

PROSPERITY IN SOUTH CAROLINA: AN ANALYSIS OF 46 COUNTIES FOR 2000 AND 2008

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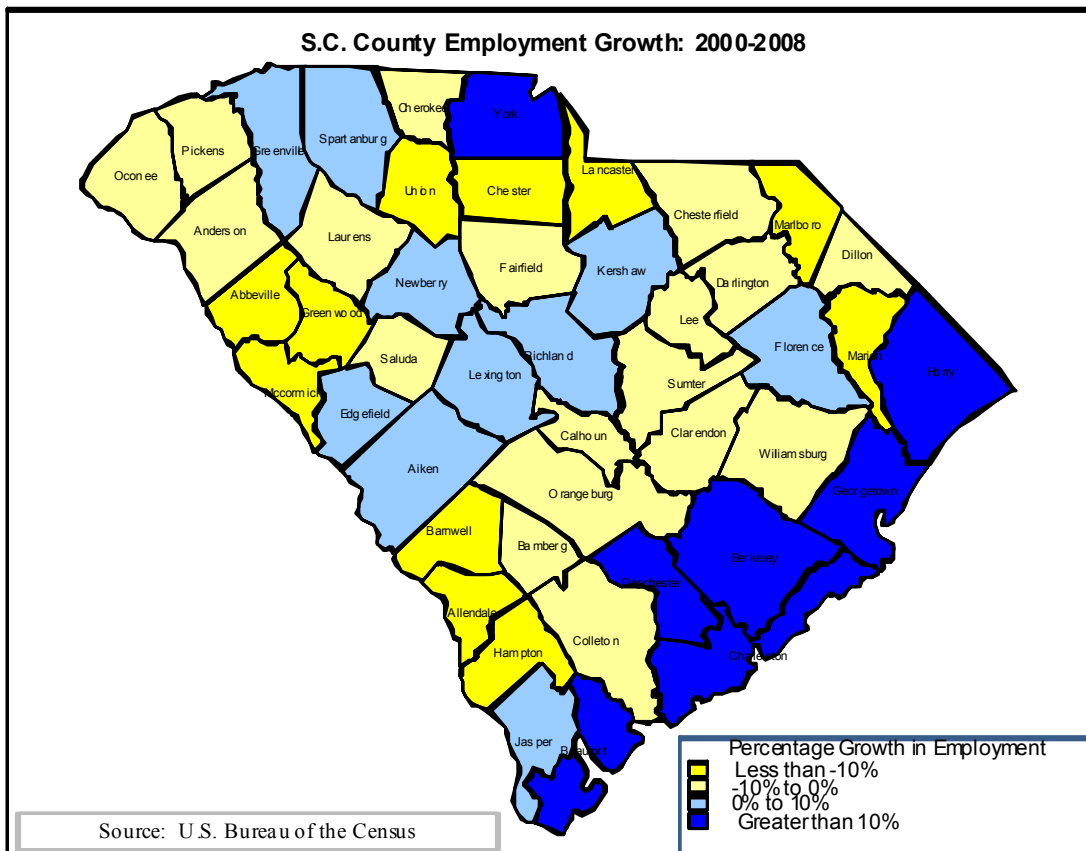


The Clemson University Office of Economic Development works with public and private partners to create jobs in South Carolina, in keeping with Clemson's teaching, research and outreach missions. Clemson follows the land-grant university model of using research and outreach to launch innovation campuses across the state to support major economic sectors and create new ones, including agribusiness, advanced materials, automotive, biotechnology and wind energy. The Economic Development team works closely with Clemson's Office of Research, Office of Technology Transfer, and Public Service and Agriculture research, extension and regulatory programs to apply university research to South Carolina industries.

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1. INTRODUCTION

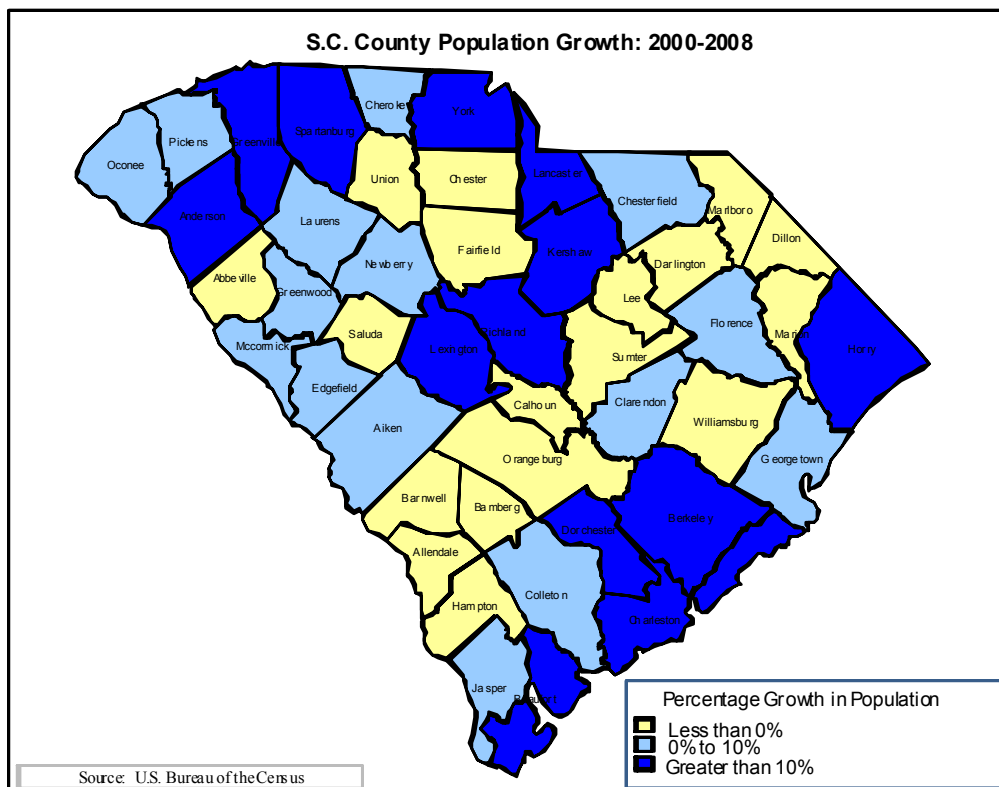
South Carolina’s 46 counties form a rich tapestry of differing economic, demographic, and developmental traits. For example, in the most recent 12-month period for which we have data, September 2009 to September 2010, 24 counties show positive employment growth, 21 show negative growth, and one shows zero growth. In S.C. metro areas in 2007, the share of adults with a bachelor’s degree ranged from 16.5% in Sumter, where 2007 per capita income was \$19,574, to 33.5% in Beaufort-Hilton Head, where per capita income was \$28,345. If we take a longer view by examining data from 2000 through 2008, as we do in this report, we encounter two national recessions. The first occurred in 2001-2002; the second, by far the more serious recession, took place in 2008-2009, and its effects still linger throughout the state’s economy. The imprint of this last recession appears vividly in economic data. Some South Carolina counties are still prospering in spite of two recessions; others are lagging.



