameters β_j and c^j are given hierarchical priors, which enables partial pooling across questions and response options, to an extent determined by the data (Gelman and Hill, 2007). In particular, I place the following hierarchical prior on the discrimination parameters:

$$\beta_j \sim \text{Normal}(0, \sigma_\beta^2). \tag{A-3}$$

This hierarchical model can be viewed as a generalization of the standard practice of placing diffuse independent priors on the discrimination parameters, with the prior standard deviation σ_β estimated from the data.

Prior choice for cutpoints is more difficult, as it is difficult to reason a priori about the correct location of the cutpoints in the space determined by the product $\theta_i\beta_j$, on the logit scale. Instead, I specify a prior on the *difference between* cutpoints, with a hierarchical standard deviation that again partially pools information across questions and response categories to an extent determined by the data:

$$c_{k+1}^j - c_k^j \sim \text{Half-Normal}(0, \sigma_c^2). \tag{A-4}$$

Recall that the cutpoint vectors are ordered, so the difference between adjacent cutpoints is constrained to be positive. The hierarchical prior enables me to be agnostic about how far apart cutpoints should be, but provides some regularization that should improve performance.

As the final element of the model, the standard deviations themselves get half-Cauchy priors:

$$\sigma_\beta \sim \text{Half-Cauchy}(0, 2) \qquad \text{and} \qquad \sigma_c \sim \text{Half-Cauchy}(0, 2). \tag{A-5}$$

C.2 Comments on Model Assumptions

It is worth commenting briefly on the assumptions this functional form imposes. Most importantly, the inclusion of a single discrimination parameter for each question imposes a *monotonicity* assumption: for any value of $\tilde{k}$, the probability of providing a response less than or equal to $\tilde{k}$ is monotonic in θ_i. There are at least two substantive implications that , there are (at least) two phenomena this assumption rules out.

First, the monotonicity assumption rules out "ends against the middle" cases, where a particularly extreme response option is favored by extremists on either side (very high or very low θ_i) relative to moderates (θ_i close to 0) (Duck-Mayr and Montgomery, 2020). This feature is common to all standard IRT models in political science.

Second, the monotonicity assumption imposes restrictions on preference orderings. In particular, if $y_{ij} = k$, the model assumes that respondent i must also prefer response option $k+1$ to $k+2$, and $k+2$ to $k+3$, and so on. Similarly, she must prefer $k-1$ to $k-2$, and so on. For example, take a question about proposed changes to income tax rates. If a respondent reports that she most prefers no change in the tax rate, then the model assumes she also would prefer small increases to large increases, and identically prefers small decreases to large decreases.

Theoretically, these assumptions could be violated. However, in reality most survey questions are written in such a way as to reflect the real-world politics of different issues. The response options are ordered in a way that is theoretically informed, meaning that the assumptions may be innocuous in practice. We could relax the second substantive assumption — that close response options are preferred over far response optioins — by estimating a multinomial logistic IRT model instead of the ordinal IRT model. However, this would require estimating many more parameters and it would throw away the prior information we have about the meaning of the response categories. For these reasons, I instead opt for the ordinal model.

C.3 Bridging Assumptions

Most questions asked on the CCES are not asked on the ANES, and vice versa. Estimating an IRT model on these two sets of surveys separately will thus yield ideal point estimates that are not comparable to each other. In order for the meaning of the scales comparable, it is necessary to make some "bridging" assumptions (Jessee, 2016; Tausanovitch and Warshaw, 2013). In my case, I find questions that are (nearly) identical on the two sets of surveys. Then, during estimation, I impose the assumption that the mapping between the latent ideal point scale and the response categories is identical between the two survey sources — i.e., that the item parameters are identical regardless of the survey source.

In some cases, the question wording was nearly identical but response options varied — for example, the CCES tends to have binary support/oppose response options, while the ANES tends to have Likert-style response options. In these cases, I collapse the response categories to be identical across survey sources. I also check that the margins are relatively similar across survey sources; if the margins on a given item were very dissimilar, I do not use it as a bridge item.

Bridging questions are displayed in Figures A-2 and A-1. For the Economics issue area, there are four bridging questions. For the Moral/Social issue area, there are seven bridging questions. For Race and Civil Rights, there are three bridging questions. For Foreign Policy, there are seven bridging questions.

An additional set of over-time bridging assumptions is necessary to compare ideal point estimates over time. In particular, I assume that the item parameters are constant over time. Technically, this means that two respondents in different time periods who are located at the same point of the latent ideology scale have identical response probabilities to the bridging questions. Substantively, this means that questions have similar meanings over time.

Finding such over-time bridging questions also helps connect the scales estimated in different years (on not completely overlapping sets of questions) within the same survey source. The ANES asks more questions consistently over time, making comparisons within

ANES waves less sensitive to the choice of over-time bridging questions. The CCES has more questions that are only asked once — meaning that I rely more heavily on the bridging assumptions.

C.4 Fitting the Model

The combined ANES-CES dataset is very large, with well over 500,000 survey respondents. Estimating the model above with the full dataset is extremely computationally intensive. To reduce computational burden, I opt to use a two-step procedure to obtain ideal point estimates. In brief, I first estimate the model using fully Bayesian inference on a sub-sample of the data. This generates estimates of all item parameters. Then, in the second step, I estimate ideal points for the remaining respondents using maximum a posteriori (MAP) inference. In this second step, I fix the item parameters to their estimated values from the first step.

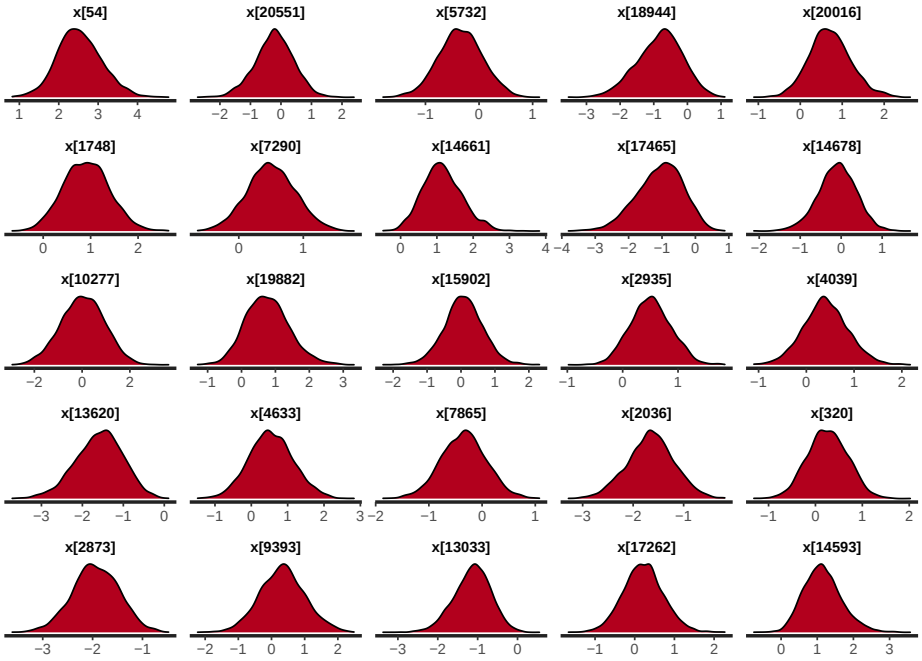
In the first step, I sample a relatively large number of respondents from the ANES and CES and estimate the model specified above using Hamiltonian Monte Carlo. To choose the sample for this step, I first select 750 respondents randomly from each survey-year combination. Then, I randomly sample additional respondents so that there are at least 1,500 responses to each question.[30] This ensures that a large number of respondents are available to estimate the item parameters with a relatively high degree of precision.

Then, in the second step, I treat the item parameters obtained in the first step as fixed. Specifically, I set item discrimination and cutpoint parameters to their posterior means. For the respondents not used in the first step, I obtain ideal point estimates by maximizing the posterior, conditional on the estimated item parameters. These maximum a posteriori estimates are then used in downstream analysis.

This two-step process has two primary drawbacks. First, by treating the item parameters as fixed in the second step, I ignore uncertainty in the parameter estimates. However,

[30] In a small number of questions, fewer than 1,500 respondents answered the question overall. In these cases, I sample all respondents who answered the question.

Figure A-5: Posterior Distribution of Moral/Social Ideal Points for Selected Respondents



this uncertainty is typically small — as seen in the discrimination parameter plots above. Moreover, there is higher uncertainty for questions that had a small number of responses. The held-out respondents were thus naturally less likely to have answered these questions anyway — reducing the effect of item parameter uncertainty on the second-stage ideal point estimates.

Second, the MAP estimates obtained in the second step may not necessarily correspond to the posterior mean estimates that would be obtained with full Bayesian inference. This would be the case especially if the posterior distribution of ideal points were skewed. However, the posterior distribution of ideal points obtained in the first step appear to be roughly normally distributed, suggesting that the MAP will well-approximate the posterior mean. For example, Figure A-5 plots the posterior density of Moral/Social ideal points for 25 randomly sampled respondents. The distributions are roughly symmetric about the mode, suggesting that the posterior mode and posterior mean are very similar.

C.5 MCMC Estimation and Diagnostics

I obtain draws from the posterior distribution of the parameters $p(\Omega \mid y) \propto p(y \mid \Omega)p(\Omega)$ via Markov chain Monte Carlo, implemented in the Stan programming language (Carpenter et al., 2017). For each issue domain, I run between 12 and 20 chains for 600 iterations each, discarding the first half of each chain as warmup.[31] This leaves me with between $300 \times 12 = 3,300$ and $300 \times 20 = 6,000$ samples from the posterior for each issue area.

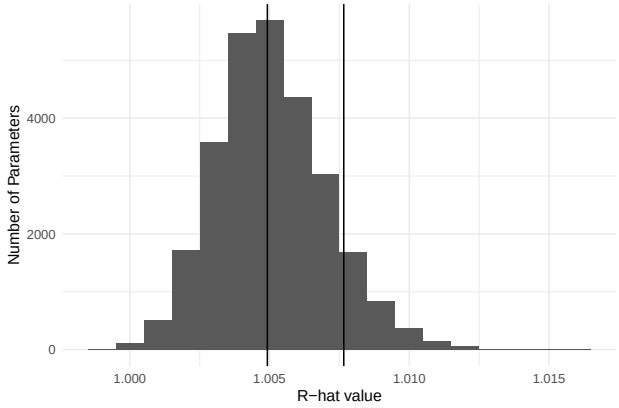
As noted above, the model as implemented is only locally, not globally, identified. Global identification requires fixing a polarity of the ideal point space. To achieve global identification, I post-process the output to ensure that the posterior mean ideal point estimates are positively correlated across all chains. If any chain is negatively correlated with the other chains, I reverse the polarity of that chain by multiplying the θ_i and β_j parameters by -1. Finally, after combining samples from all chains together, I orient the space so that the average ideal point for Democrats is less than the average ideal point for Republicans.

