COVID-19 and Beyond: Economic Outcomes in Republican vs. Democratic States

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by

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Abstract

The policy responses by state and local governments and reactions by individuals to the outbreak of the COVID-19 pandemic were wide-ranging across the US, often falling along the nation's political divide. We examine whether Republican states performed better economically, both during the year of the COVID-19 recession and the two years following the recession. We find stronger employment and population growth and smaller increases in unemployment during the COVID-19 recession year in Republican states. But we also find lower per capita income and productivity growth in Republican states during the year of the COVID-19 recession. The employment growth and unemployment advantage in Republican states dissipated during the recovery from the COVID-19 recession such that there was not any longer-term advantage. We compare the COVID-19 recession to the Great Recession and the periods preceding each recession. The population growth advantage in Republican states during the COVID-19 recession was evident in all expansionary and recessionary periods beginning in 2003. We conclude that there was not a clear overall economic benefit to the less restrictive COVID-19 policies and lower virus avoidance by individuals in Republican states, particularly in the longer run.

Keywords: COVD-19; regional growth; state government; republican; democrat

1. Introduction

The outbreak of COVID-19 in March of 2020 severely disrupted state and local economies in the US through restrictions imposed on the economy by state and local governments and widespread avoidance of in-person economic activities by individuals. The National Bureau of Economic Research (NBER) marked March 2020 as the first month of a two-month economic recession in the US that was precipitated by the pandemic. The restrictions on economic activity imposed by state governments varied widely across the country. Democratic state governments enacted more restrictions on business operations and kept them in place longer than Republican state governments (Lawrence et al., 2022). Individuals who identified as Republicans also were less likely to reduce in-person economic activities to avoid the virus (Allcott, 2020; Baker et al., 2020). We examine whether states that can be identified as Republican performed better economically, both during the year of the COVID-19 recession and the two years following the recession.

Lawrence et al. (2022) finds that states classified as Republican had higher levels of employment, earnings, and banking activity than Democratic states during the initial months of the pandemic. In an analysis of US counties, Partridge et al. (2022) finds that during the initial weeks of the pandemic, counties that had voted for Donald Trump as president in 2016 had larger spending increases, more time away from home, more time at work, more small business openings and revenue, and higher low-income earnings and employment. The study also reports higher claims for unemployment benefits in counties voting for Trump. Forsythe et al. (2020) reports that the economic declines in response to the pandemic were broad-based and could not be solely explained by the timing of stay-at-home policies and may have been more related to the spread of the virus. Lozano-Rojas et al. (2020) concludes that the COVID-19 recession was primarily driven by the nationwide response to the pandemic and that state policies and differences in the spread of the virus had more modest effects.

Therefore, using annual data we examine whether Republican states performed better economically during the year of the COVID-19 recession. We also assess whether there are longer-term differences in outcomes between Republican and Democratic states by examining the two years following the COVID-19 recession as the national economy returned to full employment. We estimate cross-sectional regressions of growth rates (Sala-i-Martin et al., 2004; Rappaport, 2007; Reed, 2008; and Shi et al., 2023) for the contiguous 48 US states. We compare the COVID-19 and post-COVID-19 periods to all prior expansions and recessions starting in 2003 to better identify whether the differences in outcomes during the COVID-19 recession and subsequent recovery can be associated with the pandemic. We consider a large set of control variables to account for other determinants of state economic performance and perform extensive sensitivity analysis.

Among our primary findings are statistically stronger employment and population growth and smaller increases in unemployment during the year of the COVID-19 recession in Republican states. But we also find statistically lower per capita income and productivity growth in Republican states during the COVID-19 recession. The employment growth and unemployment advantage in Republican states dissipated during the recovery from the COVID-19 recession. Sensitivity analysis with model specification suggests that Republican states might have had stronger employment growth and greater reductions in unemployment rates before the expansion that preceded the pandemic. There also were not any longer-term significant effects for per capita income growth, productivity growth, and the labor force participation rate. The population growth advantage in Republican states during the COVID-19 recession and post-Covid period is evident in all expansionary and recessionary periods beginning in 2003. We conclude then that there was not a clear overall economic benefit to the less restrictive policies on businesses and greater economic activity of individuals in Republican states during the COVID-19 pandemic, particularly in the longer run. This suggests that state and local policy makers might be able to worry less about long-run harm to their economies from temporary pandemic-related restrictions in the future.

2. Empirical Approach

Following the basic methodology of growth studies (Sala-i-Martin et al., 2004; Rappaport, 2007; Reed, 2008; and Shi et al., 2023), we estimate cross-sectional regressions of growth rates.[1] We examine state economic performance for the years between 2003 and 2022,

[1] Lawrence et al. (2022) and Partridge et al. (2022) used difference-in difference specifications. The studies only examined a single short period surrounding the outbreak of COVID-19 and did not test for differences in trends prior to the outbreak.

dividing the years into periods based on peaks and troughs in US total wage and salary employment from the US Bureau of Labor Statistics (BLS). Following the 2001 recession, the trough in total employment occurred in 2003 and subsequently peaked in 2007. The next employment trough occurred in 2010, with the next peak occurring in 2019 before the onset of the pandemic. The shutdowns in the economy and re-opening led to an employment trough in 2020. The periods of analysis then become 2003-2007, 2007-2010, 2010-2019, 2019-2020, and 2020-2022.

Because no single indicator reflects social welfare or the totality of an economy (Partridge and Rickman, 2003), we follow Wang and Rickman (2018) and examine several economic indicators. To assess the effects of the differing approaches to restricting business operations during the onset of the pandemic we include a binary variable indicating whether the state government was Republican (Lawrence et al., 2022). Partisan differences in views on the severity of COVID-19 and social distancing also may have caused differences in economic outcomes between Republican and Democratic states (Allcott, 2020; Baker et al., 2020).

Because more severe COVID outbreaks may disrupt the economy beyond those imposed by state and local governments (Lozano-Rojas et al., 2020), we include the COVID death rates in 2020 and 2021 in the respective 2019-2020 and 2020-2022 analyses. Coven et al. (2023) documents the spread of the virus through migration across the country. The opening of the economy during the initial outbreak of the pandemic and lower avoidance of the virus may cause the Covid death rate to be endogenous. So, in sensitivity analysis below we demonstrate the general robustness of the results for Republican status in the regressions to the omission of the Covid death rate variables.

The sensitivity of coefficients in growth regressions to the set of included control variables (Sala-i-Martin et al., 2004, Reed, 2008) leads us to consider thirty-two additional variables. The variables include multiple measures related to the major sources of regional growth: natural amenities (Rappaport, 2007; McGranahan et al., 2011; Weinstein et al., 2023), urbanization (Duranton and Puga, 2014; Florida et al., 2023), industry composition (Partridge et al., 2017), and demographic variables related to immigration (Partridge et al., 2008), age, education (Faggian et al., 2017), etc. The variables not only serve as controls for assessing the influence of the Republican and COVID variables on state economies, but they also provide an assessment of whether past patterns of state economic growth are re-emerging post-pandemic. We use principal component analysis to reduce the dimensionality of the set of control variables.

Our model specification is as follows:

$$Outcome_{i,t} = \alpha_t + \beta_t \, Republican_i + \delta_t \, COVID\_Deaths_{it} + \boldsymbol{\theta}_t \, \mathbf{Control}_{it} + \varepsilon_{it} \quad (1)$$

where *i* indicates the state and *t* indicates the period of analysis. A regression is performed for each *Outcome* for each of the five periods using the 48 contiguous US states. *Republican* takes a value of 1 if the state is designated as Republican. *COVID_Deaths* is the COVID-19 death rate, which is defined for the post-2019 periods. **Control** represents the vector of principal components included in the regression. α, β, δ, and θ are the corresponding regression coefficients and ε is the error term which is assumed to be heteroscedastic. Details for the variables in Equation (1) follow below.

2.1 Outcome Variables

Six state outcome measures are examined. The outcomes include growth rates of total nonfarm wage and salary employment, per capita income, population, and productivity. We subtract employment growth from gross state product growth to derive the growth rate of productivity. Per capita income, population, and real gross state product are from the US Bureau of Economic Analysis, while employment is from the BLS Quarterly Census of Employment and Wages. Other state outcome variables are the BLS unemployment and labor force participation rates. The descriptive statistics for the six outcome variables are provided in Table 1.

2.2 COVID Period Variables

We follow Lawrence et al. (2022) and define a state as Republican based on the party of the state's governor at the time of the COVID-19 outbreak in 2020 and if a Republican won the state ballot in every election from 2000 to 2016. The states classified as Republican based on these two criteria are Alabama, Arizona, Arkansas, Georgia, Idaho, Mississippi, Missouri, Nebraska, North Dakota, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, West Virginia, and Wyoming. The Covid death rate is defined as the number of Covid deaths per 100,000 people and is age-adjusted. The state data are available for 2020 and 2021.[2] We include the 2020 Covid death rate in the 2019-2020 period regression and include the 2021 Covid death rate in the 2020-2022 period regression.

2.3 Control Variables

Appendix Table 1 provides the definitions, data sources, and descriptive statistics for the thirty-two control variables. All variables are measured for years before the periods used in the regressions to reduce endogeneity concerns. With limited degrees of freedom in state cross-sectional analysis, we use principal components to reduce the dimensionality of the control variables. We divide the thirty-two variables into four groups before applying principal component analysis to ensure that we obtain representativeness of the major sources of growth from the principal components.

The first group of control variables includes three indicators from the Economic Research Service (ERS) of the US Department of Agriculture related to the natural amenity attractiveness of the state: the county population-weighted natural amenity ranking; the population-weighted share of counties in the state that are retirement destinations; and the population-weighted share of counties that have recreation-based economies.

