Empirical Evidence Regarding Regional Political Convergence in the United States

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Abstract. Previous studies of U.S. political polarization have examined state-level convergence and divergence. Increasingly, scholars have turned from state-level analyses to regional analyses and advanced claims as to whether regions are becoming more similar or dissimilar. Yet, formal testing has remained largely absent. Using panel unit root tests, we determine whether regional political convergence is occurring between 1970 and 2004. Our results suggest the importance of distinguishing between ideological convergence and partisan convergence. We find the four regions and eight subregions are stochastically converging to a national norm in regard to ideology but not with regard to partisanship. Convergence for partisanship is, however, occurring within three of the regions, but not within the Midwest.

1. Introduction

At least as far back as Sharkansky’s (1970) early work, scholars have sought to determine whether regions and subregions of the United States are becoming more similar or dissimilar in their political behavior. Recently, several federalism scholars have argued that regional convergence is occurring, particularly because the South has become less distinctive in the post-Civil Rights era. Alternatively, some political behavior scholars contend that regions are becoming more distinctive in their political views, in part as a result of Tiebout-type sorting.

Surprisingly, and especially in light of the substantial testing that has been conducted in regard to claims of state-level political convergence (Ansolabehere et al., 2006; McCarty et al., 2006; Fiorina et al., 2010), there has not been any empirical testing of various claims regarding regional political convergence. We address this gap in the literature by employing panel tests for convergence, distinguishing between ideological and partisan convergence from 1970 to 2004 in regions and subregions of the United States.

Regarding ideology, we find that regions and subregions are converging to a common national level during this period. However, regarding partisanship we do not find evidence that regions or subregions are converging to a common national level. Thus our main finding is that regional distinctiveness is lessening for ideology but is not lessening for partisanship. The differences we find confirm the importance of distinguishing between ideology and partisanship when discussing regional identity.

2. The literature regarding regional convergence

Schapiro (2009) is one of several scholars contending that regions have converged in their political views in recent decades. As he argues, “regional variation... appears to have declined...Contrary to news reports of a growing blue-state/red-state divide, the historical trajectory shows a general decline in geographical polarization” (2009, p. 5). In contrast with previous eras, “region no longer provides such a strong indicator of electoral preference” (2009, p. 28). He concludes that “the overall trajectory does not
suggest increasing regional variance” (2009, p. 29). An explanation for regional convergence of political views is provided by Gardner, who notes “the ease and frequency of mobility; the dominance of mass media and mass marketing of national scope; and the increasing globalization of economic activity” (Gardner 2005, p. 69).

Yet other scholars have argued that regions are showing no sign of converging in their political behavior. Abramowitz (2010, p. 97) notes “a significant increase in geographical polarization. Conservative regions, states, and congressional districts have been trending toward the Republican Party while liberal regions, states, and congressional districts have been trending toward the Democratic Party.” Along these lines, other scholars have taken note of an “increasingly region-based partisanship” and “a geographically divided political system” (Mellow, 2008, p. 178).

One difficulty in determining if political convergence is occurring is that some scholars have been imprecise about various possible ways of measuring regional political identity for purposes of determining convergence. This distinction is potentially important given that Erikson et al. found “the geography of ideology to be quite different from partisan geography” (1993, p. 17). Other scholars have also seen a need to distinguish between ideology and partisanship when describing political behavior (Endersby and Galatas, 1998). Although ideology (liberalism versus conservatism) and partisanship (Republican versus Democrat) often go together, with most conservatives supporting Republicans and most liberals siding with Democrats, they do not align completely (Levendusky, 2009). Over the last four decades, the relationship between ideology and party support has differed in various parts of the country such as the South and Northeast, where conservative Democrats and liberal Republicans, respectively, were plentiful until recently (Brown and Bruce, 2008). Moreover, even today partisan and ideological attachments do not necessarily line up in a direct fashion for a number of Americans; the Democratic Party is still home to some conservatives and moderates, and the Republican Party still has some liberals and moderates. Thus, there may be good reason to conduct separate analyses of partisan convergence and ideological convergence in determining whether geographic areas are becoming more similar or dissimilar in their political behavior.

