

Jeffery A. Jenkins, Eric Schickler, and Jamie L. Carson

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## Constituency Cleavages and Congressional Parties

*Measuring Homogeneity and Polarization, 1857–1913*

*We analyze the constituency bases of the congressional parties from 1857 through 1913 by focusing on two key concepts: party homogeneity and party polarization. With a few notable exceptions, prior efforts to assess these concepts have relied upon measures based on members' roll call votes. This is potentially problematic, as such measures are likely endogenous: They reflect the party's actual level of success as much as the party's underlying homogeneity. To address this problem, we construct measures for party homogeneity and polarization that are based on constituency characteristics, using economic-based census data and presidential voting data as proxies. We then examine how these "exogenous" measures compare to roll call-based measures. We find that changes in party unity on roll call votes track shifts in constituency characteristics fairly closely. Substantively, we find that the congressional parties went through three distinct phases during these 56 years: first, a period of extremely high overlap and low party homogeneity during the Civil War and Reconstruction, followed by a period of moderate polarization and homogeneity from the mid-1870s through the early 1890s, and concluding with a period of sharp polarization and high homogeneity, which coincided with the realignment of 1894–96. While the status of the 1894–96 elections as a critical turning point remains controversial in the historical and political science literatures, our results suggest that these elections did lead to a substantial change in the underlying characteristics of the congressional parties.*

An enduring issue in the literature on Congress has been the nature of the constituency bases of the congressional parties. While roll call voting ana-

lyses have dominated the congressional research agenda in recent decades, a sizable portion of the literature continues to focus on the “demand-side” forces that help shape members’ preferences and produce policy change (see, e.g., Wiebe 1967; Adler and Lapinski 1997; Adler 2000; Theriault 2003). This line of research holds that in order to understand why members of Congress behave as they do and why public policy changes as it does, we must focus, at least in part, on the policy demands made by the public. Measuring “public pressure” in a systematic way is often problematic, however. As a result, researchers have typically pursued a more indirect tack, specifically examining the makeup of the constituencies electing Democrats and Republicans to Congress. The logic inherent in this approach is that understanding representatives’ behavior requires an examination of the causal components of the representative-constituency linkage.

In this article, we derive several new measures to track and assess changes in the constituencies electing Democratic and Republican members of Congress from 1857 to 1913. We focus on two key concepts: party homogeneity and party polarization. Party homogeneity refers to the extent to which *each* party represents constituencies that are similar to one another (i.e., the extent to which Democrats tend to come from similar constituencies). Party polarization denotes the degree to which Democratic and Republican constituencies differ from one another (i.e., the gap between the typical Democrat’s constituency and the typical Republican’s constituency).

These measures speak to several important questions in the congressional literature and in the study of American political history more generally. First, to what extent were party cleavages in the middle to late nineteenth century grounded in divergent economic interests? Richard Bensel (1984, 1990, 2000) and Elizabeth Sanders (1999) argue that Democrats were generally the party of the agrarian “periphery,” while Republicans tended to represent high value-added manufacturing districts in the “core.” They contend that this sectional cleavage dominated party politics throughout the late nineteenth and early twentieth centuries. In contrast, many political historians have downplayed the centrality of economic issues and cleavages to nineteenth-century party politics. For example, Lee Benson (1961), Samuel Hays (1965: 386–87), Ronald Formisano (1971), and Paul Kleppner (1970) argue that “ethnocultural” cleavages defined American parties during the so-called “party period” more than did economic conflicts.<sup>1</sup> More recently, Michael Holt (2001: 99) argues that economic issues were more central to

partisan conflict in the second party system of the 1830s–50s than in the third-party system of the 1860s–90s. We use census data on manufacturing to gain leverage on this question. We find that for much of the mid- to late nineteenth century, Democrats and Republicans in the House represented constituencies with similar levels of manufacturing activity. However, this began to change toward the end of Reconstruction, and the parties diverged significantly at the constituency level near the turn of the century, suggesting that party coalitions became more rooted in economic cleavages.<sup>2</sup>

Second, did the elections of 1894–96 constitute a critical turning point in American electoral history? The so-called “System of 1896” has been a heated topic of scholarly debate for decades (Schattschneider 1960). Walter Burnham (1967, 1981) claims that the 1896 election ushered in an era of one-party rule, elite insulation, and popular demobilization, which dominated American politics for the ensuing decades. Several scholars have argued that the election also played a pivotal role in congressional history. H. Douglas Price (1975) hypothesizes that the 1896 election helped foster the seniority system by creating numerous new “safe seats” from which members could build careers in Congress (see Bugdor et al. 1981 for an opposing view). This was, according to Price, a necessary condition for congressional modernization. David Brady (1988) also claims that the realignment of 1894–96 led to a major transformation in the congressional arena by increasing party homogeneity and polarization, which in turn generated increased party strength within the institution and transformed policy outputs.

But critics have challenged the centrality of 1896 on several grounds. Richard McCormick (1986) argues that the realignment did not lead to any noteworthy policy changes. Larry Bartels (1998) shows that the changes in presidential voting in 1896 were less dramatic and sustained than in other elections, such as the 1880 contest between Republican James Garfield and Democrat Winfield Scott Hancock, which have received far less attention from realignment theorists. In perhaps the most sweeping critique, David Mayhew (2000) argues that the 1896 election generally does not fare well when one considers any of several criteria that have traditionally been used to identify “critical elections.” However, these critiques do not speak directly to the question of how the 1894–96 elections affected the internal makeup of the Congress.<sup>3</sup> We find that the constituency bases of the parties diverged dramatically with the 1894–96 election and that this shift was sustained over the ensuing 15 years. These findings are consistent with the historiographic lit-

erature emphasizing the sectional and economic dimensions of the 1896 election (see, e.g., Sundquist 1983) and highlight the importance of the 1894–96 elections for partisan coalitions in Congress. A further question then becomes how these changes in congressional coalitions affected policy-making patterns in the ensuing decades.

Third, to what degree is congressional organization dependent upon the constituency bases of the parties? Starting with Joseph Cooper and David Brady (1981), congressional scholars have argued that centralized party leadership is a function of the degree to which majority party members represent constituencies that are similar to one another and also sharply differentiated from the constituencies of the opposition party. The Cooper-Brady thesis has been elaborated upon by a group of scholars who have couched it within a more general theory of congressional behavior and organization, known as “conditional party government” (CPG) (see Rohde 1991; Aldrich 1995; Aldrich and Rohde 1998, 2000, 2001; Aldrich et al. 2002). CPG theory maintains that when majority party members have policy preferences that are homogeneous and that differ significantly from those of the minority, they will delegate more authority to majority party leaders to structure the legislative agenda, which in turn leads to higher levels of party voting.<sup>4</sup> Though we do not attempt to test CPG theory in this paper, it is apparent that valid measures for party homogeneity and polarization at the constituency level are a prerequisite for assessing the theory’s historical applicability.

Our findings suggest that the congressional parties went through three distinct phases in the mid- to late nineteenth century: a period of low intra-party homogeneity and negligible interparty polarization at the constituency level during the Civil War and Reconstruction, followed by a noticeable but far from overwhelming uptick in homogeneity and polarization from the end of Reconstruction through the mid-1890s, and concluding with a marked sharpening of party differences following the 1894–96 elections. We find that changes in levels of party voting tended to track these shifts in constituency cleavages. We also derive several measures of party homogeneity and polarization from district-level presidential vote share. These measures tell a similar story, with the caveat that the Civil War and Reconstruction era now shows slightly greater party homogeneity and polarization than with the economic measures, though still considerably less than in the post-1896 era.

The article proceeds as follows. We begin with a discussion of some of the problems associated with using roll call-based measures to study party

homogeneity and polarization and introduce a set of alternative measures, based on constituency characteristics, which seek to avert these problems. This is followed by a description of our data and aggregation methods. Then, in the next two sections, we present results from our constituency-based analyses, focusing first on findings from a census-based approach before moving on to findings from a presidential vote analysis. This is followed by a section in which we assess the validity of our measures by comparing them to roll call measures of partisan voting in the House. The final section discusses our results more broadly and concludes.

