

The Ideological Nationalization of Party Constituencies in the American States

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Abstract

Since the mid-20th century, elite political behavior has increasingly nationalized. In Congress, for example, within-party geographic cleavages have declined, roll-call voting has become increasingly one-dimensional, and Democrats and Republicans have diverged along this main dimension of national partisan conflict. The existing literature finds that citizens have displayed only a delayed and attenuated echo of elite trends. We show, however, that a different picture emerges if we focus not on individual citizens but on the aggregate characteristics of geographic constituencies. Using estimates of the economic, racial, and social policy liberalism of the average Democrat and Republican in each state-year 1946–2014, we demonstrate a surprisingly close correspondence between mass and elite trends. Specifically, we find that: (1) ideological divergence between Democrats and Republicans has increased dramatically within each domain, just as it has in Congress; (2) ideological variation across state-party publics is now almost completely explained by party rather than state, closely tracking trends in the Senate, and finally, (3) economic, racial, and social liberalism have become highly correlated across state-party publics, just as they have across members of Congress.

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1 Introduction

One of the most important findings to emerge from Poole and Rosenthal’s joint research program is that the roll-call records of Democrats and Republicans in Congress, even those that represent the same constituency, diverge sharply from one another. Poole and Rosenthal (1984) showed, for instance, that Democratic and Republican senators from the same state vote very differently from one another, suggesting that each represents an extreme partisan subconstituency rather than converging on the median voter in their state. In the three decades since that seminal article’s publication, polarization in Congress has only increased, and the bulk of this polarization remains attributable to within-constituency differences between Democratic and Republican members. McCarty, Poole, and Rosenthal (2009, 671), for example, demonstrate that over three-quarters of contemporary congressional polarization is due to “intradistrict divergence,” and less than a quarter to “sorting” of Democratic and Republican members into ideologically congenial districts. Today, in short, ideological differences in Congress are overwhelmingly determined by members’ party affiliation, not their geographic constituency.

Despite Poole and Rosenthal’s suggestion that intradistrict divergence was rooted in senators’ electoral constituencies, subsequent research has downplayed the mass public’s role in spurring elite polarization. Most studies have instead concluded that ordinary citizens followed political elites rather than leading them. “Virtually all the literature on the growing ideological and policy differences between the parties in the electorate,” note Layman, Carsey, and Horowitz (2006, 90), “assumes that they have occurred in response to the increasing polarization of the parties in government” (however, for an exception, see Jacobson 2012).

The literature has also emphasized the limited and incomplete nature of mass polarization. Whether through sorting (Fiorina, Abrams, and Pope 2005) or true polarization (Abramowitz and Saunders 2008), opinion differences between Democrats and Republicans in the mass public have indeed increased over the past half-century, both globally and within

issue domains (Hill and Tausanovitch 2015; Layman and Carsey 2002; Levendusky 2009). But party still explains much less of the variation in citizens' issue positions than in elites' (Hill and Tausanovitch 2015). The dominant view thus remains that partisan polarization in the mass public has both followed behind and paled relative to polarization in Congress, and that little of elite polarization can be attributed to shifts in the mass public.

Studies that compare elected officials to individual voters, however, are arguably focusing on the wrong quantity, at least for the purpose of understanding the causal relationship between mass- and elite-level developments. More important theoretically are the aggregate characteristics of members' constituencies. If party nominees are specifically selected so as to represent the mean or median partisan, then we should expect ideological variation between representatives of different parties to mirror variation *between their partisan subconstituencies*—not variation at the level of individual voters.¹ Studies of dyadic responsiveness, for example, typically focus on the relationship between a representative's behavior and the mean or median opinion in their geographic constituency and/or partisan subconstituency (e.g., Achen 1978; Clinton 2006). The polarization literature is therefore limited in important ways by its focus on the opinions of individual citizens, as opposed to the characteristics of states and other geographic aggregates that constitute office-holders' geographic constituencies.

Understanding the roots of the congressional polarization highlighted by Poole and Rosenthal thus requires measuring the partisan polarization of congressional constituencies over time. Unfortunately, the surveys with the most lengthy and consistent temporal coverage, most notably the American National Election Studies (ANES), employ cluster-sampling designs with a relatively small overall sample size, rendering them inadequate for subnational inference. Party for this reason, over-time studies of ideological polarization in the mass public have either focused on the regional or national level (Hill and Tausanovitch 2015)

1. For example, formal models with two parties, a one-dimensional policy space, and candidates chosen by primary election generally predict that policy differences between the candidates will be a function of the distance between the mean or median voter in each party (Grofman 2004, 28–30).

or have relied on proxies for policies attitudes such as ideological identification (Erikson, Wright, and McIver 2006).

To surmount these challenges, we relied on a combination of a wealth of new data and an ideological scaling model targeted directly at the objects of interest: partisan subconstituencies in each state. Specifically, we constructed a comprehensive historical dataset of polls containing questions on both policy preferences and party identification. These survey data cover each year between 1946 and 2014 and contain over one million Americans’ responses to 249 distinct policy questions on economic, racial, and social issues. To analyze this rich data source, we employ a dynamic group-level item-response model (Caughey and Warshaw 2015, 2017), which yields annual estimates of the economic, racial, and social liberalism of the average Democrat, Independent, and Republican in each state. Using these estimates, we examine mass-level trends in within-state partisan divergence, ideological nationalization, and correlation between issue domains and compare them to analogous trends in the Senate.

Our focus on congressional constituencies rather than individual citizens provides a very different perspective on the relationship between elite and mass polarization. First, we find that partisan divergence in the mass public has increased greatly in all three issue domains. On economic issues, for example, the average within-state difference between partisan subconstituencies has increased fourfold since 1946—a substantially larger relative increase than in the Senate. Second, using a scale-free measure to directly compare senators and their constituencies, we find strikingly similar trends in the explanatory power of party relative to state. Both senators and state-party publics have exhibited “ideological nationalization,” with the proportion of ideological variation explained by party growing especially dramatically in the social and racial domains. Moreover, at any given point in time the variance explained by party has been very similar in the public and the Senate. Third, we find that just as the “second dimension” of congressional ideology has declined in significance over the past half-century (Poole and Rosenthal 2007), so too has the liberalism of state-party publics become increasingly correlated across issue domains, so much so as to be almost as

one-dimensional as in the Senate. In short, our focus on state-party publics reveals a tighter correspondence between mass and elite polarization than the existing literature suggests.

2 Intrastate Divergence

2.1 Senate Ideal Points

In the classic one-dimensional Downsian model, in which voters with perfect information choose between the platforms of candidates motivated solely by electoral victory, both candidates converge on the position of the median voter (Downs 1957). As a consequence, the actual outcome of the election does not affect the ideological character of representation, for both candidates have (credibly) committed to implement the same policies. Thus, in this model, there is no intra-constituency divergence in representatives' policy positions. Rather, ideological variation across elected officials is entirely a function of differences in the ideal points of median voters across constituencies.