3. Data descriptions

Regarding partisan convergence, there are two main ways of measuring state support for the Republican versus Democratic Party. We could rely on partisan self-identification data from American National Election Studies (ANES) or General Social Survey (GSS) surveys. However, for several reasons we have chosen to rely instead on support for the Republican versus Democratic Party as determined by the results of federal elections. Election results are easily verifiable. Additionally, there is often a lag time between partisan voting patterns (which usually change first) and partisan self-identification (which usually changes later) (Ceaser and Saldin, 2005).

We rely on the Major Party Index (MPI), initially developed by Ceaser and Saldin (2005) for 1990-2002 and extended and recalculated with modest modifications by Dinan and Heckelman (2010) for 1970-2004. In particular, we use the federal component of the MPI (a separate state component takes account of the results of state elections). The federal MPI includes measures of party success in presidential and U.S. House and Senate elections in each state in each biennial period. One-half of the federal MPI is comprised of the Republican Party percentage of the two-party vote for president in the most recent election (the presidential portion). One quarter of the federal MPI (the House portion) is calculated by dividing the total number of votes cast for Republican House candidates by the total number of votes cast for two-party House candidates in the most recent election. Another one quarter of the federal MPI (the Senate portion) is calculated by dividing the total number of votes cast for Republican Senate candidates by the total number of votes cast for two-party Senate candidates in the two most recent Senate elections in the state. For instance, a federal MPI for 2004 is calculated for each state by measuring the percentage of Republican votes cast for president and Congress in that year’s election or the most recent elections in that state.

Regarding ideological convergence, there are two main ways of measuring the degree of liberalism or conservatism. On one hand, as with partisanship, there is the option of relying on survey data, in this case regarding individual self-placement on a conservative/liberal scale. However, there is another way of measuring state ideology that is more analogous to our measure of partisanship: examining the liberalism and conservatism of the voting records
of U.S. House and Senate members elected to represent the state. Relying on congressional roll call votes rather than survey data avoids the subjectivity inherent in individual ideological self-identification, which can have vastly different interpretations among individuals in different states and regions. Other scholars who have relied on congressional roll-call voting as proxies for state political ideology include Rabinowitz et al. (1984), Campbell (1992), and Campbell et al. (2008).

Various interest groups rate members of Congress based on their roll call voting record. We utilize the Americans for Democratic Action (ADA) rating, which is the most widely used of the annual interest-group ratings.¹ The ADA selects a number of key roll call votes each year and measures the percent of times that members of Congress cast a liberal vote on these roll calls, producing a 0 – 100 scale, with 0 the most conservative and 100 the most liberal voting record. We utilize the adjusted ADA scores based on the methodology initially developed by Groseclose et al. (1999) to make the ADA scores more comparable over time and across branches, and then re-estimated and extended through 2007 by Anderson and Habel (2009). We calculate a state’s ideology score in two steps. First, we calculate the average of both senators and the average of all House members for that state for each biennial legislative session. A state’s ideology score is calculated by taking the average of these two values. In order to properly capture state ideology in any given election year, we use the ADA scores for members of Congress in the subsequent legislative session. For example, the state ideology score for 2004 is calculated by averaging the ADA ratings on votes cast in the subsequent congressional session: 2005-06.

We calculate federal MPI and average ADA ratings for each state for each even year from 1970 through 2004, thereby allowing us to test for convergence within and among regions and subregions during this time.² Scholars have utilized various definitions of the main regional and subregional political divisions in the U.S. (Sharkansky, 1970; Elazar, 1972; Bensel, 1984; Mellow, 2008). As listed in Table 1, we rely on ICPSR’s division of the country into four regions (Northeast, Midwest, South, and West) and eight subregions (New England, Mid-Atlantic, East North Central, West North Central, Border South, Solid South, Mountain, and Pacific) which is based on historical voting cleavages.