I take several steps to diagnose performance of the MCMC estimation. There were no divergent transitions and the Bayesian fraction of missing information was low, indicating the sampler is efficiently exploring the posterior (Betancourt, 2016). Additionally, I examine the Gelman-Rubin $\hat{R}$ statistics for each parameter (Gelman and Rubin, 1992). At convergence, all $\hat{R}$ values should be equal to 1; values above 1.05 indicate problems with convergence. Figure A-6 plots the distribution of $\hat{R}$ statistics across all parameters, showing that nearly all of the $\hat{R}$ values are less than 1.01.

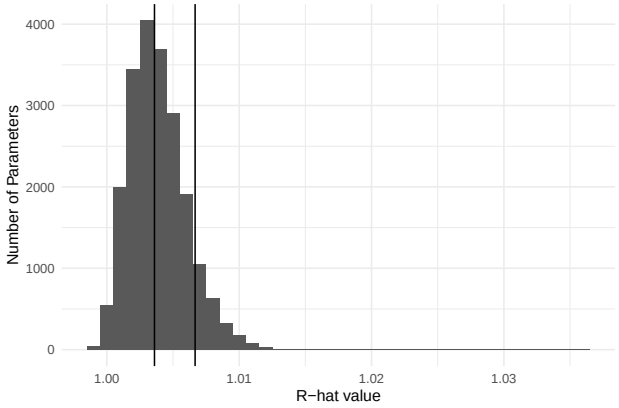
Finally, Figures A-7 and A-8 show traceplots for, respectively, discrimination parameters β_j and variance parameters σ_β and σ_c. They show good mixing across chains, providing reassurance that the MCMC sampler converged to the posterior distribution.

[31] I used all cores available on the server, which can vary by job submission.

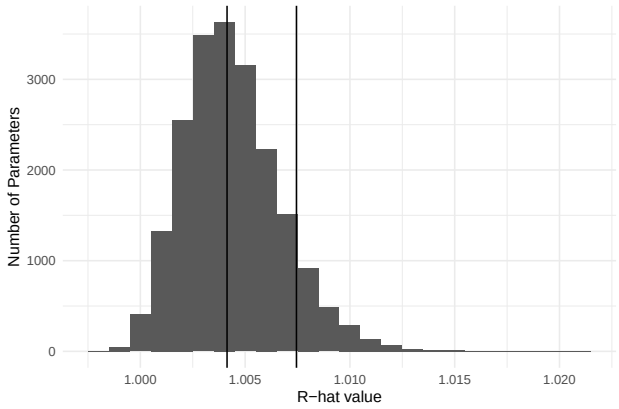
Figure A-6: Distribution of $\hat{R}$ Statistics Across All Model Parameters; Mean and 90th Percentile Highlighted



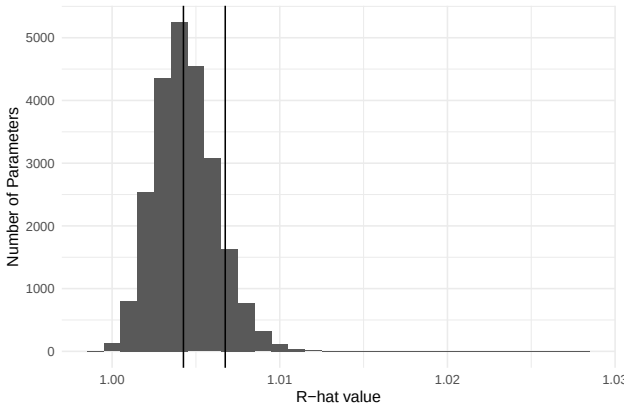
(a) Economics



(b) Social/Moral



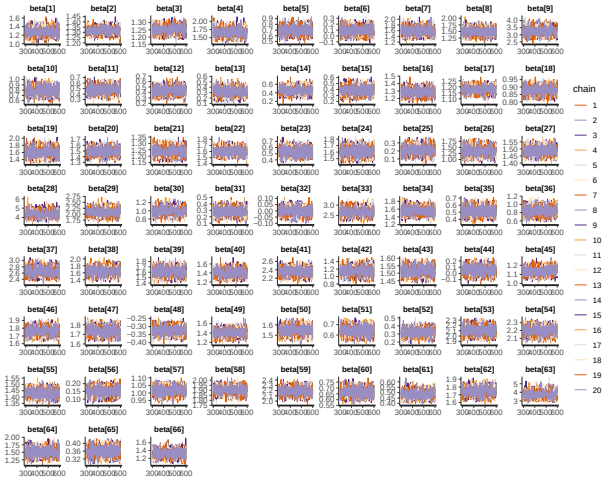
(c) Race and Civil Rights



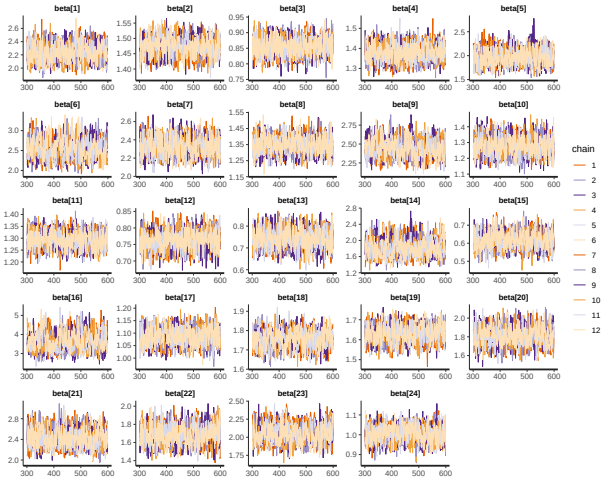
(d) Foreign Policy

Figure A-7: Traceplots for Discrimination Parameters β_j

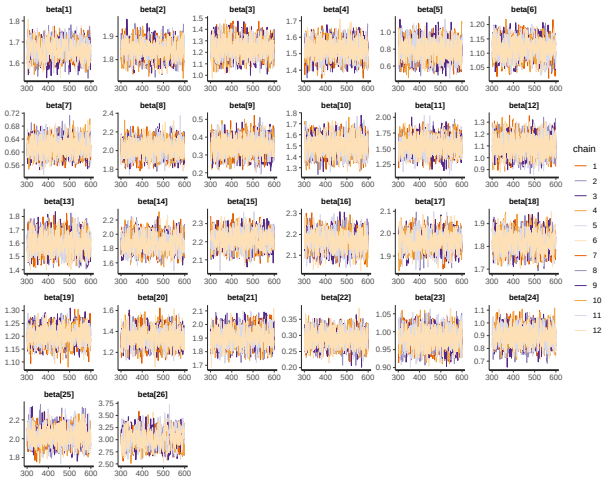
(a) Economics Discrimination



(b) Social/Moral Discrimination



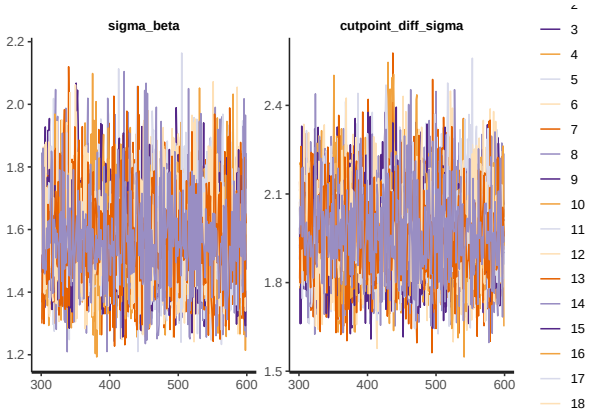
(c) Race and Civil Rights Discrimination