Second, are measures of urbanization of the state: the population-weighted share of counties in the state that have experienced consistent population loss (ERS); the population density of the state (Census Bureau); the percent of the population that is metropolitan (Census Bureau); the population-weighted share of counties that have had persistent poverty (ERS); the county population-weighted ranking along the rural-urban continuum (ERS); and per capita income (BEA).

The third group of measures includes demographic variables from the 2000 Census of Population: ethnicity shares for African Americans, Hispanics, and Native Americans; the married population share; the female population share; the share of working-age individuals defined as those between 25 and 54 years old; and educational attainment shares of the adult

[2] US Centers for Disease Control and Prevention (https://www.cdc.gov/nchs/pressroom/sosmap/covid19_mortality_final/COVID19.htm)

population (25 years and above) for high school completion only, associate college degree only, and bachelor's degree.

The fourth and final group of measures reflects the industry structure of the state before the growth periods examined. Partridge et al. (2022) reports that in contrast to the Great Recession, the Great Lakes manufacturing states performed near the US average at the onset of the pandemic, and areas with greater shares of employment in leisure services were particularly affected by the pandemic. Forsythe et al. (2020) reports large Covid-related losses in leisure and hospitality services and nonessential retail stores.

First, using the shift-share model we calculate (Loveridge and Selting, 1998) employment-based industry mix and wage-based industry mix growth rate measures for 1998-2002 using 1998 state detailed industry employment weights from the W.E. Upjohn Institute Unsuppressed County Business Patterns Data (Bartik et al., 2018). We also calculate employment-based and wage-based industry mix growth measures for 1998-2002 for the neighbors of each state and a Gini coefficient of industry dispersion. We use industry mix measures that pre-date the sample period because of concerns with their endogeneity (Osman and Kemeny, 2022). Second, using 2002 Census County Business Patterns data we calculate the shares of total nonfarm employment in the state comprised by traditional export sectors: the oil and gas sector, agriculture, fisheries, and forestry, manufacturing, durable goods vs. nondurable goods manufacturing, and professional and business services. Third, we use industry dependence measures from ERS, the population-weighted shares of counties that are mining-dependent, manufacturing-dependent, and farm-dependent.

Based on the Kaiser Rule, we select the principal components for which the average eigenvalue exceeds one across the states for each of the four groups of the variables. The principal components extracted from each group of variables are uncorrelated by construction. The principal components from the different groups can be correlated.

3. Empirical Analysis

The descriptive statistics for the outcome variables are shown in Table 1. The correlation coefficients for each variable between periods appear in Table 2. Tables 3-7 contain the base regression results. The results of sensitivity analysis for model selection are presented in

Tables 8 and 9. Table 10 contains the base model results for the 2019-2022 period in further sensitivity analysis.[3]

3.1 Outcome Variable Descriptive Statistics

From Table 1, employment on average increased and unemployment decreased during the 2003-2007, 2010-2019, and 2020-2022 expansion periods, while the reverse happened during the 2007-2010 and 2019-2020 recession periods. Except for 2020-2022, the labor force participation rate on average declined across all states. Per capita income, productivity, and population on average increased across all states during each period.

As shown in Table 2, except for per capita income and population, the outcomes during 2003-2007 are slightly negatively correlated with those for 2007-2010. Employment and population growth during 2003-2007 are strongly positively related to their growth during 2010-2019. Productivity growth is weakly correlated between 2003-2007 and 2010-2019 and unemployment and labor force participation are uncorrelated between the two periods.

Employment, per capita income, and population growth before the pandemic (2010-2019) are positively correlated with their growth during the onset of the pandemic (2019-2020) and recovery from the initial pandemic period (2020-2022). The correlation coefficients for employment and per capita income growth are larger between the 2010-2019 and 2020-2022 periods, while the coefficient for population is slightly larger between the 2010-2019 and 2019-2020 periods. The correlation coefficients for the unemployment rates across states for 2010-2019 with those during 2019-2020 and 2020-2022 switch from negative to positive. Taken together, the correlation coefficients suggest that the 2010-2019 patterns among states are re-emerging post-pandemic for most outcome measures.

3.2 Principal Component Results

As shown in Appendix Table 2, for the three variables related to the natural amenity attractiveness of a state, one principal component with an eigenvalue over one is extracted. Two principal components are extracted from the six urbanization variables. Three principal components are extracted from the nine demographic variables. The dimensionality of the

[3] EViews 13 is used for all empirical analysis in the paper.

industry composition variables is reduced from fourteen variables to five principal components. A total of eleven principal components are then extracted from the thirty-two variables and are included in the regressions as control variables.

From Panel A of Appendix Table 2, the first column shows the factor loadings for the principal component extracted from the three natural amenity variables. The loadings are larger for the amenity rank and retirement destination variables. The five states with the largest factor scores for the amenity principal component are Arizona, Nevada, Florida, New Mexico, and California (Appendix Table 3). The five states with the corresponding lowest factor scores, starting with the state with the lowest score, are North Dakota, Indiana, Illinois, Ohio, and Nebraska.

The first principal component for urbanization is approximately equally (either positively or negatively) related to the four variables that most likely directly measure urbanization: population density, rural-urban continuum classification, percent of the population in metropolitan areas, and per capita income. The negative sign for the rural-urban continuum code variable reflects the larger index values for having a larger share of small rural counties in the state. Persistent poverty status and population loss are inversely related to urbanization. The five states with the largest scores for the first urban principal component are New Jersey, Massachusetts, Connecticut, Rhode Island, and Maryland. The five states with the lowest scores are Mississippi, North Dakota, Montana, West Virginia, and South Dakota.

The second principal component of urbanization is most positively related to the state share of counties with persistent population loss but negatively related to the state share of counties with persistent poverty. The component is modestly positively related to per capita income and the rural-urban continuum variable, and modestly negatively related to the metropolitan population share. The five states with the largest associated factor scores are North Dakota, West Virginia, Pennsylvania, Wyoming, and Iowa. The five states with the lowest associated factor scores are Mississippi, New Mexico, Louisiana, Texas, and Georgia.

The first principal component for demographic characteristics is positively related to the Hispanic and Native American population shares, college graduate (bachelor's and associate's) share, and working-age population. It is negatively related to the African-American population share, the female population share, the married population share, and the share of the adult population that only completed high school. The five states with the largest factor scores are California, New Mexico, Colorado, Arizona, and Washington. The five states with the lowest factor scores are West Virginia, Arkansas, Mississippi, Louisiana, and Alabama.

The second demographic principal component is most negatively related to the African-American and Hispanic population shares and most positively related to the married population share and the population shares with high school completion only and an associate college degree only. The five states with the largest factor scores are Iowa, South Dakota, Maine, North Dakota, and New Hampshire. The five states with the lowest factor scores are Mississippi, Louisiana, Texas, California, and New Mexico.

The third demographic principal component is most positively correlated with the working-age population and the bachelor's degree share and most negatively related to the Native American population share. The five states with the largest factor scores are Maryland, New Hampshire, Massachusetts, Connecticut, and Colorado. The five states with the lowest factor scores are New Mexico, Oklahoma, South Dakota, Arizona, and Utah.

From Panel B of Appendix Table 2, the first principal component for industry composition is most positively correlated to the employment-based industry composition variable for 1990-2000 and most negatively correlated with manufacturing dependence. It also is positively related to the employment-based and wage-based industry composition measures for 1998-2002, more unequal industry employment shares as measured by a larger Gini coefficient in 2002, mining dependence, and greater shares of employment in professional, scientific, and technical services, and the oil and gas sector. The five states with the largest factor scores for the first industry composition principal component are Wyoming, New Mexico, Florida, Maryland, and Nevada. The five states with the lowest factor scores are Indiana, Wisconsin, North Carolina, South Carolina, and Arkansas.

The second principal component for industry composition is most positively related to the oil and gas sector and the mining dependence of the state. It is most negatively related to the employment-based industry composition variable for 1998-2002. The component also is positively related to agriculture and farming, while negatively related to professional and technical services. The five states with the largest factor scores are Wyoming, West Virginia, North Dakota, Mississippi, and South Dakota. The five states with the lowest scores are California, New York, Massachusetts, Maryland, and Connecticut.

The third principal component for industry composition is most positively related to the relatively stronger relative industry-based growth of employment and wages of a state's neighbors. The component also is positively related to farm dependence and the difference in nondurable manufacturing and durable manufacturing employment shares. It is negatively related to the oil and gas employment share and mining dependence. The five states with the largest factor scores are Nebraska, Maryland, Maine, North Dakota, and South Dakota. The five states with the lowest factor scores are Wyoming, New Hampshire, Connecticut, West Virginia, and Kentucky.

The fourth principal component for industry composition is most positively related to the oil and gas employment share and mining dependence. In contrast to the second industry composition principal component which also is positively related to the mining sector, the fourth principal component is negatively related to farm dependence and agricultural, forestry, and fishery services and positively related to the employment share of professional, scientific, and technical services. The five states with the largest factor scores are Wyoming, Virginia, Illinois, Maryland, and New Jersey. The five states with the lowest factor scores are South Dakota, North Dakota, Idaho, Washington, and Florida.

The fifth and final industry composition principal component is dominated by strongly positive associations with agricultural, forestry, and fishery services and with a large difference in the nondurable manufacturing employment share relative to the durable manufacturing employment share. The five states with the largest factor scores are Alabama, Idaho, Washington, Maine, and Oregon. The five states with the lowest factor scores are South Dakota, Michigan, Indiana, North Dakota, and Ohio.