Consider the above figure, which shows employment growth from 2000-2008. Those counties colored dark and light blue show positive growth. There are 17 positive growth

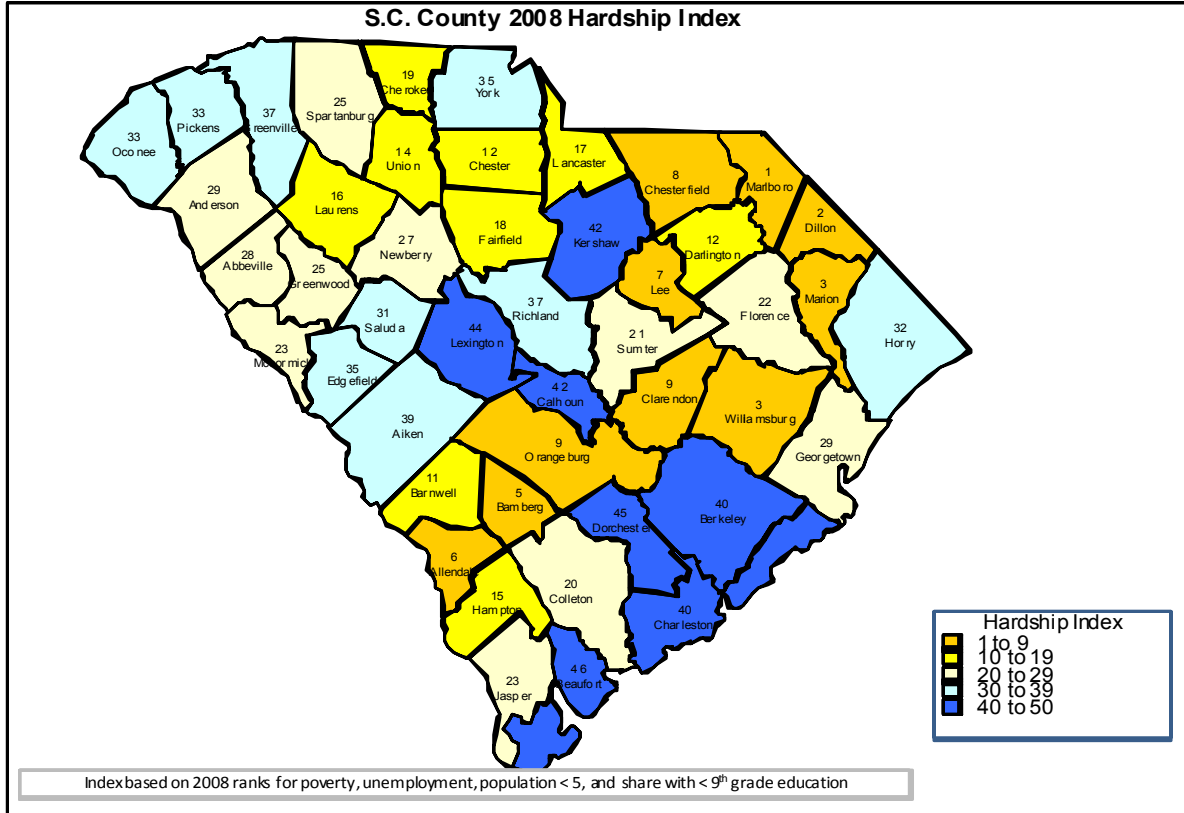
counties. Within the growth group, there are seven counties that show more than 10% employment growth, but there are 11 counties that have greater than 10% employment loss. Obviously, there are significant differences in county prosperity as measured by employment growth.

Prosperity can be measured in various other ways. Another overall indicator is seen in how people vote with their feet. When people choose to relocate or remain settled, which counties do they choose? The figure below maps data for 2000-2008 population growth. Here we see 13 counties with greater than 10% growth. Included in the count are seven of the counties that experienced more than 10% employment growth. With just these two metrics, we begin to see a prosperity pattern emerge that reveals dramatically disparate economic performance across S.C. counties. But there is more to the story, and therefore more to be learned about patterns of prosperity in South Carolina.



