

RED STATES VS. BLUE STATES GOING BEYOND THE MEAN

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Abstract In recent years, many scholars have explored the degree of polarization between red and blue states (red states are those carried by Republicans at the presidential level; blue states are those carried by Democrats). Some claim that red- and blue-state citizens are deeply polarized, while others disagree, arguing that there are only limited differences between the two groups. All previous work on this topic, however, simply uses difference-of-means tests to determine when these two groups are polarized. We show that this test alone cannot determine whether states are actually polarized. We remedy this shortcoming by introducing a new measure based on the degree of issue-position overlap between red- and blue-state citizens. Our findings demonstrate that there is only limited polarization—and a good deal of common ground—between red states and blue states. We discuss the implications of our work both for the study of polarization itself and for the broader study of American politics.

Introduction

Conventional wisdom suggests that ordinary Americans are deeply divided. Red-state citizens (states carried by Republicans at the presidential level) are “ignorant racist fascist knuckle-dragging NASCAR-obsessed cousin-marrying road-kill-eating tobacco-juice-dribbling gun-fondling religious fanatic rednecks,” while their blue-state counterparts are “godless

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unpatriotic pierced-nose Volvo-driving France-loving left-wing Communist latte-sucking tofu-chomping holistic-wacko neurotic vegan weenie perverts” (Barry 2004). According to such wisdom, most liberal, blue-state coast dwellers and conservative, red-state heartland Americans look at each other as if they were from “separate planets,” to quote Bush reelection chair Matthew Dowd (Fiorina, Abrams, and Pope 2005, p. 6).

While the popular press largely accepts and encourages this characterization of the mass public, the scholarly literature is much more divided on this point. Some scholars argue that this popular view is deeply flawed, as red- and blue-state citizens look quite similar along a variety of dimensions—the mass public remains moderate and centrist today, much as it was a generation ago (Fiorina, Abrams, and Pope 2005). Instead of two well-defined factions, the public is better characterized by a set of complex, overlapping positions. Others vigorously challenge this conclusion, noting that there are often sizable differences of opinion between red and blue states, especially when comparing red-state Republicans to blue-state Democrats (Abramowitz and Saunders 2008; Bafumi and Shapiro 2009; Kohut et al. 2000). As Abramowitz and Saunders (2005) put it, “[r]ed-state voters and blue-state voters differ fairly dramatically in their social characteristics and political beliefs” (p. 19). If this view is correct, then the mass public is deeply polarized into two non-overlapping camps, with red- and blue-state residents holding fundamentally different views on the issues.

Despite their different substantive conclusions, most scholars in this debate employ the same basic empirical strategy: They use a difference-of-means test to determine whether the two groups are polarized. If the mean opinion in red states is statistically distinguishable from the mean opinion in blue states, then they are polarized. In this article, we show that this approach often leads researchers astray, indicating that there is polarization when in fact red- and blue-state residents are more similar than different.

Instead, we show that scholars need to look at the entire distribution of opinion in red and blue states. Looking at the entire distribution of opinion allows us to assess the degree of overlap in the distribution of red- and blue-state issue preferences. That is, how much “common ground” is there between red- and blue-state citizens? Even when the average opinion in red states is significantly more conservative (i.e., where a difference-of-means test suggests that red and blue states are polarized), red- and blue-state citizens often hold very similar issue positions. A difference-of-means test is not sufficient to draw any firm conclusions about polarization.

Our results have important implications for future discussion of opinion polarization. It may be correct to talk about a polarization of *choices* available to the electorate, but it is misleading to discuss a polarization of *beliefs* in the presence of so much ideological overlap between the two camps. This preference heterogeneity also has important electoral consequences. While many factors contribute to any particular election, it helps explain how seeming anomalies like Massachusetts Republican Senator Scott Brown, former California Republican

Governor Arnold Schwarzenegger, or former Kansas Democratic Governor Kathleen Sebelius can win election (and reelection) in states where their party lags behind at the presidential level.

Polarization Beyond the Mean

When we refer to polarization, we mean that there is “a movement from the center toward the extremes”—a polarized citizenry has fewer moderates and more extremists (Fiorina, Abrams, and Pope 2008, p. 557; see also Fiorina and Levendusky 2006; Hetherington 2009; Levendusky 2009). Note that this implies there are two components to polarization. First, *distance*: On average, are citizens from red states and blue states ideologically distinct from one another? Second, *overlap*: Are red- (blue-) state citizens homogeneously conservative (liberal), so that there is not a large degree of ideological overlap between red and blue states? Even if some citizens move toward the extremes, if many citizens from red and blue states remain moderate and centrist, then labeling the public as “polarized” is likely premature. For example, perhaps only a small number of committed activists are polarizing, while the vast majority of citizens remain moderate and do not hold polarized beliefs.¹ Given “polarization as extremity,” we need to find evidence on both dimensions (distance and overlap) to conclude that red and blue states are polarized.

Almost all previous work tries to resolve the polarization question by using difference-of-means tests. If red and blue states are polarized, then the average blue-state opinion should be significantly more liberal than the average red-state opinion (see, e.g., Abramowitz and Saunders 2008). On its face, this is a reasonable strategy: After all, if there has been movement away from the center and toward the extremes, then average red- and blue-state opinion should be more distinct. But, given our definition of polarization above, this strategy is incomplete. Relying on it can yield evidence only with respect to the first dimension of polarization (the distance between red and blue states), but not on the second dimension (overlap).

To see why, consider the following hypothetical example. Our example has two scenarios, and in each case there is a more conservative red state and a more liberal blue state. In the first scenario, red- and blue-state residents really do hold different beliefs: Red states are homogeneously conservative, and blue states are homogeneously liberal. But in the second scenario, red states and blue states hold similar attitudes to one another, and there is considerable overlap in their beliefs. In both scenarios, red- and blue-state citizens hold *exactly the same average opinion*; we simply vary the degree of heterogeneity or homogeneity. That is, we hold the first aspect of polarization fixed and vary only the second.