## Measuring Party Characteristics

### Roll Call Indices

Most efforts to measure party homogeneity and polarization in Congress have relied heavily upon roll call voting data. Over the years, numerous measures have been proposed. Arguably the most common have been the Rice cohesion score, the Index of Likeness, party voting scores, and party unity scores.<sup>5</sup> Rice cohesion scores measure the internal unity of a group of legislators (see Rice 1928). The Index of Likeness measures the degree of party polarization.<sup>6</sup> Party voting scores report the percentage of roll calls in a given Congress in which a majority of Democrats oppose a majority of Republicans.<sup>7</sup> Party unity scores represent the average cohesion level for each party's members on the set of party votes. Moreover, in recent years, scholars have developed numerous refinements of these measures in order to capture additional partisan complexities.<sup>8</sup>

These various measures clearly tell us something about the degree of partisanship in Congress. Specifically, they indicate the extent to which members' voting behavior falls along party lines. However, they have important limitations when it comes to assessing party homogeneity and polarization. The measures are shaped by (at least) four factors: members' constituency-induced preferences (e.g., constituency-based homogeneity and polarization), members' personal policy preferences, pressure exerted by the congressional parties on their members to toe the party line, and the agenda of votes in a given Congress.<sup>9</sup> As a result, there is no simple way to determine whether a high observed Rice cohesion score means, for example, that party members are coming from similar districts or party leaders were particularly

successful in pressuring their members. Stated differently, these measures tell us about the actual success rate of the parties but do not tell us about the *sources* of this unity and polarization (see Krehbiel 1993b, 2000).

NOMINATE scores, which are measures of “spatial ideology” recovered from a multidimensional unfolding technique applied to a set of roll call votes, offer several advantages over traditional vote-based measures (see Poole and Rosenthal 1997).<sup>10</sup> Perhaps most importantly, D-NOMINATE (and the more recent DW-NOMINATE) scores provide estimates of individual members’ “revealed” policy preferences that are comparable across time. Furthermore, one can use NOMINATE scores to measure aggregate party characteristics. For example, the standard deviation of party members’ first-dimension NOMINATE scores is a possible measure for party homogeneity, while the difference in party medians is a plausible measure for party polarization (see Gamm and Smith 1998; Aldrich and Rohde 1998; Aldrich et al. 2002). More complicated measures can also be computed easily by using two NOMINATE dimensions or by examining the extent to which the distribution of Democrats’ and Republicans’ scores overlap. One example is the “conditional party government” score, computed by John Aldrich, Mark Berger, and David Rohde (2002), which is a composite of four NOMINATE-based measures of party homogeneity and polarization from 1877 to 1994.<sup>11</sup>

However, since NOMINATE scores are based on roll call votes, they have potentially important limitations. In particular, to the extent that parties influence members’ vote choices, individual scores will reflect such party influence in addition to members’ personal (or constituency-induced) preferences. This has implications for both individual-level and aggregate-level analyses. At the individual level, if one includes party and NOMINATE scores in an analysis that seeks to predict members’ votes, the results will underestimate the true party effects to the extent that party influences NOMINATE scores. At the aggregate level, to the extent that the parties shape individual members’ voting decisions, party members’ revealed preferences will appear more homogeneous (and polarized from the opposing party) than is the case.<sup>12</sup> Again, much like the problem with standard roll call measures, it is difficult (if not impossible) to determine whether an observed high level of homogeneity is the product of constituency preferences or party discipline.

## Constituency-Based Measures

Finding valid measures for party homogeneity and party polarization that are derived from a source other than roll call votes has been one of the main obstacles confronting scholars interested in assessing CPG theory and the question of party influence more generally.<sup>13</sup> Constituency-based measures of individual preferences and party characteristics offer an across-time alternative to vote-based measures. The delegate-based theory of representation posits that representatives' policy preferences are induced by their constituents through the electoral connection (Miller and Stokes 1963; Mayhew 1974). Ideally, one would like direct measures of constituent preferences on key policy issues; the absence of detailed polling data at the district level, however, requires the further assumption that objective, measurable district characteristics can be used as proxies for district preferences (see Peltzman 1984, 1985; Krehbiel 1993a; Gilligan et al. 1989; James 1992, 1995; Jenkins and Weidenmier 1999).<sup>14</sup>

There are a number of possible ways to measure district characteristics. One is to rely on census data, which David Brady and his various coauthors have pioneered to ascertain the constituency bases of the parties (see Brady 1973, 1988; Brady and Althoff 1974; Brady et al. 1989; Brady and Epstein 1997; Cooper and Brady 1981; see also Bense 1984, 1990, 2000; Schickler 2001: chap. 2). Brady has focused on the cleavage between industrial and agrarian districts in the period 1881–1919, arguing that the pressure created by industrialization was the dominant issue for most of this period. Classifying each congressional district as either predominately industrial or agricultural, Brady traces the difference in the percentage of agrarian districts represented by each party and finds that Democratic and Republican constituencies diverged in the aftermath of the 1894–96 elections, as Republicans rose to dominance in the industrial Northeast and upper Midwest while Democrats became increasingly a party of agrarian interests (see Brady and Althoff 1974; Cooper and Brady 1981). Starting in the middle 1900s, however, party polarization began to fade. Brady shows that changes in levels of party voting correspond, at a broad level, to these changes at the constituency level: Party voting rates tended to be highest from 1895 to 1905, the decade during which constituency-based cleavages between the parties were sharpest.

Our focus in this article is similar to Brady's, but our approach is some-

what different. First, while Brady begins his analysis in the 1880s, our series extends back in time by more than two decades. This allows us to obtain not only a more nuanced understanding of the changes in party constituencies in the 1890s but also to relate those changes systematically to the Civil War and Reconstruction era parties. Second, Brady's measure of district characteristics is dichotomous in nature, as he considers a district to be "agricultural" if the ratio of farms to industrial workers was at least three to one; otherwise it is coded as "industrial" (Brady and Althoff 1974; Cooper and Brady 1981; Brady and Epstein 1997).<sup>15</sup> We attempt to create a more fine-grained measure by incorporating a continuous variable, the per capita value of manufacturing in each district, to capture differences along the agricultural-industrial spectrum. From this district-level manufacturing variable, we are able to create a number of additional measures to examine further questions relating to intra-party homogeneity and interparty conflict. Moreover, we examine additional constituency characteristics, such as the value of farm production, population per square mile, and the percentage of foreign-born residents, to ascertain whether additional dimensions of constituency cleavages were important.

We acknowledge, however, that our methodological approach is limited in some respects and also that it requires certain assumptions about the mapping of demographic-based data to the policy preferences and voting behavior of members of Congress. First, while we believe our measure is more fine-grained than Brady's, it is still a fairly crude measure of constituency characteristics in general. Moreover, using census data only allows us 10-year "snapshots" of district-level manufacturing, while member behavior is tracked on a biannual basis. Thus, results must be interpreted with some caution. Second, our use of district-level data assumes that members of Congress respond to *geographic constituencies*. While this has been a common assumption in the public choice literature (Peltzman 1984, 1985; Gilligan et al. 1989), some political scientists, such as Richard Fenno (1978), have argued that House members respond not to general geographic constituencies, but to *subsets* within their districts, like *primary* or *reelection constituencies*.

Bensel (1984, 1990, 2000) and Sanders (1999) address this latter concern, arguing persuasively that a sharp division between core industrial districts and peripheral agrarian districts has long dominated congressional politics. Such issues as the tariff (and later antitrust) were overriding concerns for several decades, and manufacturing levels are arguably the single best indicator to tap into constituency interests on these issues. Implicit in Bensel's and

Sanders's approach is the assumption that members have, at a broad level, represented the interests of their geographic constituencies and that this representational behavior has had a major impact on the course of American political development. Our results build upon and extend the Bensel-Sanders framework by tracking changes in the parties' geographic constituencies and showing that these changes have corresponded to changes in broad congressional voting patterns.<sup>16</sup>

The key assumption underlying our approach is that since Republicans tend to represent higher manufacturing districts than Democrats, the replacement of a Democrat by a Republican in a high-manufacturing district will make the Democrats more internally homogeneous and the parties more polarized at the district level. We do not assume, however, that the new Republican member will vote identically to the Democrat from the same district (as would be the case if one assumes a perfect correspondence between geographic constituencies and member behavior). The claim instead is that as a party includes more members who come from similar geographic constituencies, the party becomes more internally homogeneous. Similarly, as the overlap between the two parties' geographic constituencies decreases, party polarization at the constituency level rises. The section titled "Comparisons with Roll Call Data" explores whether this homogeneity and polarization also corresponds to increased party voting in Congress.<sup>17</sup>

Since our census-based measures admittedly capture only a fairly narrow range of constituency characteristics, we have supplemented the analysis by compiling data on presidential voting. One distinct advantage that district-level presidential vote share offers over standard socioeconomic variables is that it is more directly political. That is, it provides a more direct measure of the partisan (and perhaps general ideological) predisposition of each congressional district (Jacobson 2000; Ansolabehere et al. 2000, 2001a, 2001b), and it has been shown, at least in the contemporary period, to be a valid measure in tracking how members of Congress vote. As Robert Erikson and Gerald Wright (2000: 176) state: "Overall, there is a healthy correlation between constituents' preferences (as measured by presidential vote) and roll-call ideology." Additionally, district-level presidential vote share allows us to tap the underlying ideological placement of the district *separate* from the congressional vote, that is, it is not affected by the personal popularity of the incumbent (Abramowitz 1991; Levitt and Snyder 1995; Jacobson 2000). Thus, incorporating district-level presidential vote share provides us with

additional leverage in examining the extent to which the congressional parties represent divergent constituencies.