3.3 Base Model Regression Results

In pre-testing (not shown), we first test whether the five periods can be pooled into a single regression for each outcome variable solely using the eleven principal component control variables. Based on an F-test, only the population and labor force participation rate variables can be examined with pooled regressions.[4] Based on the pooling tests we estimate the regressions separately for each period for all six outcome variables.[5] To reduce multicollinearity, we sequentially remove control variables with variance inflation factors equal to 5 or greater, eliminating the control variable with the largest factor each round until all control variables have variance inflation factors less than 5.[6]

3.3.1 The COVID-19 Recession (2019-2020) and Preceding Expansion

From Table 3, we see that except for the labor force participation rate, the regressions for the COVID-19 recession year are statistically significant. From the first column, among the control variables, the third demographic principal component and the first industry mix principal component are significantly negative, while the third industry mix variable is significantly positive. The significant control variable coefficients suggest that states that had more manufacturing dependence, less oil and gas and mining dependence, and had a lower working-age population and bachelor's degree share fared better during the COVID-19 recession in terms of employment growth. The first principal component for urbanization is one of the variables eliminated because of its variance inflation factor, though it is statistically insignificant when added to the employment growth regression shown in the first column.

The first industry mix component also is negatively and significantly related to per capita income growth and productivity growth during the COVID-19 recession, while the third industry mix principal component is negatively related to the unemployment rate, and the fourth industry mix principal component is negatively related to per capita income and

[4] For comparability across the different length periods, the outcome variables are calculated on a per year basis. We also include intercept shifts for the different periods in the pooled regressions so that the tests for differences solely reflect differences in slopes for the control variables.

[5] We discount the pooling results for the labor force participation rate because its regression is insignificant in each period as shown below and the control variables are insignificant as a group in the pooled regression. Population growth emerges as the sole variable with consistent regression patterns across the periods below.

[6] A variance inflation factor equal to or greater than 5 suggests that multicollinearity is a problem or a cause for concern (James et al., 2013; Menard, 2001).

productivity growth. Natural amenity attractiveness is positively associated with population growth, which fits the perception that the pandemic pushed people to the sunbelt (Glaeser, 2022). Urbanization (the first principal component) is associated with larger increases in both the unemployment and labor force participation rates.

Consistent with Lawrence et al. (2022), status as a Republican state is associated with statistically smaller rates of employment declines during the COVID-19 recession relative to the declines in the remaining states. We similarly find stronger population growth, smaller decreases in the labor force participation rate, and smaller increases in the unemployment rate in states designated as Republican during the COVID-19 recession. Yet, we find weaker per capita income and productivity growth in Republican states during the period. The extensive controls for industry mix reduce the chances that the results simply reflect shifts in industry composition, though there may be shifts in firm size within industry categories. The contrary evidence for per capita income growth and productivity growth weakens the argument that status as a Republican state enhanced overall economic well-being during the COVID-19 recession.

COVID deaths in 2020 were only associated with lower employment growth during the COVID-19 recession. The correlation between status as a Republican state and Covid deaths in 2020 is 0.15 (not shown), suggesting that whatever benefits there were for the economy of Republican status in 2020, they did not much affect Covid deaths. This may have occurred in part because of heterogeneity in the effects of shelter-in-place-orders on Covid cases (Dave et al., 2021) and differences in success in treating Covid cases.[7]

For the expansion preceding the COVID-19 pandemic, Table 4 shows that only the productivity and labor force participation rate regressions are statistically insignificant. Status as a Republican state is only associated with positive population growth during the expansion preceding the COVID-19 recession. This suggests that the outcomes other than population growth which are associated with status as a Republican state during the COVID-19 recession were related to Covid policies and actions by individuals in Republican states, not

[7] https://www.commonwealthfund.org/publications/scorecard/2022/jun/2022-scorecard-state-health-system-performance.

to longer-standing trends. Natural amenity attractiveness is significantly and positively associated with employment and per capita income growth and negatively correlated with the unemployment rate during the 2010-2019 period. The first demographic principal component is positively related to employment, per capita income, and population growth. The first industry mix component is negatively related to employment and per capita income growth, consistent with the COVID-19 recession year. The first principal component for urbanization is negatively related to the unemployment rate, suggesting that the positive relationship during 2019-2020 was related to the economic fallout from the Covid outbreak.

3.3.2 The Great Recession (2007-2010) and Preceding Expansion

As shown in Table 5, except for the labor force participation rate regression, all regressions for the Great Recession period are statistically significant. Natural amenity attractiveness is significantly negatively associated with employment growth, and productivity growth, and positively associated with the change in the unemployment rate. This stands in contrast to the insignificance of natural amenities in the employment and productivity growth COVID-19 recession regressions. The first demographic principal component is positively associated with employment, productivity, and population growth, which also contrasts with the insignificance of the principal component in the COVID-19 recession regressions.

Industry composition also had differing effects during the Great Recession compared to the COVID-19 recession. The first industry mix principal component is positively associated with employment, per capita income, and productivity growth, suggesting that manufacturing states fared worse during the Great Recession. Population growth is positively related to both the fourth and fifth industry mix principal components.

In contrast to the COVID-19 recession regression, status as a Republican state generally does not affect relative economic performance across the states during the Great Recession. The exception is the positive association with population growth, which is consistent with the positive relationship in the 2010-2019 and 2019-2020 periods. The differences in patterns of performance across states between the COVID-19 recession and the Great Recession fit the near-zero correlation of employment growth, per capita income growth, productivity growth, and changes in the labor force participation rate shown in Table

2 for the two recessions; only population growth and changes in the unemployment rate are correlated between the two recessions.

From Table 6, only the productivity and labor force participation rate regressions are statistically insignificant for the period before the Great Recession (2003-2007). Republican status is positively associated with growth in employment, productivity, and population. The first demographic principal component is generally associated with better economic outcomes during the 2003-2007 period, consistent with the patterns in the Great Recession. Natural amenity attractiveness though is either insignificant or omitted. The third demographic principal component is negatively related to employment growth and positively related to the unemployment rate.

3.3.3 Post-Pandemic Recovery (2020-2022)

With the exceptions of per capita income growth and the labor force participation rate, the regressions for the post-pandemic recession period are statistically significant (Table 7). Among the control variables, only the natural amenity component in the population regression, the first industry mix component in the productivity growth regression, and the third demographic principal component in the labor force participation rate regression are statistically significant in both the 2019-2020 and 2020-2022 regressions. This fits the near zero or negative correlation coefficients for the outcome variables for the two periods in Table 2. The sole exceptions are the large positive correlation for population growth and the modestly positive coefficient for productivity growth during the two periods. The unemployment rate is the most negatively correlated outcome variable between the two periods.

The coefficient for status as a Republican state turns from significantly negative in the 2019-2020 period to significantly positive in the 2020-2022 period in the productivity growth and unemployment rate change regressions. The positive coefficient for Republican status in the unemployment regression may occur from the smaller increases during the COVID-19 recession. Adding the change in the unemployment rate during the COVID-19 recession to the unemployment regression for 2020-2022 causes the coefficient for Republican status to become statistically insignificant.[8] The Republican status coefficient turns from significantly positive to significantly negative in the labor force participation rate regression, though the labor force participation rate regression is insignificant.[9] The Republican status coefficient remains positive in the population growth regression while becoming insignificant in the employment growth regression.

COVID-19 deaths in 2021 are positively and significantly related to employment growth and negatively related to the unemployment rate during 2020-2022, though the Covid death variable is negatively and significantly related to productivity growth. It is more likely that greater economic activity led to Covid deaths than the reverse. Although the correlation between Covid deaths in 2021 and Republican status is 0.5 (not shown), except for the unemployment rate regression, the signs and significance of the Republican status variable do not change after omitting the Covid death variable.[10] The Republican status coefficient becomes insignificant with the omission of the Covid deaths variable in the unemployment regression.

The positive and significant coefficient for natural amenities in the employment and population growth regression suggests that the importance of natural amenities during the 2010-2019 expansion resumed post-pandemic. The positive and significant coefficient for the first urban principal component suggests that urbanization resumed its role in employment growth across states. The other statistically significant coefficient in both the 2010-2019 and 2020-2022 recovery periods is the positive coefficient for the second demographic principal component in the unemployment regression.

4. Sensitivity Analysis

4.1 Adding the Leisure and Hospitality Services Employment Share

Because leisure and hospitality services were reported to have been particularly adversely affected by the Covid pandemic (Partridge et al., 2022), in results not shown we add the 2003

[8] When the outcome variable for 2019-2020 is added to the other regressions in Table 7, the signs and statistical significance of the coefficients for Republican status are not affected.

[9] Sensitivity analysis below shows that the coefficient for Republican status is robust to alternative specifications that produce statistically significant regressions.

[10] Wallace et al. (2023) report higher excess death rates for Republicans than Democrats among registered voters in Florida and Ohio during the COVID-19 pandemic after vaccines were available to all adults, but not before.

QCEW share of total employment comprised of the Leisure and Hospitality sector to the COVID-19 recession and post-Covid regressions. To some extent, our control variables account for the influence of the Leisure and Hospitality sector. In a simple regression, fifty percent of the variation of the Leisure and Hospitality employment share is explained by the eleven principal components. The Leisure and Hospitality employment share is most correlated with natural amenity attractiveness (0.56), followed by the first industry mix principal component (0.34), and the first demographic principal component (0.24).

In results not shown, for employment growth the Leisure and Hospitality employment share is negative and statistically significant in the 2019-2020 employment regression and positive and statistically significant in the employment 2020-2022 regression. The signs and significance of the Republican and Covid death variables are unchanged, which are now interpreted as their effects on the outcomes measured beyond their influence through the Leisure and Hospitality sector.