1. Even this limited polarization, however, might have important consequences (Sinclair 2006).

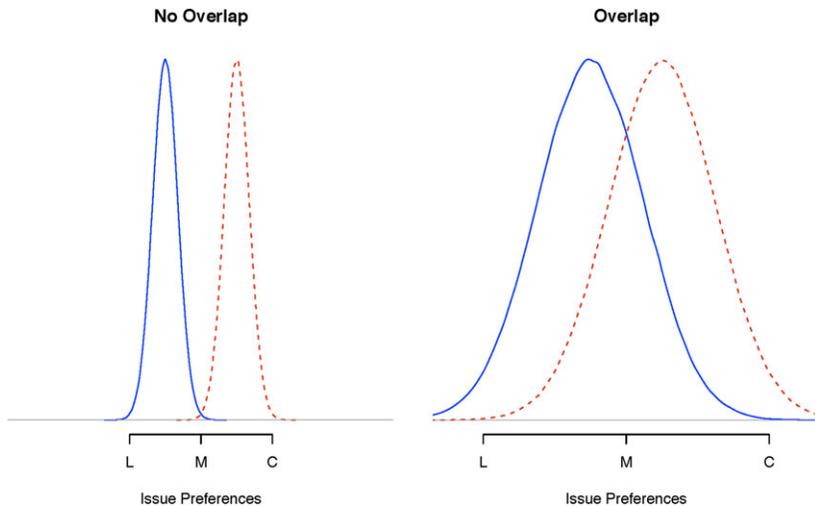


Figure 1. Hypothetical Distribution of Opinion, Red and Blue States. The left-hand panel depicts a scenario where opinion really is homogeneous and distinct on a left-right ideological spectrum. The right-hand panel depicts states that are more heterogeneous, with more overlap between red and blue states. In both panels, blue-state citizens are depicted with solid lines and red-state citizens are depicted with dashed lines. The “L,” “M,” and “C” labels indicate liberal, moderate, and conservative issue preferences, respectively.

Figure 1 plots the two sets of distributions along a single axis ranging from liberal (L) to moderate (M) to conservative (C).

In both scenarios, a simple difference-of-means test can distinguish the mean opinion in the two states (given a reasonable sample size). Indeed, the means here are the same by construction, so the difference-of-means test will yield the same result in both cases: that (average) red- and blue-state opinions are different from one another. If we accept that a statistically significant difference-of-means test indicates polarization (the test used in nearly all previous work on this topic), we would conclude that red and blue states are polarized in both cases. But figure 1 displays two scenarios that are not equivalent at all: In one scenario (the left-hand side), red and blue states really are distinct places; in the other, they have a great deal in common. Citizens in the left-hand panel really are polarized, whereas those in the right-hand panel are not. The standard test leads us astray here.

This demonstrates that a difference-of-means test by itself is not enough to draw conclusions about polarization. But our argument is *not*, however, that looking at the mean is somehow inappropriate, even in the context of polarization. It is frequently vital to look first at differences of means, because small differences in average preferences in red or blue states can have large

differences in election outcomes.² Black's (1958) median voter theorem provides the underlying logic: States with different median voters will elect different types of officials, frequently from different parties. Testing for such differences in means is a reasonable place to begin because of the importance of moderate citizens.

Our claim is a more modest one: Scholars also need to look to the homogeneity or heterogeneity of citizens in red and blue states before drawing strong conclusions about the extent of polarization. If there is a good deal of overlap between red- and blue-state citizens, a claim of polarization needs serious qualification. And, as will be seen below, the question of overlap very quickly becomes one of degree. There is *no* case of complete heterogeneity; there are only cases of more and less overlap. We would argue that to qualify as polarized, there needs to be minimal overlap between red and blue states, in addition to a large difference between their mean opinions. Obviously other scholars may disagree and prefer less stringent criteria for assessing polarization. However, our analysis makes it clear that if scholars want to talk about states as deeply polarized, they need to employ a measure of overlap in addition to a measure of distance. Even beyond simply correctly stating whether red and blue states are actually polarized, considering this overlap dimension of polarization has important consequences for our understanding of politics. To see why, consider congressional polarization. Part of the reason Democrats and Republicans are so deeply polarized is that the average Democrat has become more liberal over time, and the average Republican has become more conservative—a *distance* criterion.³ But the other reason polarization has become so vexing in recent years is that there is no longer a group of moderates to help bridge the gap between the parties (Han and Brady 2007; McCarty, Poole, and Rosenthal 2006)—an *overlap* criterion. Moderates like the “Gang of 14” are key to finding consensus solutions on difficult questions, a compromise that the more ideologically dogmatic members are often unable to reach. Empirical scholarship bears out this common-sense interpretation: As the number of moderates in Congress shrinks, striking deals and finding compromise becomes that much more difficult (Binder 2003). Ideological common ground matters.

This heterogeneity dimension is crucial for considering mass polarization as well. If there really is no preference overlap between red and blue states, society is in fact split into two distinct camps, with red states on the right and blue states on the left. In this scenario, there is little hope of finding consensus or bringing the citizens of these states together—there are no issues where they agree. In

2. We also would note that, because of the election of officials within states or districts, it is important to focus on the problem of measuring polarization between those constituencies, although the underlying opinion can always be disaggregated to individuals.

3. While there is some evidence that elite Republicans have polarized more than elite Democrats (Hacker and Pierson 2005), both parties have become more extreme over time (McCarty, Poole, and Rosenthal 2006).

contrast, if a mass of moderate citizens remains in both red and blue states, then finding common ground and compromise becomes possible (see the discussion in Fiorina and Levendusky 2006). So, the normative implication of polarization hinges, at least in part, on this overlap aspect of polarization.

While some scholars move beyond difference-of-means tests in ways that help consider heterogeneity, more remains to be done. Gelman (2008), for example, considers differences between subgroups in the population (by income, etc.), which recognizes that heterogeneity exists and that it matters (see also Baldassari and Gelman 2008). On the basis of this type of analysis, Gelman (2008) concludes that “[citizens] don’t seem to be narrowing into extremely coherent ideologies” (p. 129), reflecting that the degree of heterogeneity in virtually all groups is likely to be significant even in recent elections. Their analysis stops short, however, of specifying a way to quantify this heterogeneity. Our analysis below builds on these earlier efforts but makes a unique contribution to the literature by offering a measure of this second component of polarization, preference heterogeneity.