Economic hardship, which can be thought of as the reverse of prosperity, provides another lens through which to view the economies of S.C. counties. One measure of hardship is reflected in an index displayed below in map form. The index is formed by averaging the 46 county rankings for the 2008 values of four variables: The share of population below the poverty line, the share of population less than five years old, the unemployment rate, and the share of adult population with less than a ninth grade education. The ranking is ordered from 1 to 46, with 1 being greatest hardship.

Generally, hardship is lower where population and employment growth are larger. By referring back to the population growth map, one sees the expected: there is a general pattern of outmigration from high hardship counties.



In the summer of 2011, Clemson University’s Office of Economic Development commissioned a study of South Carolina county prosperity led by Bruce Yandle, Professor of Economics Emeritus, Clemson University, and a team of researchers composed of economists Jody Lipford, Professor of Economics, Presbyterian College, and Tate Watkins, an independent economic consultant located in Washington, D.C.¹ The project has four elements. The first element involves surveying index-building activities that have focused on countries, states, counties, or metropolitan areas to determine data used and methods applied in building indices that are similar to the indices to be produced in this prosperity project. The second element of the project focuses on the appropriate data to use in

¹ The authors express appreciation to Strom Thurmond Institute’s Rob Carey for valuable assistance in assembling data and to Adam Smith, Johnson-Wales University, for his assistance in organizing and building the maps included in the report.

building indices and their availability. With theory and evidence determined, the third project element involves statistical testing, modeling, production of indices, and, ultimately, the selection of final indices. The end goal of this analysis is to see which S.C. counties are most prosperous, to determine why some counties are prosperous and others aren't, and to assess the future prospects for all S.C. counties.

This report provides the results of our effort. The paper is organized in the following way. Section 2 summarizes our review of other indices and discusses their relative merits. We then used regression analysis to build a family of static indices that measure prosperity standings for 2000 and 2008. Section 3 describes our regression modeling effort and reports the results. Using the regression analysis as a guide, we developed two static rankings for each year, 2000 and 2008. One ranking is based on per capita personal income, which includes retirement and other transfer income. The second ranking is based on per capita wage income, which accounts for earned income alone. These rankings are provided in Section 4.

We next turn to dynamic indices that measure prosperity based on growth rates across 2000-2008 for key variables. These indices capture economic growth momentum. For example, some counties may rank highly in 2008 static prosperity but low in growth momentum, which suggests declining prospects for future prosperity rankings. Other counties may experience the reverse. They are moving upstream but from a lower level of prosperity. This work is reported in Section 5. Again, we built separate indices that considered per capita personal income growth and growth in per capita wage income. Finally, the paper's Section 6 gives a composite report on our findings. Here we select per capita personal income as the most important prosperity measure and link static and dynamic rankings to develop our final index. In the last part of Section 6, we examine the gap between the static and dynamic index rankings for prosperity county groupings. In some cases, the dynamic ranking, which measures growth momentum, is stronger than the static ranking. In other cases, the growth momentum ranking is weaker than the static ranking. The gap analysis enables identification of upward bound counties within four prosperity categories. We summarize our findings in Section 7. We include detailed appendixes on the regression results, county dynamic rankings, and data sources at the close of the report.

2. A REVIEW OF OTHER INDICES

In the first phase of our effort, we reviewed literature and practice to determine the state of the art for constructing economic progress indices. As might be expected, there are many indices and reports that use indicators for similar estimates on country, state, and city levels. Descriptions of a sample of these indices and reports follow, including qualitative descriptions of the types of indicators and methodologies used.

2.1. THE STATE NEW ECONOMY INDEX

The Information Technology and Innovation Foundation and the Ewing Marion Kauffman Foundation's State New Economy Index, first published in 1999, has evolved to include multiple indicators. The 2010 index uses 26 indicators to "assess the states' efforts to succeed in the innovation economy." The index measures the degrees to which state economies are knowledge-based, globalized, entrepreneurial, and IT-driven. The 26 indicators are sorted into five categories and are weighted according to their relative importance and to compensate for collinearity. This report may be found at: <http://www.itif.org/publications/2010-state-new-economy-index>.

2.2 RICH STATES, POOR STATES: ALEC-LAFFER STATE ECONOMIC COMPETITIVE INDEX

The American Legislative Exchange Council has released three editions of Rich States, Poor States. The 2010 edition's State Economic Competitiveness Index comprises two distinct rankings based on state economic policies. The Economic Outlook Ranking is a forward-looking index based on states' current standings in 15 state policy variables, many of which are related to tax policy. The Economic Performance Ranking is a backward-looking measure based on states' personal income per capita, absolute domestic migration, and nonfarm payroll employment. This ranking is based on 10 years of economic data. This index may be found at:

<http://www.alec.org/AM/PDF/tax/10RSPS/RSPS2010-Final.pdf>

2.3 The Kauffman Index of Entrepreneurial Activity

The Kauffman Index of Entrepreneurial Activity measures "the rate of business creation at the individual owner level." The index presents the percentage of the nation's adult, nonbusiness-owner population that starts a business each month. It uses data from 1996 to 2010 to evaluate 15-year trends in entrepreneurship. The index also presents separate estimates for various demographic groups, the 50 states, and certain metropolitan statistical areas (MSAs). This report may be found at:

http://www.kauffman.org/uploadedFiles/KIEA_2011_report.pdf.