The Leisure and Hospitality employment share is significantly positive in the 2019-2020 unemployment regression and significantly negative in the 2020-2022 unemployment regression. The Republican status variable remains negative and significant in the 2019-2020 unemployment regression while becoming insignificant in the 2020-2022 unemployment regression. The Leisure and Hospitality employment share is negative and significant in the 2019-2020 labor force participation rate regression and the regression becomes statistically significant, while the Republican status variable remains positive and significant. The added variable is insignificant in the 2020-2022 labor force participation rate regression and the regression remains insignificant.[11]

4.2 Model Selection

To examine the sensitivity of the statistical results for the Republican status of a state to the inclusion of the control variables, we estimate three alternative versions to the base regression used to produce the results in Tables 3-7. First, we estimate regressions without any control

[11] The Leisure and Hospitality employment share is significantly negative in the 2019-2020 productivity growth regression, in which the coefficient for Republican status remains significantly negative. The added variable is insignificant in the population growth and per capita income growth regressions for both periods and the signs and significance of the Republican status variable are unaffected.

variables. Secondly, we estimate regressions that include the full set of control variables. Thirdly, we use the stepwise regression estimation procedure, in which all variables in the regression are subject to possible omission.

Table 8 shows which variables are statistically significant in each employment regression and their associated signs. The final two columns of the table show the statistics for the Akaike Information Criterion (AIC) and the Schwarz Criterion (SC) for evaluation of the competing models. According to both the AIC and SC, the stepwise regression models are preferred to the other models with one exception. For employment growth during the COVID-19 recession, the AIC favors the stepwise regression model, while the SC favors the parsimonious model. The results from Tables 3-7 for the employment regressions are included in Table 8 for comparison to those of the other models.

For 2019-2020, the positive significant coefficient for Republican status in the base employment growth regression holds in the three alternative models, consistent with Lawrence et al. (2022). The significant negative coefficient for Covid deaths though becomes insignificant in the full and stepwise regressions. The same control variables are statistically significant and of the same sign in the base and stepwise regression models. For 2020-2022, there are not any differences between the base and stepwise regression models, including the absence of a statistically significant effect for status as a Republican state.

There are differences between the base and stepwise employment growth regression results for 2010-2019. Most importantly, the status as a Republican state becomes positive and significant in the stepwise and full regressions. There is evidence, especially from the stepwise and full regressions, that Republican status was associated with faster employment growth in all previous periods. This suggests that some of the advantages of Republican state status during 2019-2020 may derive from differences other than Covid responses.

Although the base model is our preferred model based on theory, we compare the base model results to the stepwise regression model results for all the economic indicators to demonstrate their robustness. Table 9 shows the signs of the statistically significant variables for the stepwise regressions for each of the six outcome variables. The employment growth stepwise regression results from Table 8 are included for comparison.

Focusing on the Republican status variable, it becomes statistically insignificant in the 2003-2007 productivity growth stepwise regression. For 2010-2019, it becomes positive and significant in the per capita income growth and productivity growth regressions. The Republican status results are robust for 2019-2020 with the sole exception that the negative coefficient for productivity growth in Table 3 becomes insignificant in the stepwise regression model. The Republican status changes for the 2020-2022 regression are the negative significant result for labor force participation and the positive significant result for productivity growth in Table 7 both becoming insignificant in the stepwise regressions.

The Covid death variables become significant more often in the stepwise regressions. For 2019-2020, the Covid death variable becomes negative and significant in the per capita income and population growth regressions, while becoming positive in the unemployment rate change regression. The sole change for 2020-2022 is a statistically negative coefficient for the Covid death variable in the base productivity growth regression becoming insignificant.[12]

4.3 Long-term Effects Post-2019

As shown in Table 10, except for the labor force participation rate regression, all regressions are statistically significant. Consistent with the COVID-19 recession and subsequent recovery, status as a Republican state is positively and significantly related to population growth for 2019-2022. But this is simply a continuation of a long-term trend from previous periods. Adjusting for the differences in the length of sample periods, the difference in the Republican coefficients in the population growth regressions between 2010-2019 and 2019-2022 is nowhere near statistical significance (Clogg et al., 1995).[13]

Republican status is not significantly related to any of the other outcome measures during 2019-2022. The advantage of Republican status for employment growth during 2019-

[12] As an alternative to stepwise regression and omitting principal components with too large of variance inflation factors, we applied principal component analysis to the eleven principal components. This further reduced the number of principal components to four based on the Kaiser rule. After rerunning all thirty regressions with the inclusion of all four principal components, with one exception, the sign and significance of Republican status matches that in either the base or stepwise regression.

[13] Recall that the population growth regressions for the control variables across the sample periods pass the test for pooling. The test of equality of Republican status coefficients between the 2019-2020 and 2010-2019 population regressions also fails to reject the difference as statistically significant.

2020 does not hold for 2019-2022, suggesting only short-term benefits in Republican states. Yet, although the Covid deaths variable averaged for 2020 and 2021 is insignificant in the employment growth regression, the Republican status variable becomes positive and significant when the Covid deaths variable is omitted. On balance, when also considering the positive and significant coefficient for Republican status in the 2010-2019 employment regression in sensitivity analysis, the evidence of a longer-term COVID-19 employment advantage in Republican states is weak. The average Covid death rate from 2020-2021 is only significantly (negatively) related to productivity growth in the other regressions.

Amenity attractiveness is positively and significantly related to employment growth and population growth during 2019-2022, which suggests the continuation of longer-term natural amenity growth trends. The larger amenity coefficient for the 2019-2022 employment regression relative to the 2010-2019 regression (adjusted for the difference in length of the periods) fits the perception of the pandemic accelerating the long-term trend towards the sunbelt (Glaeser, 2022). However, the difference in coefficients between the two periods is nowhere near statistical significance. The benefit of urbanization for stronger employment growth and lower unemployment during 2010-2019 was not evident during 2019-2022, possibly because of urban flight from the pandemic (Coven et al., 2023), though it may re-emerge in the longer run (Florida et al., 2023).[14] The fourth principal component for industry mix is negative and statistically significant in the employment, per capita income, and population growth regressions. This follows the negative coefficient signs in the 2010-2019 regressions, though the coefficient is only significant in the population growth regression. Recall that the fourth principal component for industry composition is most positively related to the oil and gas employment share and mining dependence and most negatively related to farm dependence.

5. Summary and Conclusion

State government responses to the COVID-19 pandemic were wide-ranging and often proved to be controversial and political. In addition, responses by individuals to the pandemic

[14] The coefficient for the first principal component for urbanization is insignificant with a positive sign when added to the unemployment rate regression of Table 10.

outbreak appeared to relate to their political views. In this paper, we examined whether states that could be classified as Republican performed differently than Democratic states during 2020. Because the national economy returned to full employment during 2022, we also examined state economic performance from 2019-2022 to assess whether there was a longer-term shift in economic performance.

We find that Republican states experienced faster employment and population growth and smaller increases in unemployment rates than their Democratic counterparts from 2019-2020, consistent with previous evidence (Lawrence et al., 2022; Partridge et al., 2022). Yet, in assessing the broader economic effects associated with COVID-19, we find Republican status to be associated with slower per capita income and productivity growth during 2019-2020, casting some doubt on the overall economic benefits of less restrictive state government policies and less avoidance of the virus by individuals.

To better identify the differences during the COVID-19 recession year as related to responses to the pandemic, we also examined periods before the COVID-19 outbreak. Examination of the Great Recession and previous expansions revealed consistently stronger population growth in Republican states. Sensitivity analysis provided some evidence of stronger employment, per capita income, and productivity growth during the national expansion of employment during 2010-2019 in Republican states. This suggests that some of the stronger employment growth during 2019-2020 might have occurred because of longer-term trends and not state government Covid policies or differences in virus avoidance responses by individuals.

Finally, the remarkable recovery of the US economy from the COVID-19 recession appears to have re-established some longer-term state economic patterns. Except for population growth, status as a Republican state is not associated with differing economic performance during 2019-2022. The population growth advantage during 2019-2022 in Republican states follows the long-term trend from previous periods. Natural amenity-based growth appeared to resume as did stronger growth in manufacturing states and weaker growth in energy states. The stronger employment growth and greater reductions in unemployment rates in more urbanized states that preceded the pandemic were not evident during 2019-

2022. It is yet to be seen whether pandemic-induced technological innovations, increased remote working, and disruptions to educational achievement, will alter future relative state economic outcomes.

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Tab1e 1. Descriptive Statistics				
Variable	Mean	Std. Dev.	Maximum	Minimum
Employment 2003-2007	0.066	0.045	0.189	-0.033
Employment 2007-2010	-0.051	0.030	0.050	-0.137
Employment 2010-2019	0.135	0.074	0.321	-0.005
Employment 2019-2020	-0.056	0.021	-0.006	-0.102
Employment 2020-2022	0.070	0.023	0.163	0.037
PerCapInc 2003-2007	0.223	0.053	0.374	0.096
PerCapInc 2007-2010	0.032	0.045	0.206	-0.068
PerCapInc 2010-2019	0.359	0.069	0.523	0.223
PerCapInc 2019-2020	0.063	0.015	0.092	0.025
PerCapInc 2020-2022	0.093	0.014	0.135	0.064
Productivity 2003-2007	0.076	0.039	0.213	0.003
Productivity 2007-2010	0.048	0.030	0.149	-0.008
Productivity 2010-2019	0.065	0.079	0.368	-0.081
Productivity 2019-2020	0.029	0.018	0.066	-0.013
Productivity 2020-2022	0.008	0.025	0.069	-0.053
Population 2003-2007	0.040	0.036	0.157	-0.032
Population 2007-2010	0.026	0.017	0.069	-0.012
Population 2010-2019	0.063	0.047	0.164	-0.029
Population 2019-2020	0.005	0.006	0.023	-0.006
Population 2020-2022	0.008	0.014	0.049	-0.021
Unemployment 2003-2007	-1.25	0.765	0.1	-3
Unemployment 2007-2010	4.44	1.610	9.2	0.7
Unemployment 2010-2019	-5.25	1.869	-1.5	-9.7
Unemployment 2019-2020	2.69	1.497	8.4	0.2
Unemployment 2020-2022	-3.86	1.222	-2	-8.1
LF Participation 2003-2007	-0.15	1.239	2.6	-2.8

LF Participation 2007-2010	-1.49	1.179	0.5	-4.5
LF Participation 2010-2019	-1.63	1.335	2.1	-4.5
LF Participation 2019-2020	-2.31	0.770	-1	-4.2
LF Participation 2020-2022	0.19	0.885	2.1	-1.7
Republican	0.35	0.48	1	0
COVID Death Rate 2020	82.56	28.63	141.6	16
COVID Death Rate 2021	100.41	33.29	158.8	29.5

Note: The figures are growth rates for employment, per capita income, population, and productivity. For unemployment and labor force participation the figures are differences in rates measured in percentages. For COVID-19 death rates, the figures represent Covid deaths per 100,000 people, adjusted for age. For the Republican variable, the figures represent its definition as a binary variable.