MEASURING PREFERENCES IN RED AND BLUE STATES

To measure polarization, we need to first measure citizens’ preferences and determine their dimensionality. The dimensionality question is important because citizens may be more or less polarized on different dimensions, and mixing items across dimensions might yield misleading results. We measure citizens’ preferences using recent survey data, in particular the common content module of the 2006 Cooperative Congressional Election Study, better known as the CCES (Ansolabehere 2006).⁴ To understand the dimensionality of these preferences, we factor analyzed the universe of issue-preference items contained in the CCES; the results appear in table 1.⁵

Looking at the output in table 1, the first dimension is dominated by the economic items about taxation and redistribution, along with the items about the Iraq War, affirmative action, and immigration; we therefore term this the “economics plus” dimension. Although explaining why these items load together is beyond the scope of our article, we can offer some tentative speculation. Arguably, immigration and affirmative action are economic issues, with responses being driven at least in part by economic concerns (about how to divide the societal pie with disadvantaged groups), though perhaps with more items they would load more heavily on a separate “racial” dimension. The Iraq/economy linkage reflects two deeper patterns in the data. First, in 2006, asking

4. For more details on the CCES, please see the appendix.

5. The Kaiser criterion (Kaiser 1960) suggests a three-factor solution, as does examination of the skree plot. We have also reanalyzed the data using FIML to address missing-data concerns and obtain similar substantive results (available from the authors upon request).

Table 1. Factor Analysis (with varimax rotation) of CCES Items, with the Largest Factor Loading for Each Item Given in Bold

Items	Factor 1	Factor 2	Factor 3
Gay Marriage	-0.576	0.626	
Abortion	-0.204	0.844	
Partial-Birth Abortion	0.333	-0.614	
Stem Cell Research	-0.436	0.61	-0.188
Social Security Privatization	-0.566	0.351	-0.387
Minimum Wage	-0.531	0.25	-0.281
Capital Gains Tax Cuts	0.584	-0.326	0.351
Taxes vs. Spending	0.554	-0.268	
Retrospective Iraq Judgment	0.677	-0.463	0.389
Withdrawing Troops from Iraq	0.616	-0.358	0.381
Jobs vs. the Environment	0.522	-0.315	0.149
Citizenship for Illegal Immigrants	-0.598	0.184	0.336
Affirmative Action	0.608	-0.225	
Support for CAFTA			0.49
Proportion of Variance Explained	27	20	8

SOURCE.—2006 CCES data.

someone about the Iraq War was akin to asking them their partisanship, given the deep divisions between the parties over Bush's handling of the conflict (Jacobson 2007). Second, economic items relate strongly (relative to other domains) to partisanship (Fiorina and Levendusky 2006). The Iraq/economy linkage here reflects these underlying patterns (Iraq attitudes are related to party, and party is related to economic attitudes, so Iraq attitudes are related to economic attitudes). That said, readers made uncomfortable by the correlation between economic and (ostensibly) non-economic issues should be reassured by the fact that using only the "pure" economic items in table 1 (Social Security privatization, minimum wage, capital gains tax cut, and the taxes vs. spending items) to define this factor would not change our substantive results in any meaningful way.

The second dimension, in contrast, focuses on social issues such as abortion and gay marriage. The only issue that loads clearly onto the third dimension is respondent support or opposition for the CAFTA trade legislation. In what follows, we focus on the first two dimensions (the economics plus and social issues dimensions) for both practical and theoretical reasons. First, from a practical standpoint, with only one item, our ability to say anything meaningful about trade attitudes is extremely limited. Further, from a theoretical perspective, a good deal of literature on the mass public's preferences suggests that citizens' attitudes fall primarily into economic and social domains and, as such, focusing on these dimensions puts us squarely within a longer tradition in American politics (Layman and Carsey 2002; Shafer and Claggett 1995).

For simplicity's sake, to measure respondents' preferences along these dimensions (the economic and social dimensions), we simply take the average position on the items loading on each dimension, after recoding all items to run from liberal to conservative and placing all items on a common [0,1] scale. So, for example, a respondent's score on the second dimension is the average of his (rescaled) positions on abortion, gay marriage, partial-birth abortion, and stem-cell research. Doing so gives us a simple, but straightforward and intuitive, measure of respondent preferences.

To use these data to test hypotheses about polarization in red and blue states, we simply aggregate respondents to the state level and investigate the degree of polarization.⁶ But how exactly do we measure "polarization" between red and blue states? Given our theoretical discussion above, we focus primarily on the degree of homogeneity or heterogeneity within red and blue states. In particular, we analyze the degree of overlap in issue preferences between red and blue states (given that so much excellent work has already been done on the average differences between red and blue states, we feel our biggest contribution is to focus on the overlap question). We do, however, use difference-of-means tests below as a baseline point to compare our results to earlier efforts.

We use three different measures of overlap throughout the article. First, we simply plot the distribution of issue preferences in red and blue states and examine the overlap visually. Although this is not a formal test, it provides valuable visual insight into just how much common ground exists between red- and blue-state citizens.

Second, we use the overlap coefficient, a measure used in statistics and economics to calculate the degree of commonality between two distributions (the original measure dates to Weitzman 1970). The idea is simple: The overlap coefficient represents "the common area under two probability densities" (Schmid and Schmidt 2006, p. 1583) or, more simply, the area where the two probability distributions overlap. Figure 2 gives a graphical depiction of this concept.

The shaded area in the graph depicts the region of overlap in this example. As figure 2 suggests, in this example, there is considerable overlap. To quantify exactly how much overlap there is, we can use the formula $1 - \frac{1}{2} \int_{-\infty}^{\infty} |f(x) - g(x)| dx$, where $f()$ and $g()$ are probability densities (here, the densities of issue preferences in red and blue states).⁷ Though the formula is complicated, the measure itself is straightforward: Overlap ranges between 0 and 1, with higher values representing higher degrees of overlap (that is, more area in common between two densities). In this case, the overlap coefficient is approximately 50 percent, fitting with our graphical representation in figure 2:

6. Here, we simply analyze all respondents to the CCES, so we refer to "respondents" (or their population analog, citizens) rather than (say) "voters."

7. In the results reported below, we use the nonparametric version of the overlap coefficient suggested by Schmid and Schmidt (2006).