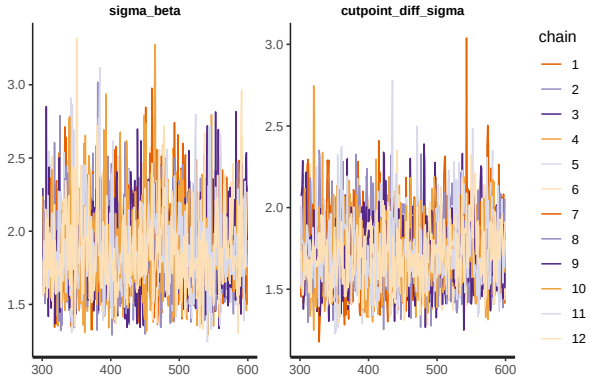
(d) Foreign Policy Discrimination

Figure A-8: Traceplots for Hierarchical Variance Parameters σ_β and σ_c

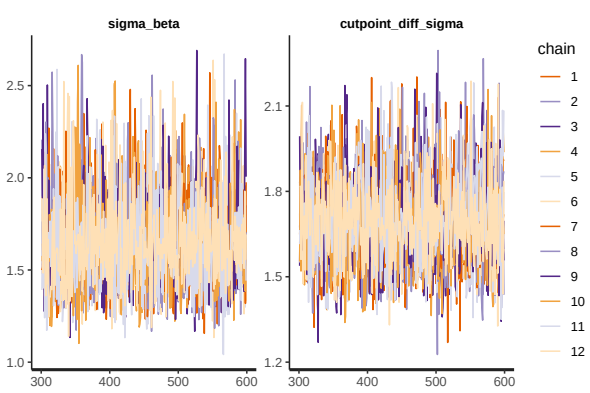
(a) Economics



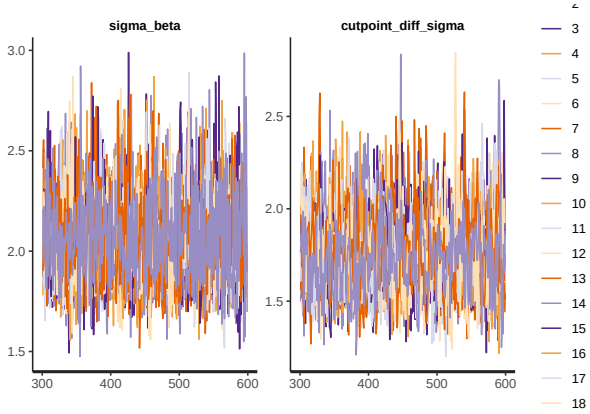
(b) Social/Moral



(c) Race and Civil Rights



(d) Foreign Policy

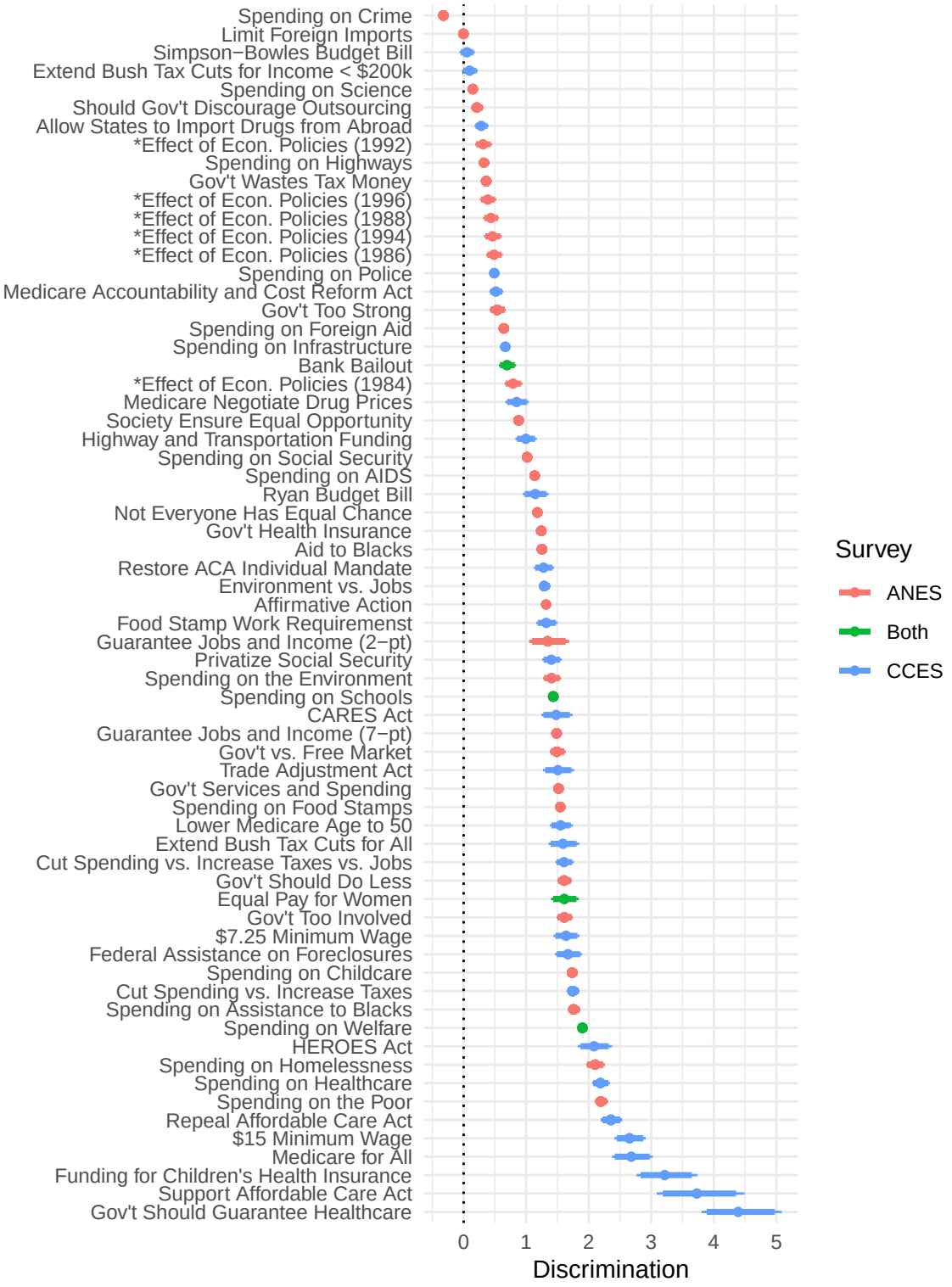


C.6 Item Parameter Estimates

Figures A-9-A-12 plot estimates of the discrimination parameters for each issue area, along with 90 and 95% credible intervals. Responses to questions with higher (absolute) discrimination parameters are more sensitive to respondents' locations on the underlying latent scale, so examination of these plots aids in interpreting the issue scales.

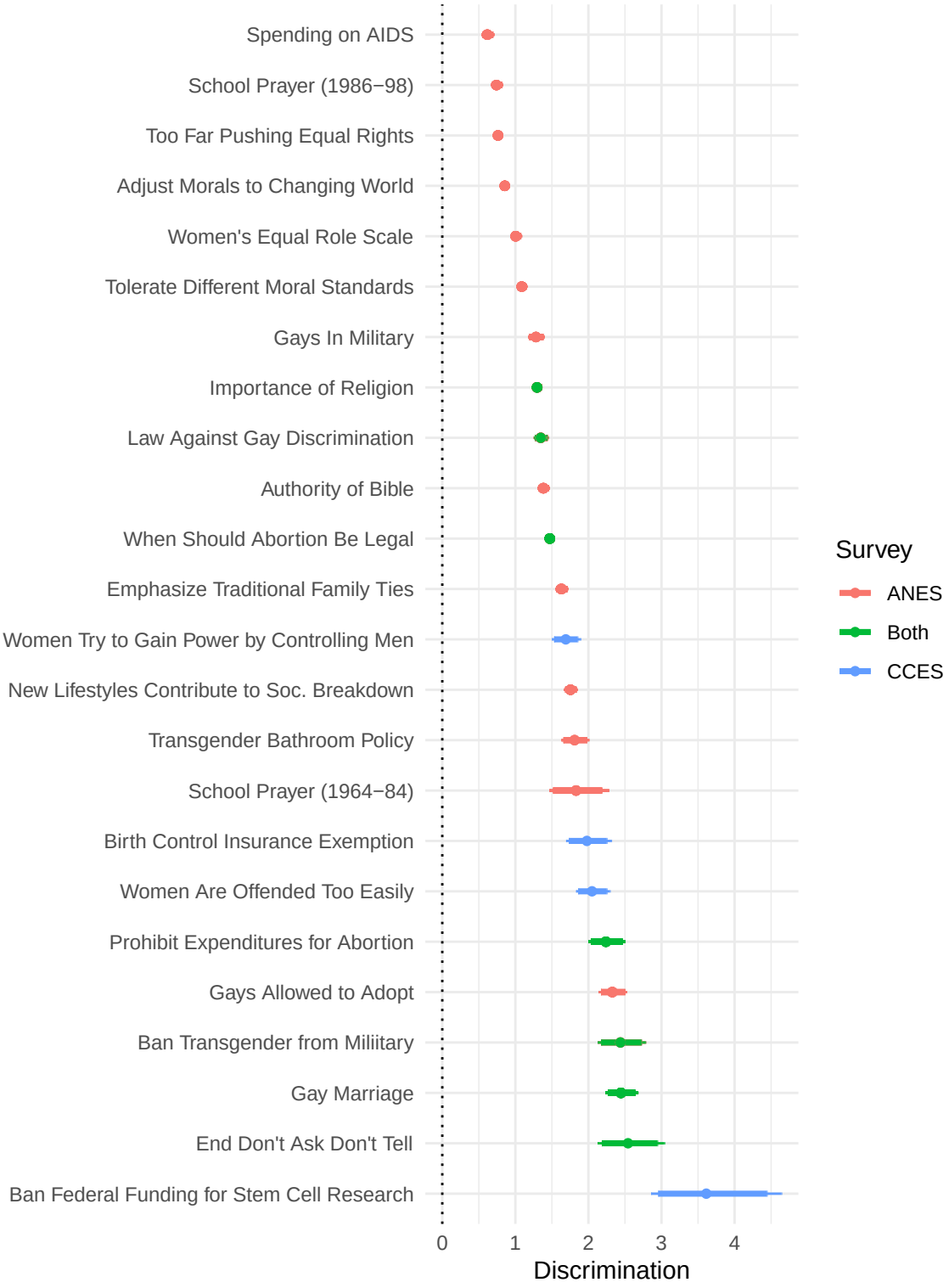
Respondents' estimated position on the economic policy issue scale is highly influenced by their opinions on government involvement in healthcare markets, the minimum wage, and spending on the poor. Positions on the moral values scale are especially influenced by opinions on gay marriage, transgender rights, and abortion. Positions on the race and civil rights scale are highly sensitive to opinions on spending on assistance to Blacks, answers to questions that comprise the racial resentment scale, and to attitudes toward affirmative action. Finally, positions on the foreign policy scale are especially sensitive to survey responses on questions related to the Iraq War, undocumented immigrants, and border security.

Figure A-9: Discrimination Parameters for Economics Scale



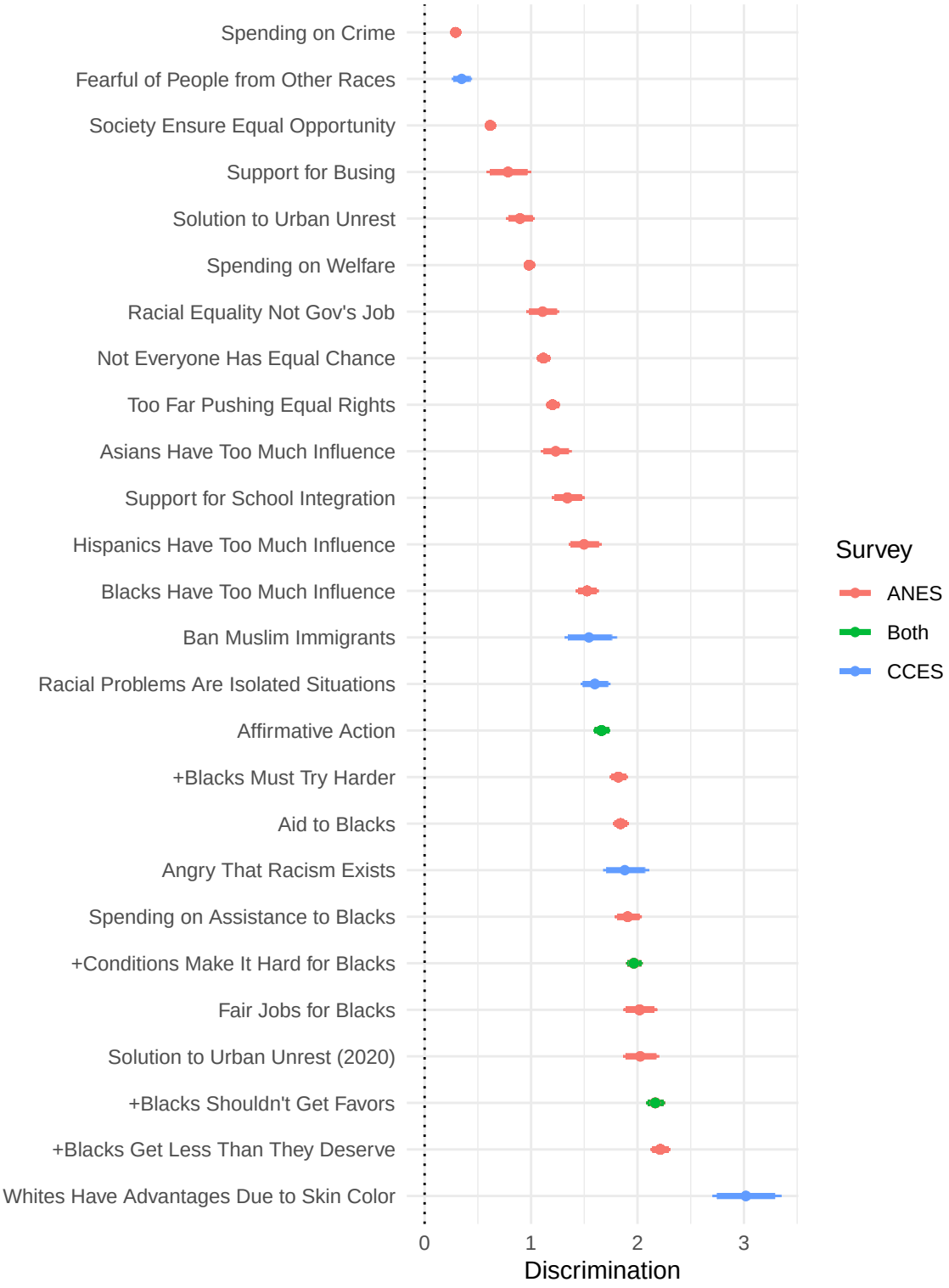
Notes: Vertical lines show posterior mean of the discrimination parameter for each item. Thick and thin bars indicate, respectively, central 90% and 95% credible intervals.