Table 2. Variable Correlations across Time					
	EMP 03_07	EMP 07_10	EMP 10_19	EMP 19_20	EMP 20_22
EMP 07_10	-0.20	1.00			
EMP 10_19	0.58	-0.42	1.00		
EMP 19_20	0.45	0.01	0.27	1.00	
EMP 20_22	0.42	-0.62	0.68	-0.10	1.00
	PCINC 03_07	PCINC 07_10	PCINC 10_19	PCINC 19_20	PCINC 20_22
PCINC 07_10	0.03	1.00			
PCINC 10_19	-0.03	-0.61	1.00		
PCINC 19_20	-0.13	0.04	0.16	1.00	
PCINC 20_22	-0.10	-0.38	0.46	-0.22	1.00
	PROD 03_07	PROD 07_10	PROD 10_19	PROD 19_20	PROD 20_22
PROD 07_10	-0.25	1.00			
PROD 10_19	0.23	0.27	1.00		
PROD 19_20	-0.22	0.08	0.08	1.00	0.32
PROD 20_22	-0.25	-0.20	-0.13	0.32	1.00
	POP 03_07	POP 07_10	POP 10_19	POP 19_20	POP 20_22
POP 07_10	0.69	1.00			
POP 10_19	0.70	0.68	1.00		
POP 19_20	0.86	0.62	0.82	1.00	
POP 20_22	0.74	0.50	0.65	0.89	1.00
	UNEMP 03_07	UNEMP 07_10	UNEMP 10_19	UNEMP 19_20	UNEMP 20_22
UNEMP 07_10	-0.23	1.00			
UNEMP 10_19	-0.03	-0.87	1.00		
UNEMP 19_20	-0.02	0.57	-0.59	1.00	
UNEMP 20_22	-0.01	-0.58	0.54	-0.93	1.00
	LFPART 03_07	LFPART 07_10	LFPART 10_19	LFPART 19_20	LFPART 20_22
LFPART 07_10	-0.26	1.00			
LFPART 10_19	0.05	-0.25	1.00		
LFPART 19_20	-0.10	-0.03	-0.06	1.00	
LFPART 20_22	0.26	0.10	0.02	-0.21	1.00

Table 3. 2019-2020 (Variance Inflation Factors<5) (OLS slope estimates; Huber-White heteroscedasticity consistent standard errors in parentheses)						
	Employment	PerCapInc	Productivity	Population	Unemp	LF Part
Constant	-0.0453 (0.0107)[a]	0.0711 (0.0077)[a]	0.0391 (0.0102)[a]	0.0057 (0.0032)[c]	2.2324 (0.4926)[a]	-2.5870 (0.4056)[a]
Amenity	-0.0013 (0.0032)	0.0013 (0.0030)	0.0015 (0.0026)	0.0022 (0.0008)[a]		-0.1519 (0.1245)
Demographic 1	0.0012 (0.0019)		0.0017 (0.0018)	0.0005 (0.0007)	0.0505 (0.1043)	0.0651 (0.0803)
Demographic 2				0.0007 (0.0008)		
Demographic 3	-0.0058 (0.0024)[b]	-0.0044 (0.0026)	0.0002 (0.0030)	-0.0006 (0.0006)	-0.0648 (0.1558)	-0.2847 (0.1140)[b]
Industry Mix 1	-0.0024 (0.0013)[b]	-0.0029 (0.0010)[a]	-0.0026 (0.0014)[c]	-0.0004 (0.0005)	-0.0052 (0.1106)	-0.0266 (0.0612)
Industry Mix 2				-0.0006 (0.0005)		
Industry Mix 3	0.0030 (0.0016)[c]	0.0030 (0.0011)	0.0012 (0.0020)	0.0005 (0.0005)	-0.2484 (0.1356)[c]	-0.0568 (0.0757)
Industry Mix 4	-0.0014 (0.0017)	-0.0038 (0.0013)[a]	-0.0058 (0.0017)[a]	-0.0005 (0.0005)	-0.0101 (0.1612)	0.0609 (0.0678)
Industry Mix 5	0.0029 (0.0029)	-0.0007 (0.0016)	0.0005 (0.0026)	0.0008 (0.0009)	-0.0083 (0.1342)	0.1189 (0.1026)
Urban 1		0.0000 (0.0017)	0.0007 (0.0021)		0.4310 (0.1063)[a]	0.1795 (0.0851)[b]
Urban 2	-0.0015 (0.0027)	-0.0012 (0.0020)	0.0014 (0.0032)			0.1299 (0.1293)
Republican	0.0177 (0.0053)[a]	-0.0123 (0.0041)[a]	-0.0108 (0.0051)[b]	0.0041 (0.0018)[b]	-0.5904 (0.3135)[c]	0.8059 (0.2810)[a]
COV Deaths-20	-0.0002 (0.0001)[c]	0.0000 (0.0001)	-0.0001 (0.0001)	0.0000 (0.0000)	0.0081 (0.0053)	-0.0001 (0.0050)
R-squared	0.587	0.413	0.407	0.579	0.505	0.341
F-statistic	5.250[a]	2.606[b]	2.249[b]	4.500[a]	4.303[a]	1.697

[a] denotes significant at or below the 0.01 level
[b] denotes significant at or below the 0.05 level
[c] denotes significant at or below the 0.1 level

Table 4. 2010-2019 (Variance Inflation Factors<5) (OLS slope estimates; Huber-White heteroscedasticity consistent standard errors in parentheses)						
	Employment	PerCapInc	Productivity	Population	Unemp	LF Part
Constant	0.1246 (0.0103)[a]	0.3495 (0.0094)[a]	0.0522 (0.0122)[a]	0.0521 (0.0069)[a]	-5.3174 (0.2469)[a]	-1.6463 (0.2649)[a]
Amenity	0.0216 (0.0102)[b]	0.0187 (0.0085)[b]	-0.0125 (0.0097)	0.0063 (0.0063)	-0.8244 (0.3165)[b]	-0.2091 (0.1632)
Demographic 1	0.0159 (0.0080)[c]	0.0230 (0.0064)[a]		0.0106 (0.0052)[b]	0.2102 (0.1893)	-0.1181 (0.1455)
Demographic 2	-0.0046 (0.0103)	0.0094 (0.0050)	0.0126 (0.0094)	0.0055 (0.0073)	0.2510 (0.1468)[c]	-0.0117 (0.1265)
Demographic 3	-0.0054 (0.0115)	-0.0017 (0.0114)	-0.0148 (0.0114)	0.0006 (0.0072)	-0.0440 (0.2165)	-0.2386 (0.2251)
Industry Mix 1	-0.0122 (0.0048)[b]	-0.0157 (0.0038)[a]	-0.0006 (0.0064)	-0.0006 (0.0030)	0.4432 (0.1142)[a]	0.0721 (0.1395)
Industry Mix 2						
Industry Mix 3	0.0062 (0.0071)	-0.0030 (0.0074)	0.0147 (0.0078)[c]	0.0068 (0.0045)	0.0864 (0.1600)	-0.1736 (0.1695)
Industry Mix 4	-0.0102 (0.0077)	0.0086 (0.0064)	-0.0106 (0.0129)	-0.0088 (0.0049)[c]	-0.0061 (0.1552)	-0.1763 (0.2314)
Industry Mix 5	0.0077 (0.0072)	0.0125 (0.0074)	0.0031 (0.0115)	0.0060 (0.0052)	-0.0204 (0.2182)	0.0167 (0.1966)
Urban 1	0.0147 (0.0083)[c]	0.0076 (0.0065)	0.0101 (0.0090)	0.0058 (0.0048)	-0.4897 (0.1430)[a]	0.3454 (0.2057)
Urban 2	0.0040 (0.0139)			-0.00462 (0.0100)		
Republican	0.0307 (0.0205)	0.0271 (0.0189)	0.0350 (0.0225)	0.0305 (0.0137)[b]	0.1961 (0.4421)	0.0425 (0.4513)
R-squared	0.520	0.503	0.259	0.508	0.634	0.188
F-statistic	3.540[a]	3.749[a]	1.473	3.381[a]	6.398[a]	0.859

[a] denotes significant at or below the 0.01 level
[b] denotes significant at or below the 0.05 level
[c] denotes significant at or below the 0.1 level

Table 5. 2007-2010 (Variance Inflation Factors<5)
(OLS slope estimates; Huber-White heteroscedasticity consistent standard errors in parentheses)