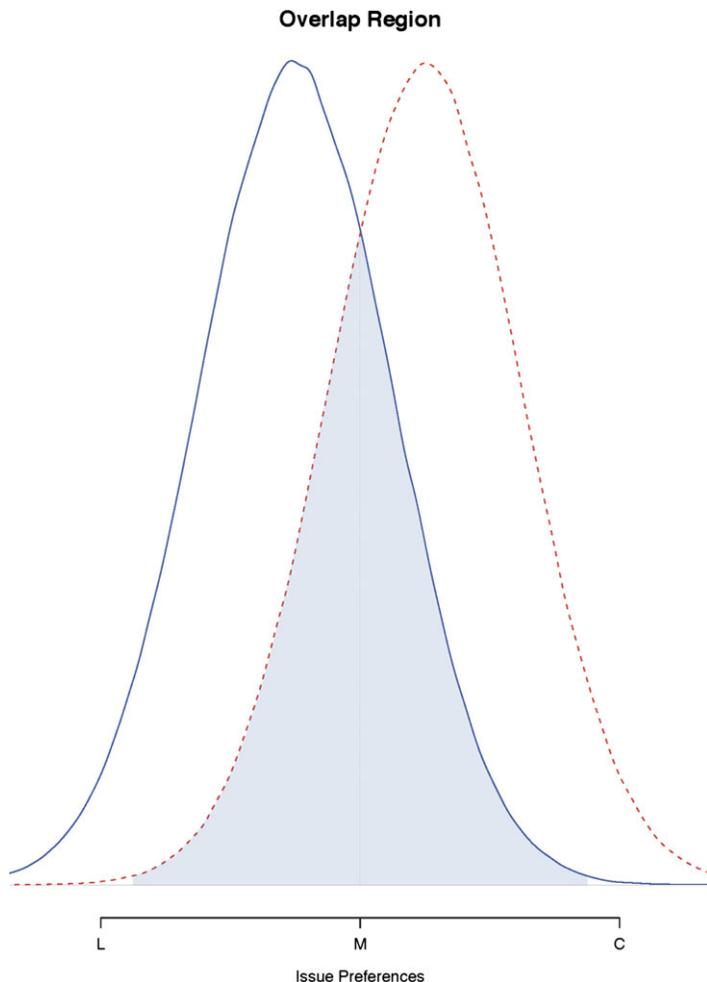


Figure 2. Graphical Depiction of Overlap. The shaded region represents the area of overlap between the two figures. See figure 1 and the text for additional details.

Whereas there is considerable common ground, there is also some area distinct to each of the two distributions. This gives us an easy-to-understand measure of the degree of “common ground” shared by red and blue states.

Third, we also compare randomly chosen red- and blue-state citizens and ask how likely it is that the blue-state citizen is more liberal. If red and blue states are highly polarized with little overlap between them, then with probability approaching 1, any blue-state citizen should be more liberal than his red-state counterpart. However, if red and blue states are less polarized and have more ideological overlap between them, then the probability should be significantly less than 1 and closer to 0.50, reflecting the heterogeneity within red and blue states.

One drawback to these measures (unlike a simple difference-of-means test) is that they lack a clear brightline standard: If the measure exceeds a given metric, then states are polarized, and if it does not, then they are not. While this is a drawback, it will not be a particularly serious one here, as all of our analysis points squarely in one direction. Further, we would argue that this reflects the reality of a concept like polarization. There is no simple “polarized/not” dichotomy; rather, states are more or less polarized. A more subtle and continuous measure (like the one we use here) helps reflect that fact.

The Role of Heterogeneity in the Polarization Debate

We begin by simply comparing the distribution of opinion in red and blue states to examine the degree of overlap between states visually. While this is a crude test, it is an important step that offers an easy metric for assessing the commonality between states—readers can simply compare the graphs themselves and consider the degree of overlap: Is it extensive or minimal? While we formalize this later using the quantitative metrics we described above, this interocular test conveys the same substantive information in an easy-to-understand format.

Consider first all red and blue states together (so, pooling all blue-state respondents into one “state,” and likewise for red-state residents); we use 2004 presidential election returns to define red and blue states. Figure 3 plots the distribution of respondents’ issue preferences in both red and blue states.

Looking at figure 3, one is immediately drawn to the fact that there is quite a large degree of overlap, especially on the social issues dimension. If we were

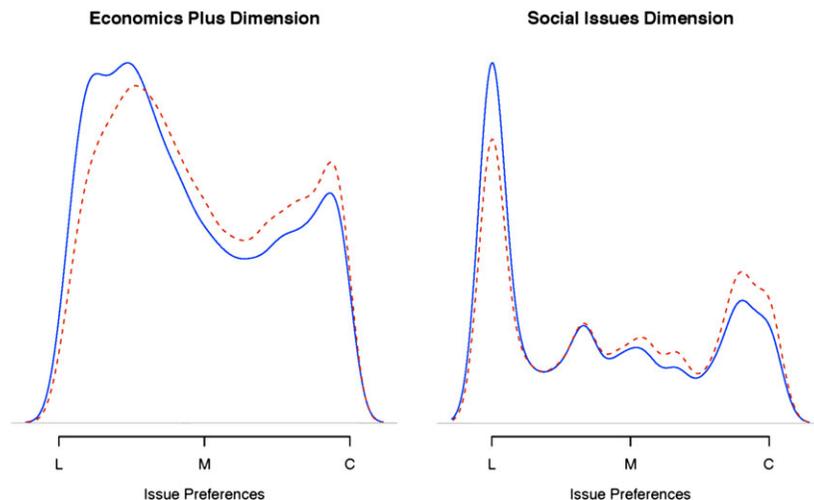


Figure 3. Distribution of Issue Preferences, Red and Blue States. See figure 1 for additional details.

to just use the difference-of-means test to examine polarization, we could easily reject the null hypothesis of no difference on both dimensions. But simply looking at figure 3, one would be much more hesitant to conclude that red- and blue-state citizens were deeply polarized: If anything, one would be inclined to note the striking amount of overlap and common ground they share. Rather than polarization, the overriding message of figure 3 is moderation.

To consider the degree of polarization more formally, we can calculate the two formal metrics we discussed earlier. Looking at the overlap criterion, we find that there is 92-percent overlap on both dimensions of issue preferences. Likewise, we can also calculate the probability that a randomly selected blue-state citizen is more liberal than a randomly selected red-state citizen. Examining all red and blue states, the probability that the blue-state citizen is more liberal is 0.54 on the first (economics plus) dimension and 0.49 on the second (social issues) dimension. That is, although blue-state citizens are on average more liberal, they are not uniformly more so—indeed, it is basically a coin flip to determine which respondent (the red- or the blue-state resident) is more liberal. This conclusion holds even when eliminating so-called “purple states” that went for either party by only a few points: The probability that a blue-state citizen drawn at random is more liberal is 0.55 on the first dimension and 0.51 on the second dimension.⁸ In short, both metrics show a great deal of commonality between red and blue states, with much more common ground than division between the two groups.