From a great deal of work in political science and political economy, we know that the Downsian prediction of complete convergence is not a good description of the empirical reality in the U.S. Congress (Levitt 1996; Ansolabehere, Snyder, and Stewart 2001; Lee, Moretti, and Butler 2004; Fowler and Hall 2016). One of the earliest and most compelling demonstrations of this fact was provided by Poole and Rosenthal (1984), who showed that pairs of U.S. senators from the same state but different parties exhibit large ideological differences in their voting patterns. This intrastate ideological divergence, they argued, was consistent with a model in which senators from different parties represented their respective partisan subconstituencies rather than the same median voter.

As Poole and Rosenthal's subsequent research has shown, since the early 1980s partisan polarization in Congress has markedly increased, reaching heights that may be unprecedented in American history. A natural question to ask is whether intraconstituency divergence has increased as well. To investigate this question, we estimated trends in ideological differences

between senators from the same state but different parties. To parallel our subsequent analyses of public opinion, we examine intrastate divergence separately for economic, social, and racial issues.² We estimated senators' ideal point in each domain with a dynamic one-dimensional item-response theory (IRT) model, which allows legislator ideal points to evolve nonlinearly between congressional terms (Martin and Quinn 2002).³ We estimated the dynamic ideal points on the economic domain for each congress between the 81th (1949–50) and 112th (2011–12). Because there were few roll call votes on the social and race domains during the 1940s and 50s, we estimated the dynamic ideal points on these domains for each congress between the 85th (1957–58) and the 111th (racial) or 112th (social) congresses.⁴ For interpretability, we standardized the ideal point estimates to be mean-zero and unit-variance, and coded the polarity such that larger scores are conservative. Finally, for each term, we calculated the ideal-point differences between senators from the same state but different parties, and then we averaged the domain-specific differences within each term.

The resulting domain-specific estimates of intrastate ideological divergence in the Senate are plotted in the top panel of Figure 1. Consider first the trend in the economic domain, indicated by the solid line. Consistent with Poole and Rosenthal (1984), who examined 1959–80, same-state senators from different parties have taken highly divergent positions on economic issues throughout the postwar era. Even at its low point in the late 1970s, the average mixed-party Senate pair differed in their economic conservatism by at least one standard deviation (recall that the ideal points have a standard deviation of 1). Since 1980, intrastate divergence on economic issues has approximately doubled and is currently as high as it has ever been.⁵ Intrastate divergence on social and racial issues has increased

2. We obtained Senate roll call data from voteview.com and assigned roll calls to issue domains using the issue codes provided by the Policy Agendas Project (Adler and Wilkerson 2017).

3. We used the R package `MCMCpack` (Martin, Quinn, and Park 2011) to estimate the ideal points. To reduce computation time, we sampled 150 economic roll call votes in each year. For the social and racial ideal points, we used all available roll calls (which always number fewer than 150 per year). For a discussion of how a dynamic IRT model differs from DW-NOMINATE, see Caughey and Schickler (2016).

4. For the racial domain, we estimated ideal points through the 111th due to the small number of roll call votes on this domain in the 112th Congress.

5. Trends in intrastate divergence as measured by first-dimension DW-NOMINATE scores look similar to those as measured by our economic ideal points. In particular, according to both measures intrastate

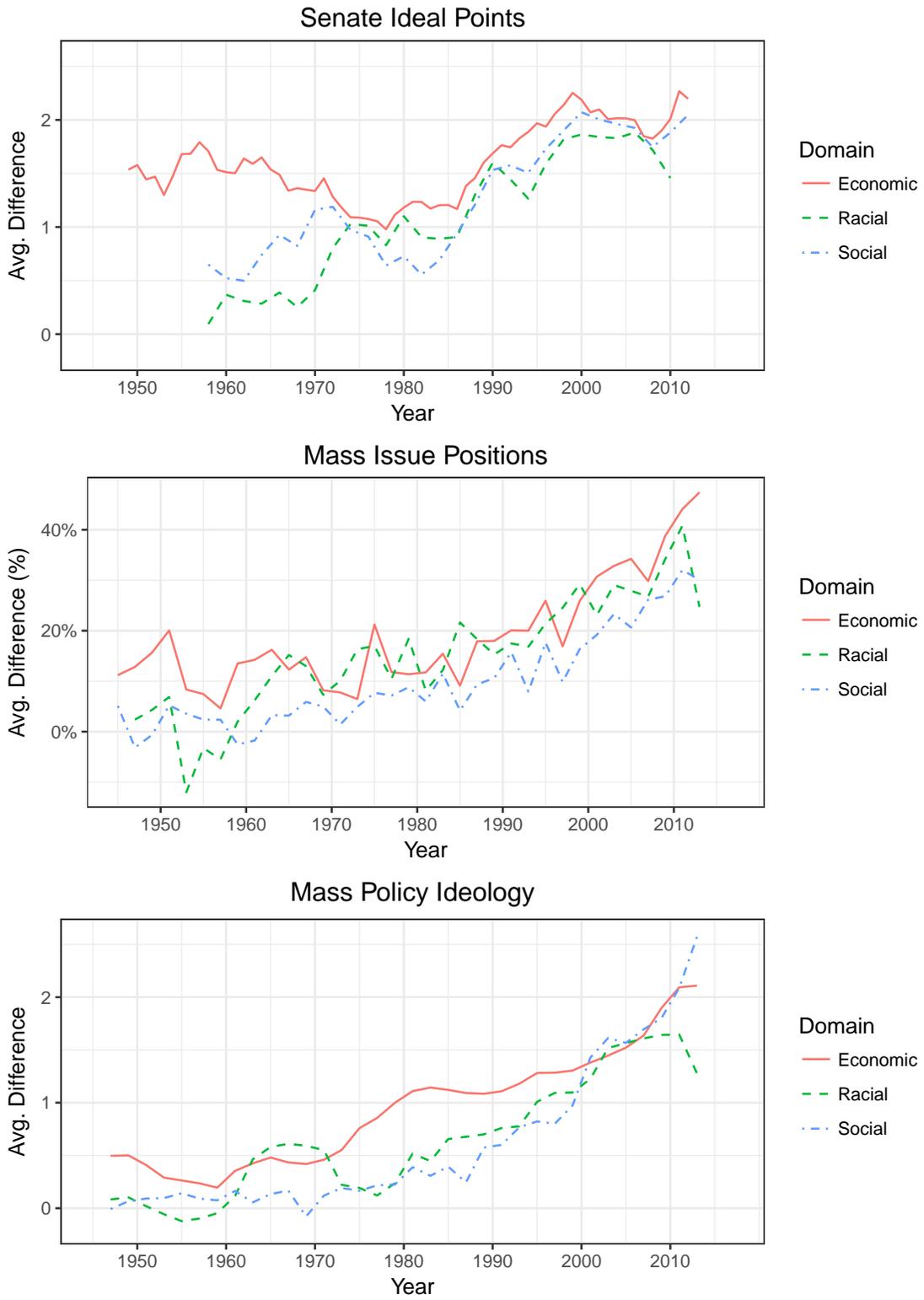


Figure 1: Intrastate partisan divergence in Senate ideal points (top), mass issue positions (middle), and mass policy ideology (bottom).