The principal assumption is that if two districts have similar Democratic vote shares in the presidential election, they will also have similar levels of support for Democratic policy positions (Erikson and Wright 2000, 2001). The main disadvantage of using district-level presidential votes is that a high vote share for a party's candidate may not mean the same thing across different states or regions. Thus, New York and Georgia voted for Democrat Grover Cleveland in 1884 for what were likely different policy reasons. The most noteworthy example of this disjuncture occurred in 1940–60, a period outside the scope of our analysis, when most Southern states were reliably Democratic in spite of their voters' (generally) conservative ideology. The presidential vote data, therefore, is best viewed as potential corroboration for the results derived from the census measures. Each set of measures has limitations, but since these limitations differ, it is nonetheless telling if they reveal similar patterns of results (which is, in fact, the case).

Thus, potential limitations aside, we believe our research design makes important inroads into the study of party voting. Our hope is that this will be the first of many scientific studies to offer insights into the notions of representation, congressional vote choice, and partisan behavior without having to resort solely to the use of roll call votes as the connective tissue.

## Data

Our data are taken from decennial U.S. census reports between 1850 and 1900 and from presidential election returns for 1856–1908. To expedite the mapping of socioeconomic census data to congressional districts, we relied upon two books by Stanley Parsons and his coauthors (1986, 1990), which provide district-level census information between the years 1843 and 1913. Because we are interested in tracing changes in the constituency bases of the two major parties (Democrats and Republicans), our data series begins in 1857 with the 35th Congress, the first in which the Republican Party was organized at the congressional level, and ends with the 62d Congress (1911–13), the final one included in Parsons et al. 1990.<sup>18</sup>

During the course of our district-level mapping, we had to resolve three major coding issues. First, populations in large Northern cities such as Boston, Philadelphia, and New York during the nineteenth century were often compressed into single counties, resulting in the creation of several multidis-

tract urban counties. Because the printed census was aggregated only at the county level, there were no *district-level* manufacturing figures provided for these urban counties. As a result, we used the county-level data to compute a single per capita manufacturing value, which we then attributed to each of the districts contained within the county.<sup>19</sup> Second, regarding the mapping of members to districts, there were occasions when more than one member served in a given district during a given Congress, due to death, resignation, and so forth. When deciding which member to include in the data set, we first determined whether both cast a sufficient number of votes from which NOMINATE scores could be calculated. In the event that one member possessed a NOMINATE score while the other member did not, we incorporated the member with the score. If both members possessed NOMINATE scores, we incorporated the *first* to serve. Third, several states throughout this period possessed both at-large and single-member districts. For each member representing an at-large district, we used the state's total production level and population as each at-large member's district characteristics. Since we rely on per capita levels in all of the analyses reported below, this should not create any distortions.

Presidential vote share was not compiled at the district level prior to the early 1950s. Therefore, we had to construct a district-level presidential vote measure from 1856 to 1908 based on existing county-level returns. To create such a measure, we relied on ICPSR study No. 8611, which reports both presidential and congressional votes at the county level. Our construction of the district-level measure was simplified by the inclusion of a variable in the data set that mapped each county to its corresponding congressional district(s). For those districts composed entirely of whole counties, it was simply a matter of aggregating the county-level data to the district level. For those districts composed of a combination of whole and partial counties, the procedure used to generate district-level data was more complicated.

For multidistrict counties, we followed the aggregation method adopted by Stephen Ansolabehere, James Snyder, and Charles Stewart (2001a: 155), by which they included “cases where the percentage of the district's population that was contained in whole counties was at least 50 percent” and excluded those that did not meet this criterion.<sup>20</sup> At-large districts were aggregated for the entire state as a whole, and those totals were used for each of the respective at-large districts if more than one was in existence in a given year.

While a number of scholars have used district-level presidential vote

share as a proxy for district political preferences, they have not always relied upon the same measure in their analyses of congressional elections. Alan Abramowitz (1991), for instance, employs a measure that deducts the presidential candidate's margin of victory or defeat in the entire nation from his margin in the district. Alternatively Ansolabehere et al. (2001b) and Steven Levitt and James Snyder (1995) measure district preferences using the average share of the two-party presidential vote in the two and three most recent presidential elections, respectively.<sup>21</sup> For our analysis, we follow the convention adopted by David Brady, Brandice Canes-Wrone, and John Cogan (2000); Gary Jacobson (2000); and Ansolabehere et al. (2001a), which utilizes the share of the two-party vote in the *most recent presidential election* as a proxy for district political preferences. More specifically, we incorporate the Democratic share of the two-party vote in all presidential election years from 1856 to 1908.

### Results: Census-Based Measures

Figure 1 displays the median level of per capita manufacturing for Democratic and Republican districts for the 35th through the 62d Congress (1857–1913). Several important observations emerge from these data. First, it is noteworthy that Democratic and Republican medians were virtually identical in the 37th through the 42d Congress (1861–73). With the departure of the South in 1861, the (much-depleted) Democratic Party in Congress became less agrarian and instead looked surprisingly like the Republicans in terms of manufacturing levels. The Republican Party of the Reconstruction era also included numerous Southern districts with agrarian constituencies, which depressed the median manufacturing level for the party as a whole.<sup>22</sup> These data question the extent to which the GOP's proindustry tilt in the Civil War and Reconstruction era was grounded in a sharp cleavage in the congressional parties' constituencies.<sup>23</sup>

A second observation is that the return of the South in the mid-1870s corresponds to a widening of party polarization: Even as the United States industrialized rapidly in the late nineteenth century, the median per capita manufacturing level in Democratic districts remained stable or even fell, while the GOP median increased substantially. The onset of divergence in manufacturing levels corresponds fairly closely to the Democratic Party regaining a majority of Southern seats in the 44th Congress (1875–77).<sup>24</sup> The

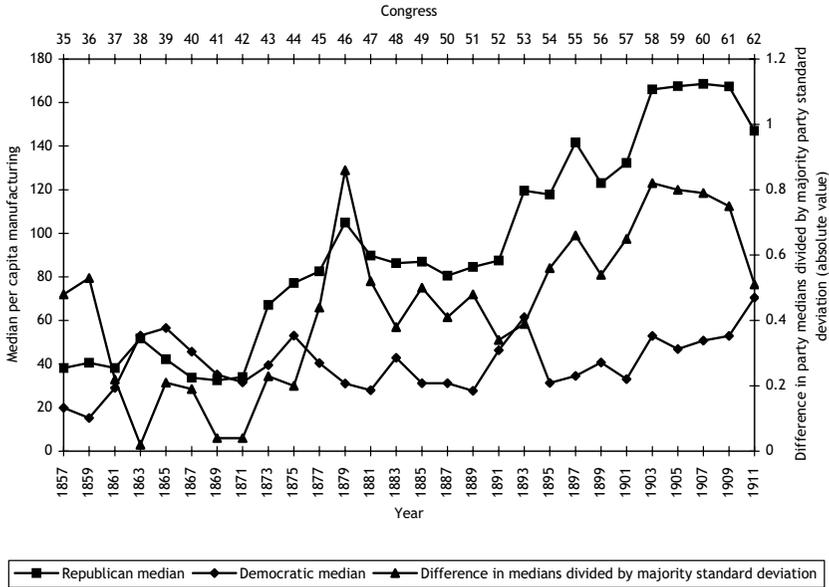


Figure 1 Median per capita manufacturing, by party, 1857–1913

return of a Democratic South fostered a relatively stable level of polarization that lasted from approximately the 46th through the 53d Congress (1879–95). The median per capita manufacturing in Democratic districts hovered between \$30 and \$40, while the Republican median stood at approximately \$90.