2.4 GRADING THE STATES

The Pew Center on the States last released its Grading the States report in 2008. The report assesses the quality of management in the 50 states and measures four “key areas” – “money, people, infrastructure, and information.” It is based on interviews and surveys of “state-level managers and opinion leaders.” The report’s results “reflect the performance of each state as a whole . . . [and] the leadership and program implementation skills of elected and appointed officials as well as career civil servants and the not-for-profit and private sector providers who partner with states in the execution of policy and programs.” For this report, see:

http://www.pewcenteronthestates.org/gpp_report_card.aspx.

2.5 PATCHWORK NATION

Patchwork Nation is a reporting project of the Jefferson Institute that examines U.S. communities over time by using demographic, economic, voting, and cultural data. The project contains a hardship index that “captures recent economic changes as well as current economic conditions” in counties across the country. It is based on six indicators:

- Gas prices in the previous month
- The change in gas prices from two months ago to the previous month
- An estimate of the percentage of monthly household spending dedicated to fuel consumption and car maintenance
- The unemployment rate from two months ago
- Home foreclosures per 1,000 homes in the previous month
- The change in home foreclosures per 1,000 homes from two months ago to the previous month

The index identifies counties that, based on these specific indicators, are “experiencing the most vs. the least economic difficulty.” This report is available at:

<http://www.patchworknation.org/content/how-do-you-calculate-patchwork-nations-hardship-index>

2.6 BOSTON INDICATORS PROJECT

The Boston Indicators Project aims to assess the city of Boston in regional, national and global contexts. The first report was released in 2000, and it will continue to be released biennially until Boston's 400th anniversary, in 2030. Its goals are to "democratize access to information, foster informed public discourse, and track progress on shared civic goals." The index also uses various indicators to report on change in 10 sectors: civic vitality, cultural life and the arts, the economy, education, the environment, health, housing, public safety, technology, and transportation. This report may be found at:

<http://www.bostonindicators.org>.

These reports and indices examine various components of communities and economies, but all aim to evaluate specific measures of states' or MSAs' economic performances or future prospects.

The South Carolina County Prosperity Index identifies how counties are fairing relative to one another and the state, as well as what future prospects look like for the state's counties. The index has static and dynamic components. The static component focuses on 2000 and 2008 data and compares county performance for each year. The dynamic component compares county performance based on change from 2000 to 2008. As the survey of existing indices suggests, factors like education, employment, and migration are keys to prosperity. Conversely, low levels of education and high levels of unemployment are key indicators when identifying so-called hardship counties. We examine these types of factors when constructing the various prosperity indices.

3. BUILDING STATIC PROSPERITY INDICES WITH REGRESSION ANALYSIS: A TEST OF CAUSAL FACTORS

3.1. A CENTRAL QUESTION

In our introduction, we presented outline maps that show the relative position of South Carolina's 46 counties with respect to employment growth and population growth. We pointed out that only 17 counties experienced positive employment growth from 2000-2008. We provided a mapping of population growth, which shows that there were 28 counties that had positive population growth. We know that employment growth maps to income growth, and we know that people tend to locate where prospects for a better life are brighter. But, can we determine why some South Carolina counties are prosperous and others relatively poor? If causal, deterministic factors can be identified, policy implications may follow. We say "may follow" because some factors may be outside of the control of public policies. Whatever the capability of public policies to effect change, the following analysis is, in our judgment, not only interesting, but also helpful in understanding the disparity of economic performance exhibited by S.C. counties.

3.2. THE USES AND LIMITATIONS OF REGRESSION ANALYSIS

We employed ordinary least squares regression models in an effort to determine the causal factors that determine, or at least influence, the prosperity of S.C. counties. This technique attempts to explain observed outcomes in one variable by examining measures of other, presumably causal variables. For example, regression analysis could be used to explain the effects of temperature on snow cone sales. Regression analysis would enable a researcher to determine whether temperature influenced snow cone sales and, if so, to what extent. For example, regression analysis would provide an estimate of how many more snow cones would be sold when the temperature rises from 80 degrees Fahrenheit to 90 degrees Fahrenheit.

Not surprisingly, regression analysis has limitations. One limitation may be sample size. Any researcher will have more confidence in regression analysis with a large sample than with a small sample. Another important warning is that correlation may not mean causation. We are likely to observe an increase in swimsuit sales in the summer along with an increase in snow cone sales, but we would not say that higher swimsuit sales cause higher snow cone sales. A final limitation, at least for this discussion, is that at times it can be difficult to sort out the independent effects of factors that influence another variable. If we may appeal to the snow cone example one more time, suppose that a pool located a block from the snow cone stand opens for the summer and attracts many children and teenagers. Snow cone sales are rising because of hotter temperatures and the opening of the pool, but it may be difficult to disentangle the effect of each of these independent factors, because they occur at the same time.

As we will see, each of these limitations matters in our regression analysis of the factors that determine the prosperity of SC counties. This said, we find the regression analysis to be helpful and revealing. We are confident that we have identified at least some of the factors that, in turn, determine a county's economic standing. To the extent that this determination is made, we have uncovered useful information for policymakers and citizens alike.

3.3 THE VARIABLES USED

In keeping with rest of this report, we specifically model real per capita personal income (in 2007 dollars) and real per capita wage income (also in 2007 dollars). The distinction between personal income and wage income is critical, since personal income includes the value of transfer payments, such as pensions, social security and unemployment insurance benefits, whereas wage income is earned.²

² We note that wage income includes the value of fringe benefits.

In broad terms, we believe the following factors are critical to a county's economic development, as measured by real per capita personal income and real per capita wage income: its civic or social capital, its human capital, its potential division of labor and access to other inputs, its natural amenities, its public infrastructure, and its population living in poverty.