to the same point, but from a much lower starting point. In the late 1950s, when social and racial roll calls become frequent enough to estimate ideal points, the typical mixed-party Senate pair differed by only half a standard deviation on these issues. By the 1970s, however, social and racial intrastate divergence had converged with the economic domain, and subsequently the three domains trended in tandem with one another. In short, by the 21st century, Republican senators were typically about two standard deviations more economically, socially, and racially conservative than Democratic senators from their same state.

2.2 Mass Issue Positions

Have similar developments occurred in the mass public? This question is difficult to answer because of the lack of an existing time-series measure of within-state ideological differences between Democrats and Republicans. The first step in constructing such a measure is developing a comprehensive historical dataset of the domestic policy attitudes of Democratic and Republican identifiers. We constructed such a dataset, which includes nearly every policy question ever asked in a U.S. face-to-face or telephone survey that also included a party identification question.⁶ This dataset includes canonical academic surveys, such as the ANES and the General Social Survey (GSS). But it also includes hundreds of polls from commercial polling organizations such as Gallup, CBS News/NYTimes, ABC News/Washington Post, Time Magazine, Pew, and many others. In total, the dataset contains over a million Americans' responses to 249 distinct survey questions, with a minimum of at least a thousand survey responses in each year between 1946 and 2014.

With these data in hand, the next question is how to analyze them. As a simple first cut,

divergence in the contemporary Congress is about two standard deviations. This makes sense since the primary content of the first dimension has historically been economic issues (Poole and Rosenthal 2007). The main difference between the two series is that according to DW-NOMINATE, the post-1960 decline in intrastate divergence persisted longer, and the subsequent increase occurred later and less gradually than our economic ideal points imply.

6. Our preliminary analysis indicates that online surveys, such as the Cooperative Congressional Election Studies, show more polarization and sorting than phone surveys. Thus, we omit online surveys in order to ensure the inter-temporal comparability of our results.

we calculated, for each question-year, the difference between the proportions of Democrats and Republicans who chose the conservative response option for that question.⁷ For example, if a respondent expressed greater agreement with the statement “we need a strong government to handle today’s complex economic problems” than with “the free market can handle these problems without government being involved,” this response was coded as conservative (and vice versa if the preference was reversed). Then, within each year, we averaged the values of the question-specific partisan differences. We did this separately for questions pertaining to economic (e.g., social welfare and labor regulation), social (e.g., gun control and school prayer), and racial (e.g., desegregation and affirmative action) issues. We distinguished between these three domains because, as we show in Section 4, economic, social, and racial conservatism were much less correlated in the mid-20th century than they are today (see Caughey and Warshaw 2017). The result is a measure of how much Democrats and Republicans in the same state differed in their responses to individual survey questions in each domain.

The middle panel of Figure 1 plots the domain-specific trends in this measure of intrastate divergence. More so than in the Senate, economic, social, and racial issues track each other quite closely on this measure. In all three domains, intrastate differences in survey margins averaged around 20 percentage points for the first several decades of the period, beginning a gradual upswing in the 1980s. By the end of the period, the typical within-state partisan gap on all three measures was about 40 percentage points. The apparent correspondence among the three domains, however, conceals an important distinction. As far back as our data extend, Republican identifiers have always been more conservative on average than same-state Democrats. This is true even in Southern states, though in the 1950s the differences were quite small. By contrast, until the 1960s Southern Republicans were generally more liberal than same-state Democrats on racial issues, whereas outside the South Democrats

7. We coded the polarity of questions based on the substantive valence of the question. For example, for economic questions we examined which response option implied a larger scope and size of government. We generally dichotomized multicategorical questions around the middle category.

have always been at least slightly more liberal (Schickler 2016). Finally, on social issues there were few consistent partisan differences in either direction until the late 1960s in non-Southern states and until the late 1970s in Southern ones. During this period, relative racial and social liberals in each state sorted into the Democratic Party and conservatives did the opposite. Once this process was complete, subsequent increases in intrastate divergence were driven entirely by the Democrats becoming more liberal relative to Republicans in their state.⁸

Although survey marginals have the advantage of simplicity and transparency, they are an imperfect metric for examining ideological change over time. As Poole and Rosenthal (1984, 1063) themselves note, raw percentages are sensitive not only to ideological differences between individuals but also to the ideological content of the agenda. It is therefore conceivable that the apparent trends in ideological divergence portrayed Figure 1’s middle panel are driven not by true ideological shifts, but rather by changes in the kinds of questions asked over time. Thus, just as Poole and Rosenthal (1985) developed NOMINATE as a method for scaling legislators’ ideology independent of the congressional agenda, we too turn to ideal-point modeling as a means of estimating mass conservatism comparably across time.

2.3 Mass Policy Ideology

The use of scaling methods to estimate survey respondents’ latent ideology, to which Poole (1998) was a key contributor, has burgeoned in recent years, with much of the most recent work employing an item-response theory (IRT) framework (e.g., Treier and Hillygus 2009; Jessee 2009; Tausanovitch and Warshaw 2013). Extending these methods historically, however, presents substantial challenges because IRT models typically require many items per respondent. Until recently, however, very few surveys—primarily academic ones like

8. This was also to some extent true of Senate pairs as well, especially on racial issues. In fact, in 21% of pre-1980 state-years with a mixed-party Senate delegation, the estimated racial ideal point of the Democratic senator is more conservative than his or her Republican counterpart.

the ANES—included more than a handful of policy questions, let alone multiple questions in different issue domains. Given these surveys’ small sample size and uneven subnational coverage, studies such as Hill and Tausanovitch (2015) that seek to scale respondents comparably across time have been forced to focus on national or regional quantities of interest. Applying other scaling methods to the much richer—but also much sparser—survey dataset described above requires an alternative to the conventional individual-level IRT model.