Figure A-10: Discrimination Parameters for Social/Moral Scale



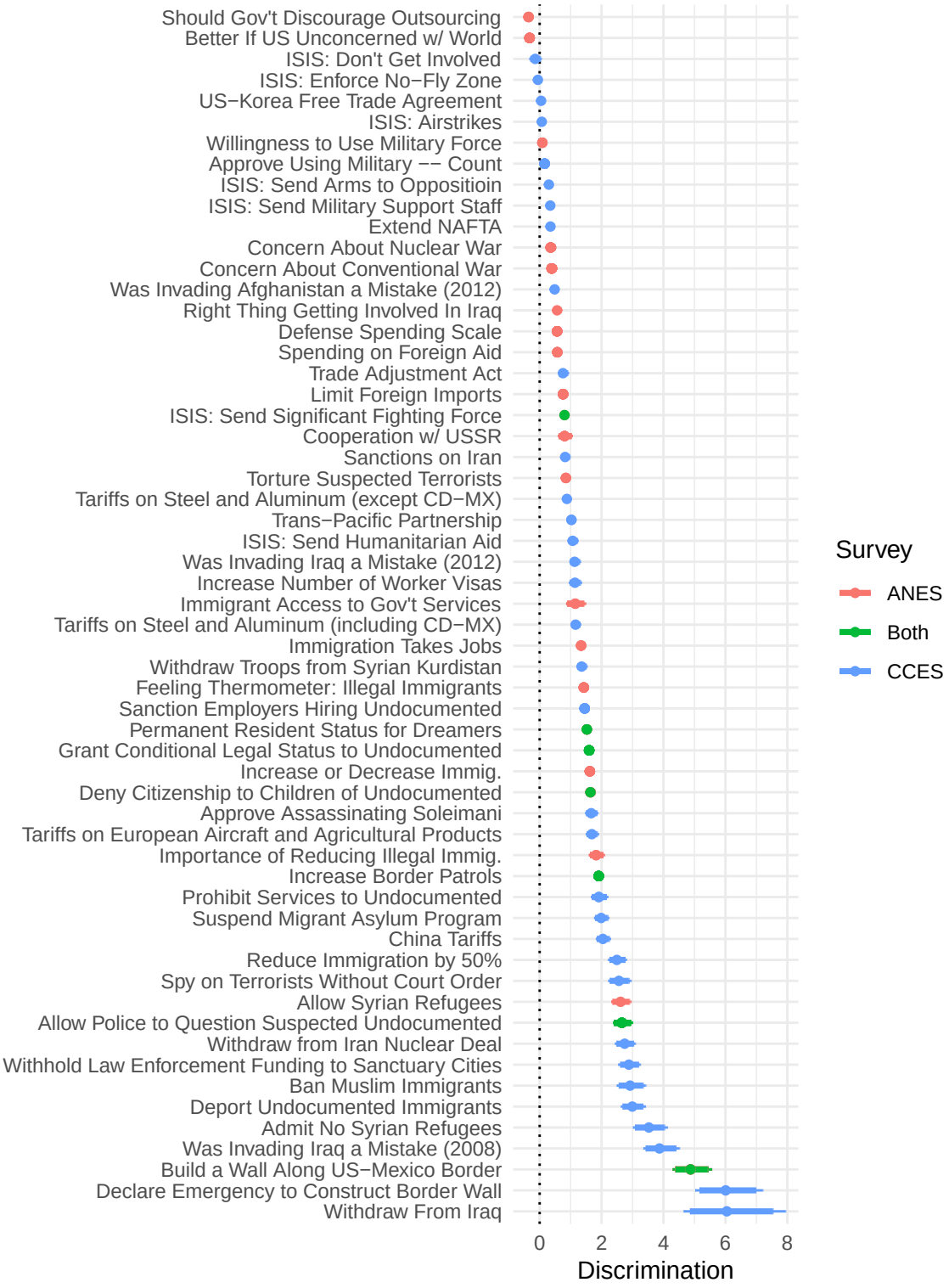
Notes: Vertical lines show posterior mean of the discrimination parameter for each item. Thick and thin bars indicate, respectively, central 90% and 95% credible intervals.

Figure A-11: Discrimination Parameters for Race and Civil Rights Scale



Notes: Vertical lines show posterior mean of the discrimination parameter for each item. Thick and thin bars indicate, respectively, central 90% and 95% credible intervals.

Figure A-12: Discrimination Parameters for Foreign Policy Scale



Notes: Vertical lines show posterior mean of the discrimination parameter for each item. Thick and thin bars indicate, respectively, central 90% and 95% credible intervals.

D Additional Tables and Figures

This section presents additional tables and figures. See in-text references and captions for explanations of each table or figure.

Table A-1: Issue Scale Correlations by Decade

Correlations from 1990 to 2000

	Econ.	Moral	Race	For. Pol.
Economics	1.00			
Moral/Social	0.27	1.00		
Race and Civil Rights	0.68	0.32	1.00	
Foreign Policy	0.24	0.20	0.34	1.00

Correlations from 2010 to 2020

	Econ.	Moral	Race	For. Pol.
Economics	1.00			
Moral/Social	0.50	1.00		
Race and Civil Rights	0.71	0.42	1.00	
Foreign Policy	0.55	0.45	0.56	1.00