Third, consistent with Brady’s thesis, the 1894–96 elections increased the level of polarization markedly, as Republicans became ever more representative of manufacturing constituencies while Democrats lost much of their foothold in the industrial North and in the upper Midwest. Republican manufacturing levels increased substantially, reaching the \$140–\$165 range, while Democratic levels remained in the \$30–\$50 range. This ratcheting up in polarization lasted for the remainder of the period examined, with a slight drop only in the 62d Congress (1911–13).<sup>25</sup>

One might argue that the simple difference in medians may be distorted by changes in scale as the volume of manufacturing throughout the United States exploded in the nineteenth century. To correct for this problem, Figure 1 also displays the difference in party medians divided by the majority party’s standard deviation in per capita manufacturing (note that

the appropriate y-scale is on the right-hand side of the figure).<sup>26</sup> This measure simultaneously accounts for party polarization and majority party homogeneity, since it increases as the party medians move further apart or as the majority party becomes more homogeneous. The results are striking. Once again, the Civil War and Reconstruction era emerges as a time of scant party polarization in terms of manufacturing levels. A moderate level of polarization appears to have then taken hold starting with the 45th Congress (1877–79), as Southern states were now entirely back in the Union and Southern Republicans faded rapidly from the scene. Scores on this measure were generally in the .3 to .5 range from 1877 to 1895, indicating that less than half a standard deviation in majority party member scores separated the two parties. This again suggests a fairly high level of overlap.<sup>27</sup> Starting with the 1894 elections, however, polarization rose considerably and hovered in the .6 to .8 range through 1910 before dipping again in the Democratic 62d Congress (1911–13).<sup>28</sup>

Figure 2 sheds additional light on trends in party homogeneity and polarization. It tracks the percentage of members in each party from districts that are closer to the opposing party's median than to their own party's median (in per capita manufacturing). The results again are instructive. First, they highlight the high degree of overlap between the two parties for much of this period: Approximately 40% of party members typically represented districts that were closer to the opposing party's median than to their own party's median. Second, the realignment of the mid-1890s again appears significant, though its impact is less dramatic than in Figure 1. Among Democrats, the percentage of members closer to the GOP median dropped substantially, from approximately 40% prior to the 54th Congress (1895–97) to approximately 30% thereafter. The Republican shift, however, was a bit less sharp: Approximately 35% of Republicans were closer to the Democratic median prior to the realignment. This fell to approximately 30% in the mid-1890s only to rebound to the earlier level by the 58th Congress (1903–5). While this is consistent with the basic pattern outlined by Brady, it is striking that even at the height of constituency polarization nearly one-third of Republicans represented districts closer to the Democratic median in per capita manufacturing. This suggests that the sharp polarization in party voting in these years was not simply a function of polarization in district political economy.

A third set of constituency-based measures depicts much the same pattern. Figure 3 plots the proportional reduction in error (PRE) when per

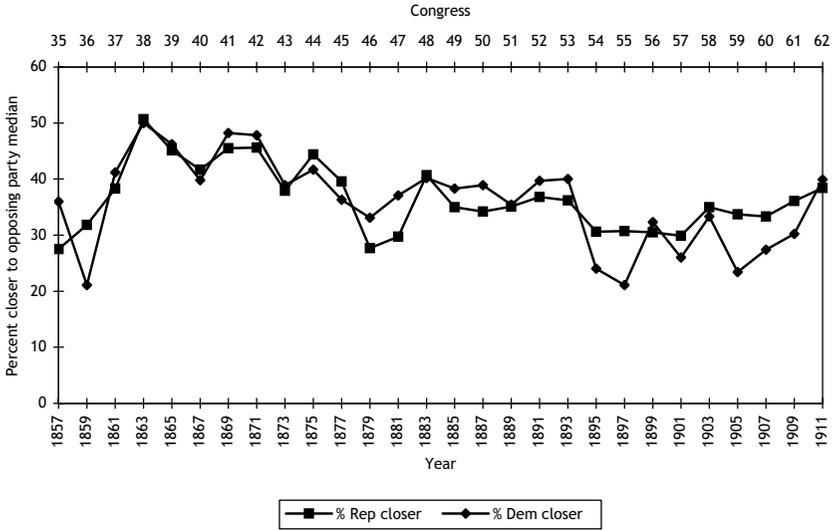


Figure 2 Percentage closer to opposing party median (per capita manufacturing)

capita manufacturing is used to predict party affiliation in a logit analysis. The PRE measures a model’s improvement in fit over a simple baseline model, such as (in this case) a unanimous majority-party model.<sup>29</sup> The figure also displays the PRE when per capita manufacturing is supplemented with three additional independent variables: percentage foreign-born, population per square mile, and per capita value of farm production.<sup>30</sup> This allows us to incorporate constituency characteristics that we otherwise might miss, such as ethnocultural cleavages (foreign-born population), rural-urban differences (population per square mile), and agricultural interests. While the model with four independent variables generally has more explanatory power than the bivariate model, the two sets of analyses nonetheless tell similar stories: With the exception of the 36th Congress (1859–61), the constituency variables have almost no predictive power up until 1875. From 1875 to 1895, the PRE is generally respectable but not overwhelming. Starting with the 1896 election, however, the PRE from both sets of analyses is consistently substantial, only to drop once again in the Democratic 62d Congress (1911–13). The two sets of scores correlate at .77.<sup>31</sup>

While conducting the analysis illustrated in Figure 3, we discovered that Republicans, rather than Democrats, tended to represent districts with a higher percentage of foreign-born residents. Moreover, this pattern is not

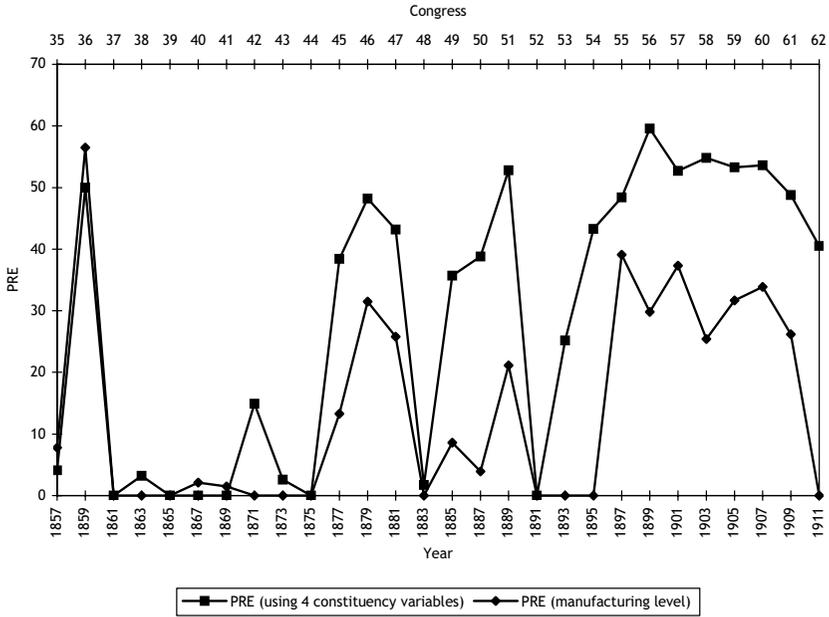


Figure 3 Proportional reduction in error (predicting party with constituency variables)

attributable to the prevalence of Southern Democrats from low-immigration districts. Instead, it holds even when one focuses exclusively on the non-South.<sup>32</sup> That is, in all but three Congresses from 1857 through 1913 (35th through 62d), the median percentage of foreign-born residents in the non-South was higher in GOP districts than in Democratic districts. Although the gap varied in magnitude, when one aggregates across these Congresses, the median percentage of foreign-born in Republican districts was 15.7%, while the median in Democratic districts was 11.6%.<sup>33</sup> The tendency for Republicans to represent districts that, on average, had more immigrants is rather surprising given Democrats' reputation as the party of many immigrant groups during this era (Kleppner 1970; Silbey 1991). Since the foreign-born variable lumps together immigrants from a range of different political and religious traditions, however, it is by no means an adequate test of the ethno-cultural thesis.<sup>34</sup> Nonetheless, these findings are suggestive.

A final way to observe the extent to which the late-nineteenth-century parties diverged in manufacturing levels is through density plots. An advantage of such a plot (which is essentially a histogram) is that it allows one to see the entire distribution of party members in a given Congress rather

than focusing on just a few descriptive statistics (such as a median) that may omit important details. Figure 4 presents density plots for three Congresses. The first covers the 42d Congress (1871–73) and shows that Republican and Democratic manufacturing levels were virtually identically distributed in that Congress. The party modes are identical and there are similar numbers of members in each party with extremely high and extremely low manufacturing levels. By the time of the 47th Congress (1881–83), however, the parties had begun to separate. The Democratic mode is below that of the Republicans. Furthermore, there are considerably more Republicans than Democrats with per capita manufacturing levels in the \$100 to \$225 range, while fewer Republicans than Democrats have very low manufacturing levels. It is only in the extreme high ranges that the two parties have similar (small) numbers of members. Finally, by the 55th Congress (1897–99), the two parties have separated even further. Not only is the Democratic mode lower than the Republican, there is a greater density of Republicans than Democrats at virtually every point in the distribution above \$100 in per capita manufacturing. This shows that Democrats were largely wiped out in high-manufacturing constituencies. Similar results are obtained if one examines density plots for other Congresses in each period: once again, party separation is negligible in the 1860s and the early 1870s, rises somewhat in the late 1870s through the early 1890s, and peaks following the 1894–96 elections.

In sum, time series derived from census data suggest that the constituency bases of the parties were fairly similar during the Civil War and Reconstruction, diverged somewhat after Reconstruction, and then became substantially more distinctive following the 1894–96 realignment. Although we focus primarily on manufacturing levels, Figure 3 suggests that much the same pattern holds when one also considers additional indicators that tap into ethnocultural and other cleavages.