The alternative we employ is a group-level IRT model, as developed by Caughey and Warshaw (2015) and implemented by the R package `dgo` (Dunham, Caughey, and Warshaw 2016). Unlike conventional IRT models, which derive aggregate quantities from individual-level ideal points, a group-level IRT model estimates those quantities directly by marginalizing over the distribution of individual ideal points. Specifically, the target of inference in a group-level IRT model is the *average* score on a latent trait in each subpopulation. Because the model does not estimate individual ideal points, it does not require many items per individual but rather many items per group, which may be spread across multiple polls. In our case, we estimated the average domain-specific conservatism of groups defined by the cross-classification of state and party identification. We also employed a dynamic version of the model that improved the accuracy of period-specific estimates by pooling information across time through Bayesian priors. We allowed the item difficulties (i.e., intercepts) of questions asked across multiple years to evolve over time, but to aid comparability we constrained the discrimination parameters of consistent question series to be constant across periods. (For more details on our approach, see Appendix A.)

This model yields estimates of the average economic, social, and racial conservatism of Democrats, Independents, and Republicans in each congressional term between 1947–48 and 2013–14. To estimate intrastate divergence from these estimates, we again calculate within-state differences in the average conservatism of Democrats and Republicans and average their values within years. The results, plotted in the bottom panel of Figure 1, are similar but not identical to the middle panel’s plot of the divergence in survey marginals. The most

obvious difference is that because the IRT approach accounts for differences across questions, the estimates are less affected by changes in the question mix and are therefore more stable over time. A second difference is that for almost the entire pre-2000 period, divergence on economic issues was greater than on social and issues. Moreover—and in contrast to the Senate—mass economic divergence increased fairly steadily from 1960 on, whereas social and racial divergence did not begin in earnest until the late 1970s. Notwithstanding this later start, by the 21st century the three domains had all converged at a much higher level of divergence across parties than early in the period. Interestingly, the series in the top and bottom panels all end around 2 standard deviations, but the mass ideology series began from a much lower point. Hence the proportional increase in ideological divergence at the mass level was at least twice as large in all domains as the increase in Senate.

The results reported in this section reinforce previous research in certain respects and challenge it in others. On one hand, in the first half of the period party has a much larger standardized effect on Senate conservatism than on the conservatism of state-party publics. This comports with, for example, Bafumi and Herron's (2010) finding that most members of Congress take more extreme positions than the median party member in their constituency. The second half of the period, when party's predictive value is about the same for senators and state publics, provides less support for this view. Of course, since the Senate and mass public are not jointly scaled, we cannot say anything firm about their relative locations. We are on firmer ground, however, when comparing trends over time. In this respect, the fact that mass divergence on economic issues began its long-run growth at least a decade before the Senate—as well as the fact that in all three domains the proportional increase in divergence was much greater at the mass level—runs contrary to the conventional view of mass polarization as a faint echo of elite polarization.

3 Ideological Nationalization

Given the problems with comparing measures of intrastate divergence between the Senate and the mass public, we now turn to a scale-free measure: the proportion of the variance in senators' and state-party publics' conservatism explained by party (cf. Poole and Rosenthal 1984, 1067; Hill and Tausanovitch 2015, 1072). On one hand, if partisans (in the Senate or in the public) differ little within party but greatly across states, almost none of the total variance will be attributable to party. For an example of such a situation, consider the two panels labeled "Racial" in the middle row of Figure 2. The left panel plots the racial conservatism of Republican and Democratic identifiers in Georgia, and the right panel plots the analogous quantities in New York. In the 1950s, the publics of the two states differed massively in their racial conservatism, but on average Democrats and Republicans within each state took almost identical positions. In other words, party explains almost none of the variance in state-party publics' racial conservatism. Contrast this with the same quantities at the end of the period, when Democrats and Republicans were not only polarized on racial issues but took almost identical positions across states. Thus, over the course of this period, the explanatory power of party on racial issues increased hugely and that of state correspondingly declined. We refer to this process as the "ideological nationalization" of partisanship.

Figure 3 generalizes this analysis of ideological nationalization to all states, plotting the proportion of state-party publics' ideological variation explained by partisanship in each domain and comparing it to the same quantity in the Senate. The left panel of Figure 3 plots nationalization of the roll-call behavior in the Senate and public opinion on the economic domain. Past work indicates that party has explained the bulk of the variation in senators' roll call ideology on economic issues during the past few decades (Poole and Rosenthal 1984, 1067). Indeed, we find that with the exception of a dip during the 1970s, party explains 75% or more of the variation in senators' ideology on economic issues for the vast majority of the past half century. In recent years, party explains about 80% of the variation in senators'