Figure A-13: Correlations Between Issue Scales Over Time

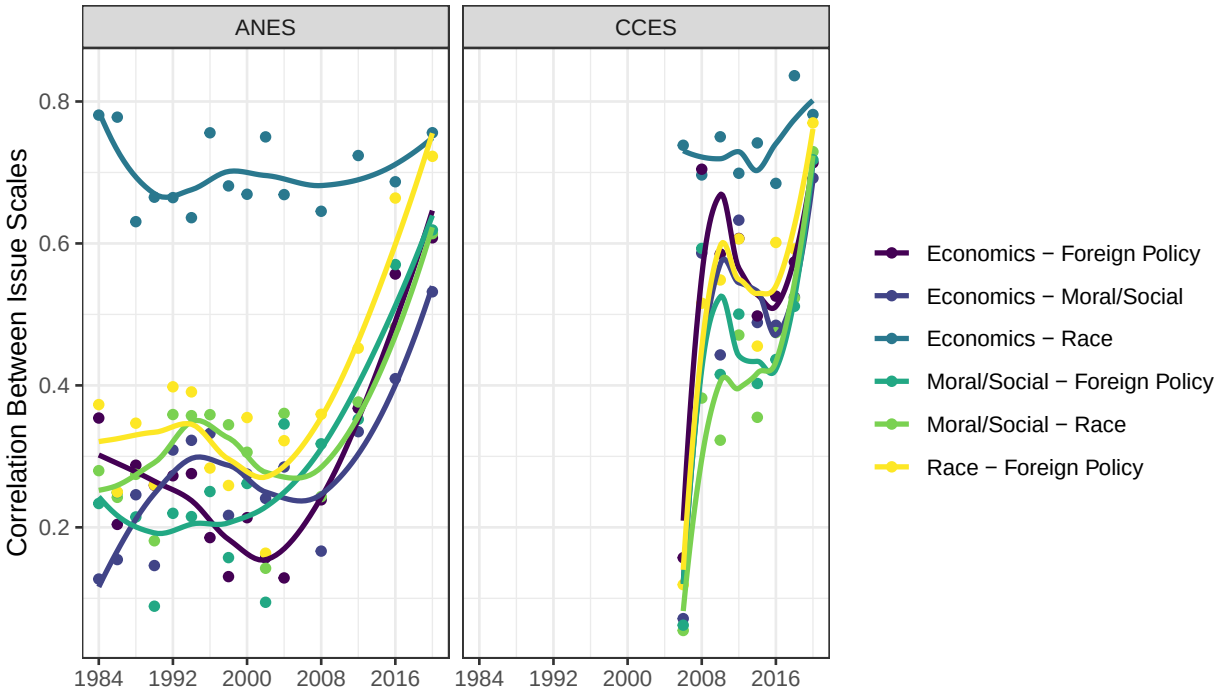


Figure A-14: Average Issue-Specific Ideal Point, by Party

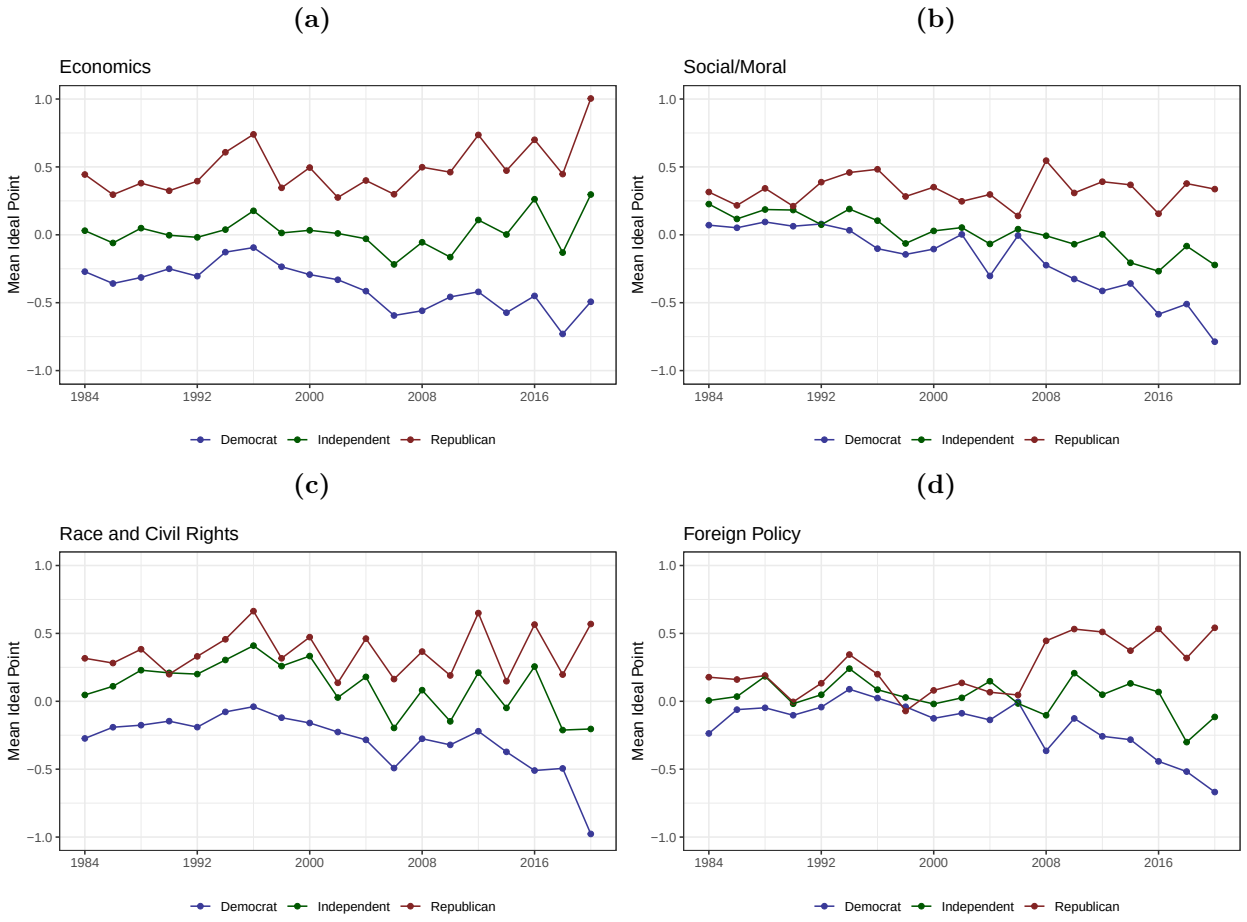
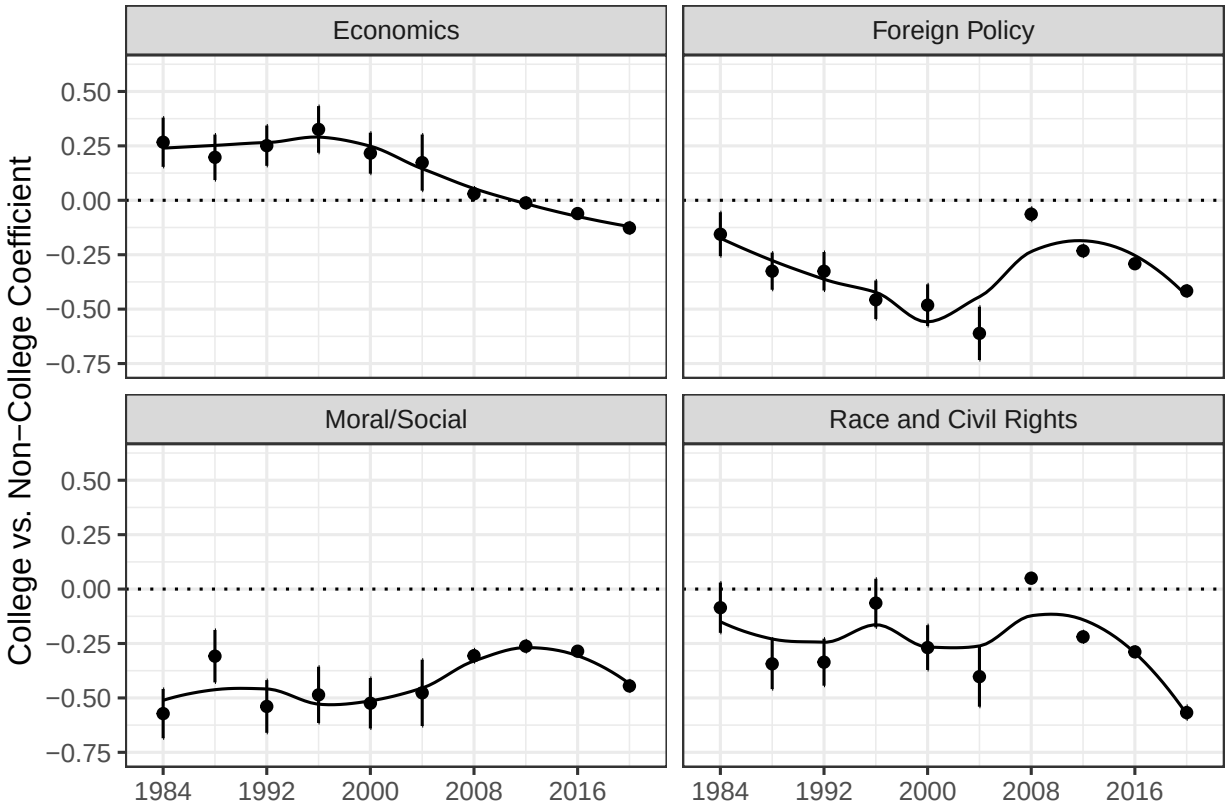
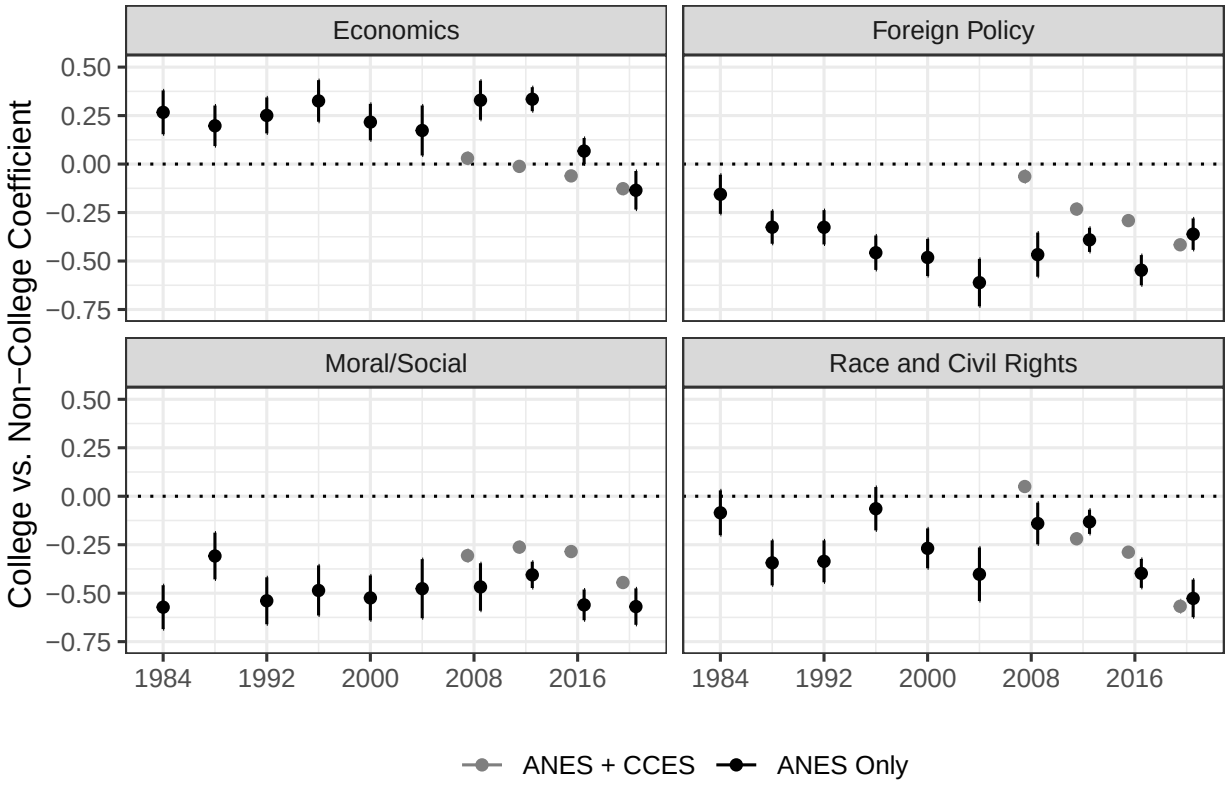


Figure A-15: Differences in Attitudes of College and Non-College Voters, Without Controls



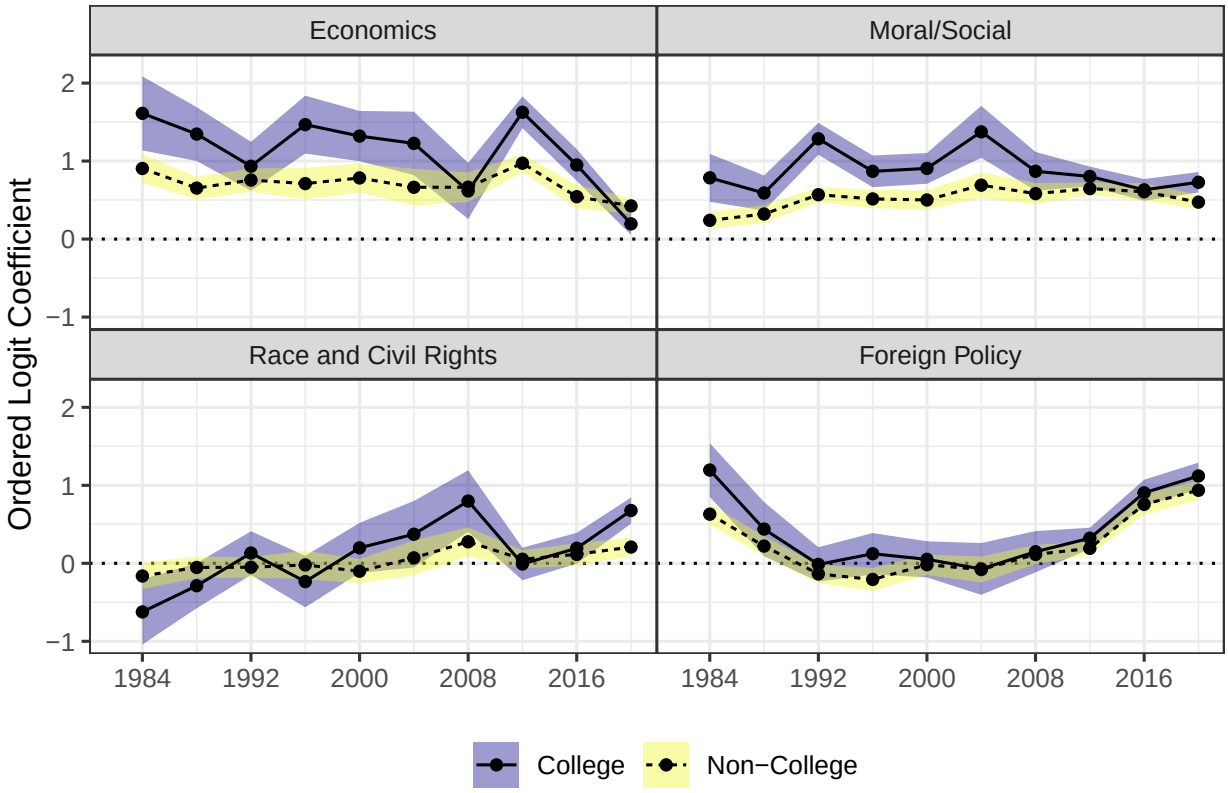
Notes: Points are coefficient estimates from a linear regression of ideal point estimates on an indicator for having a four-year college degree, among whites. Bars indicate robust 95% confidence intervals. Curved line is a loess fit to the estimated coefficients. All regressions include survey weights.