## **Results: Presidential Vote Measures**

We examined a range of measures of presidential voting that are intended to tap into the extent to which members represent constituencies that are internally cohesive within parties and sharply differentiated across parties. For ease of presentation, we focus here on a measure that parallels our first indicator of manufacturing-based cleavages: the difference in the median Democratic presidential vote share for Democratic districts as compared to

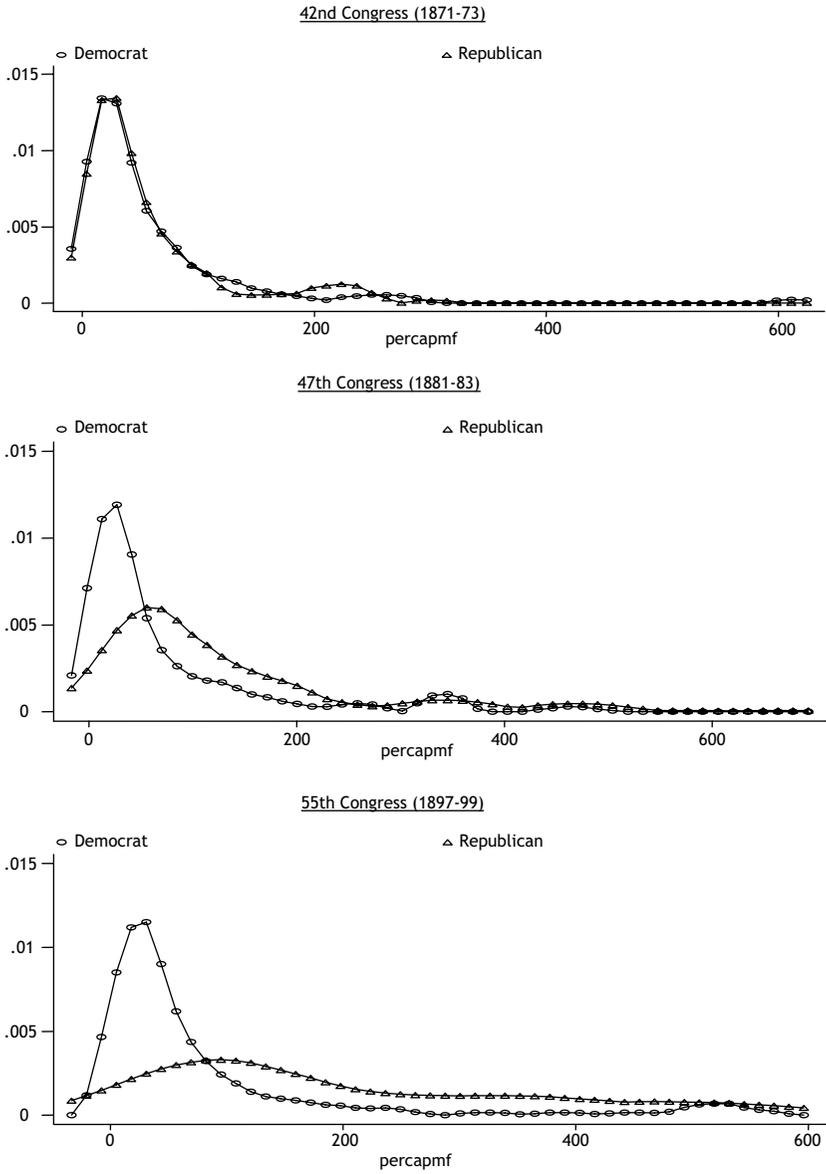
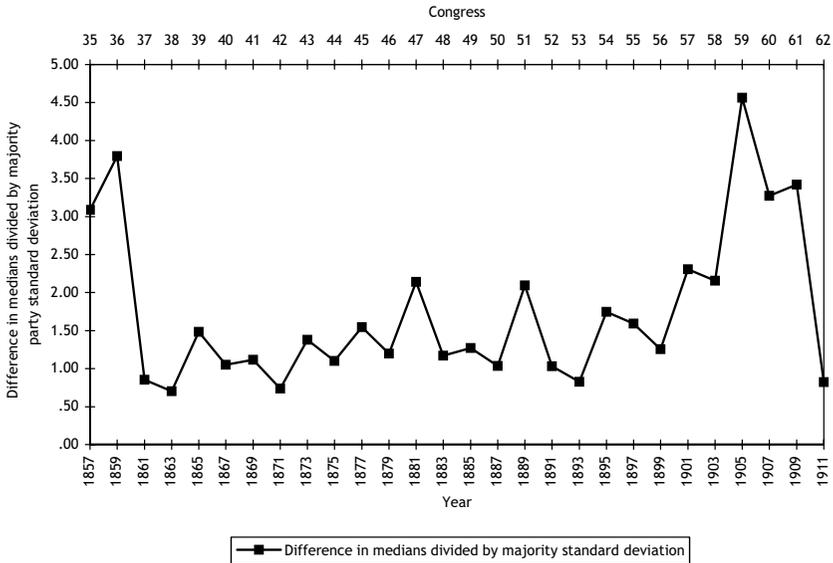


Figure 4 Density plots, by party



**Figure 5** Presidential vote share: Difference in medians divided by majority party standard deviation

Republican districts. This gap is then divided by the standard deviation in presidential vote share across majority party districts (since a difference in medians of a given size reflects sharper polarization if vote share is less dispersed within each party).<sup>35</sup> Once again, the measure is intended to tap into party homogeneity and polarization at the constituency level. As Figure 5 shows, polarization was quite high prior to the Civil War but plunged in the 1860s and remained fairly low throughout the 1860s and 1870s. Polarization increases a bit in the 1880s before falling to an extremely low level in 1893 (53d Congress). Polarization then takes off once again starting with the 1894–96 elections and peaks in the early 1900s before falling dramatically when Democrats took over the House in 1910. This evidence is generally consistent with accounts that suggest that the 1894–96 realignment sharpened the polarization in the congressional (and national) party system (see Brady 1988), though it is not until the 1900 and 1904 elections that the level of polarization is strikingly higher than in the 1860s and 1880s.

Similar results are obtained when one examines alternative measures of the extent to which party members represent districts with similar presidential voting patterns, such as the standard deviation of Democratic presidential

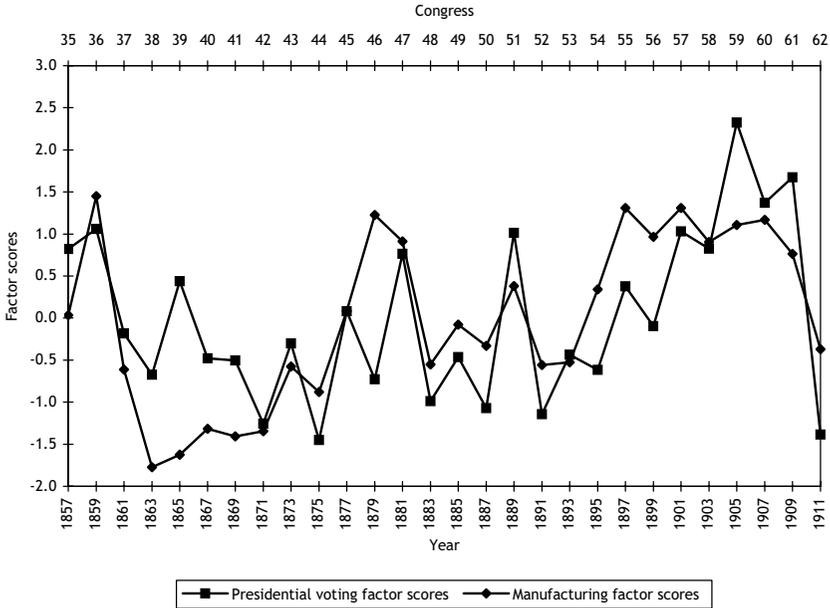
vote share in majority party districts divided by the standard deviation of the Democratic presidential vote share in all districts (a measure of party homogeneity that parallels more standard NOMINATE-based measures), or the percentage of Democratic and Republican members whose party's presidential candidate won his district.<sup>36</sup>

To facilitate comparison between the census-based measures and the presidential vote measures of constituency characteristics, we performed a principal components analysis of each set of measures. For the census manufacturing measures, we used three indicators of constituency cleavages: the difference in party medians (divided by the majority party standard deviation), the percentage of majority party members closer to the minority party median than to their own party's median, and the PRE from the bivariate model relating party to per capita manufacturing. (We chose to use the PRE from the bivariate model in order to focus attention just on the economic dimension.)