Mass Policy Ideology

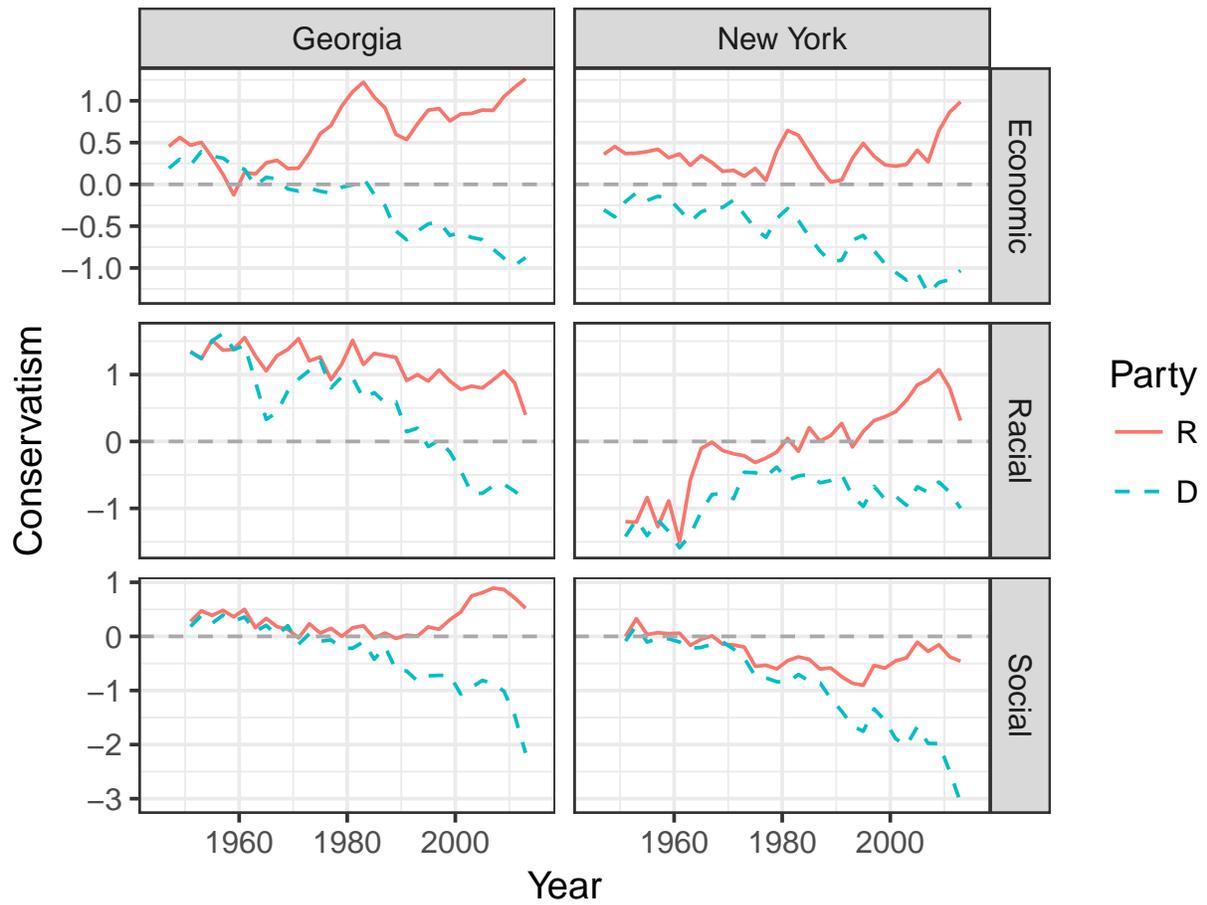


Figure 2: Ideological trends among Democrats and Republicans in Georgia and New York.

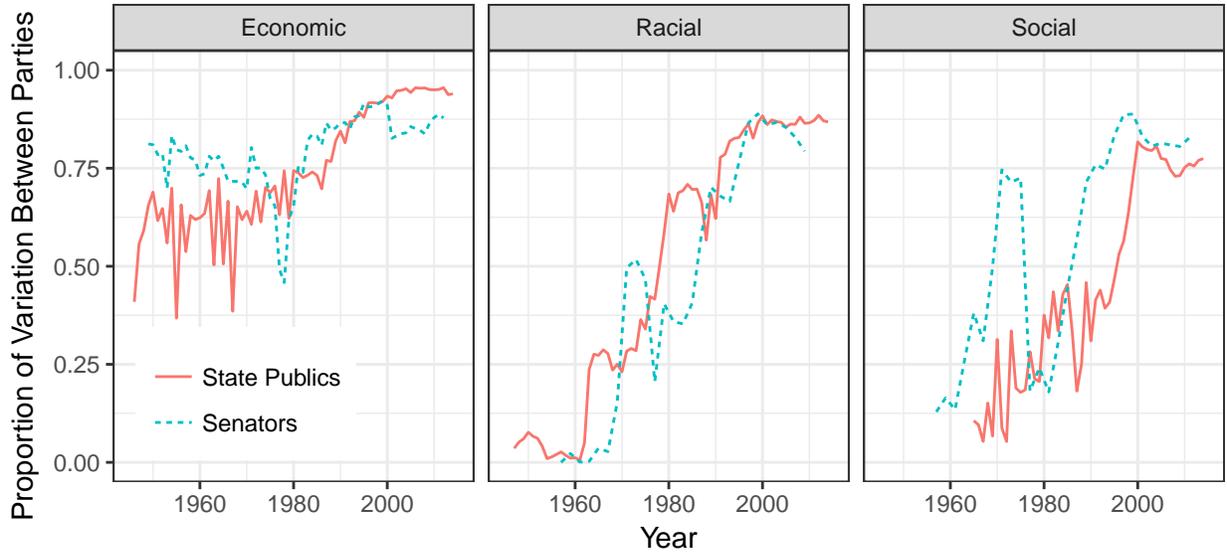


Figure 3: Nationalization of Public Opinion Based on Group-IRT model. These plots show the percentage of variation in state-party public and Senate ideology on each domain explained by party.

latent economic ideology.

Past work on public opinion indicates that the two parties have long been divided on economic issues (Stimson 2015, 70). Indeed, we find that party has explained the majority of the variation in economic policy liberalism across state parties since at least the 1950s. The proportion of the variation in opinion explained by party remained a little above 50% until about 1975. Over the next decade, public opinion on economic issues gradually nationalized. This process of nationalization accelerated in the mid-1980s. By 2005, this process appears to have reached its conclusion. Over the past decade, over 90% of the variation in opinion across state parties was explained by party, and less than 10% was explained by geography.

The middle panel of Figure 3 examines the nationalization of public opinion and roll call votes on racial issues. Roll call voting patterns in the Senate nationalized on racial issues in the 1960s and then again in the late 1980s and early 1990s. The mass public appears to have closely tracked the increase in polarization in the Senate on racial issues, sometime leading and sometime following. This is consistent with past work on the dynamics of opinion on racial issues issues (Carmines and Stimson 1989), which argues that the parties sorted on

racial issues in the wake of the 1964 Civil Rights Act and presidential election. This work argues that opinion continued to nationalize at a linear rate over the next 20 years. However, in more recent work, Stimson (2015, 64) argues that this nationalization had essentially run its course by 1980.⁹ Our results, however, indicate that the parties have continued to diverge on racial issues.

Lastly, the right panel of Figure 3 examines the nationalization of public opinion and roll call votes on social and moral values issues. Past work has argued that social issues were unrelated to party until the 1990s, and the public sorted in the wake of greater clarity on national party positions (Adams 1997; Stimson 2015). But this work was based on only a few survey questions from the GSS and the National Election Study. Figure 3 shows the nationalization of public opinion on social issues based on dozens of survey questions across hundreds of surveys. It indicates that there was only modest within-state variation in opinion across parties in the early 1970s. Opinion gradually sorted between the mid-1970s and mid-1990s. Consistent with past work, the nationalization of opinion really took off in 1995, and the explanatory power of party nearly tripled over the next half decade. This process plateaued by around 2000. Over the past decade and a half, party has consistently explained about 70% of the variation in state party positions, while geography explains about 25% of the variation. Once again, the pattern in the Senate mirrors the pattern in the mass public. Indeed, party is only slightly more predictive of the positions of Senators on social issues than state publics.

Overall, we find that the ideological patterns of both senators and state-party publics have clearly nationalized on all three issue domains. Indeed, party clearly explains the vast majority of the ideological variation for both the Senate and the public on all three domains over the past decade and a half. Moreover, the nationalizing trends in the Senate and the mass public closely parallel each other throughout the time period. In fact, at any given

9. We note that Stimson and Carmines' analysis is based on a handful of questions from the bi-annual National Election Study. In contrast, we use nearly all available data on public opinion about race during this period from 46 question series across 73 polls.

point in time the variance in ideological positioning explained by party has been very similar in the public and the Senate.