Why are these factors important? To begin, a county's civic or social capital indicates the engagement of its citizens. Are they concerned or apathetic? Are they apt to participate in community events and volunteer at the local elementary school, or do they withdraw from community events and civic undertaking? An engaged citizenry should provide a more inviting community. They should provide lifestyle amenities, from youth sports to a little theater, which contribute to the quality of life in a community and make that community an attractive locale for economic development.

Human capital is also critical to economic development, especially in today's knowledge economy. A skilled and educated workforce is essential to attract industry of all types and compete in global markets. The days when low wages, low taxes, and cheap land could attract industry have long since passed. Today, workforce quality is essential for economic development.

As Adam Smith demonstrated in the late 18th century, the division of labor is another factor that markedly increases productivity. When workers can specialize, their productivity increases as they gain expertise, spend little time switching between different tasks, and perform tasks that more closely align with their skill level. Large labor forces also benefit from input complementarity. Skilled and educated workers are more productive when they have other skilled and educated workers to work with. Access to capital and advanced technologies is also likely to be higher for a large workforce.

Natural amenities can also increase income and, in some cases, productivity. Geographic appeal attracts population and tourists. In some cases, as with a harbor, geographic advantages can complement labor and raise its productivity.

Clearly, public infrastructure matters as well. Like capital or geographic advantages, public infrastructure is an input complementary to labor. Labor will be more productive if it has more infrastructure to work with. A lack of infrastructure, or infrastructure in a poor or deteriorating condition, detracts from economic development.

Last, poverty not only indicates a lack of economic development, but also detracts from future development. While many citizens may fall below the poverty line and then rise above, for others, poverty is a systemic state. Living off of government programs can become a way of life, leading to lower incomes and diminished prospects of economic improvement.

After sorting through a number of determinant variables, we settled upon six, which we acknowledge from the outset are not perfect measures of the underlying concepts we are trying to identify.

- For civic and social capital, we use the percent of a county's registered voters who voted in the 2000 and 2008 elections.
- For human capital, we use the share of county population aged 25 and above with a high school diploma or more education. We note that regression results with the share of population with less than a ninth grade education or with a bachelor's degree or more education gave results similar to those reported below.
- For division of labor and input complementarity, we use a county's population density.
- For natural amenities, we use a county's water area divided by its total area. We note that water area includes coastal and inland waterways.
- For public infrastructure, we use a county's miles of interstate highway divided by its total area.
- For poverty, we use a county's poverty rate.

3.4. WHAT THE REGRESSION RESULTS TELL US

How do these factors affect real per capita personal income and real per capita wage income? We find that the regressions yield results that are interesting as well as intuitively appealing.

3.4.1. FOR REAL PER CAPITA PERSONAL INCOME

What factors affect real per capita personal income and what is the magnitude of their effects? To begin, civic and social capital, as proxied by the share of registered voters who voted in 2000 and 2008, clearly matters. This variable is always statistically significant, with coefficients ranging from \$146 to \$415, depending on the estimate.³ In other words, a one percentage point increase in the share of registered voters who voted in the 2000 and 2008 elections raises real per capita personal income by \$146 to \$415. An engaged citizenry evidently enhances economic development, as we expected.

If citizen engagement is important, so too is education. Citizens without a high school education face limited options for employment and earned income, whereas citizens with at least a high school education are more likely to be employed and earn income.⁴ The

³ Detailed tables showing the regression results are in Appendix A.

⁴ At the national level, the unemployment rate for citizens with less than a high school diploma was 6.3 percent in 2000 and 9.0 percent in 2008. For citizens with only a high school diploma, the

data bear this out clearly. This variable too is always statistically significant, and coefficient estimates show that a one percentage point increase in a county's population with at least a high school diploma raises real per capita income by \$164 to \$352, depending on the estimate. Clearly, an educated populace is essential to economic prosperity.

To get a feel for the difference education makes, we consider the difference between the least and most educated counties, using the lowest coefficient estimates for 2000 and 2008. In 2000, the lowest estimate was \$164. If Allendale County, which had only 60% of its population with a high school diploma or more education, had the same educational attainment as Beaufort County, which had 87.8% of its population with a high school diploma or more, its per capita personal income would have been \$4,559 higher. Even stronger results hold for 2008, when the lower estimate for the effect of educational attainment is \$296. If we contrast Dillon County, with 65.1% of its population with a high school diploma or higher with Beaufort County, with 90.6% of its population with a high school diploma or more, the difference is \$7,548.

Turning to population density, we again find a variable statistically significant in all estimates. The effect ranges from \$8 to \$19 for an increase of one person per square mile, again, depending on the estimate used. These estimates support the old idea that specialization of labor raises productivity and income and that workers benefit from access to other workers and complementary inputs. How much do specialization and access to other workers matter? Quite a bit. Again, a contrast between counties is instructive. If Allendale County, with a population density of 27 people per square mile in 2000, had had the same population density as Greenville County, with a population density of 479 per square mile, its real per capita personal income would have been \$7,684 higher, using the smallest estimate for 2000. The difference is less dramatic in 2008, but the lower estimate of \$8 yields a difference in real per capita personal income of \$4,216 between these counties, which differed in population density by 527 persons per square mile (553 for Greenville County vs. 26 for Allendale County).

Water is an important asset in estimates for both years. The variable is statistically significant in all estimates. The effect ranges from \$120 to \$209 per square mile of water, scaled by total area. Water evidently contributes to the prosperity of coastal counties as well as inland counties that have significant lakes. As noted, water is attractive to retirees and promotes recreation and tourism. In Charleston County, the port is also an important contributor to economic development and prosperity.

unemployment rates were 3.4 percent and 5.7 percent in the respective years, and for citizens with a bachelors degree or higher, the unemployment rates were 1.7 percent and 2.6 percent. See the Bureau of Labor Statistics at www.bls.gov.