This principal components analysis yielded a single latent factor (the eigenvalue of the first factor is 2.47 while the second factor's eigenvalue is just .33). We then created a single measure using the first factor scores. The factor scores correlate at .91 with the difference in medians measure,  $-.93$  with the closeness to the opposing party median measure, and .88 with the PRE measure.<sup>37</sup>

For presidential voting, we also used three measures: the difference in medians divided by the majority party standard deviation, the standard deviation of Democratic presidential vote share in majority party districts divided by the standard deviation of the Democratic presidential vote share in all districts, and the percentage of members whose party's presidential candidate won the member's district.<sup>38</sup> The principal components analysis again produced a single latent factor (the eigenvalue of the first factor was 2.06, while the second factor's eigenvalue was just .63). The resulting factor scores correlate at .89 with the median measure,  $-.85$  with the standard deviation measure, and .73 with the percentage of members whose party's presidential candidate won his district.

Figure 6 compares the two sets of factor scores for the 35th through the 62d Congress. The first noteworthy observation is that the two sets of scores track one another quite well; they correlate at .63 across the 28 Congresses examined. A second observation is that both sets of scores show a relatively low level of party polarization and homogeneity in the Civil War and Recon-



**Figure 6** Comparison of manufacturing-based and presidential voting measures of constituency characteristics

struction years, as the factor scores are negative in each Congress from 1861 to 1877 (with the exception of the presidential factor scores in the 39th Congress, which followed the 1864 election). Still, there is a small but noticeable disjuncture during the Civil War and Reconstruction, as the presidential vote scores tend to be only slightly negative, whereas the manufacturing factor scores are highly negative. This suggests that presidential voting was more polarized by party in this period than were the economic characteristics of member districts, though both sets of measures suggest a lower than average level of polarization.

Both sets of scores suggest a moderate level of polarization and homogeneity in the 1880s and early 1890s, though the presidential vote scores tended to fluctuate dramatically. More striking, however, is the observation that both the manufacturing and presidential vote scores suggest a dramatic increase in homogeneity and polarization starting with the 1894–96 elections, which lasts through the 61st Congress (1909–11). Thus, two separate and independent sets of measures support the thesis that the constituency bases of the congressional parties diverged with the realignment of 1894–96.

Interestingly, both series also show that the 1880 election (47th Congress) resulted in a high level of homogeneity and polarization. But this high level was not sustained, suggesting that the coalitional shift in presidential voting identified by Bartels (1998) may not have corresponded to an equally durable change in the coalitional basis of the congressional parties.

In sum, whether one tracks the constituency-level homogeneity and polarization of the parties during this period using economic characteristics or presidential voting patterns, much the same story emerges. The Civil War and Reconstruction era was characterized by relatively low levels of intra-party homogeneity and interparty polarization. The parties became somewhat more distinctive from one another in the late 1870s and the 1880s, but party polarization and homogeneity did not take off in a sustained fashion until the 1894–96 elections. The sharply polarized party system that emerged after 1896 lasted until the 1910 House elections, when Democratic gains in urban, high-manufacturing districts led to a partial convergence in the parties' constituencies.

### Comparisons with Roll Call Data

A further question is how these constituency-level changes in homogeneity and polarization relate to congressional behavior and organization. The line of research, which was begun by Cooper and Brady (1981), suggests that a valid measure of constituency-level cleavages should track aggregate patterns in party voting on roll call votes. This is the case regardless of whether one (a) believes CPG theory, in which case high party voting would result both from constituency characteristics and from the party pressure indirectly made possible by constituency polarization, or (b) accepts instead a purely preference-based theory of roll call voting, in which case party voting emerges as a simple function of constituency preferences. We do not attempt to assess the relative merits of CPG theory and purely preference-based models (see Krehbiel 2000 for an overview of this debate). Instead, we compare our measures to more traditional measures of party unity and party voting with a more modest goal in mind: Again, if our measures are valid indicators of constituency-level party homogeneity and polarization, then one would expect them to be reasonably correlated with indicators of party unity and voting. This expectation is rooted in the simple idea that a high party voting score indicates a substantial *behavioral* gap between the two parties (even as it is ill-suited

**Table 1** Correlation of manufacturing-based and presidential vote-based indicators of party polarization and homogeneity with party voting and unity on roll call votes

|  | Manufacturing<br>factor scores | Presidential voting<br>factor scores |
|--|--------------------------------|--------------------------------------|
| All roll calls                         |                                |                                      |
| Percentage party votes (90% threshold) | .41                            | .40                                  |
| Majority party Rice cohesion           | .72                            | .57                                  |
| Party likeness score                   | .41                            | .49                                  |
| Roll call factor scores                | .56                            | .53                                  |
| Economic roll calls only               |                                |                                      |
| Percentage party votes (90% threshold) | .73                            | .53                                  |
| Majority party Rice cohesion           | .82                            | .51                                  |
| Party likeness score                   | .75                            | .59                                  |
| Roll call factor scores                | .80                            | .57                                  |

Note:  $N = 28$ . All correlations are properly signed and are significant at  $p < .05$  (one-tailed). The party likeness score has been multiplied by  $(-1)$  so that a high score reflects a high level of party voting.

to disentangling the various sources of that behavioral gap). Our measure of constituency cleavages would be of questionable validity if it were not associated with the degree to which members of the two parties differ in their observed roll call behavior.

As noted above, numerous measures have been offered to assess the level of party structuring characterizing congressional voting. We focus on three such measures: the Index of Party Likeness, the majority party's Rice cohesion score, and the percentage of roll calls that pitted 90% of majority party members against 90% of minority party members.<sup>39</sup> Table 1 presents the correlations between our manufacturing and presidential vote factor scores and each of these indicators. Notice that the correlations are properly signed and are at least .40 in magnitude in all cases. We also computed a summary measure of roll call unity based on a principal components analysis of the three roll call measures.<sup>40</sup> This summary measure correlated at .56 with the manufacturing factor scores and .53 with the presidential voting factor scores (see Table 1). Therefore, while the relationship between constituency cleavages and partisanship in roll call voting is far from perfect, it is nonetheless quite healthy.<sup>41</sup>

As a further validity check, we narrowed the range of roll calls by excluding votes that had little or nothing to do with economic issues. Our assumption is that the manufacturing-based measures should be more strongly re-

lated to economic votes than to the full range of roll calls. We therefore selected only those roll calls that dealt with banking and finance, interstate commerce, the national bank, tariffs, tax rates, and the U.S. currency.<sup>42</sup> We then computed the various party voting measures using just these roll calls and constructed factor scores in an analogous manner to that outlined above. The bottom panel of Table 1 presents the correlation between party voting on economic votes and our manufacturing and presidential vote factor scores. Interestingly, in each case, the manufacturing scores are more closely related to partisan voting on the subset of economic votes than to partisan voting across all roll calls. Indeed, party cohesion and polarization on economic votes tracks changes in constituent manufacturing levels extremely closely. For example, the percentage of party votes on these roll calls is correlated with the manufacturing factor scores at .73, as compared to a correlation of .41 when one examines all votes. Furthermore, the manufacturing factor scores are correlated at .80 with the summary roll call factor scores on economic votes, as compared to the correlation of .56 across all roll calls. By contrast, the presidential vote measure is no more closely related to partisanship on economic votes than is the case for noneconomic votes. These results suggest that while the manufacturing-based scores tap into constituency cleavages concerning economic issues, the presidential vote scores tap into a broader array of constituency cleavages. These comparisons provide additional support for the validity of the constituency-level measures. As one would expect, constituency measures derived from economic variables are most closely tied to partisanship on economic votes.<sup>43</sup>

One might also ask how the constituency-based scores compare to indicators of party homogeneity and polarization that are based on NOMINATE scores. For this comparison, we initially draw upon two measures highlighted by Aldrich et al. (2002) in their effort to trace historical changes in the “condition” of “conditional party government”: the ratio of the standard deviation of majority party members’ first-dimension NOMINATE scores to the standard deviation of all members’ scores and the  $R^2$  resulting from a regression of each member’s ideal point (as measured by first-dimension NOMINATE scores) on party affiliation. Interestingly, neither measure is closely related to the manufacturing or presidential vote factor scores (i.e., none of the correlations rises above .18) *nor* to the more traditional measures of party voting (Rice cohesion scores, the Index of Likeness, and Party Vote Scores). We did, however, find that a NOMINATE-based measure developed by Keith Poole

and Howard Rosenthal (2001: 20) that taps *polarization*—the average distance in the two-dimensional space between Democrats and Republicans—performed quite well. Unfortunately, this measure is only available starting in 1879. However, for 1879–1913, it correlates at .74 with our manufacturing factor scores and .70 with our presidential factor scores. It also is highly correlated with traditional measures of party voting; indeed, these correlations are almost identical to those when party voting is related to our constituency measures.<sup>44</sup> While these results by no means imply that the constituency-based measures are superior to NOMINATE-based scores, they at least suggest that the former may hold some promise for improving our understanding of partisan voting patterns in Congress. Though NOMINATE scores are superior to constituency measures when it comes to predicting individual-level voting decisions (Poole and Rosenthal 1997: chap. 6), it nonetheless appears that aggregate measures of party characteristics derived from constituency variables are useful tools for tracking party homogeneity and polarization across time.