4 Collapsing Dimensionality

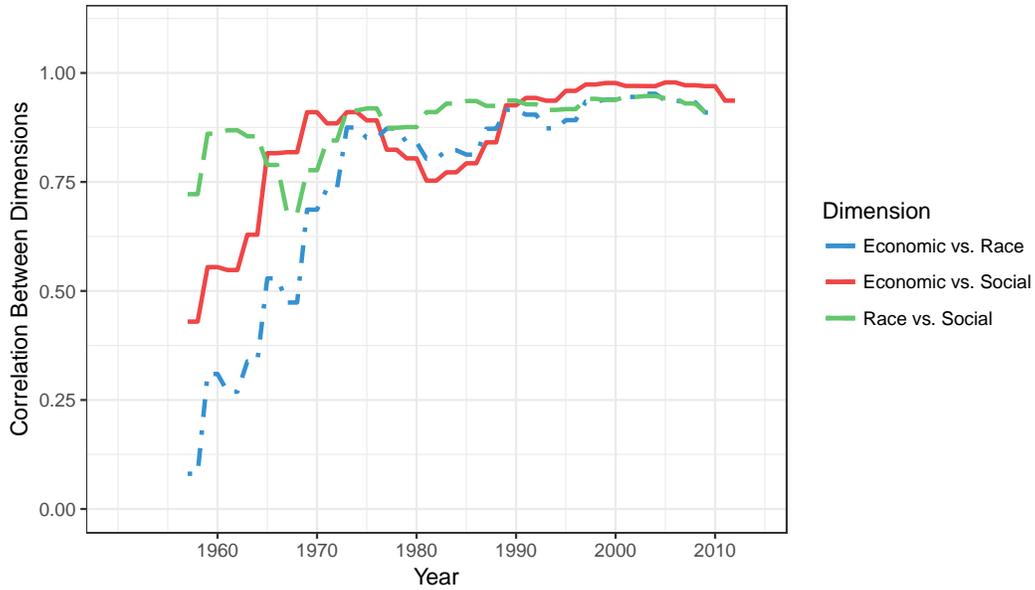
Our results also enable us to compare the dimensional structure of the American public's issue attitudes and congressional roll call votes. For Congress, we examine the pairwise correlations between each Senator's economic, social, and racial ideal points in each congressional session. For the public, we examine in each year the pairwise correlations between Democratic and Republican state-party positions on the economic, social, and racial dimensions.

Scholars often contend that the dimensional structure of the public's view is much more complex than the latent structure of roll-call voting in Congress. While it is well known that roll-call voting in the modern Congress is extremely one-dimensional (McCarty, Poole, and Rosenthal 2006; Poole and Rosenthal 2007; but see Aldrich, Montgomery, and Sparks 2014), there is a vigorous debate about the dimensionality of the policy attitudes of the American public. Some assert that it is one-dimensional (Ellis and Stimson 2012; Stimson 2015; Tausanovitch and Warshaw 2013), while others argue that the public's views are structured by two or more dimensions either in earlier decades (Shafer and Claggett 1995; Caughey and Warshaw 2017) or in the modern era (Treier and Hillygus 2009; Carmines, Ensley, and Wagner 2012; Broockman 2016).

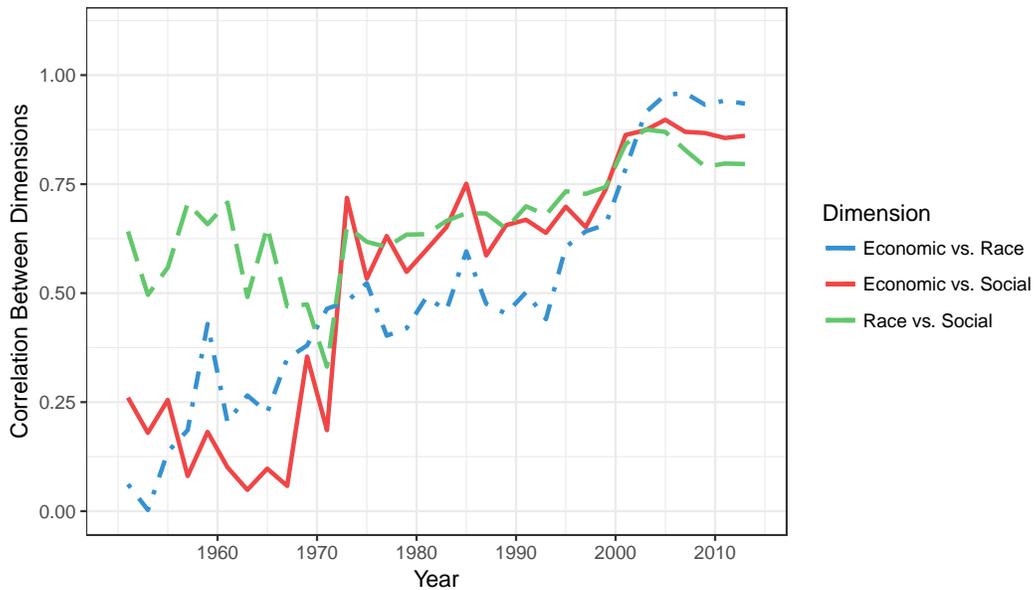
Results for the Senate appear in the top panel. Consistent with prior literature, senators' ideal points are extremely one dimensional in the modern Congress (Poole and Rosenthal 2007). Moreover, senators' voting behavior on social and racial issues was always highly correlated, and has fallen on the same dimension since the 1960s. Yet social and racial issues did not collapse to the same dimension as economic issues until the 1970s.¹⁰

The bottom panel shows our results for the public. The solid red line shows correlations

10. This result too is consistent with the analysis of the first and second dimension of Nominate scores discussed in Poole and Rosenthal (2007).



(a) Senate



(b) Mass Public

Figure 4: Dimensionality in the Senate and Mass Public. The top panel shows the pairwise correlations between Senators' dynamic ideal points on the economic, social, and racial dimensions. The bottom panel shows the same estimates for mean state-party positions on the economic, social, and racial dimensions, by year (i.e., averaging within years over state-parties). The solid red line shows correlations between the economic and social dimensions; the dashed green line that between the social and racial dimensions; and the dot-dashed blue line that between the economic and racial dimensions.

between the economic and social dimensions; the dashed green line that between the social and racial dimensions; and the dot-dashed blue line between the economic and racial dimensions. The graph indicates that the public's policy views were clearly multi-dimensional during the 1950s through the late 1970s (see also Caughey and Warshaw 2017). This is consistent with the idea that there are distinct factions within each party along different issue domains during this period. Indeed, classic works on American parties described them as decentralized confederations with a variety of factions (e.g., Schattschneider 1942; Key 1964). In these accounts, state parties tended to be ideologically flexible, often deviating substantially from or even reversing the policy positions taken by Democrats and Republicans elsewhere.¹¹ But economic and social positions started collapsing to the same dimension by the late 1970s and economic and social issues starting collapsing to the same dimension by the early-1980s. Both the social and racial domains nearly completely moved to the main dimension in the late 1990s. The correlation between economic and both social and racial issue positions reached .80 by 2000 and hovers around .85 today.