But perhaps pooling across all red and blue states stacks the deck in our favor because of the large sample size and the heterogeneity across states. To guard against this possibility, we recalculated the overlap statistic for every possible pair of red and blue states (that is, take every red state, pair it individually with every blue state, and calculate the overlap for each pair of states), and then plot the resulting distribution of overlap statistics. Figure 4 gives the results for both the economics plus and the social issues dimensions.

On both dimensions, the amount of overlap is much closer to 1 than to 0 (that is, closer to complete overlap than to no overlap). Even on the economics plus dimension, where there is less overlap, 95 percent of cases have at least 50-percent overlap between the two distributions, with an average overlap of 68 percent. On the social issues dimension, there is even more overlap, with all pairs of red and blue states sharing at least 67-percent overlap, and an average value of 84-percent overlap. Figure 4 reinforces the message from figure 3: Similarity and overlap, not difference and polarization, are the norm.

Yet this is decidedly not the message one would find by looking simply at the difference-of-means tests. If we just use the difference-of-means test as

8. Here, we treat all states decided by less than 6 percent as purple, following Abramowitz and Saunders (2008).

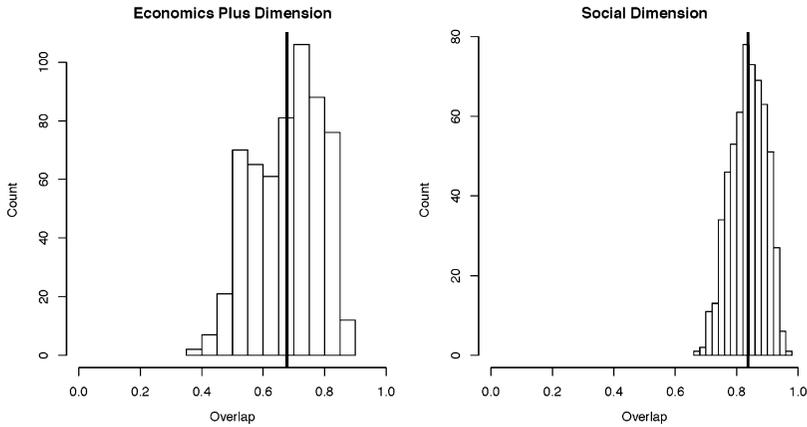


Figure 4. Histogram of Overlap Between Red and Blue States. The distribution of the overlap coefficient between randomly chosen red and blue states on both the economics plus dimension (left-hand panel) and the social issues dimension (right hand panel) is shown. The dark solid line represents the average across all pairs of states.

a baseline measure of polarization (again comparing all pairs of red and blue states), we find significant differences in a majority of cases on both dimensions (56 percent on the economics plus dimension, and 66 percent on the social issues dimension). This analysis would suggest that most red and blue states are, in fact, quite polarized (consistent with Abramowitz and Saunders 2008). Our analysis of overlap shows that this conclusion is premature: Even when the means are different, there is often a large amount of overlap between red and blue states. Far from being from “two separate planets,” red- and blue-state citizens seem to inhabit the same neighborhood.

Even if the aggregate results in figures 3 and 4 are correct, one might imagine that there are some pairs of red and blue states where there would be very little overlap: for example, New York and Utah. Both states are ideologically “extreme” relative to other states in the union, and both are lopsided partisan states (e.g., New York is a “safe” state for Democrats at the presidential level; likewise, Utah is safe for Republicans at the presidential level). Though we chose New York and Utah as exemplars of a particular pattern, other states would give similar results. Figure 5 shows the distribution of citizen ideology within each state on both the economics plus and social issues dimensions.

Even with relatively extreme states such as New York and Utah, the level of overlap is striking. As one might suspect, we are virtually certain that the average citizen in New York is to the left of the average citizen in Utah on both dimensions ($p < 0.01$ for both dimensions). However, when we look at the entire distribution of opinion, a different picture emerges, one suggesting more similarity between the states than would be assumed from the standard

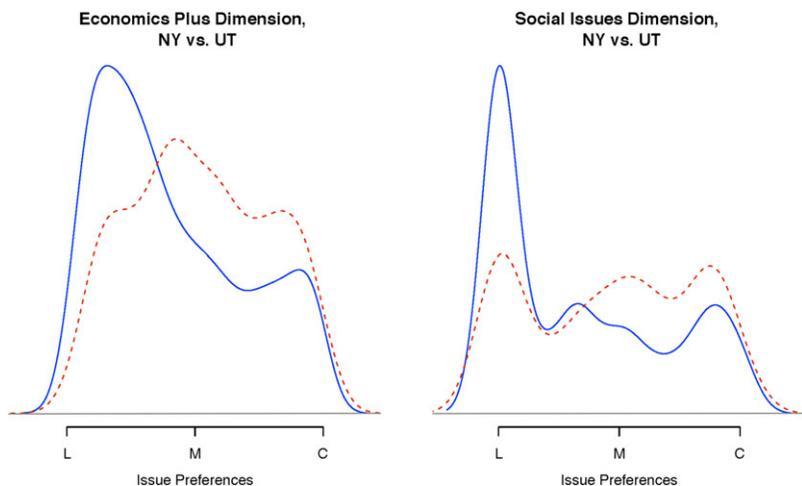


Figure 5. Distribution of Issue Preferences, New York and Utah. See figure 1 for additional details.

red/blue discussion (here, the overlap figures are 69 percent on the economic dimension and 77 percent on the social issues dimension). Especially on the social issues dimension, there is a great deal of commonality between the states, arguably more commonality than difference. The reality of the data is quite different from the existing stereotypes: Not all New Yorkers are liberals, and even Utah contains some socially liberal citizens. So, even in a relatively extreme pair of states, there is a good deal more commonality than difference.