	Employment	PerCapInc	Productivity	Population	Unemp	LF Part
Constant	-0.0537 (0.0033)[a]	0.0334 (0.0059)[a]	0.0495 (0.0059)[a]	0.0211 (0.0028)[a]	4.5041 (0.1920)[a]	-1.4087 (0.2090)[a]
Amenity	-0.0204 (0.0035)[a]	-0.0246 (0.0056)	-0.0128 (0.0036)[a]	-0.0008 (0.0020)	0.7938 (0.2253)[a]	-0.1084 (0.2529)
Demographic 1	0.0066 (0.0026)[b]	0.0028 (0.0039)	0.0062 (0.0029)[b]	0.0047 (0.0016)[a]	-0.2428 (0.1468)	-0.0527 (0.1257)
Demographic 2	0.0024 (0.0024)	0.0009 (0.0030)	-0.0027 (0.0053)	0.0017 (0.0025)	-0.2086 (0.1087)[c]	0.0828 (0.1329)
Demographic 3	-0.0010 (0.0026)	-0.0023 (0.0055)		-0.0014 (0.0026)	-0.2040 (0.2056)	0.1015 (0.2427)
Industry Mix 1	0.0047 (0.0014)[a]	0.0030 (0.0023)[c]	0.0044 (0.0022)[c]	0.0010 (0.0012)	-0.1294 (0.0935)	0.0814 (0.0832)
Industry Mix 2	0.0061 (0.0021)[a]	0.0088 (0.0042)				
Industry Mix 3	0.0014 (0.0017)	0.0016 (0.0039)	0.0043 (0.0032)	-0.0007 (0.0014)	-0.1612 (0.1147)	0.2131 (0.1477)
Industry Mix 4	-0.0014 (0.0020)	-0.0090 (0.0051)	-0.0075 (0.0037)[c]	0.0032 (0.0015)[b]	0.0412 (0.1164)	0.0630 (0.1445)
Industry Mix 5	0.0029 (0.0035)	-0.0039 (0.0051)	0.0053 (0.0033)	0.0038 (0.0020)[c]	0.0720 (0.1660)	-0.0100 (0.1849)
Urban 1			-0.0024 (0.0032)	-0.0004 (0.0016)	0.4817 (0.1191)[a]	-0.0301 (0.1762)
Urban 2			0.0020 (0.0067)	-0.0047 (0.0034)		
Republican	0.0077 (0.0072)	-0.0048 (0.0130)	-0.0034 (0.0108	0.0150 (0.0048)[a]	-0.1939 (0.3426)	-0.2167 (0.4508)
R-squared	0.701	0.603	0.395	0.538	0.683	0.132
F-statistic	8.677[a]	5.627[a]	2.413[b]	3.804[a]	7.985[a]	0.560

[a] denotes significant at or below the 0.01 level
[b] denotes significant at or below the 0.05 level
[c] denotes significant at or below the 0.1 level

Table 6. 2003-2007 (Variance Inflation Factors<5)
(OLS slope estimates; Huber-White heteroscedasticity consistent standard errors in parentheses)

	Employment	PerCapInc	Productivity	Population	Unemp	LF Part
Constant	0.0555	0.2188	0.0678	0.0293	-1.2086	-0.0408
	(0.0062)[a]	(0.0123)[a]	(0.0069)[a]	(0.0063)[a]	(0.1170)[a]	(0.2004)
Amenity	0.0164	-0.0071	-0.0060		0.0894	-0.0914
	(0.0058)	(0.0050)	(0.0045)		(0.0825)	(0.1987)
Demographic 1	0.0078	0.0047	0.0120	0.0097	-0.2261	-0.2407
	(0.0042)[c]	(0.0064)	(0.0045)[b]	(0.0034)[a]	(0.0821)[a]	(0.1436)
Demographic 2		0.0028	0.0076	0.0104	-0.0143	0.0630
		(0.0078)	(0.0066)	(0.0053)[c]	(0.1326)	(0.1342)
Demographic 3	-0.0089	-0.0121		-0.0050	0.2100	0.0398
	(0.0046)[c]	(0.0092)		(0.0042)	(0.0872)[b]	(0.1740)
Industry Mix 1	0.0013	0.0105	0.0014	-0.0012	-0.0519	0.3716
	(0.0025)	(0.0059)[c]	(0.0032)	(0.0032)	(0.0497)	(0.0894)[a]
Industry Mix 2						0.0358
						(0.1770)
Industry Mix 3	-0.0007	-0.0075	-0.0080	-0.0025	0.1105	-0.1338
	(0.0031)	(0.0061)	(0.0054)	(0.0024)	(0.0674)	(0.1270)
Industry Mix 4	0.0014	0.0036	0.0049	0.0030	-0.1423	-0.2280
	(0.0024)	(0.0074)	(0.0059)	(0.0041)	(0.0852)	(0.1610)
Industry Mix 5	(0.0071	0.0069	0.0003	0.0072	-0.3622	0.0561
	(0.0051)	(0.0062)	(0.0036)	(0.0043)	(0.0885)[a]	(0.1401)
Urban 1	0.0002	-0.0027	-0.0029	0.0034		0.0397
	0.0029	(0.0052)	(0.0039)	(0.0033)		(0.1372)
Urban 2	0.0063		-0.0032	-0.0142	0.0052	
	(0.0037)[c]		(0.0094)	(0.0065)[c]	(0.1609)	
Republican	0.0289	0.0122	0.0240	0.0310	-0.1051	-0.3200
	(0.0096)[a]	(0.0230)	(0.0140)[c]	(0.0097)[a]	(0.2339)	(0.4537)
R-squared	0.709	0.329	0.306	0.423	0.523	0.331
F-statistic	9.026[a]	1.816[c]	1.630	2.710[b]	4.061[a]	1.619

[a] denotes significant at or below the 0.01 level
[b] denotes significant at or below the 0.05 level
[c] denotes significant at or below the 0.1 level

Table 7. 2020-2022 (Variance Inflation Factors<5) (OLS slope estimates; Huber-White heteroscedasticity consistent standard errors in parentheses)						
	Employment	PerCapInc	Productivity	Population	Unemp	LF Part
Constant	0.0448 (0.0136)[a]	0.0876 (0.0122)[a]	0.0315 (0.0105)[a]	-0.0034 (0.0077)	-2.3412 (0.7509)[a]	0.6566 (0.5642)
Amenity	0.0086 (0.0040)[b]	0.0000 (0.0028)	0.0100 (0.0026)[a]	0.0043 (0.0020)[b]	-0.1223 (0.1627)	-0.0316 (0.1091)
Demographic 1	0.0000 (0.0015)	0.0029 (0.0021)	-0.0039 (0.0026)	0.0005 (0.0016)	0.1109 (0.1073)	-0.0932 (0.1145)
Demographic 2	0.0000 (0.0019)			0.0046 (0.0022)[b]	0.1937 (0.0941)[b]	-0.1368 (0.0970)
Demographic 3		0.0010 (0.0026)	0.0045 (0.0031)		-0.2540 (0.1772)	-0.3581 (0.1880)[c]
Industry Mix 1	-0.0009 (0.0010)	-0.0013 (0.0014)	-0.0068 (0.0016)[a]	-0.0011 (0.0011)	-0.1387 (0.0818)[c]	0.0376 (0.0916)
Industry Mix 2			-0.0072 (0.0025)[a]		0.2716 (0.0774)[a]	
Industry Mix 3	0.0010 (0.0019)	0.0008 (0.0016)	0.0001 (0.0015)	0.0010 (0.0013)	0.0711 (0.1437)	0.0468 (0.1163)
Industry Mix 4	-0.0067 (0.0018)[a]	0.0004 (0.0018	0.0025 (0.0024)	-0.0025 (0.0016)	0.2168 (0.1400)	-0.0460 (0.1067)
Industry Mix 5	-0.0005 (0.0025)	0.0006 (0.0022)	0.0024 (0.0024)	0.0016 (0.0019)	0.2908 (0.1554)[c]	0.2091 (0.1127)[c]
Urban 1	0.0068 (0.0017)[a]		-0.0026 (0.0021)	0.0014 (0.0011)		0.0976 (0.0767)
Urban 2		-0.0031 (0.0025)	0.0018 (0.0031)	-0.0023 (0.0027)		
Republican	-0.0076 (0.0075)	0.0032 (0.0059)	0.0128 (0.0067)[c]	0.0092 (0.0048)[c]	0.9102 (0.4121)[a]	-0.5549 (0.2966)[c]
COV Deaths-21	0.0003 (0.0002)[c]	0.0000 (0.0001)	-0.0003 (0.0001)[b]	0.0001 (0.0001)	-0.0183 (0.0085)[b]	-0.0027 (0.0057)
R-squared	0.662	0.154	0.688	0.505	0.572	0.247
F-statistic	7.254[a]	0.675	6.435[a]	3.337[a]	4.372[a]	1.074

[a] denotes significant at or below the 0.01 level
[b] denotes significant at or below the 0.05 level
[c] denotes significant at or below the 0.1 level