Figure A-16: Differences in Attitudes of College and Non-College Voters, Without Controls by Survey Source



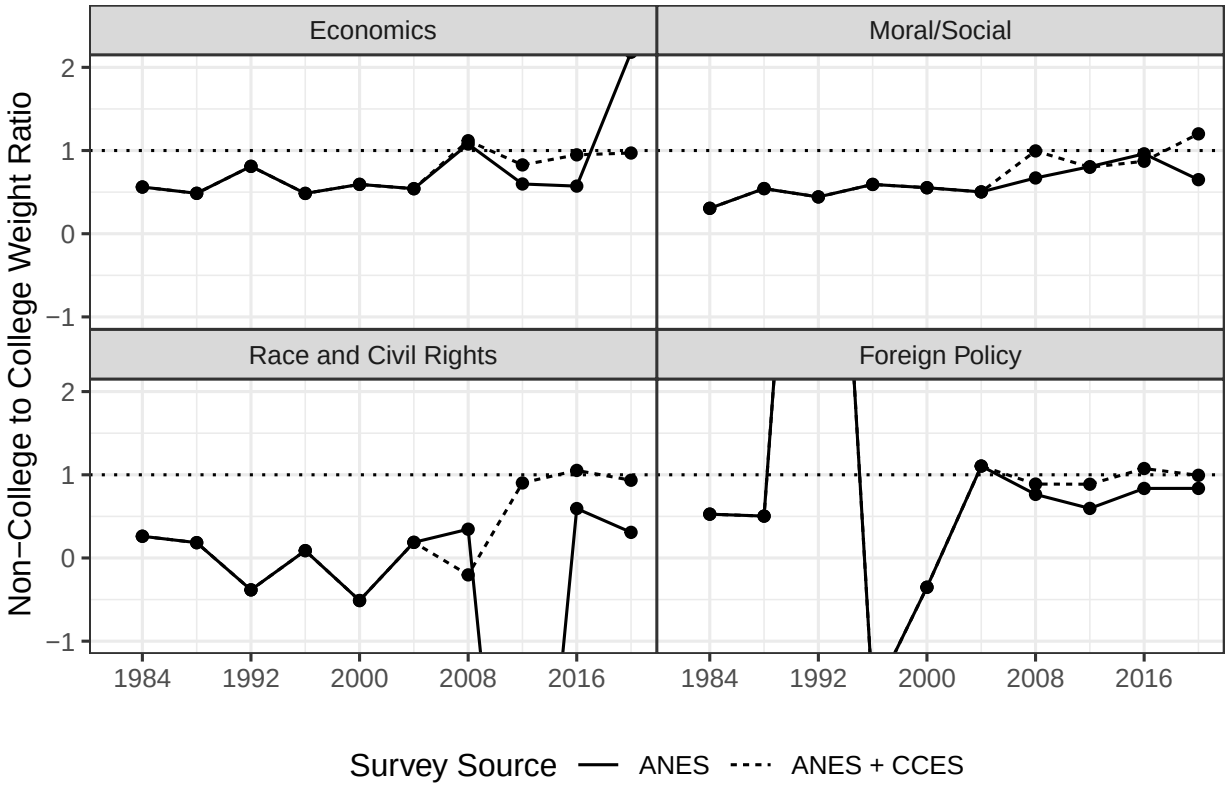
Notes: Points are coefficient estimates from a linear regression of ideal point estimates on an indicator for having a four-year college degree, among whites. Bars indicate robust 95% confidence intervals. Estimates for the entire time series using only ANES data are plotted in black. Gray points include the larger combined ANES-CCES sample for 2008-2020. All regressions include survey weights.

Figure A-17: Marginal Effect of Issue Attitudes on Vote Choice Among white Voters, ANES Only



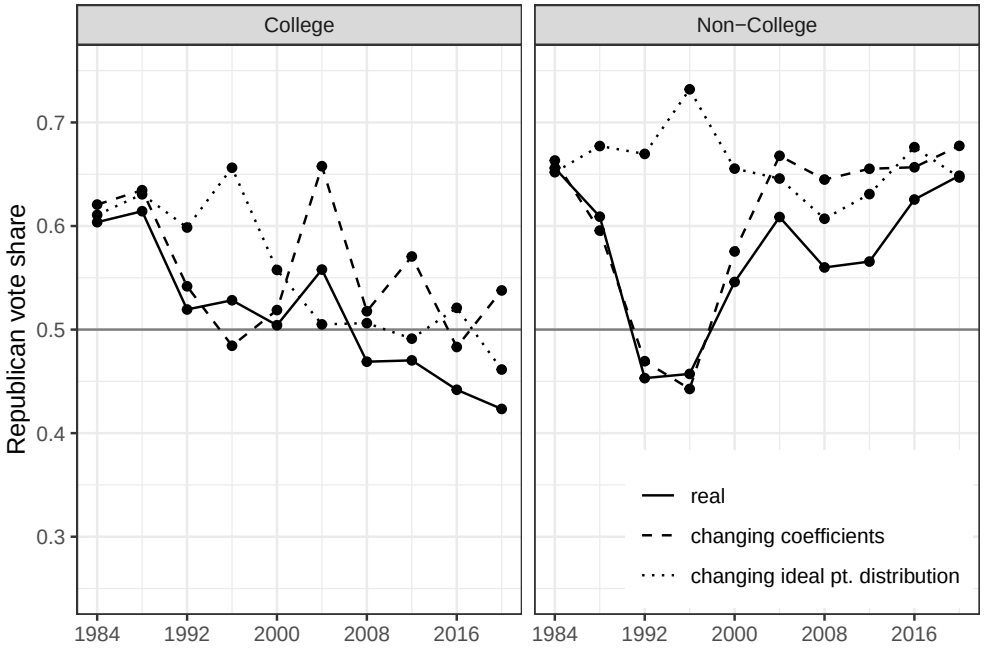
Notes: Points are regression coefficients from ordered logit model predicting vote choice (Democrat, other/no vote, Republican) as a function of issue-specific ideal points, where the slopes are allowed to vary by college attainment. Models also control for age, sex, and income. All models are estimated by maximum quasi-likelihood, applying survey weights. Bands plot 95% confidence intervals. Models are estimated only using ANES data.

Figure A-18: Relative Issue Weights Between Non-College and College-Educated white Voters, ANES Only



Notes: Relative weight that non-college whites place on issue dimension compared to college-educated whites in each presidential election, 1984-2020. Points are derived from an ordered logit model predicting vote choice (Democrat, other/no vote, Republican) as a function of issue attitudes, where effects are allowed to vary by college attainment. The models also control for age, sex, and income. All models are estimated by maximum quasi-likelihood, applying survey weights. Dotted lines show estimates using both ANES and CCES data; solid lines show estimates using only ANES data.

Figure A-19: Simulated Vote Share Among White Voters



Notes: The solid lines plot observed vote share among whites in each election from 1984 to 2020. The other lines plot simulated vote shares by education group under two counterfactual scenarios. In the first, shown in the dotted lines, the distribution of ideal points within groups is held fixed at its 1984 level, while the coefficients relating vote choice to attitudes (as in Equation 6) are re-estimated for each year. In the second, shown in the dashed lines, the distribution of ideal points is allowed to evolve, but the coefficients relating vote choice to attitudes are held fixed at their estimated 1984 values. Estimates are derived from an ordered logit model without covariates. All quantities are estimated applying survey weights in both model estimation and calculation of simulated vote shares.

E Regression Tables

E.1 Tables for Regressions Predicting Attitudes

The following tables report full regression results corresponding to Figure 3. Each point in that figure corresponds to the coefficient on an indicator for attaining a college degree, from separate regressions of the following form:

$$Y_i = \tau \text{College}_i + \mathbf{X}_i\beta + \varepsilon_i.$$

The variable Y_i is respondent i's estimated ideal point on one of the four issue domains; College_i is an indicator having a college degree; $\mathbf{X}_i$ is a vector of control variables for age, income, and gender; and ε_i is the error term. Separate models are estimated separately for each year in the data and I report robust standard errors.

Table A-2: Economic Policy Attitudes Regression Results

	1984	1988	1992	1996	2000	2004	2008	2012	2016	2020
College	0.014	−0.042	−0.011	0.064	0.041	−0.064	−0.195**	−0.113**	−0.183**	−0.360**
	(0.063)	(0.056)	(0.052)	(0.058)	(0.055)	(0.075)	(0.017)	(0.016)	(0.013)	(0.017)
Age: < 25	−0.120+	−0.091	−0.206**	−0.130	−0.133	−0.287*	−0.180**	0.005	0.004	−0.074*
	(0.070)	(0.083)	(0.072)	(0.119)	(0.099)	(0.128)	(0.030)	(0.035)	(0.023)	(0.032)
Age: 35-44	−0.066	0.040	−0.078	0.027	0.010	0.055	0.096**	0.050+	0.068**	0.144**
	(0.064)	(0.065)	(0.057)	(0.077)	(0.075)	(0.114)	(0.024)	(0.028)	(0.019)	(0.026)
Age: 45-54	−0.060	0.097	0.146*	−0.038	−0.011	0.120	0.077**	0.125**	0.168**	0.345**
	(0.073)	(0.080)	(0.068)	(0.082)	(0.084)	(0.111)	(0.023)	(0.024)	(0.019)	(0.028)
Age: 55-64	−0.134+	0.191**	0.172*	−0.016	0.027	0.059	0.053*	0.075**	0.136**	0.395**
	(0.069)	(0.073)	(0.070)	(0.089)	(0.083)	(0.115)	(0.024)	(0.022)	(0.017)	(0.024)
Age: 65+	0.087	0.204**	0.270**	0.212**	0.126+	0.307**	0.149**	0.174**	0.165**	0.477**
	(0.064)	(0.069)	(0.055)	(0.077)	(0.076)	(0.106)	(0.025)	(0.022)	(0.018)	(0.022)
Sex: Male	0.170**	0.206**	0.298**	0.292**	0.284**	0.293**	0.271**	0.168**	0.102**	0.219**
	(0.041)	(0.044)	(0.038)	(0.049)	(0.048)	(0.065)	(0.015)	(0.013)	(0.011)	(0.014)
Income: 17-33%	0.217**	0.084	0.321**	0.182*	0.144	0.316**	0.089**	−0.050	0.142**	0.190**
	(0.077)	(0.089)	(0.071)	(0.089)	(0.096)	(0.099)	(0.033)	(0.033)	(0.020)	(0.021)
Income: 34-67%	0.468**	0.326**	0.449**	0.403**	0.437**	0.440**	0.310**	0.072*	0.288**	0.415**
	(0.071)	(0.077)	(0.065)	(0.079)	(0.096)	(0.097)	(0.030)	(0.032)	(0.019)	(0.022)
Income: 68-95%	0.621**	0.466**	0.587**	0.622**	0.403**	0.567**	0.416**	0.168**	0.317**	0.530**
	(0.074)	(0.079)	(0.068)	(0.085)	(0.099)	(0.107)	(0.033)	(0.035)	(0.021)	(0.029)
Income: 96-100%	0.813**	0.534**	0.709**	0.634**	0.583**	0.699**	0.328**	0.091*	0.275**	0.626**
	(0.110)	(0.131)	(0.110)	(0.162)	(0.134)	(0.134)	(0.046)	(0.046)	(0.059)	(0.060)
Income: Missing	0.476**	0.502**	0.518**	0.397**	0.330**	0.465**	0.374**	0.159**	0.375**	0.474**
	(0.088)	(0.095)	(0.087)	(0.104)	(0.103)	(0.105)	(0.042)	(0.038)	(0.024)	(0.028)
N	1,759	1,490	1,810	1,302	1,333	829	21,840	42,350	48,189	46,780
R^2	0.07	0.07	0.11	0.1	0.07	0.1	0.05	0.02	0.02	0.07