## Discussion

This article is an attempt to examine the constituency bases of the congressional parties from 1857 to 1913. We develop a series of new measures of party homogeneity and polarization at the constituency level designed to avoid the problems that plague more traditional roll call–based measures. As noted above, measures based on roll call votes, such as party voting scores, reveal the extent to which Democrats and Republicans behave differently from one another on the floor. However, such measures are a product of some unknown combination of constituency characteristics, members' personal preferences, the underlying agenda of votes, and party pressure. As a result, roll call–based measures have serious limitations when it comes to analyzing the extent to which the congressional parties represent polarized constituencies.

Our analysis of constituency-based measures generates several conclusions as well as some questions for further research. First, we show that Democrats and Republicans represented districts with similar manufacturing levels and relatively similar presidential vote patterns throughout much of the Civil War and Reconstruction era. The parties became more distinct following the end of Reconstruction, but party homogeneity and polarization was still relatively modest when compared to the high levels reached in the

aftermath of the 1894–96 elections, which lasted until the Democrats' victory in the 1910 House elections.

Second, our results offer new evidence that the “realignment of 1894–96” left a lasting imprint on the congressional parties. Notwithstanding the studies challenging the depiction of 1896 as a critical election (McCormick 1986; Bartels 1998; Mayhew 2000), we find that the constituency bases of the congressional parties changed in a relatively enduring fashion in 1894–96. Thus, even though these elections may have garnered disproportionate attention in the literature on American political development, they nonetheless mark an important change in the internal makeup of the congressional parties.

Third, our results show that changes in homogeneity and polarization at the constituency level coincide fairly well with more traditional indicators of party cohesion and party voting. It is especially noteworthy that the manufacturing scores correlate more closely with economic votes than with noneconomic votes, whereas the presidential vote scores correlate about as well with both sets of votes. These patterns suggest that our measures are genuinely tapping into constituency cleavages.

The long-standing conventional wisdom in congressional studies has been that parties were especially strong near the turn of the century (see Brady 1988; Cooper and Brady 1981). While our analysis does not demonstrate that the parties were more successful in pressuring their members during this era, it does confirm two elements of this conventional wisdom: The parties were unusually homogeneous and polarized at the constituency level during these years, and these party characteristics corresponded closely to a noticeable uptick in partisan voting on the House floor.<sup>45</sup>

Methodologically, these results indicate that the project of using constituency characteristics to assess congressional politics is far from a lost cause. Notwithstanding the noise that is present in these measures when applied to individual-level vote choice, they appear to capture important variation in the aggregate characteristics of the party system. Furthermore, since these measures are not derived from roll call votes, they avoid the endogeneity problems that plague even the most sophisticated NOMINATE-based measures. Rather than “using votes to predict votes,” the constituency characteristics are independent of member behavior and therefore can be used to explain shifting patterns in party voting and polarization.

Finally, on a more general note, we hope that this analysis will steer

future congressional research down a different path, namely one in which party characteristics are measured independently from floor behavior. To promote sound inference, we believe that measures of party voting, party homogeneity, and party polarization cannot be based on the same underlying data. Whereas measures of party voting are rightly based on roll call votes, measures of *preference* homogeneity within parties and *preference* polarization across parties, we contend, should be based on representative-constituency linkages and, therefore, derived from district-level constituency characteristics. While this could mean survey-based data for contemporary studies, more general census-based and presidential vote data are most suitable for across-time analyses.

## Notes

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- 1 See the review essay by McCormick (1974). For more recent assessments of the role of ethnocultural cleavages, see Formisano 1999 and Holt 1999.
- 2 As noted below, the paucity of available census measures for ethnocultural variables precludes us from tracking ethnocultural cleavages in members' constituencies with the same confidence possible for economic variables.
- 3 The Bugdor et al. (1981) study does speak to the safe seats hypothesis, finding little evidence that the 1896 election created new safe seats.
- 4 Aldrich and Rohde (2001) argue that party homogeneity and polarization ultimately depend on constituency-level cleavages.
- 5 See Binder 1997: 220–22 and Cooper and Young 2002 for more detailed descriptions of these measures.
- 6 Rice cohesion scores are defined as the absolute value of the difference in the percentage of a group of members who votes “yea” and the percentage of that group who votes “nay.” For a given Congress, a party's Rice cohesion score is its average cohesion score across all roll calls. The index of likeness is 100 minus the absolute value of the difference in the percentage of Democrats who vote “yea” as compared to the percentage of Republicans who vote “yea.” Again, the likeness scores are averaged across all roll calls in each Congress.
- 7 Alternate thresholds—in particular, requiring 90% of Democrats to oppose 90% of Republicans—have also been used (see Lowell 1902).

- 8 Examples include Clubb and Traugott's (1977) use of party "unlikeness" scores; Brady et al.'s (1979) interaction of party voting and Rice cohesion scores; Cox and McCubbins's (1993) focus on party and leadership support scores; Binder's (1997) simultaneous focus on party size and cohesion; Rohde's (1991) use of a party difference score; and Cooper and Young's (1997, 2002) party structuring scores.
- 9 The agenda is likely to be shaped in part by party leaders who may be seeking to maximize roll call unity (Aldrich and Rohde 2000). For evidence concerning the level of party pressure on roll call votes, see Snyder and Groseclose 2000; McCarty et al. 2001; and Cox and Poole 2002.
- 10 NOMINATE scores are computed for each Congress based on all nonunanimous roll calls. Members are placed in a two-dimensional space, with the first dimension generally thought to tap into an economic left-right cleavage. The second dimension appears to tap into the east-west split over currency issues during this period (Poole and Rosenthal 1997: 49).
- 11 For other examples, see Aldrich and Rohde 1998; Fink and Humes 1999; Wilson 1999; Fink 2000; and Schickler 2000.
- 12 At the limit, if party influence led Republicans to vote as a unified bloc on every roll call, each Republican would have the same NOMINATE score and the party would appear to be perfectly homogeneous.
- 13 While surveys of members have proven useful for analyzing contemporary Congresses (see Ansolabehere et al. 2001b), they lack the historical span necessary for assessing variation in homogeneity and polarization across time.
- 14 Clinton (2001) uses Knowledge Networks' unusually large sample of respondents to derive measures of constituent policy preferences that are district-based. The Knowledge Networks' polls are administered through the Internet and only cover the most recent Congresses.
- 15 Approximately 85% of all districts were classified; the remainder had missing data problems. Using the approach described below, we are able to compute our measures for virtually all districts.
- 16 An important difference between our approach and the methodology used by Bense and Sanders is that we classify each district individually based on its internal characteristics (e.g., manufacturing level), whereas Bense and Sanders instead use trade areas as their key unit of analysis. Trade areas are conceptualized as an integrated, interdependent local economy, which includes a central city and the surrounding hinterland. Each district within a trade area is classified by the area's economic characteristics. Bense (1984: 25–26) observes that "in many instances a district's interests may be intimately linked to the corresponding interests of surrounding districts. For example, the Wichita consumer's direct interest in cheap bread may be outweighed by an indirect interest in maintaining rural prosperity in the Kansas hinterland" (see also Sanders 1999). We have not obtained information on trade areas, but a natural extension of our analysis would be to compare measures that use district-specific information with measures that focus on trade areas as the unit of analysis. In his most recent book, Bense (2000) focuses on both districts and trade areas as units of

analysis while making use of a variety of innovative measures, such as mortgage lending rates, patents, and per capita value-added in manufacturing. Bense (2000: 361, n. 10) tracks the constituency characteristics of all districts from 1877 to 1900 and, consistent with the results we report below, finds that party polarization increased following the 1894–96 elections.

- 17 This focus on aggregate data obviates the problem that measures of ideology derived from roll call votes, such as NOMINATE scores, *always* do a better job of predicting individual members' votes than do economic variables (Poole and Rosenthal 1997: chap. 6). From this observation, Poole and Rosenthal conclude that economic theories of roll call voting are a "failed approach." As a result, most recent analyses of party homogeneity and polarization use measures derived from NOMINATE scores and shun the apparently less-predictive constituency characteristics (see, e.g., Aldrich and Rohde 1998; Aldrich et al. 2002; Schickler 2000). However, we find that district-level economic characteristics actually perform quite well in tracking *aggregate* levels of party voting in Congress. This suggests that Poole and Rosenthal's individual-level results underestimate the extent to which constituency measures can be of use to congressional scholars (see also Fleck and Kilby 2002).
- 18 Comparable district-level data for the 1910s and 1920s is not currently available.
- 19 As an example of our coding technique, consider Philadelphia between 1863 and 1873: The city's population was spread between five districts with no manufacturing data provided at the district level. We used Philadelphia County's total population and manufacturing value to compute a per capita manufacturing score, which we then assigned to each district in the county. This requires the assumption that the districts contained within a single urban area have similar levels of reliance upon manufacturing, which seems reasonable given that even if a manufacturing plant is in just one part of the city, the entire city's economy is likely to have a stake in its success. A further complication occurs when a given district is made up both of residents of a multidistrict county and of residents of an entirely separate county. For example, in the 53d through the 57th Congress, California's 5th District was made up of parts of San Francisco County as well as the entire area of San Mateo and Santa Clara County. To compute the district's total manufacturing level, we first took the per capita manufacturing level in San Francisco County and multiplied it by the number of San Francisco residents in the 5th District. This provided an estimate for the level of manufacturing in the portion of San Francisco County in the district. We then added in the manufacturing levels for San Mateo and Santa Clara. We computed per capita manufacturing for the district by dividing the estimated total manufacturing by the district's population.
- 20 We used information contained in Parsons et al. 1986 and Parsons et al. 1990 to determine if the population within a county represented at least 50% of the district's total population. In the end, those districts that were excluded all came from a few large urban areas (e.g., New York, Philadelphia, Chicago). Notice that this approach to large urban counties differs from that used in analyzing the manufacturing data. The reason for this difference is that it seems more reasonable to assume that an entire

city shares a similar level of manufacturing than it does to assume that the entire city has the same distribution of preferences in a presidential election.