Comparing the two panels, in the modern era, the structure of the policy liberalism of citizens in each state party is remarkably similar to that of Congress. Today, the correlation between issue-domain positions is above .85 for both Congress and the public. Together, these results indicate that the party constituencies' policy preferences are roughly as one-dimensional as those of senators. We note, however, that the structure of voting behavior in Congress appears to have collapsed to a single dimension somewhat prior to positions in the mass public.

5 Conclusion

Poole and Rosenthal (1984) and a long line of subsequent literature have shown that the roll call records of Democrats and Republicans in Congress diverge sharply from one another.

11. By the 1940s, for example, even as the Democratic Party in the South remained synonymous with white supremacy (Mickey 2015), state Democratic parties outside the South had become clearly more liberal on civil rights than their Republican counterparts (Feinstein and Schickler 2008).

This is true when they represent constituencies in the House with similar preferences (Ansolabehere, Snyder, and Stewart 2001; Lee, Moretti, and Butler 2004; McCarty, Poole, and Rosenthal 2009). It is even true when a member of each party represents the same state in the Senate (Poole and Rosenthal 1984; Levitt 1996). Moreover, the ideological gap between the two parties in Congress has grown dramatically over time (Poole and Rosenthal 2007).

Despite this consensus in the literature on large and growing polarization among elites, previous studies have downplayed the degree of polarization between Democrats and Republicans in the mass public, and the mass public's role in spurring elite polarization. However, data and statistical limitations have forced previous studies to either focus on changes in the ideological polarization of the mass public at the national level (Hill and Tausanovitch 2015) or use proxies for policies attitudes such as ideological identification (Erikson, Wright, and McIver 2006). This is problematic because in order to compare the polarization of the parties' mass constituencies and elites that represent them, we need measures of the ideological preferences of the average voter in each state-party and how these preferences are changing over time.

In this paper, we overcome the methodological limitations that have stymied past work on polarization in the mass public using a comprehensive, new dataset with over one million survey respondents from hundreds of individual polls. We examine trends in intra-state divergence between the parties on the economic, social, and race issue domains using both the raw survey data and scaled estimates of the ideological preferences on each state-party public (Caughey and Warshaw 2015). Using our scaled estimates, we also examine mass-level trends in within-state partisan divergence, ideological nationalization, and correlation between issue domains and compare them to analogous trends in the Senate.

Overall, our findings contradict the previous consensus that polarization in Congress has proceeded much more rapidly than polarization in the mass public. In short, our focus on state-party publics reveals a much tighter correspondence between mass and elite polarization than the existing literature suggests.

We find that partisan divergence in the mass public has increased dramatically on all three issue domains we examine. Moreover, the partisan divergence in the American public started earlier than previously thought, long before the wide division between most Democrats and Republicans today. In addition, the relative increase in divergence between the parties in the mass public is actually larger than the relative increase in polarization in the Senate. On economic issues the average within-state difference between partisan subconstituencies has increased fourfold, while the average within-state difference between Democratic and Republican senators has roughly doubled since the 1970s.

Of course, the ideological preferences of Congress and the public are not on the same scale. So the fact that the constituencies of each party have diverged substantially does not necessarily indicate that it has reached the same level of polarization as Congress. To address this, we next examine a scale-free design similar to the approach of Poole and Rosenthal (1984) that compares how much of the variation in the ideological preferences of Congress and the two parties' mass constituencies in each state is explained by party.

Using this scale-free design to directly compare senators and their constituencies, we find strikingly similar trends in the explanatory power of party relative to state. The ideological patterns of both senators and state-party publics have nationalized. The proportion of ideological variation explained by party grew especially dramatically in the social and racial domains. Moreover, at any given point in time the variance in ideological positioning explained by party has been very similar in the public and the Senate.

Finally, we examine the dimensional structure of the mass public's preferences and find that state-party publics' preferences on different domains were only weakly correlated for much of the past six decades. The liberalism of state-party publics was distinct on different domains. But the preferences of state party publics have become increasingly correlated across issue domains as they have all collapsed to the same main dimension that divides the national parties (Stimson 2015, 60-62). In fact, in recent years the ideological preferences of state party publics are almost as one-dimensional as in the Senate.

Overall, our results show that intra-state polarization between the parties' constituencies has increased dramatically in recent decades. Moreover, the trends in mass polarization largely mirror the trends in elite polarization originally identified by Poole and Rosenthal (1984) and examined in more depth in Poole and Rosenthal (2007). Our findings suggest that the political decisions in Congress are not wildly out of synch with the views of voters. Moreover, they suggest that more attention should focus on the dyadic links between the preferences of the mass public and elites.

At a methodological level, our results highlight one of the many substantive applications possible using estimates of public opinion at the level of states or state-parties that vary over time. Future work could examine how the growing divergence between the parties' constituencies in the mass public has affected the positioning of individual senators. It could also examine the effect of mass polarization on the ideological positioning of state elected officials (e.g., Shor and McCarty 2011) as well as the policies that states governments produce (e.g., Caughey, Xu, and Warshaw 2017).

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Supplementary Appendix

A A Measurement Model for Citizen Policy Ideology

Until recently, the lack of a valid, time-varying measure of citizen policy liberalism has been one of the main barriers to the study of polarization in the mass public. To overcome this challenge, we apply a modified version of the dynamic, hierarchical group-level item-response-theory (IRT) model developed by Caughey and Warshaw (2015), which estimates the average policy liberalism of defined subpopulations (in our case, Democrats, Republicans, and Independents in each state).¹² This approach builds upon three important approaches to modeling public opinion: IRT, multilevel regression and poststratification (MRP), and dynamic measurement models. Crucially, the model does not require multiple questions per respondent, allowing the use of the vast number of historical surveys that do not meet this standard.