### Table 1: Regional classification of states.

<table>
<thead>
<tr>
<th>New England</th>
<th>Mid-Atlantic</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT, ME, MA</td>
<td>DE, NJ</td>
</tr>
<tr>
<td>NH, RI, VT</td>
<td>NY, PA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Midwest</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>North Central</td>
</tr>
<tr>
<td>IL, IN, MI</td>
<td>IA, KS, MO, MN</td>
</tr>
<tr>
<td>WI, OH</td>
<td>NE, ND, SD</td>
</tr>
<tr>
<td>South</td>
<td>Solid South</td>
</tr>
<tr>
<td>KY, MD, OK</td>
<td>AL, AR, FL, GA, LA*, MS, NC, SC, VA, TX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mountain</th>
<th>Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ, CO, ID,</td>
<td>AK, CA, HI</td>
</tr>
<tr>
<td>MT, NV, NM</td>
<td>OR, WA</td>
</tr>
<tr>
<td>UT, WY</td>
<td></td>
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</tbody>
</table>

Notes. * Not included in the sample.

### 4. Methodology

We proceed by first determining whether there has been convergence from 1970 to 2004 among regions and subregions. Convergence would imply a lessening of regional distinctiveness. Second, if convergence is not found among the regions or subregions, we then investigate if convergence may be occurring within each region. Given a lack of convergence across regions, convergence within a region would then imply a strengthening of regional identity as the states of the particular region are becoming more similar to each other. Finally, for any region not converging, we proceed to test for convergence within its separate subregions.

Our test design follows from the pioneering work of Carlino and Mills (1996) and Loewy and Papell (1996) regarding stochastic convergence of regional output. The test for stochastic convergence determines if the regional deviation of political behavior

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¹ Other ratings of congressional roll-call votes include the American Conservative Union (ACU) and NOMINATE.

² The only state that we exclude from the analysis is Louisiana, whose heretofore unique top-two primary system prevents consistent calculation of an MPI.
relative to the nation as a whole is characterized by a non-zero mean stationary stochastic process. Under such circumstances, shocks to the relative series have only a transitory effect, and thus disparities are dissipating over time. Specifically, stochastic convergence requires that forecasts regarding differences in political behavior converge in the long run, which implies that the long run political differences between any two regions must be stationary.

Unit root tests are commonly utilized to investigate stationarity, and thus determine if stochastic convergence is occurring. Such tests have also been used on a variety of alternative economic variables, including by Wu and Wu (2001) for exchange rates, Strazicich and List (2003) for carbon dioxide emissions, and Narayan (2007) for health expenditures. We apply these sorts of tests to political behavior regarding ideology and partisanship.

Let \( Y_{srt} \) represent the political behavior in state \( s = 1, \ldots, S \), in (sub)region \( r = 1, \ldots, R_c \) at time \( t = 1, \ldots, T \). Further, define \( \bar{Y}_{rt} = \left( \frac{1}{S} \right) \sum_{s=1}^{S} Y_{srt} \) and \( \bar{Y}_t = \left( \frac{1}{R_c} \right) \sum_{r=1}^{R_c} \bar{Y}_{rt} \). As previously presented in Table 1, the number of states (\( S \)) will vary for each region or subregion. \( R_c = 4 \) or 8 for regions or subregions respectively. Finally, let \( N \) represent the number of cross-section units. The log relative values, denoted \( y_{it} \), will be characterized as:

\[
y_{it} = \log(\bar{Y}_{rt}/\bar{Y}_t), \quad i=r=1,\ldots,4; \quad N=4
\]

(1a)

\[
y_{it} = \log(\bar{Y}_{rt}/\bar{Y}_t), \quad i=r=1,\ldots,8; \quad N=8
\]

(1b)

\[
y_{it} = \log(Y_{srt}/\bar{Y}_{rt}), \quad i=s=1,\ldots,N_r; \quad r=1,\ldots,4; \quad N=N_r
\]

(1c)

\[
y_{it} = \log(Y_{srt}/\bar{Y}_{rt}), \quad i=s=1,\ldots,N_r; \quad r=1,\ldots,8; \quad N=N_r
\]

(1d)

Equations (1a) and (1b) define relative values for each region or subregion compared to the national average of the regions or subregions. Equations (1c) and (1d) define relative values for each state compared to the state’s regional or subregional average. Thus, formulations based on (1a) or (1b) will investigate if convergence is occurring among the regions or subregions, whereas (1c) and (1d) will be used to investigate if convergence is occurring within a given region or subregion.