To our surprise, interstate highway mileage is statistically insignificant (i.e., not different from zero) in all our estimates for real per capita personal income. While we believe that public infrastructure matters and that transportation networks are important, we point out that they are an insufficient condition for growth. Interstates run through miles of many counties that apparently have not been able to tap their potential for economic development.

Last, in the estimates that include the poverty rate, we find the variable matters statistically in 2000, but not in 2008. For the 2000 estimate, an increase in the poverty rate of one percentage point reduces real per capita personal income by \$224. The cross-county comparison is again insightful. Lexington County had the lowest poverty rate in the state at 9%, whereas Allendale County had the highest at 28.8%. If Lexington County had had the same poverty rate as Allendale County, its real per capita personal income would have been an appreciable \$4,435 less.

3.4.2. FOR REAL PER CAPITA WAGE INCOME

Turning to wage income, we find results that are similar to those for personal income, though some differences are striking, if not surprising. We reiterate that wage income is earned, whereas personal income includes earned income and transfer payments, and this difference accounts for differences in the estimates.

In either case, civic engagement matters. Real per capita wages increase from \$122 to \$228 for a one percentage point increase in the share of registered voters who voted in the 2000 and 2008 elections, depending on the estimate. Citizens who are involved in their communities also work and make their communities attractive for additional economic development.

Similarly, education raises earned income. The variable is highly significant in all regressions. An increase in the share of county population with a high school diploma or more education raises real per capita wage income from \$157 to \$283, depending on the estimate. Using the low estimate for 2000 of \$157, the educational attainment effect translates into a difference of \$4,365 between Allendale County and Beaufort County. For 2008 the low estimate of \$213 yields a difference is \$5,432 between Dillon and Beaufort counties.⁵

⁵ For 2000, only 60.0% of Allendale County's population had attained a high school diploma or more education, whereas 87.8% of Beaufort County's population had reached these levels of educational attainment. Similarly, for 2008, only 65.1% of Dillon County's population had attained a high school diploma or more education, whereas 90.6% of Beaufort County's population had reached these levels of educational attainment.

Our findings also confirm the importance of population density. The estimates fall in the range of \$7 to \$11 per person per square mile, confirming that division of labor and access to other inputs are crucial to prosperity. The cross-county differences with the \$10 per person estimate for 2000 amount to \$4,520, and the \$7 per person estimate for 2008 amounts to a difference of \$3,689, again with Allendale and Greenville counties as the least and most densely populated counties, respectively.

When we examine the water variable, we find it is insignificantly different from zero in all the regressions. We believe that retirees are the likely explanation. Retirees, who often like to locate in coastal areas and along lakefront property, receive nonwage income that raises personal income but not earned income that raises wages.⁶ While water likely raises productivity in the case of a port and through the state's tourism industry, these effects are not discernible from our regression analysis.

Contrary to our expectations, miles of interstate highway per county do not seem to be an important factor in economic prosperity. The variable is statistically significant in the 2008 regression only, with a value of \$264.

Lastly, the poverty rate matters in both years, with a range from \$142 to \$145. The magnitude across counties is significant. The difference in poverty rates amounts to a difference of \$2,812 between the counties with the highest and lowest rates in 2000, Allendale and Lexington, respectively, and a difference of \$4,597 between the highest and lowest rated counties in 2008, Allendale and Beaufort.

3.5. SUMMARY

At the outset of this project, we believed that prosperity and poverty are not random results. Definitive causal factors that can be identified and measured play a role, and regression analysis helps determine and measure this role. As pointed out above, regression analysis has limitations: small samples estimates are less reliable than large sample estimates; correlation does not always mean causality; and distinguishing the effects of similar variables can be problematic.

Having stated these caveats, we point out that our analysis has provided estimates that make sense. Civic engagement, educational attainment, and population density, in particular, are critical determinants of economic growth and development. The estimated effects of these variables also strike us as reasonable. With the information provided by the regression analysis, we now turn to the county rankings.

⁶ The simple correlation between the percent of county population aged 65 and over and the share of county area accounted for by water was 0.23 for 2000 and 0.37 for 2008.

4. A STATIC PROSPERITY INDEX FOR SOUTH CAROLINA COUNTIES

4.1. CONSTRUCTING THE INDEX

Drawing upon the regression analysis, we construct static indices for South Carolina counties based on data for 2000 and 2008. We use the variables discussed in Section 3 and estimate predicted values of real per capita personal income and real per capita wage income for each county.⁷ We then calculate the predicted state average values for real per capita personal income and real per capita wage income, using the state average values for each of the causal variables. The index for each county is calculated as the predicted value for real per capita personal income or real per capita wage income divided by the predicted state average value of real per capita personal income or real per capita wage income, multiplied by 100. Expressed as an equation:

$$\text{INDEX VALUE} = [(\text{Predicted Value of Income or Wages} / \text{Predicted Average Value of State Income or Wages})] * 100.$$

These index values provide useful measures of economic performance across South Carolina counties.

4.2. EXAMINING THE INDEXES

The index values are shown in the following four tables. For each index, the values are reported alphabetically by county and by county rank.

4.2.1. FOR REAL PER CAPITA PERSONAL INCOME

We begin with table 4.1, which gives index values for real per capita personal income for the year 2000. We note that real per capita personal income is the more inclusive income measure, since it includes all forms of transfer income, such as retirement, as well as earned income.