Our model allows us to combine multiple survey questions into scaled measures of ideology. It begins by adopting the general framework of IRT. In an IRT model, respondents' question responses are jointly determined by their score on some unobserved trait—in our case, their domain-specific policy liberalism—and by the characteristics of the particular question. The relationship between responses to question q and the unobserved trait θ_i is governed by the question's threshold κ_q , which captures the base level of support for the question, and its dispersion σ_q , which represents question-specific measurement error. Under

12. Our approach bears a close relation to that in the literature on “public policy mood” (Stimson 1991). Works in this tradition use Stimson’s Dyad Ratios algorithm to estimate changes in public preferences for government activity (i.e., left-liberalism). Recently, Enns and Koch (2013) have combined the Dyad Ratios algorithm with multilevel regression and post-stratification (MRP) to generate state-level estimates of policy mood. As McGann (2014) observes, though, the Dyad Ratios algorithm has several unappealing features, most notably its ideological asymmetry and its lack of grounding in a coherent individual-level model. As an alternative, he proposes a group-level IRT model for national mood that is similar to the approach we take. However, our dynamic group-level IRT model, accommodates cross-sectional and over-time variation within a common framework.

this model, respondent i 's probability of a liberal response

$$\pi_{iq} = \Phi\left(\frac{\theta_i - \kappa_q}{\sigma_q}\right), \quad (1)$$

where the normal CDF Φ maps $(\theta_i - \kappa_q)/\sigma_q$ to the $(0, 1)$ interval.¹³ The model assumes that greater liberalism (i.e., higher values of θ_i) increases respondents' probability of answering liberally. The strength of this relationship is inversely proportional to σ_q , and the threshold for a liberal response is governed by κ_q . Estimating the relationship of each question to the latent trait in this way allows the model to overcome the first challenge outlined above, considerably reducing the model's sensitivity to which questions are asked when.

The fact that each respondent answers no more than a few questions (sometimes only one) prevents us from using an IRT model to estimate the liberalism of individual respondents. Our ultimate interest, however, is not individuals but rather groups defined by the cross-classification of party identification and state. We therefore estimate instead a group-level IRT model, building on the work of Mislevy (1983), Enns and Koch (2013), McGann (2014) and particularly Caughey and Warshaw (2015). The focus of this model is estimating the average liberalism $\bar{\theta}_g$ in each state party g , for which there are many observations in a given survey. Under the assumption that θ_i is normally distributed within groups, the probability that a randomly sampled member of group g correctly answers item q is

$$\pi_{gq} = \Phi\left(\frac{\bar{\theta}_g - \kappa_q}{\sqrt{\sigma_q^2 + \sigma_\theta^2}}\right), \quad (2)$$

where σ_θ is the standard deviation of θ_i within groups. We connect Equation (2) to the data through the sampling model

$$s_{gq} \sim \text{Binomial}(n_{gq}, \pi_{gq}), \quad (3)$$

13. A common alternative way of writing the model in Equation (1) is $\Pr(y_{iq} = 1) = \Phi(\beta_q\theta_i - \alpha_q)$, where $\beta_q = 1/\sigma_q$ and $\alpha_q = \kappa_q \times \beta_q$. This exposition assumes dichotomous response choices; we discuss ordinal choices below.

where n_{gq} is group g 's total number of non-missing responses to question q and s_{gq} is the number of those responses that are liberal.¹⁴ The estimates of $\bar{\theta}_g$ may be of interest in themselves, or they can be poststratified, for example into estimates of average liberalism in each state (cf. Park, Gelman, and Bafumi 2004).

Even with our large set of public opinion data, many group cells are likely to be small or empty in a given year. To address this sparseness, we use a dynamic linear model to smooth the estimated group means across both time and states. The magnitude of change between years is constrained by a prior that predicts $\bar{\theta}_{gt}$ based on its value in the preceding year, year-specific changes common to all groups, and changes in other groups with characteristics (i.e., state or party ID) similar to those of group g . The specific model we use, which is similar to that described in Caughey and Warshaw (2015), is

$$\bar{\theta}_{gt} \sim N(\delta_t \bar{\theta}_{g,t-1} + \xi_t + \mathbf{x}'_g \gamma_t, \sigma_{\bar{\theta}_t}^2), \quad (4)$$

where $\bar{\theta}_{g,t-1}$ is g 's mean in the previous year, ξ_t is a year-specific intercept, and \mathbf{x}_g is a vector of attributes of g (e.g., its state or party). Each group-year mean is thus modeled as a function of the group's mean in the previous year, year-specific changes common to all groups, and changes in the relative liberalism of groups with similar characteristics (i.e., the same party or state). The posterior estimates of $\bar{\theta}_{gt}$ are a thus compromise between this prior and the likelihood implied by Equations (2) and (3), with the relative weight placed on the likelihood determined by the prior standard deviation $\sigma_{\bar{\theta}_t}$, which is estimated from the data and allowed to evolve across years. When a lot of survey data are available for a given year, the likelihood will dominate. If no survey data are available at all, the prior acts as a predictive model that imputes $\bar{\theta}_{gt}$.

14. Following Ghitzza and Gelman (2013) and Caughey and Warshaw (2015, 202–3), we adjust the raw values of s_{gq} and n_{gq} to account for survey weights and for respondents who answer multiple questions. The latter is particularly important in this application because of the way that we deal with ordinal questions, which is to break each such question into a set of dichotomous questions, each of which indicates whether the response is above a given response level. For example, a question with three ordinal response choices, (1) “disagree”, (2) “neutral”, and (3) “agree,” would be converted into two dichotomous variables respectively indicating whether the response is above “disagree” and above “neutral.”

For comparability of our estimates over time, we use question series with consistent wording and response categories as bridge items. While no item appears consistently from 1946 to 2014, there are many survey questions that are asked consistently for shorter periods of time. These items glue our estimates from one time period together with our estimates for other time periods. We also do not use any “relative” questions (e.g. whether government should “do more”) as bridge items in our model because changes in the policy status quo mean that they are not in an absolute sense comparable over time (contrast with Enns and Koch 2013). Instead, we sometimes include these relative items as separate question series in each year they are asked. In other words, we do not use them to bridge the model together over time, but we do sometimes use them to increase the cross-sectional precision of our estimates.

Our dynamic group-level IRT model estimates opinion in groups defined by states and party ID (Democrat, Independent, or Republican). In order to mitigate sampling error for small states, we model the state effects as a function of states’ proportions of Evangelical or Mormon, Hispanic, and urban residents. The inclusion of state attributes in the model partially pools information across similar geographical units, improving the efficiency of state estimates (e.g., Park, Gelman, and Bafumi 2004).

To generate annual estimates of average opinion in each state, we pre-weight our survey data to match raked targets for gender and education level in each state public, based on data from the U.S. Census (Ruggles et al. 2010). Our model produces estimates of the ideology of Democrats, Republicans, and Independents in each state-year. We aggregate these estimates up to the national level based on post-stratification weights generated by a model of the smoothed proportions of Democrats, Republicans, and Independents in each state-year.

A major advantage of simulation-based estimation is that it facilitates proper accounting for uncertainty in functions of the estimated parameters. For example, the estimated mean opinion in a given state is a weighted average of mean opinion in each demographic group,

which is itself an estimate subject to uncertainty. The uncertainty in the group estimates can be appropriately propagated to the state estimates via the distribution of state estimates across simulation iterations. Posterior beliefs about average opinion in the state can then be summarized via the means, standard deviations, and so on of the posterior distribution. We adopt this approach in presenting the results of the model in the application that follows.

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