This agreement between red and blue states might be surprising given the popular media image of them as hostile warring parties (see, e.g., the popular press articles discussed at the beginning of Fiorina, Abrams, and Pope 2005), but it reflects the reality of American public opinion. Although there are more Democrats in blue states than in red ones, even red states have liberals and Democrats. Likewise, even the bluest states have significant pockets of conservatism (e.g., Orange County in California). So, when we look at an entire state, it's quite difficult to find states where there is not at least some common ground between them. Failing to recognize this heterogeneity can easily lead us to overstate conclusions about polarization between red and blue states.

Comparing Partisan Subgroups

The evidence above suggests that red- and blue-state citizens hold quite similar preferences, and there is a large degree of overlap—and hence limited polarization—between them. Even when a difference-of-means test suggests

that red and blue states are polarized, we almost always find a lack of polarization using our overlap measure. But perhaps we are not looking for polarization in the right place. While scholars and pundits alike talk about red and blue *states*, maybe in reality we should be talking about subgroups within those states (particularly, partisan subgroups). Even if red- and blue-state citizens are not polarized, perhaps blue-state Democrats and red-state Republicans are, in fact, polarized. For instance, Abramowitz and Saunders (2005) argue that “there are sharp divisions between supporters of the two major parties that extend far beyond a narrow sliver of elected officials and activists. Red-state citizens and blue-state citizens differ fairly dramatically in their . . . political beliefs” (p. 19).⁹ If we are going to find these “fairly dramatic” differences in opinion anywhere, partisan subgroups are the most logical places to start—“drilling down” to a lower level of aggregation might yield a different picture of mass polarization. Figure 6 gives a revised version of figure 3, except that we compare red-state Republicans to blue-state Democrats.

Figure 6 is striking relative to the earlier graphs. At first glance, particularly with respect to figure 3, one notices that there is now quite a bit of separation on both dimensions, suggesting that subgroups across states are cleanly separated into liberals and conservatives. Red-state Republicans do hold beliefs distinct from blue-state Democrats.

While this is true, with deeper examination it is also clear that blue-state Democrats and red-state Republicans also have a good deal in common. For example, the overlap coefficient here is 24 percent on the economics plus

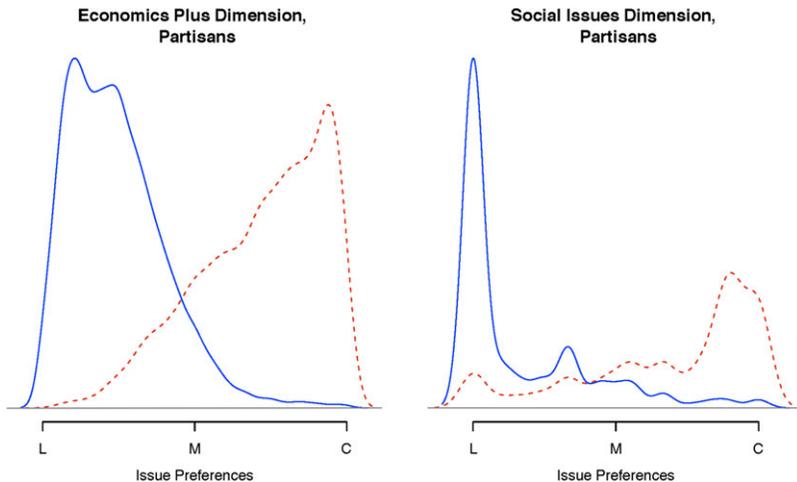


Figure 6. Issue Preferences, Red-State Republicans and Blue-State Democrats. See figure 1 for additional details.

9. But see also Gelman 2008, Chapter 8.

dimension, and 45 percent on the social issues dimension. So, while agreement here is far lower than when comparing the entire state-level distributions, agreement is still far from 0. Certainly, important differences do remain between these groups, differences that are reflected if we examine red-state Republicans and blue-state Democrats more generally.¹⁰ But, equally importantly, considerable overlap remains even once we have drilled down to the level of partisans.

Some people might claim that figure 6 shows strong evidence of polarization. This is not an unreasonable claim at some level, given the sharp mean differences between these two groups and the more modest levels of overlap. But it is important to note that if any polarization exists here, it is *partisan* polarization (that is, sorting), rather than geographic polarization (on the distinction, see Levendusky 2009, Chapter 1). For example, red-state Democrats and blue-state Democrats hold almost identical preferences, differing by only 0.02 unit on the [0,1] scale (and Republicans differ by 0.002 unit across red and blue states). In contrast, within blue states, Democrats and Republicans differ by 0.46 unit (and the corresponding figure for red states is 0.44 unit). In short, the partisan gap is over *twenty times* the geographic gap between the states (within parties). The differences we find here reflect the fact that the partisans are increasingly better sorted into liberal and conservative camps, with Democrats on the left and Republicans on the right (Abramowitz and Saunders 1998; Levendusky 2009). The patterns in figure 6 show that Democrats and Republicans take different positions, not that red- and blue-state residents do as a whole. This is partisan polarization, not geographic polarization.

District-Level Heterogeneity

We focus primarily on red and blue states in large part because that is the focus of the previous literature. But maybe even partisan subgroups within states are too large, and we should examine the data at an even finer level of aggregation: the congressional district level. We can ask if the same conclusions about red and blue *states* hold up when we consider red and blue *districts*. Figure 7 parallels figure 3, except here we give the distribution of issue preferences on both dimensions in red and blue congressional districts (again using the 2004 presidential vote to define red and blue districts).

Figure 7 shows that there is a great deal of overlap even between “red” and “blue” districts, though one could easily differentiate the average respondent in red and blue districts. The overlap statistics here are broadly similar to red and blue states: The overlap percentages are 86 percent and 89 percent. Even at the district level, there is more similarity than difference in red and blue America.