⁷ In these regressions, we suppressed the value of the intercept term to zero, following the logic that if all the causal factors were zero, real per capita personal income and real per capita wage income would be zero.

Table 4.1: Index Values for Real Per Capita Personal Income, 2000					
Alphabetical Listing			Rank Listing		
County	Index Value		Rank	County	Index Value
Abbeville	91		1	Charleston	141
Aiken	105		2	Beaufort	138
Allendale	77		3	Greenville	135
Anderson	112		4	Richland	134
Bamberg	86		5	Lexington	128
Barnwell	95		6	Spartanburg	114
Beaufort	138		7	Horry	114
Berkeley	110		8	York	113
Calhoun	96		9	Anderson	112
Charleston	141		10	Berkeley	110
Cherokee	93		11	Pickens	110
Chester	87		12	Georgetown	109
Chesterfield	87		13	Dorchester	109
Clarendon	95		14	Aiken	105
Colleton	96		15	Oconee	104
Darlington	96		16	Greenwood	102
Dillon	80		17	Florence	101
Dorchester	109		18	Sumter	100
Edgefield	92		19	Kershaw	99
Fairfield	90		20	Lancaster	97
Florence	101		21	Colleton	96
Georgetown	109		22	Darlington	96
Greenville	135		23	Calhoun	96
Greenwood	102		24	Orangeburg	95
Hampton	86		25	Barnwell	95
Horry	114		26	Newberry	95
Jasper	86		27	Clarendon	95
Kershaw	99		28	Saluda	94
Lancaster	97		29	Cherokee	93
Laurens	93		30	Laurens	93

Table 4.1: Index Values for Real Per Capita Personal Income, 2000					
Alphabetical Listing			Rank Listing		
County	Index Value		Rank	County	Index Value
Lee	82		31	Edgefield	92
Lexington	128		32	Abbeville	91
McCormick	91		33	McCormick	91
Marion	89		34	Union	91
Marlboro	76		35	Fairfield	90
Newberry	95		36	Marion	89
Oconee	104		37	Chester	87
Orangeburg	95		38	Chesterfield	87
Pickens	110		39	Williamsburg	86
Richland	134		40	Hampton	86
Saluda	94		41	Bamberg	86
Spartanburg	114		42	Jasper	86
Sumter	100		43	Lee	82
Union	91		44	Dillon	80
Williamsburg	86		45	Allendale	77
York	113		46	Marlboro	76

Focusing on the rank, we see that Charleston County is the highest ranked county in 2000, with a value of 141, followed by Beaufort, Greenville, Richland, and Lexington counties, with index values ranging from 128 to 138. These are all urban counties with high levels of educational attainment and, in the case of Charleston and Beaufort counties, significant access to water. Their civic engagement, as measured by the share of registered voters who voted in the 2000 and 2008 elections, is above the state average. Turning to the bottom of the index ladder, we find that Lee, Dillon, Allendale, and Marlboro all have index values in the low 80s or lower. Relative to other counties, their standing is poor. As expected, all these counties are rural and have low levels of educational attainment. In addition, these counties have low shares of registered voters who actually cast ballots, suggesting a high degree of civic apathy. Sumter occupies the position of the mean South Carolina county, and Calhoun and Orangeburg counties hold the median rankings.

Table 4.2 provides the same information for real per capita personal income for the year 2008.

Table 4.2: Index Values for Real Per Capita Personal Income, 2008					
Alphabetical Listing			Rank Listing		
County	Index Value		Rank	County	Index Value
Abbeville	92		1	Beaufort	140
Aiken	102		2	Charleston	140
Allendale	87		3	Richland	123
Anderson	108		4	Lexington	121
Bamberg	85		5	Greenville	120
Barnwell	91		6	Georgetown	115
Beaufort	140		7	Horry	112
Berkeley	110		8	Berkeley	110
Calhoun	102		9	York	110
Charleston	140		10	Spartanburg	110
Cherokee	95		11	Anderson	108
Chester	92		12	Dorchester	108
Chesterfield	87		13	Oconee	103
Clarendon	101		14	Pickens	102
Colleton	97		15	Aiken	102
Darlington	95		16	Calhoun	102
Dillon	86		17	Clarendon	101
Dorchester	108		18	Florence	101
Edgefield	93		19	Sumter	100
Fairfield	95		20	Kershaw	100
Florence	101		21	Greenwood	98
Georgetown	115		22	McCormick	98
Greenville	120		23	Colleton	97
Greenwood	98		24	Orangeburg	96
Hampton	90		25	Cherokee	95
Horry	112		26	Fairfield	95
Jasper	94		27	Newberry	95
Kershaw	100		28	Darlington	95
Lancaster	92		29	Laurens	94
Laurens	94		30	Jasper	94
Lee	86		31	Edgefield	93
Lexington	121		32	Lancaster	92
McCormick	98		33	Chester	92
Marion	90		34	Abbeville	92
Marlboro	81		35	Williamsburg	91
Newberry	95		36	Barnwell	91
Oconee	103		37	Hampton	90

Alphabetical Listing			Rank Listing		
Orangeburg	96		38	Marion	90
Pickens	102		39	Union	89
Richland	123		40	Allendale	87
Saluda	86		41	Chesterfield	87
Spartanburg	110		42	Saluda	86
Sumter	100		43	Dillon	86
Union	89		44	Lee	86
Williamsburg	91		45	Bamberg	85
York	110		46	Marlboro	81

The results of the 2008 rankings show that little changed at the top and bottom over the eight years under examination. Though the rankings change somewhat, the top five counties are the same, and they outperform the average by 20% to 40%. Georgetown, which ranks in 6th place for 2008 has risen from 12th in 2000. The bottom counties are little changed as well. Marlboro County again ranks last. Allendale moves out of the bottom four, while Bamberg County's ranking falls. We note that Saluda fell from 28th in 2000 to 42nd in 2008. Still the important point is that these counties perform so poorly, with index values significantly below the mean—a position held by Sumter and Kershaw counties—and below the median positions held by Colleton and, again, Orangeburg counties.