Table 8. Sensitivity Analysis-Employment Growth															
	Amenity	Demog 1	Demog 2	Demog 3	Indmix 1	Indmix 2	Indmix 3	Indmix 4	Indmix 5	Urban 1	Urban 2	Repub	COVID Deaths	AIC	SC
03-07 Base	+	+		-							+	+		-4.140	-3.712
03-07 Parsimony												+		-3.415	-3.337
03-07 Full	+	+		-								+		-4.154	-3.647
03-07 Stepwise	+	+	+	-								+		**-4.324**	**-4.012**
07-10 Base	-	+			+	+								-4.919	-4.490
07-10 Parsimony														-4.043	-4.092
07-10 Full	-	+			+					-		+		-4.954	-4.447
07-10 Stepwise	-	+			+					-		+		**-5.113**	**-4.762**
10-19 Base	+	+			-					+				-2.637	-2.169
10-19 Parsimony														-2.327	-2.249
10-19 Full	+	+										+		-2.666	-2.159
10-19 Stepwise	+	+				-						+		**-2.866**	**-2.554**
19-20 Base				-	-		+					+	-	-5.363	-4.934
19-20 Parsimony												+	-	-5.337	**-5.220**
19-20 Full												+		-5.301	-4.755
19-20 Stepwise				-	-		+					+		**-5.444**	-5.054
20-22 Base	+							-		+			+	-5.363	-4.934
20-22 Parsimony														-4.685	-4.568
20-22 Full	+							-		+				-5.288	-4.742
20-22 Stepwise	+							-		+			+	**-5.523**	**-5.250**

Notes: + indicates positive coefficient that is statistically significant; - indicates negative coefficient that is statistically significant;
AIC denotes Akaike Information Criterion; SC denotes Schwarz Criterion; lowest AIC and SC statistics for the period are shown in bold

Table 9. Stepwise Regression Sensitivity Analysis

	Amenity	Demog 1	Demog 2	Demog 3	Indmix 1	Indmix 2	Indmix 3	Indmix 4	Indmix 5	Urban 1	Urban 2	Repub	COVID Deaths
03-07 Employ[a]	+	+	+	-								+	
03-07 PerCapInc[a]						+							
03-07 Productivity[b]		+		-		+							
03-07 Population[a]	+											+	
03-07 Unemp[a]		-		+			+	-	-	-			
03-07 LF Part[b]		-	-		+			-			+		
07-10 Employ[a]	-	+			+					-		+	
07-10 PerCapInc[a]	+				+			-		-			
07-10 Productivity[b]					+			-	+				
07-10 Population[a]		+						+	+			+	
07-10 Unemp[a]	+	-	-		-					+			
07-10 LF Part[b]													
10-19 Employ[a]	+	+				-						+	
10-19 PerCapInc[a]	+	+			-	-			+		+	+	
10-19 Productivity[a]	-	+		-		-			+			+	
10-19 Population[a]		+						-	+			+	
10-19 Unemp[b]	-									+			
10-19 LF Part[b]					+	-	-						
19-20 Employ[b]				-	-		+					+	
19-20 PerCapInc[a]			-	-	-		+	-				-	-
19-20 Productivity[a]								-					
19-20 Population[b]	+									+		+	-
19-20 Unemp[a]			-							+	+	-	+
19-20 LF Part				-						+		+	
20-22 Employ[a]	+							-		+			+
20-22 PerCapInc[b]		+	+							+	-		
20-22 Productivity[a]	+			+	-	-							
20-22 Population[a]	+		+									+	
20-22 Unemp[a]	-		+					+	+	-	-	+	-
20-22 LF Part[b]				-		-			+				

[a] Stepwise regression has lowest AIC and Schwarz Criterion among all models; [b] Stepwise Regression has lowest AIC among all models
+ indicates positive coefficient that is statistically significant; - indicates negative coefficient that is statistically significant;

Table 10. 2019-2022 (Variance Inflation Factors<5) (OLS slope estimates; Huber-White heteroscedasticity consistent standard errors in parentheses)						
	Employment	PerCapInc	Productivity	Population	Unemp	LF Part
Constant	-0.0066 (0.0240)	0.1601 (0.0149)[a]	0.0827 (0.0114)[a]	0.0133 (0.0117)	-1.4733 (0.4080)[a]	-3.1298 (1.0009[a]
Amenity	0.0134 (0.0037)[a]	0.0025 (0.0016)		0.0085 (0.0022)[a]		-0.0984 (0.2003)
Demographic 1	0.0006 (0.0026)	0.0029 (0.0019)	0.0030 (0.0033)	-0.0003 (0.0027)	0.1297 (0.0542)[b]	0.0447 (0.1105)
Demographic 2						
Demographic 3			0.0043 (0.0036)		0.1565 (0.0878)[b]	
Industry Mix 1	-0.0040 (0.0019)[b]	-0.0041 (0.0013)[a]	-0.0090 (0.0026)[a]	-0.0014 (0.0016)	-0.0390 (0.0396)	0.0445 (0.1091)
Industry Mix 2					-0.0470 (0.0517)	
Industry Mix 3	0.0028 (0.0023)	0.0035 (0.0019)[c]	0.0007 (0.0024)	0.0014 (0.0015)	-0.0487 (0.0528)	0.0173 (0.1618)
Industry Mix 4	-0.0055 (0.0026)[b]	-0.0031 (0.0018)[c]	-0.0052 (0.0034)	-0.0038 (0.0019)[b]	0.0147 (0.0662)	-0.0100 (0.1138)
Industry Mix 5	0.0036 (0.0040)	-0.0010 (0.0023)	0.0039 (0.0029)	0.0019 (0.0029)	0.0305 (0.0669)	0.1774 (0.1348)
Urban 1	0.0034 (0.0022)	-0.0005 (0.0015)		0.0006 (0.0013)		0.0530 (0.0932)
Urban 2	0.0003 (0.0046)	-0.0054 (0.0026)[b]		0.0019 (0.0032)	0.1225 (0.0857)	-0.0713 (0.1621)
Republican	0.0160 (0.0120)	-0.0041 (0.0069)	-0.0042 (0.0090)	0.0139 (0.0061)[b]	-0.0233 0.2028)	0.3637 (0.4249)
COV Deaths Ave	0.0002 (0.0003)	0.0000 (0.0002)	-0.0005 (0.0001)[a]	-0.0001 (0.0001)	0.0034 (0.0048)	0.0096 (0.0106)
R-squared	0.552	0.382	0.555	0.489	0.374	0.306
F-statistic	4.558[a]	2.286[a]	6.073[a]	3.541[a]	2.209[b]	1.288

[a] denotes significant at or below the 0.01 level
[b] denotes significant at or below the 0.05 level
[c] denotes significant at or below the 0.1 level

Appendix Table 1. Control Variables: Definitions and Descriptive Statistics

Variable	Definition (Years of Data Used for Calculation)	Mean (Standard Deviation)
Amenity Rank	USDA county population-weighted natural amenity ranking (1970-1996)	3.744 (1.017)
Recreation Dependence	USDA county population-weighted share of counties that have recreation-based economies (1997-200)	0.066 (0.088)
Retirement Destination	USDA county population-weighted share of counties in the state that are retirement destinations 1990-2000)	0.129 (0.183)
Persistent Poverty	USDA county population-weighted share of counties that have had persistent poverty (1970-2000)	0.051 (0.095)
Population Density	Census population density (2000)	179.363 (244.399)
Population Loss	USDA county population-weighted share of counties in the state that have experienced consistent population loss (1980-2000)	0.098 (0.127)
Rural-Urban Continuum	USDA county population-weighted ranking along the rural-urban continuum (2000)	2.888 (1.266)
Percent Metro	Census percent of the population that is metropolitan (2000)	73.125 (18.975)
Per Capita Income	BEA personal income per person ($) (2000)	29,122.6 (4,508.47)
African-American	Census African-American population share (2000)	0.188 (0.182)
Hispanic	Census Hispanic population share (2000)	0.049 (0.075)
Native American	Census Native American population share (2000)	0.013 (0.020)
Age 25-54	Census population share between 25 and 54 years old (2000)	0.423 (0.021)
Female	Census female population share (2000)	0.512 (0.007)
Married	Census share of adult population that is married (2000)	0.462 (0.016)
High School Only	Census share of adult population (25 years and above) that only completed high school (2000)	0.30 (0.036)
Associate Only	Census share of adult population (25 years and above) that only attained an associate college degree (2000)	0.061 (0.012)
Bachelor's Only	Census share of adult population (25 years and above) that only attained a bachelor's degree (2000)	0.142 (0.025)
Ag., Fisheries, Forestry	CBP nonfarm employment share in agriculture, fisheries, and forestry (2002)	0.002 (0.003)
Oil and Gas	CBP nonfarm employment share in oil and gas (2002)	0.004 (0.010)
Prof_Sci_Tech	CBP nonfarm employment share in professional and business services (2002)	0.050 (0.016)
Manufacturing	CBP nonfarm employment share in manufacturing (2002)	0.159 (0.053)

Nondurables-Durables	CBP nonfarm employment manufacturing nondurable goods share minus durable goods share (2002)	-0.013 (0.036)
Farm Dependence	USDA county population-weighted shares of counties that are farming dependent (1998-2000)	0.031 (0.061)
Manufacturing Depend.	USDA county population-weighted shares of counties that are manufacturing dependent (1998-2000)	0.193 (0.185)
Mining Dependence	USDA county population-weighted shares of counties that are mining dependent (1998-2000)	0.023 (0.064)
Emp. IndMix. ('98-'02)	Shift-share employment-based industry mix (1998-2002)	0.0374 (0.014)
Emp. Indmix. ('90-'00)	Shift-share employment-based industry mix (1990-2000)	0.183 (0.025)
Wage Indmix. ('98-'02)	Shift-share wage-based industry mix (1998-2002)	0.050 (0.003)
Spatial Emp. Indmix.	Shift-share neighbors' employment-based industry mix (1998-2002)	0.039 (0.008)
Spatial Wage Indmix.	Shift-share neighbors' real wage-based industry mix (1998-2002)	0.050 (0.002)
Ind. Diversity Gini ('02)	Gini coefficient of industry dispersion (2002)	0.662 (0.029)