Because our data are limited to two-year averages over the period 1970–2006 we are left with only 18 observations per unit. As standard augmented Dickey-Fuller (ADF) type unit root tests are well known to have low power, we make use of the panel ADF test developed by Levin, Lin, and Chu (2002) (LLC, hereafter) to pool the separate series of log relative political behavior.\(^3\) For example, representation (1b) contains eight subregional series that will be pooled to test for convergence among the subregions. In contrast, representation (1c) contains ten state series that would be pooled for one region (North), twelve state series that would be pooled for another region (Midwest), etc., to test for convergence within each region separately.

The panel version of the ADF test with fixed effects is represented by

\[
\Delta y_{it} = \kappa_t + \alpha y_{it-1} + \sum_{x=1}^{4} (\beta_{x} \Delta y_{t-x}) + \epsilon_{it}
\]

(2)

where the errors \( \epsilon_{it} \) are i.i.d. \( \sim (0, \sigma_{\epsilon}^2) \) and assumed to be independent across the units of the sample. The null hypothesis of a unit root, \( H_0: \alpha = 0 \), is tested against the alternative hypothesis for stationarity, \( H_1: \alpha < 0 \). Each cross-section unit (region in (1a), subregion in (1b), and state in (1c) and (1d)) is allowed its own intercept and number of lag terms to account for serial correlation, but is assumed to have a common unit root process.\(^4\)

LLC derive a modified t-statistic which under the non-stationary null hypothesis converges to the standard normal distribution. The modified t-statistic takes the form of

\[
t^*_\alpha = \frac{\tau_{\alpha}}{\sigma_{\tau}^*} - \frac{N \sigma^2_{\eta} \eta}{\sigma^2_{\tau} \eta} \left( \frac{\hat{\nu}_{it}}{\sigma^2_{\tau} \eta} \right)
\]

(3)

where \( \tau_{\alpha} \) is the standard t-statistic, and \( \mu_{\tau}^* \) and \( \sigma_{\tau}^* \) are adjustments for the mean and standard deviation simulated by LLC for various \( T \).\(^5\) The adjustment term is also a function of the average of the individual ratios of long-run to short-run variances,

\[
\hat{S}_N = \left( \frac{1}{N} \right) \sum_{i=1}^{N} \left( \frac{\hat{\nu}_{it}}{\sigma^2_{\tau} \eta} \right), \quad \text{where } \delta_{\hat{\nu}_i} \text{ represents the kernel estimator of the long-run variance for the } i^{\text{th}} \text{ state or (sub)region.}
\]

As with the traditional ADF, the LLC

more restrictive than estimating a single coefficient for all cross-sections on a given explanatory variable in a standard panel regression. Nonetheless, we recognize these are often used in conjunction with the LLC test. For completeness, we also used the IPS test which in every case matched rejection of the null (or not) found in the LLC test. Results from these tests are available upon request.

\(^3\) Papell (2006) finds the power of this test improves much more by increasing the number of cross-section units rather than the number of time periods.

\(^4\) Alternative tests which allow for heterogeneity in the unit root process (e.g., Im et al. 2003) test the null of all cross-sections having a unit root against the alternative of at least one cross-section not having a unit root. Thus, rejection of the null does not address overall stationarity. Assuming a common unit root is no

\(^5\) Here, \( N \) is identified in Eqs (1a)-(1d), but \( T=18 \) always.
panel t-statistic is a one-tailed test. To determine the number of lags for each separate cross-section in (2), we utilized the Modified Schwarz Information Criterion setting a maximum number of lags at 4.

5. Empirical results

We first perform the LLC test on regional ideology by pooling the four regional series of North, South, Midwest, and West, as defined in (1a). The test statistic and p-value are presented in the first row of Table 2. The null of a unit root in the log of relative ADA scores is easily rejected. We therefore conclude that the regions are converging in their ideology.