Notes: Full regression results corresponding to the top-left panel of Figure 3. Outcome is estimated ideal point on economics. Robust standard errors are shown in parentheses. $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$

Table A-3: Moral/Social Policy Attitudes Regression Results

	1984	1988	1992	1996	2000	2004	2008	2012	2016	2020
College	−0.479**	−0.294**	−0.563**	−0.456**	−0.526**	−0.448**	−0.329**	−0.233**	−0.274**	−0.438**
	(0.066)	(0.072)	(0.075)	(0.079)	(0.074)	(0.094)	(0.018)	(0.018)	(0.014)	(0.016)
Age: < 25	−0.110	−0.206*	−0.194*	−0.161	−0.289*	−0.295	−0.200**	0.011	−0.197**	−0.041
	(0.083)	(0.095)	(0.098)	(0.159)	(0.132)	(0.180)	(0.037)	(0.044)	(0.028)	(0.035)
Age: 35-44	0.142*	0.275**	0.130	0.271**	0.094	0.552**	0.117**	0.165**	0.084**	0.163**
	(0.072)	(0.083)	(0.086)	(0.104)	(0.103)	(0.140)	(0.028)	(0.033)	(0.023)	(0.026)
Age: 45-54	0.265**	0.408**	0.468**	0.184	0.119	0.341*	0.195**	0.265**	0.146**	0.357**
	(0.082)	(0.093)	(0.091)	(0.115)	(0.110)	(0.137)	(0.027)	(0.029)	(0.022)	(0.028)
Age: 55-64	0.346**	0.485**	0.631**	0.591**	0.389**	0.626**	0.215**	0.305**	0.206**	0.448**
	(0.077)	(0.085)	(0.099)	(0.116)	(0.110)	(0.141)	(0.028)	(0.027)	(0.019)	(0.024)
Age: 65+	0.434**	0.560**	0.623**	0.617**	0.611**	0.774**	0.283**	0.481**	0.325**	0.527**
	(0.071)	(0.080)	(0.078)	(0.097)	(0.101)	(0.132)	(0.028)	(0.027)	(0.021)	(0.023)
Sex: Male	−0.174**	−0.053	0.150**	0.138*	0.156*	0.116	0.059**	0.169**	0.102**	0.319**
	(0.046)	(0.053)	(0.055)	(0.064)	(0.062)	(0.082)	(0.017)	(0.016)	(0.013)	(0.014)
Income: 17-33%	0.046	0.178+	0.001	−0.087	−0.049	0.245+	−0.035	0.039	−0.023	0.020
	(0.086)	(0.096)	(0.096)	(0.107)	(0.110)	(0.141)	(0.041)	(0.039)	(0.024)	(0.025)
Income: 34-67%	0.007	0.049	0.077	0.036	0.119	0.083	0.000	0.070+	−0.006	−0.040
	(0.080)	(0.081)	(0.089)	(0.096)	(0.112)	(0.133)	(0.037)	(0.037)	(0.023)	(0.025)
Income: 68-95%	−0.066	−0.031	0.074	0.119	0.004	−0.037	−0.076+	−0.071+	−0.128**	−0.301**
	(0.085)	(0.085)	(0.093)	(0.105)	(0.117)	(0.151)	(0.039)	(0.040)	(0.024)	(0.030)
Income: 96-100%	−0.147	−0.128	−0.204	−0.095	0.096	−0.148	−0.233**	−0.244**	−0.439**	−0.459**
	(0.125)	(0.165)	(0.141)	(0.186)	(0.166)	(0.179)	(0.049)	(0.048)	(0.049)	(0.061)
Income: Missing	0.031	0.151	0.064	0.088	0.065	0.325*	0.132*	0.232**	0.078**	0.083**
	(0.093)	(0.107)	(0.114)	(0.128)	(0.116)	(0.151)	(0.052)	(0.044)	(0.028)	(0.030)
N	1,759	1,489	1,811	1,302	1,333	829	21,843	42,351	48,189	46,780
R^2	0.1	0.09	0.11	0.09	0.1	0.13	0.04	0.05	0.04	0.09

Notes: Full regression results corresponding to the top-right panel of Figure 3. Outcome is estimated ideal point on moral/social issues. Robust standard errors are shown in parentheses. $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$

Table A-4: Race and Civil Rights Policy Attitudes Regression Results

	1984	1988	1992	1996	2000	2004	2008	2012	2016	2020
College	−0.296**	−0.553**	−0.562**	−0.286**	−0.464**	−0.567**	−0.141**	−0.386**	−0.414**	−0.707**
	(0.066)	(0.064)	(0.063)	(0.061)	(0.061)	(0.079)	(0.012)	(0.016)	(0.014)	(0.019)
Age: < 25	−0.167*	−0.133	−0.254**	−0.205	−0.302*	−0.373**	−0.121**	−0.222**	−0.234**	−0.368**
	(0.073)	(0.090)	(0.084)	(0.127)	(0.130)	(0.137)	(0.024)	(0.036)	(0.033)	(0.056)
Age: 35-44	−0.012	0.008	−0.159*	−0.055	−0.062	0.079	0.070**	0.114**	0.155**	0.248**
	(0.069)	(0.072)	(0.068)	(0.080)	(0.086)	(0.116)	(0.019)	(0.031)	(0.023)	(0.034)
Age: 45-54	−0.031	0.089	0.016	−0.153+	−0.152	0.026	0.078**	0.216**	0.269**	0.558**
	(0.075)	(0.093)	(0.079)	(0.089)	(0.093)	(0.118)	(0.019)	(0.026)	(0.022)	(0.034)
Age: 55-64	−0.165*	0.097	0.058	−0.030	−0.003	0.095	0.099**	0.158**	0.254**	0.596**
	(0.072)	(0.079)	(0.088)	(0.094)	(0.096)	(0.125)	(0.019)	(0.024)	(0.020)	(0.031)
Age: 65+	0.048	0.015	0.038	−0.010	0.015	0.126	0.132**	0.194**	0.196**	0.525**
	(0.067)	(0.075)	(0.064)	(0.079)	(0.084)	(0.111)	(0.019)	(0.024)	(0.021)	(0.030)
Sex: Male	0.024	0.149**	0.166**	0.215**	0.135*	0.218**	0.273**	0.090**	0.189**	0.274**
	(0.043)	(0.049)	(0.045)	(0.051)	(0.055)	(0.069)	(0.011)	(0.014)	(0.013)	(0.017)
Income: 17-33%	0.200*	0.055	0.181*	0.161+	0.097	0.309**	0.065*	0.056	0.047+	0.012
	(0.082)	(0.095)	(0.078)	(0.097)	(0.100)	(0.112)	(0.030)	(0.034)	(0.024)	(0.029)
Income: 34-67%	0.367**	0.107	0.149*	0.338**	0.375**	0.266*	0.197**	0.123**	0.080**	0.022
	(0.074)	(0.084)	(0.074)	(0.087)	(0.100)	(0.111)	(0.027)	(0.032)	(0.022)	(0.028)
Income: 68-95%	0.405**	0.102	0.260**	0.486**	0.352**	0.276*	0.269**	0.118**	0.057*	−0.104**
	(0.078)	(0.088)	(0.078)	(0.095)	(0.104)	(0.123)	(0.029)	(0.035)	(0.024)	(0.034)
Income: 96-100%	0.553**	0.075	0.346**	0.420**	0.453**	0.313*	0.217**	−0.019	−0.092	−0.167**
	(0.109)	(0.170)	(0.118)	(0.151)	(0.144)	(0.148)	(0.035)	(0.046)	(0.066)	(0.063)
Income: Missing	0.430**	0.265*	0.171+	0.327**	0.278**	0.336**	0.229**	0.140**	0.179**	0.199**
	(0.089)	(0.108)	(0.095)	(0.111)	(0.106)	(0.125)	(0.035)	(0.037)	(0.028)	(0.036)
N	1,758	1,488	1,809	1,301	1,333	829	21,730	42,326	42,324	41,383
R^2	0.04	0.07	0.07	0.05	0.06	0.09	0.06	0.05	0.06	0.11

Notes: Full regression results corresponding to the bottom-left panel of Figure 3. Outcome is estimated ideal point on race and civil rights. Robust standard errors are shown in parentheses. $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$