But of course some (or perhaps most) of this heterogeneity comes from moderate districts. Perhaps if we dig deep enough, we can find more extreme districts with less overlap. We take two districts seen in the popular press as

10. Supplemental results are available from the authors upon request.

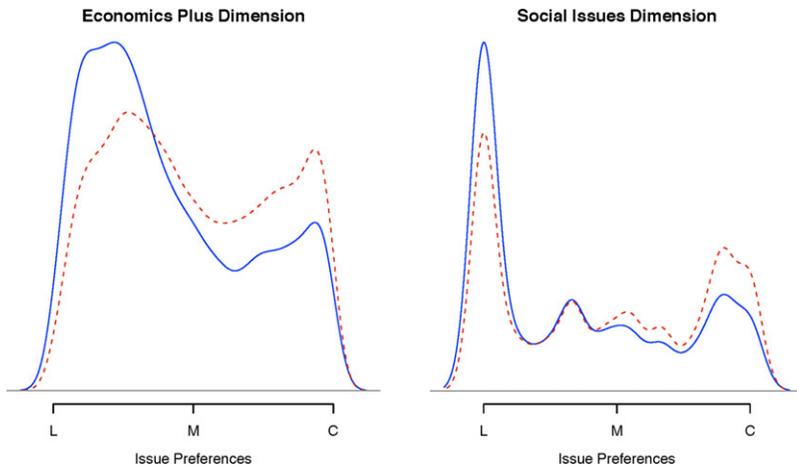


Figure 7. Distribution of Issue Preferences, Red and Blue Districts. See figure 1 for additional details.

extreme: CA-8 (Nancy Pelosi's home district in San Francisco) and TX-11 (Mike Conway's district near Midland and Odessa, TX). These districts are simply stand-ins for the common understandings of red and blue districts: Blue districts are urban, coastal enclaves, while red districts are rural places and small towns in the heartland. Unsurprisingly, San Francisco residents are much more liberal than Midland residents on average, with difference-of-means tests showing sharp differences between the two districts. Yet despite this apparent polarization, there is still more heterogeneity than conventional wisdom would suggest—the overlap coefficients here are 30 percent on the economics plus dimension and 49 percent on the social issues dimension. There are, in fact, Republicans and conservatives in San Francisco, and liberals and Democrats in Midland. For example, approximately 15 percent of residents in Pelosi's district are more conservative than the average Midland resident. This might initially seem surprising given the difference in modal issue positions between the districts, but simply looking at the means misses the heterogeneity in both places. While on average San Francisco residents are quite liberal, not all San Franciscans are liberals or even Democrats; in fact, some are rather conservative. A parallel story can be told about Midland and, as a result, we tend to underestimate the heterogeneity of these places.¹¹ Even here, citizens hold a diversity of views, and there is a good deal of common ground.

11. As Gelman (2008) argues, this is an example of an availability bias.

Conclusions

This article takes another look at the red-/blue-state debate and argues that scholars' empirical tests have missed an important dimension to that conflict: the degree of heterogeneity and overlap in citizens' preferences. Prior work tests for polarization between red and blue states (and partisan subgroups in those locales) by simply looking at difference-of-means tests. We argue that this is useful but too limited—difference-of-means tests cannot fully capture the degree of heterogeneity between red and blue states. We develop a new measure of overlap between red and blue states that allows us to directly comment on the degree of overlap between red and blue states.

A different picture of polarization emerges when we consider the degree of heterogeneity within states. Although there are important differences between states (and partisan subgroups within states), there is also a great deal of common ground. Though red-state citizens may be more conservative than their blue-state counterparts, they both contain a good deal of moderates, and conservatives (liberals) do make their home in blue (red) states, a finding that survives even looking at partisan subgroups or Congressional districts. Further, to the extent that we find evidence of polarization, it is evidence of *partisan* polarization (that is, sorting—the tendency of Democrats and Republicans to sort themselves into the correct ideological camp) rather than geographic polarization. Moving beyond just looking at the mean opinion in states gives a richer and more interesting picture of opinion in the American states.¹²

This means that enterprising politicians can construct different types of governing coalitions in the same state. New York and California can elect Republican governors, while Montana and Wyoming can elect Democratic governors. Even the constituencies with the most lopsided partisan balance can elect officials from the opposite party if local politicians act appropriately. For instance, in the 1990s a moderate Democrat represented Utah's 3rd district, one of the most conservative and Republican districts in the country.¹³ More recently, during the 2000s, Republican Chris Shays represented a fairly liberal district that Kerry won by six points and Gore won by ten points (though Shays eventually lost in the 2008 election). In 2010, deep blue Massachusetts replaced Democratic Senator Ted Kennedy with Republican Scott Brown. No state or district is really accurately described in homogeneous terms. A cursory glance at the

12. Whereas we focus on the variance here, future work could also consider higher moments of the distribution of opinion, such as the skewness or kurtosis. Further, one could also examine what role issue salience plays in the red-/blue-state debate: Perhaps different sets of issues are salient in red and blue states, and those differences partially explain differences in opinion between the states. We thank an anonymous referee for these suggestions for future work.

13. According to the estimates of district partisanship from Levendusky, Pope, and Jackman (2008), UT-3 was the 15th most Republican district in the nation during the 1990s.

mean opinion may suggest that one place is more liberal than another, but that comparison of means obscures the underlying heterogeneity and overlap.

But this finding raises an important point: If red- and blue-state citizens are themselves so similar, why are their elected officials and laws so often quite different? A detailed answer to these issues would take us too far afield, but we suspect this points to the key role played by electoral institutions. The effects of factors like primary elections; single-member, simple-plurality districts; and the like mean that even small shifts in *opinion* can translate into large differences in *outcomes* (Fiorina and Levendusky 2006). But it is worth noting that each of these institutional features probably responds not only to the mean level of opinion, but also to the heterogeneity of constituency opinion. This suggests an important avenue for future scholarship to explore. To understand how a relatively moderate mass public generates polarized elected officials, we should focus our attention on how electoral institutions magnify relatively small differences in citizen preferences, not on finding an increasingly ideological public.

Appendix: CCES Sampling Methodology and Questions Used

The 2006 CCES was conducted in pre-election and post-election waves; the pre-election wave was in the field 6 October to 7 November 2006, and the post-election wave from 9 November to 26 November 2006. Polimetrix (now YouGov/Polimetrix) fielded the study. YouGov/Polimetrix maintains a large online panel of subjects (recruited to join the panel via online advertisements). The sample for the CCES comes from the YouGov/Polimetrix panel. The within-panel response rate (RR3) is 36 percent (Ansolabehere and Schaffner 2010).

The common content module of the CCES (the portion we use for our analyses) consists of 36,421 respondents. Given that our analysis takes place at the state level, the within-state sample sizes are more directly relevant for our analysis. Table A1 gives sample sizes by state.

While the sample size varies considerably (from a low of 75 in Vermont to a high of 3,637 in California),¹⁴ the average sample size is approximately 714 respondents per state, with a median sample size of 460, and 50 percent of states have between 213 and 900 respondents per state.