### Table 2: Convergence of ADA among regions or subregions.

<table>
<thead>
<tr>
<th></th>
<th>statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regions (N=4)</td>
<td>-2.50</td>
<td>.01</td>
</tr>
<tr>
<td>Subregions (N=8)</td>
<td>-1.98</td>
<td>.02</td>
</tr>
</tbody>
</table>

Notes. N is the number of regions or subregions, based on ICPSR classifications (see Table 1). Statistics are computed using the LLC panel procedure with region or subregion fixed effects.

As noted above, various scholars have not always limited the discussion of regional distinctiveness to only four areas of the country. We therefore next consider the possibility of convergence among the eight ICPSR subregions by pooling the relative subregion values as delineated in (1b). The result of this test is presented in the second row of Table 2. We again reject the null of a unit root, leading to the conclusion that the subregions are also converging, i.e., becoming less distinctive.

Thus, when measuring regional political behavior by ideology, we find that the regions and subregions are indeed converging. Our result supports the views of Gardner (2005) and Schapiro (2009) that regional distinctiveness in political behavior has been lessening over time.

An alternative measure of political behavior would capture party support by the voters. Here we use the federal MPI as a proxy for the general level of party support. As shown in Table 3, we are unable to reject the null of a unit root regarding the federal portion of the MPI at either the regional or subregional levels, indicating the various areas are not converging in partisanship. These results are consistent with the arguments of Mellow (2008) and Abramowitz (2010).

### Table 3. Convergence of MPI among regions or subregions

<table>
<thead>
<tr>
<th></th>
<th>statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regions (N=4)</td>
<td>0.05</td>
<td>.52</td>
</tr>
<tr>
<td>Subregions (N=8)</td>
<td>-0.78</td>
<td>.22</td>
</tr>
</tbody>
</table>

Notes. N is the number of regions or subregions, based on ICPSR classifications (see Table 1). Statistics are computed using the LLC panel procedure with region or subregion fixed effects.

To further explore the issue of non-convergence in partisanship, we next consider if convergence is occurring within a given region, in order to isolate where regional behavior in party voting may be most distinctive. For this, the value for a given state is defined relative to its regional average, as presented in (1c). Each region is tested separately by pooling together the states only in a given region. As shown in Table 4, the null of a unit root is rejected in each region except for the Midwest. This suggests convergence is occurring within the North, South, and West regions. Thus, Northern states are becoming more similar to each other, Southern states are becoming more similar to each other, and Western states are becoming more similar to each other. In terms of partisanship, the notion of regional distinctiveness is apt. Only the Midwestern states do not appear to be a cohesive grouping.

### Table 4: Convergence of MPI within each region.

<table>
<thead>
<tr>
<th>Region</th>
<th>statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>North (N=10)</td>
<td>-1.83</td>
<td>.03</td>
</tr>
<tr>
<td>Midwest (N=12)</td>
<td>-0.38</td>
<td>.35</td>
</tr>
<tr>
<td>South (N=14)</td>
<td>-4.57</td>
<td>.00</td>
</tr>
<tr>
<td>West (N=13)</td>
<td>-2.30</td>
<td>.01</td>
</tr>
</tbody>
</table>

Notes. N is the number of states included in each region, based on ICPSR classifications (see Table 1). Statistics are computed using the LLC panel procedure with state fixed effects.

Next, we check for convergence among the Midwestern states at their subregional levels. Test statistics for the five states comprising the East North Central and the seven states comprising the West North Central subregions are presented in Table 5. We easily reject the presence of a unit root in the former, and the latter also comes close (p-value = 0.13). These results, coupled with the lack of rejection of a unit root
for the relative Midwest series, suggest the East North Central states and West North Central states are distinctive from each other. Thus, for partisanship, regional-based differences do not appear to be declining.

Table 5. Convergence of MPI within Midwest subregions

<table>
<thead>
<tr>
<th>Subregion</th>
<th>statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>East North Central (N=5)</td>
<td>-2.61</td>
<td>.00</td>
</tr>
<tr>
<td>West North Central (N=7)</td>
<td>-1.14</td>
<td>.13</td>
</tr>
</tbody>
</table>

Notes. N is the number of states included in each subregion, based on ICPSR classifications (see Table 1). Statistics are computed using the LLC panel procedure with state fixed effects.