Table A-5: Foreign Policy Attitudes Regression Results

	1984	1988	1992	1996	2000	2004	2008	2012	2016	2020
College	−0.312**	−0.421**	−0.504**	−0.508**	−0.556**	−0.673**	−0.259**	−0.401**	−0.433**	−0.569**
	(0.056)	(0.051)	(0.052)	(0.053)	(0.060)	(0.076)	(0.018)	(0.017)	(0.014)	(0.015)
Age: < 25	−0.156*	0.041	−0.080	−0.066	−0.334**	−0.212	−0.178**	−0.195**	−0.290**	−0.194**
	(0.068)	(0.081)	(0.086)	(0.094)	(0.128)	(0.158)	(0.034)	(0.040)	(0.026)	(0.030)
Age: 35-44	0.121*	0.061	−0.152*	−0.060	−0.068	0.234+	0.190**	0.225**	0.253**	0.185**
	(0.061)	(0.061)	(0.059)	(0.068)	(0.086)	(0.123)	(0.028)	(0.033)	(0.021)	(0.024)
Age: 45-54	0.094	0.087	−0.086	−0.089	−0.087	0.144	0.157**	0.305**	0.453**	0.452**
	(0.066)	(0.080)	(0.070)	(0.080)	(0.095)	(0.123)	(0.026)	(0.030)	(0.021)	(0.026)
Age: 55-64	0.045	0.122+	−0.008	0.094	0.105	0.256*	0.179**	0.281**	0.462**	0.543**
	(0.067)	(0.069)	(0.071)	(0.080)	(0.093)	(0.128)	(0.028)	(0.027)	(0.018)	(0.022)
Age: 65+	0.024	0.070	−0.022	0.104	0.114	0.131	0.244**	0.365**	0.398**	0.566**
	(0.062)	(0.065)	(0.058)	(0.071)	(0.088)	(0.123)	(0.028)	(0.027)	(0.020)	(0.022)
Sex: Male	0.223**	0.209**	0.127**	0.036	−0.022	0.019	0.204**	0.204**	0.183**	0.237**
	(0.039)	(0.043)	(0.041)	(0.045)	(0.053)	(0.070)	(0.017)	(0.015)	(0.012)	(0.014)
Income: 17-33%	0.010	−0.127	0.101	0.192*	−0.013	0.121	0.095*	0.081*	0.000	0.035
	(0.073)	(0.087)	(0.077)	(0.086)	(0.100)	(0.140)	(0.041)	(0.039)	(0.023)	(0.023)
Income: 34-67%	0.072	−0.064	0.199**	0.155*	0.120	0.046	0.291**	0.160**	0.017	0.057*
	(0.064)	(0.073)	(0.069)	(0.075)	(0.099)	(0.127)	(0.037)	(0.036)	(0.021)	(0.023)
Income: 68-95%	0.117+	−0.062	0.215**	0.185*	−0.042	−0.166	0.329**	0.108**	−0.081**	−0.045
	(0.069)	(0.075)	(0.072)	(0.082)	(0.103)	(0.136)	(0.039)	(0.039)	(0.023)	(0.029)
Income: 96-100%	0.307**	−0.024	0.292**	0.043	0.070	−0.100	0.276**	0.001	−0.252**	−0.085
	(0.097)	(0.127)	(0.111)	(0.129)	(0.133)	(0.154)	(0.048)	(0.048)	(0.057)	(0.052)
Income: Missing	0.277**	−0.053	0.233*	0.209*	0.058	0.051	0.307**	0.215**	0.163**	0.150**
	(0.078)	(0.090)	(0.093)	(0.093)	(0.102)	(0.141)	(0.049)	(0.042)	(0.027)	(0.030)
N	1,757	1,491	1,811	1,302	1,333	830	21,840	42,349	48,190	46,780
R^2	0.05	0.06	0.07	0.1	0.09	0.13	0.04	0.06	0.09	0.11

Notes: Full regression results corresponding to the bottom-right panel of Figure 3. Outcome is estimated ideal point on foreign policy. Robust standard errors are shown in parentheses. $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$

E.2 Tables for Ordered Logit Regressions Predicting Vote Choice

I use an ordered logit model to relate attitudes to vote choice. This model captures the "calculus of voting" logic in which voters who are close to indifferent between the candidates decide not to vote.

The outcome variable is coded as follows:

$$y_i = \begin{cases} -1 & \text{respondent } i \text{ voted for Democratic candidate} \\ 0 & \text{did not vote or voted third party} \\ 1 & \text{respondent } i \text{ voted for Republican candidate} \end{cases}$$

The linear predictor in this model is given by $\mu_i = (\Theta_i'\beta_1 + \Theta_i' \times \text{College}_i\beta_2 + X_i'\gamma)$, where Θ_i is the vector of ideal points on the four issues and X_i is a vector of control variables including age, sex, and income.

The ordered logit model is defined as follows:

$$p(y_i = k) = \begin{cases} F(c_1 - \mu_i) & \text{if } k = -1 \\ F(c_2 - \mu_i) - F(c_1 - \mu_i) & \text{if } k = 0 \\ 1 - F(c_2 - \mu_i) & \text{if } k = 1 \end{cases}$$

The parameters of the model are $\beta_1, \beta_2, \gamma, c_1, c_2$ and are estimated by maximum likelihood. The parameters c_1, c_2 are the "cutpoints."

The models are estimated separately for each year. Table A-6 reports the estimated coefficients. These regression tables correspond to the results presented in Figure 4, from which are derived the statistics in Figure 5.

Table A-6: Ordered Logit Regression Results

	1984	1988	1992	1996	2000	2004	2008	2012	2016	2020
Econ. Ideal Pt.	0.905**	0.654**	0.756**	0.711**	0.784**	0.664**	0.843**	0.975**	0.555**	0.770**
	(0.109)	(0.089)	(0.091)	(0.122)	(0.114)	(0.144)	(0.029)	(0.025)	(0.024)	(0.040)
Econ. Ideal Pt. × College	0.707*	0.692**	0.177	0.756**	0.537*	0.563*	−0.089+	0.204**	0.030	0.024
	(0.307)	(0.226)	(0.209)	(0.255)	(0.225)	(0.282)	(0.053)	(0.045)	(0.042)	(0.062)
Moral/Social Ideal Pt.	0.240**	0.320**	0.569**	0.515**	0.501**	0.691**	0.392**	0.589**	0.456**	0.623**
	(0.065)	(0.069)	(0.059)	(0.073)	(0.075)	(0.100)	(0.020)	(0.017)	(0.018)	(0.038)
Moral/Social Ideal Pt. × College	0.545**	0.270+	0.717**	0.354*	0.405**	0.683**	0.002	0.149**	0.067*	−0.104+
	(0.197)	(0.152)	(0.135)	(0.141)	(0.139)	(0.219)	(0.040)	(0.034)	(0.033)	(0.062)
Race/Civil Rights Ideal Pt.	−0.163	−0.053	−0.050	−0.021	−0.102	0.070	−0.040	0.154**	0.425**	0.525**
	(0.102)	(0.084)	(0.081)	(0.111)	(0.094)	(0.136)	(0.030)	(0.020)	(0.023)	(0.041)
Race/Civil Rights Ideal Pt. × College	−0.461+	−0.235	0.182	−0.214	0.300	0.303	0.235**	0.017	−0.021	0.037
	(0.274)	(0.195)	(0.189)	(0.230)	(0.217)	(0.294)	(0.062)	(0.042)	(0.042)	(0.069)
Foreign Ideal Pt.	0.630**	0.221**	−0.136+	−0.207*	−0.018	−0.080	0.662**	0.233**	0.508**	1.508**
	(0.081)	(0.077)	(0.072)	(0.090)	(0.079)	(0.102)	(0.022)	(0.016)	(0.020)	(0.048)
Foreign Ideal Pt. × College	0.566*	0.218	0.121	0.330+	0.069	0.008	0.083+	0.030	−0.035	0.010
	(0.223)	(0.225)	(0.153)	(0.185)	(0.161)	(0.227)	(0.044)	(0.034)	(0.036)	(0.078)
College	−0.056	0.052	0.221	−0.184	−0.436*	0.138	−0.122**	−0.029	−0.177**	−0.100+
	(0.196)	(0.167)	(0.157)	(0.202)	(0.177)	(0.232)	(0.035)	(0.034)	(0.034)	(0.061)
Age: < 25	−0.003	0.190	−0.122	0.755**	−0.270	0.005	0.031	0.150**	0.083	0.179
	(0.179)	(0.203)	(0.192)	(0.282)	(0.264)	(0.324)	(0.052)	(0.050)	(0.063)	(0.134)
Age: 35-44	−0.290+	0.133	−0.334*	0.067	−0.243	0.057	0.039	−0.067	−0.095*	−0.170+
	(0.165)	(0.163)	(0.148)	(0.180)	(0.192)	(0.290)	(0.050)	(0.045)	(0.047)	(0.088)
Age: 45-54	−0.170	−0.279	−0.869**	−0.317	−0.602**	−0.263	0.108*	−0.109*	−0.130**	−0.432**
	(0.191)	(0.205)	(0.170)	(0.205)	(0.208)	(0.274)	(0.048)	(0.045)	(0.049)	(0.095)
Age: 55-64	−0.354+	−0.192	−0.915**	0.016	−0.782**	−0.421	0.107*	−0.117**	−0.094*	−0.491**
	(0.188)	(0.188)	(0.192)	(0.220)	(0.215)	(0.279)	(0.051)	(0.042)	(0.043)	(0.085)
Age: 65+	−0.259	−0.237	−1.120**	−0.377+	−0.888**	−1.096**	0.197**	−0.025	0.034	−0.568**
	(0.176)	(0.176)	(0.160)	(0.195)	(0.204)	(0.275)	(0.050)	(0.042)	(0.044)	(0.082)
Sex: Male	−0.219*	−0.165	−0.145	0.086	0.002	−0.312+	−0.115**	−0.104**	0.006	−0.286**
	(0.111)	(0.114)	(0.103)	(0.122)	(0.124)	(0.165)	(0.030)	(0.026)	(0.027)	(0.050)
Income: 17-33%	0.180	−0.220	−0.083	−0.092	−0.075	−0.332	0.004	0.204**	−0.015	0.025
	(0.200)	(0.206)	(0.187)	(0.222)	(0.214)	(0.273)	(0.063)	(0.060)	(0.050)	(0.089)
Income: 34-67%	0.078	−0.115	−0.450**	−0.037	−0.288	−0.122	−0.112*	0.172**	−0.027	0.001
	(0.181)	(0.176)	(0.173)	(0.200)	(0.215)	(0.259)	(0.056)	(0.056)	(0.047)	(0.088)
Income: 68-95%	0.496*	0.136	−0.188	−0.010	−0.141	0.010	−0.080	0.240**	0.002	−0.109
	(0.199)	(0.188)	(0.182)	(0.221)	(0.229)	(0.290)	(0.062)	(0.062)	(0.051)	(0.105)
Income: 96-100%	1.104**	0.942*	0.172	0.416	0.620+	0.329	0.113	0.296**	−0.047	−0.134
	(0.327)	(0.405)	(0.288)	(0.360)	(0.343)	(0.367)	(0.080)	(0.082)	(0.123)	(0.174)
Income: Missing	0.160	−0.472+	−0.107	0.088	0.152	0.015	0.006	0.255**	−0.134*	0.041
	(0.227)	(0.249)	(0.242)	(0.270)	(0.236)	(0.309)	(0.075)	(0.067)	(0.060)	(0.115)
Dem. | Abstain Cutpoint	−1.054**	−0.924**	−1.368**	−0.290	−1.135**	−1.330**	−1.525**	−0.997**	−1.281**	−0.931**
	(0.196)	(0.193)	(0.187)	(0.221)	(0.242)	(0.296)	(0.064)	(0.061)	(0.053)	(0.102)
Abstain | Rep. Cutpoint	0.446*	0.546**	0.796**	1.346**	0.232	−0.098	1.524**	1.347**	1.369**	−0.132
	(0.195)	(0.191)	(0.185)	(0.226)	(0.239)	(0.291)	(0.064)	(0.062)	(0.053)	(0.101)
N	1,520	1,309	1,642	1,171	1,178	736	21,625	39,430	41,219	36,901
AIC	2,701.6	2,565.8	2,998.1	2,189.6	2,176.6	1,239.1	33,049.6	44,095.6	39,177.9	13,751.6

Notes: Outcome variable is -1 if the respondent voted for the Democrat, 0 if they did not vote or voted third party, and 1 if they voted for the Republican. Standard errors are shown in parentheses. All models are fit using survey weights. $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$