USDA-United States Department of Agriculture
Census-United States Census Bureau
BEA-United States Bureau of Economic Analysis
CBP-United States Census Bureau County Business Patterns

Appendix Table 2. Factor Loadings

Panel A. Demographics, Natural Amenities, and Urbanization Predictor Principal Components (PC)						
	Natural Amenities Principal Component	Urbanization Principal Components		Demographic Principal Components		
	PC_Amen	PC_Urb1	PC_Urb2	PC_Dem1	PC_Dem2	PC_Dem3
Amenity Rank	0.675					
Recreation Dependence	0.296					
Retirement Destination	0.676					
Persistent Poverty		-0.273	-0.708			
Population Density		0.424	0.045			
Population Loss		-0.228	0.578			
Rural-Urban Continuum		-0.495	0.214			
Percent Metro		0.480	-0.209			
Per Capita Income		0.467	0.270			
African American				-0.320	-0.508	0.155
Hispanic				0.378	-0.330	-0.248
Native American				0.245	0.078	-0.580
Age 25-54				0.249	-0.149	0.518
Female				-0.467	-0.126	0.180
Married				-0.180	0.484	-0.037
High School Only				-0.301	0.478	0.108
Associate Only				0.364	0.351	0.228
Bachelor's Only				0.398	0.062	0.461
Panel B. Industry Composition Principal Components						
	PC_Ind1	PC_Ind2	PC_Ind3	PC_Ind4	PC_Ind5	
Ag., Fisheries, Forestry	-0.097	0.203	0.113	-0.251	0.571	
Oil and Gas	0.198	0.414	-0.266	0.355	-0.075	

Prof_Sci_Tech	0.244	-0.366	0.092	0.292	0.264	
Manufacturing	-0.480	-0.003	-0.020	-0.030	-0.016	
Nondurables-Durables	0.070	0.259	0.204	0.100	0.600	
Farm Dependence	0.048	0.263	0.323	-0.449	-0.271	
Manufacturing Depend.	-0.429	-0.028	-0.137	0.160	-0.088	
Mining Dependence	0.218	0.381	-0.293	0.360	-0.083	
Emp. Indmix. ('98-'02)	0.202	-0.456	0.000	0.004	-0.160	
Emp. Indmix. ('90-'00)	0.430	-0.206	0.117	0.059	0.042	
Wage Indmix. ('98-'02)	0.351	0.036	-0.010	-0.303	0.058	
Spatial Emp. Indmix.	-0.034	0.193	0.488	0.335	-0.161	
Spatial Wage Indmix.	0.002	0.074	0.629	0.230	-0.202	
Ind. Diversity Gini ('02)	0.270	0.277	-0.093	-0.312	-0.227	

Appendix Table 3. State Factor Scores

	PC Amen	PC Urb1	PC Urb2	PC Dem1	PC Dem2	PC Dem3	PC Ind1	PC Ind2	PC Ind3	PC Ind4	PC Ind5
AL	-0.27	-0.90	-0.93	-2.32	-1.35	-0.18	-2.55	1.38	-0.59	-0.33	**2.20**
AZ	**4.64**	0.57	-0.86	**2.47**	-0.73	*-2.08*	1.68	-1.25	0.93	0.26	-0.88
AR	0.40	-2.00	-0.59	*-2.97*	0.04	-1.19	*-3.01*	1.80	1.24	-0.27	0.86
CA	**1.44**	2.10	-0.35	**4.07**	*-2.34*	0.25	0.86	*-2.59*	-1.04	-0.22	1.05
CO	1.13	1.21	-0.09	**2.99**	-0.58	**1.63**	2.00	-1.61	0.73	0.76	-0.02
CT	-0.36	**3.56**	0.39	0.92	-0.16	**1.81**	0.30	*-1.79*	*-2.55*	-1.21	-0.39
DE	0.22	1.60	-0.10	-0.45	-0.28	1.14	1.83	-0.89	-1.35	-1.07	1.11
FL	**1.98**	1.61	-0.63	-0.94	1.34	0.10	**3.12**	-1.53	-0.82	-1.49	0.72
GA	-0.01	0.33	*-1.02*	-0.96	-2.06	1.05	-0.75	0.06	1.30	0.61	1.27
ID	1.15	-1.02	0.01	0.88	1.14	-1.24	-0.08	1.22	0.67	*-2.04*	**2.01**
IL	*-1.45*	1.46	0.17	0.06	-1.46	0.62	-0.43	-1.55	1.37	**1.60**	-0.64
IN	*-1.56*	0.09	0.26	-1.89	0.69	-0.35	*-3.87*	-0.79	-0.83	0.96	*-1.97*
IA	-1.26	-1.47	**1.35**	-1.16	**2.48**	-0.04	-1.71	0.37	0.11	-0.22	-0.88
KS	-1.15	-0.79	0.99	-0.25	0.84	-0.20	-1.21	0.30	0.33	0.37	-0.83
KY	-0.82	-1.97	-0.93	-2.12	0.14	-0.82	-1.54	1.38	*-1.78*	0.04	0.20
LA	-0.65	-1.35	*-2.20*	*-2.48*	*-3.09*	-0.44	2.25	1.99	-0.07	1.07	0.70
ME	0.45	-1.27	0.51	-0.40	**1.94**	0.66	-0.48	1.85	**2.37**	-0.33	**1.70**
MD	-1.10	**2.57**	0.48	0.65	-0.67	**2.39**	**3.09**	*-2.00*	**2.51**	**1.47**	0.28
MA	-0.99	**3.59**	0.17	1.02	-0.55	**1.92**	1.09	*-2.09*	-0.19	0.43	-0.29
MI	-0.85	0.43	0.94	-0.57	-0.69	0.24	-2.47	-1.72	-1.49	0.31	*-1.97*
MN	-1.09	0.41	0.38	1.27	1.25	1.11	-0.82	-0.98	1.33	1.12	-0.85
MS	-0.52	*-3.54*	*-2.84*	*-2.59*	*-3.22*	*-0.65*	-2.57	**2.20**	0.45	-1.21	0.40
MO	-0.26	-0.27	-0.57	-1.71	-0.01	-0.06	-0.53	-0.64	0.85	0.77	-0.42
MT	1.11	*-2.81*	0.69	0.95	1.51	-1.56	2.23	1.20	0.44	-1.33	1.07
NE	*-1.33*	-0.99	0.84	-0.31	1.34	-0.07	0.71	1.09	**2.54**	-1.14	-1.15
NV	**3.91**	1.13	-0.34	2.03	-0.19	-0.27	**3.01**	-0.49	-1.08	-1.30	-0.89

NH	0.27	0.45	0.49	1.39	**1.56**	**1.99**	-1.09	-1.36	*-2.69*	*-1.49*	-0.66
NJ	-0.56	**4.39**	0.11	0.22	-0.67	1.53	1.39	-1.73	1.54	**1.39**	0.47
NM	**1.61**	-1.97	*-2.41*	**3.14**	*-2.18*	*-3.93*	**3.66**	0.71	-0.55	0.64	-0.31
NY	-0.91	2.12	0.51	0.33	0.75	0.88	1.87	*-2.25*	-1.27	-0.54	1.06
NC	-0.29	-0.27	-0.47	-0.77	-0.17	0.59	*-3.17*	0.84	-0.16	0.35	1.20
ND	*-1.71*	*-2.92*	**2.06**	2.04	**1.85**	-1.22	1.75	**2.64**	**2.21**	*-2.25*	*-1.84*
OH	*-1.37*	0.22	1.34	-1.67	0.16	0.23	-2.72	-0.72	-0.21	1.14	*-1.25*
OK	-0.60	-0.87	-0.53	-0.07	0.67	*-2.62*	0.53	0.72	0.19	0.43	-0.76
OR	1.22	0.36	-0.24	1.05	0.85	0.30	-0.82	-0.38	1.09	0.16	**1.55**
PA	-0.82	0.45	**1.72**	-2.09	0.89	0.31	-0.72	-1.16	-0.16	0.92	0.17
RI	-0.18	**3.25**	-0.49	-0.09	-0.31	0.53	0.73	-1.06	-0.78	-1.44	-1.07
SC	-0.07	-0.73	-0.85	-1.47	-1.43	0.55	*-3.12*	1.17	-0.72	0.03	1.52
SD	-0.92	*-2.51*	0.80	0.07	**2.11**	*-2.39*	0.14	**2.15**	**1.71**	*-3.05*	*-2.64*
TN	-0.35	0.06	-0.45	-1.93	-0.66	0.09	-2.54	-0.04	-0.28	0.66	-0.07
TX	0.27	0.44	*-1.30*	1.57	*-2.38*	-0.59	0.97	-0.24	0.88	0.75	-0.03
UT	1.06	-0.19	-0.50	1.36	-0.96	*-1.87*	1.17	-0.69	-0.62	-0.26	-0.66
VT	0.92	-2.03	0.79	0.81	1.01	1.33	-0.28	-0.19	-0.20	-0.64	-0.61
VA	-0.55	1.19	-0.03	-0.35	-0.59	0.98	0.90	-1.27	1.08	**1.94**	1.34
WA	0.81	1.39	-0.21	**2.31**	0.58	0.99	-0.30	-1.12	-1.54	*-1.51*	**1.82**
WV	-0.93	*-2.72*	**1.82**	*-3.05*	1.28	-1.06	0.62	**3.51**	*-1.93*	1.09	0.40
WI	-0.81	-0.04	0.71	-0.31	1.13	0.17	*-3.35*	-0.43	0.03	0.82	-1.04
WY	1.13	-2.37	**1.42**	1.35	1.19	-0.55	**4.23**	**5.99**	*-2.97*	**3.26**	-0.99

Boldface indicates a top-five score; italics indicate a bottom-five score