In sum, our results confirm the need to distinguish between ideology and partisanship when discussing political convergence. To the extent that scholars who have posited a lessening of regional political identity have been referring to the ideological voting behavior of elected representatives, we find that political convergence among the regions is indeed confirmed. However, in so far as regional identity is captured by voter support for the two major parties in federal elections, we find that political convergence is not occurring. The North, South, and West regions, and East North Central subregion of the Midwest, are each retaining their individual political identities.

6. Conclusions

The 2000 and 2004 presidential elections generated numerous studies investigating the extent to which American politics is becoming more politically divided. For the most part, scholars have examined whether the 50 states are converging or diverging, with Abramowitz (2010), among others, finding evidence of increasing polarization.

Various scholars have undertaken further tests of this claim, however. Fiorina et al. (2010) argued for the importance of distinguishing between elites and the general public. They conclude that although elites are becoming more polarized politically, the same cannot be said of the general public, thereby suggesting that widespread commentary about increasing differences between red and blue states is misleading, at least in so far as it could be taken to apply to the general public.

Other scholars have emphasized the need to make still other distinctions when presenting claims about increasing or decreasing differences among the states. Dinan and Heckelman (2010) demonstrated the need to distinguish between political behavior in federal and state elections. They found that federal election results, and particularly voter support for Republican versus Democratic candidates in those elections, support the notion that states are diverging. However, this is not true of state and local election results, which provide evidence that the states are converging in their support for the Republican versus Democratic parties.

In the present study we have sought to advance this literature in three ways. First, we construct a panel of regional data regarding political behavior over a 34-year period that permits an empirical test of regional convergence during this period. Previous empirical evidence has been focused on testing for the presence of state-level convergence. Recently, though, the debate has moved beyond claims about state differences to focus on regional differences. Yet, little empirical evidence had been presented to formally test alternative claims regarding regional convergence.

Second, we introduce into this debate the notion of stochastic convergence and perform unit root tests to identify whether relative levels of political behavior are converging or not. Such tests have been used extensively to test for convergence of various economic variables but not previously for political behavior.

Third, we distinguish between two different ways that regions might be diverging or converging. Regions might be thought to be diverging (or converging) in their support for liberalism versus conservatism; they might also be said to be diverging (or converging) in their support for the Republican versus Democratic parties. Previous studies concerning convergence have tended to use these notions of ideological and partisan differences interchangeably.

Our findings demonstrate the importance of distinguishing between ideology and partisanship when making claims regarding political convergence. Just as Fiorina et al. (2010) argued for the need to distinguish between elites and the general public, and as Dinan and Heckelman (2010) demonstrated the need to distinguish between federal-level and state-level elections, our results confirm the importance of distinguishing between ideology and partisanship. We find that regions and subregions are becoming less distinctive and thus more similar in their ideological views, but the same cannot be said of their support for the two major parties in federal elections.
Ideological convergence is not unexpected as technological innovations have increased access across the country to a common media message through the rise of national newspapers and cable programming which helps to shape cultural views. Additionally, high mobility within the U.S. reduces demographic differences across regions over time, especially among minorities, which would also be expected to lead to more common ideological views. Yet, the failure of ideological convergence to translate into partisansan convergence may be somewhat surprising.

An explanation may be found in literature that has identified a disconnect between ideology and party support among the public (Box-Steppensmeier and De Boef, 2001; Fiorina et al., 2010). Unlike political elites, a large proportion of the electorate tends to be politically disengaged and lack a fundamental understanding of party platforms. Rational ignorance by the general public is somewhat expected. The incentives remain limited for individual voters to take the time to decode the nuances of party platforms to find which party best represents their overall personal ideological views. To a certain extent, the parties may benefit from deliberately contributing to this confusion in order to retain party loyalty of the uninformed. Despite a growing tendency for regional ideological views to become less distinctive, overall party support will be unlikely to converge unless the electorate as a whole becomes more engaged, overcoming their rational ignorance.

Acknowledgement

We thank Chris Edwards for research assistance.

References