- 21 Similarly, in their longitudinal analysis of redistricting and the incumbency advantage, Ansolabehere et al. (2000) calculate the “normal vote” as the average share of the two-party presidential vote within six distinct historical periods: 1872–94, 1896–1930, 1932–60, 1962–72, and 1974–96.
- 22 The Republican Party controlled 30, 43, 29, and 38 districts in the former Confederate South from the 40th through the 43d Congress (Martis 1989).
- 23 Rather, the data suggest that the Republican Party, which was composed in large part of former Northern Whigs, maintained the Whig Party’s ideological linkages to aristocratic elite opinion and industrial expansion. See Silbey 1977; Foner 1980; Seip 1983; and Richardson 1997, 2001 for discussions of the parties’ positions on economic issues during the Civil War and Reconstruction.
- 24 The initial divergence, i.e., the first significant break, occurs in the 43d Congress (1873–75), after the Republicans took advantage of the 1872 apportionment, which increased the number of House seats from 243 to 292, to strengthen their hold on the chamber. The results of a Mann-Whitney test, which compares medians across independent data samples, were significant ( $z = -2.795$ ,  $p < .005$ ). This difference in medians remains significant throughout the rest of our series. The Democratic median level of manufacturing did increase noticeably following their big gains in both the North and the South in the 1874 elections, but it nonetheless remained significantly lower than the GOP median. Democrats’ losses in the North in 1876 led to a further uptick in the gap separating the median manufacturing level in Democratic and GOP districts.
- 25 A close examination of the figure reinforces the notion that 1894–96 is a break point. The difference between the Democratic and GOP medians was \$58 in the 53d Congress (1893–95), which is typical of the levels prevalent from 1875 to 1895. The difference in medians leaps to \$86 following the 1894 elections—by far the largest gap to that point—and remains between \$82 and \$121 through the 61st Congress.
- 26 Similar results are obtained if one uses the difference in means, which correlates at .94 with the difference in medians.
- 27 The sole exception is the 46th Congress (1879–81), in which the difference in medians was substantially higher than in the surrounding Congresses (the same is true for the difference in means). We are uncertain of the causes of the high polarization in the 46th Congress. One potential answer is that the Republicans controlled only 3 seats in the former Confederate South, as compared to 8 to 10 seats in the 45th and 47th–49th Congresses. We have yet to determine whether this small discrepancy accounts for the unusual polarization level observed in the 46th Congress.
- 28 Similar results are obtained if one divides the difference in medians by the floor standard deviation instead of the majority party standard deviation. Either denominator helps correct for changes in scale, but we chose to focus on the majority party standard deviation in order to capture changes in homogeneity *and* changes in polarization.

- 29 For example, if 60% of the membership were Democrats, then without any additional information, one would correctly guess the party affiliation of 60% of the membership simply by predicting that each member is a Democrat. If, relying upon manufacturing levels, one correctly predicted the party of 70% of the members, then the PRE would approximately equal .25 (that is, the proportion of errors would be reduced by one-fourth as compared to the baseline model). See Poole and Rosenthal 1997: 29–30 for a more detailed description of the PRE measure.
- 30 For 1857–82, the per capita value of livestock is substituted for farm production because the latter indicator was unavailable for those years. Substituting the livestock measure for farm production after 1882 has no substantive impact on the results.
- 31 If one focuses instead on the percentage correctly predicted, much the same story is obtained.
- 32 *South* is defined here as the 11 former Confederate states.
- 33 Essentially the same pattern holds if one focuses on the mean percentage foreign-born instead of the median, though the gap is somewhat smaller (the mean for non-Southern Republicans across the 28 Congresses is 17.8%, as compared to a mean of 16.7% for non-Southern Democrats).
- 34 In particular, it would be useful to have data on the percentage of Catholics by district as well as the breakdown between pietistic and liturgical denominations by district, since ethnocultural interpretations have generally argued that individuals from pietistic religious traditions tended to support Republicans, while Democrats were strongest among Catholics and other liturgical (also referred to as “ritualistic” or nonevangelical) religious communities (see, e.g., Kleppner 1970; Jensen 1971; Hays 1965: 386–87). One difficulty, however, is that census data on religion is inconsistent and of limited quality during much of this era (see Parsons et al. 1990: xii). A further problem with the data is that its aggregate nature leaves open the possibility that though Republicans tended to represent districts with many immigrants, the party’s vote share in each district may still have been higher among native-born residents.
- 35 We focus once again on the majority party because conditional party government theory generally hypothesizes that the majority party’s characteristics are particularly important.
- 36 Throughout this period, a substantial majority of members came from districts where their party’s presidential candidate had emerged victorious. However, there is still a noticeable uptick after the 1896 election: from 1896 to 1910, the percentage of members representing districts where their party’s presidential candidate had emerged victorious consistently stayed above .89. This contrasts to the earlier period, in which readings in the .80 to .85 range were the norm. The close correspondence between presidential and congressional vote outcomes from 1896 to 1910 is especially noteworthy given that the introduction of the Australian ballot, which spread across the states from 1889 to 1891, made it easier for individual voters to split their tickets.
- 37 We also experimented with a fourth measure, the majority party standard deviation divided by the floor standard deviation. The standard deviation measure has little variance and does not appear to track the other measures very closely. When it is

included in the principal components analysis with the other three measures, we obtain two significant factors. The original three measures load strongly on the first factor, while the standard deviation variable loads only on the second factor. The first factor scores correlate at .99 with the factor scores we obtained from our principal components analysis of the original three measures.

- 38 For members elected in a midterm, the preceding presidential election is used as the basis of comparison (e.g., if a Democrat won the 4th District in Iowa in 1890, the relevant question is whether Democratic presidential candidate Grover Cleveland won that district in the 1888 election).
- 39 We also examined the more conventional 50% party vote threshold, but this variable was much less closely related to the other measures of roll call behavior.
- 40 The principal components analysis of the three measures (the majority party Rice cohesion score, the Index of Likeness, and the percentage of party votes) yielded a single prominent latent dimension (eigenvalue of 2.48, while a second factor had an eigenvalue of .44). We created a single measure using the first factor scores. The factor scores correlated at  $-.92$  with the party likeness scores,  $.84$  with the Rice cohesion scores, and  $.96$  with the party vote measure.
- 41 We obtain extremely similar results when we use the individual manufacturing and presidential vote measures rather than the summary factor scores. We focus on the latter for ease of presentation. If one uses OLS to predict party voting scores using either manufacturing or presidential vote measures as independent variables, the estimated effects are statistically significant. However, we opted to present the simple correlations because we are primarily interested in using the roll call scores as a validity check on our constituency scores. For one to make strong causal inferences about the role of constituency cleavages in explaining party voting scores, it would be advisable to account for a range of additional factors, such as the specific agenda of votes, which also affect the vote scores.
- 42 We used the issue codes in Poole and Rosenthal's VOTEVIEW software program to select these roll calls.
- 43 When one graphs the manufacturing factor scores and compares them to the various roll call indicators, it is clear that these high correlations are not driven by one or a handful of outliers. Instead, the series track one another closely across the entire period. The same is true for the presidential vote factor scores.
- 44 For example, the correlation between the Poole-Rosenthal polarization measure and the party voting factor scores is  $.71$ . When the sample is restricted to the same time period, our manufacturing scores correlate at  $.77$  with the party voting factor scores, while the presidential vote scores correlate at  $.65$  with party voting. A homogeneity measure constructed by Poole and Rosenthal (2001)—the average distance separating majority party members from one another—is only weakly related to both the constituency scores and the party voting measures.
- 45 While Cooper and Brady (1981) provide evidence for these conclusions as well, our constituency measures cover a much broader time span and are arguably more nuanced.

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