The CCES is not a true random sample, as would result from a standard RDD sampling methodology. To make the sample more representative of the general public, YouGov/Polimetrix uses a sample-matching algorithm. A description of the procedure used for the 2006 CCES data can be found in Vavreck and Rivers (2008), and technical details of the sample-matching procedure can be found in Rivers (N.d.).

14. In the analysis conducted in the article, we excluded the 18 respondents from DC.

Table A1. Sample Size, by State, for the CCES Data

Postal Code	Sample Size	Postal Code	Sample Size
AK	131	MS	200
AL	495	MT	149
AR	356	NC	944
AZ	963	ND	96
CA	3637	NE	173
CO	625	NH	196
CT	370	NJ	831
DC	18	NM	321
DE	109	NV	385
FL	2334	NY	1777
GA	1188	OH	1524
HI	97	OK	412
IA	353	OR	735
ID	247	PA	1507
IL	1595	RI	122
IN	890	SC	454
KS	467	SD	126
KY	460	TN	680
LA	362	VA	895
MA	546	VT	75
MD	712	WA	1153
MI	1537	WI	905
MN	697	WV	288
MO	825	WY	89

Below, we give the question wording for the items used in our analysis; response options appear in brackets after each item.

Gay Marriage: President Bush recently spoke out in favor of a Constitutional amendment defining marriage as strictly between a man and a woman. Do you support or oppose a Constitutional amendment banning gay marriage? [Strongly favor; somewhat favor; somewhat oppose; strongly oppose; don't know].

Abortion: There has been some discussion about abortion during recent years. Which one of the opinions on this page best agrees with your view on this issue? [By law, abortion should never be legal; The law should permit abortion only in the case of rape, incest, or when the woman's life is in danger; 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; By law, a woman should always be able to obtain an abortion as a matter of personal choice.].

Partial-Birth Abortion: We'd like to ask about a proposal in Congress to ban a type of late-term abortion sometimes called "partial-birth abortion." Some

argue that late-term abortion is a barbaric procedure and should be banned. Others argue that late-term abortions are extremely uncommon and used only in exceptional circumstances best determined by a doctor, not the Congress. The proposed legislation could also be the opening to a broader ban on abortion. How about you? If you were faced with this decision, would you vote for or against banning late-term abortion? [For (that is, to ban late-term abortion); Against (that is, not to ban late-term abortion)].

Stem-Cell Research: Now we'd like to ask about whether the government should fund stem-cell research. Some politicians argue that this research may lead to cures for diseases and disabilities affecting large numbers of Americans, and should be funded. Others argue that a potential human life has to be destroyed in order to use these cells, and funding it would be unethical. What do you think? If you were faced with this decision, would you vote for or against funding the research? [For; Against].

Social Security Privatization: Now we'd like to ask you about Social Security. A proposal has been made that would allow people to put a portion of their Social Security payroll taxes into personal retirement accounts that would be invested in private stocks and bonds. Do you favor or oppose this idea? [Strongly favor, somewhat favor, neither favor nor oppose, somewhat oppose, strongly oppose].

Minimum Wage: Now we'd like to ask about a proposal to increase the federal minimum wage from \$5.15 to \$6.25 within the next year and a half. Some politicians argue that the wage should be increased because it hasn't changed since 1997 and many workers still live in poverty. Other politicians argue that raising the wage might force small businesses to cut jobs and would hurt the economy. What do you think? If you were faced with this decision, would you vote for or against increasing the minimum wage? [For; Against].

Capital Gains Tax Cuts: Finally, we'd like to ask about cutting taxes on the money people make from selling investments, also referred to as capital gains. This past year the Senate considered a bill to extend capital gains tax cuts passed in 2001. Some politicians argue that these tax reductions make the economy strong and encourage people to invest more. Others argue that the plan would benefit mostly people who are already rich and that any tax cuts should be shared more fairly among all taxpayers. What do you think? If you were faced with this decision, would you vote for or against these tax cuts? [For; Against].

Taxes vs. Spending: If your state were to have a budget deficit this year, it would have to raise taxes on income or sales or cut spending, such as on education, health care, welfare, and road construction. What would you prefer more, raising taxes or cutting spending? Choose a point along the scale from 100% from Tax Increases (and No Spending Cuts) to 100% from Spending Cuts (and No Tax Increases). The point in the middle means that the budget should be balanced with equal amounts of spending cuts and tax increases. [Respondents are shown a 0–100 scale with the endpoints labeled “all tax increases” and “all spending cuts”].

Retrospective Iraq Judgment: Looking back, do you think the United States did the right thing in taking military action against Iraq, or should the U.S. have stayed out? [Did the right thing; Should have stayed out].

Withdrawing Troops from Iraq: We'd like to ask you about a proposal that the president begin phased redeployment of U.S. troops from Iraq starting this year and submit to Congress by the end of 2006 a plan with estimated dates for continued phased withdrawal. Some politicians argue that setting out a plan to withdraw would make Iraqis take responsibility for their country and become more independent of the U.S. Others argue that it is too early to start withdrawing, and that doing so would make terrorists grow bolder. What do you think? If you were faced with this decision, would you vote for or against a plan to start withdrawing troops this year? [For; Against].

Jobs vs. the Environment: Some people think it is important to protect the environment even if it costs some jobs or otherwise reduces our standard of living. Other people think that protecting the environment is not as important as maintaining jobs and our standard of living. Which is closer to the way you feel, or haven't you thought much about this? [Much more important to protect the environment even if lose jobs; Environment somewhat more important; About the same; Economy somewhat more important; Much more important to protect jobs, even if environment worsens].

Citizenship for Illegal Immigrants: Another issue is illegal immigration. One plan considered by the Senate would offer illegal immigrants who already live in the U.S. more opportunities to become legal citizens. Some politicians argue that people who have worked hard in jobs that the economy depends on should be offered the chance to live here legally. Other politicians argue that the plan is an amnesty that rewards people who have broken the law. What do you think? If you were faced with this decision, would you vote for or against this proposal? [For; Against].

Affirmative Action: Some people think that if a company has a history of discriminating against blacks when making hiring decisions, then they should be required to have an affirmative action program that gives blacks preference in hiring. What do you think? Should companies that have discriminated against blacks have to have an affirmative action program? [Respondents are shown a 7-point scale, with only the endpoints labeled as "Strongly support affirmative action" and "Strongly oppose affirmative action"].

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