There is some noteworthy movement within the middle of the ranking territory. For example, Calhoun moved from 23rd in 2000 to 16th in 2008. Clarendon moved from 27th to 17th; Fairfield from 35th to 26th; and Jasper from 42nd to 30th. There was also meaningful movement in the other direction. Greenwood fell from 16th in 2000 to 21st in 2008; Lancaster from 20th to 32nd; and Barnwell from 25th to 36th.

4.2.2. FOR REAL PER CAPITA WAGE INCOME

Next, in Tables 4.3 and 4.4, we examine the ranking for real per capita wage income for the years 2000 and 2008, respectively. As shown in Table 4.3, the top five ranked counties remain the same, but when wage income is measured instead of personal income, the rankings do change, perhaps most notably with Greenville County vaulting to the top and Beaufort County dropping to fifth. The noted movement illustrates the utility of examining rankings based on income, which is all-inclusive, and wages. The income measure captures the effect of retirement patterns while the wage measure underlines the effect of industrial development. The bottom four, with index values in the mid 70s to low 80s, remain Lee, Dillon, Marlboro, and Allendale counties. Kershaw and Georgetown counties occupy the mean position in the index, while Orangeburg and Calhoun counties hold down the median rankings, for wage income as well as personal income.

Table 4.3: Index Values for Real Per Capita Wage Income, 2000						
Alphabetical Listing				Rank Listing		
County	Index Value		Rank	County	Index Value	
Abbeville	90		1	Greenville	148	
Aiken	107		2	Richland	145	
Allendale	75		3	Charleston	133	
Anderson	116		4	Lexington	133	
Bamberg	85		5	Beaufort	124	
Barnwell	93		6	Spartanburg	123	
Beaufort	124		7	York	118	
Berkeley	107		8	Anderson	116	
Calhoun	95		9	Dorchester	113	
Charleston	133		10	Pickens	112	
Cherokee	96		11	Horry	111	
Chester	88		12	Aiken	107	
Chesterfield	86		13	Berkeley	107	
Clarendon	90		14	Florence	104	
Colleton	93		15	Greenwood	103	
Darlington	98		16	Sumter	102	
Dillon	82		17	Oconee	101	
Dorchester	113		18	Kershaw	99	
Edgefield	91		19	Georgetown	99	
Fairfield	88		20	Darlington	98	
Florence	104		21	Lancaster	97	
Georgetown	99		22	Cherokee	96	
Greenville	148		23	Orangeburg	96	
Greenwood	103		24	Calhoun	95	
Hampton	85		25	Laurens	95	
Horry	111		26	Newberry	94	
Jasper	84		27	Barnwell	93	
Kershaw	99		28	Colleton	93	
Lancaster	97		29	Saluda	92	
Laurens	95		30	Edgefield	91	
Lee	83		31	Abbeville	90	
Lexington	133		32	Union	90	
McCormick	86		33	Clarendon	90	
Marion	89		34	Marion	89	
Marlboro	76		35	Fairfield	88	
Newberry	94		36	Chester	88	
Oconee	101		37	Chesterfield	86	

Table 4.3: Index Values for Real Per Capita Wage Income, 2000					
Alphabetical Listing			Rank Listing		
Orangeburg	96		38	McCormick	86
Pickens	112		39	Hampton	85
Richland	145		40	Williamsburg	85
Saluda	92		41	Bamberg	85
Spartanburg	123		42	Jasper	84
Sumter	102		43	Lee	83
Union	90		44	Dillon	82
Williamsburg	85		45	Marlboro	76
York	118		46	Allendale	75

Again, we find little change at the top and bottom of the chart when we move forward eight years to 2008. Table 4.4 shows that while relative positions change somewhat, the top five counties remain the same, all with index values of 130 or higher. There is also little change at the bottom end of the spectrum. Marlboro County ranks last, and Lee County proves a consistent underperformer. In the bottom positions, Bamberg and Saluda counties displace Dillon and Allendale, but the 40th and 39th rankings of these counties are hardly cause for celebration. However, we note that Allendale's movement from 46th to 39th place is significant.

Other noteworthy movement is seen in Georgetown's rise to 14th from 19th place in 2000; Calhoun's move to 17th from 24th; Clarendon's move to 24th from 33rd; and Jasper's rise to 28th place from 42nd. On the downside, we see Greenwood's fall from 15th to 22nd; Barnwell's decline from 27th to 38th; and Saluda's move from 29th place in 2000 to 45th in 2008. When we compare the movers in the wage chart with those in the income chart, we see a very similar pattern. However, Lancaster showed a significant decline when ranked on income but not when ranked on wages. Union showed a significant loss when ranked on wages but not on income. These two counties illustrate how changes in the sources of income can affect rankings. We again note that Kershaw provides representation of the mean county, while in this ranking; Laurens and Clarendon counties occupy the median positions.

Table 4.4 Index Values for Real Per Capita Wage Income, 2008					
Alphabetical Listing			Rank Listing		
County	Index Value		Rank	County	Index Value
Abbeville	88		1	Richland	139
Aiken	107		2	Charleston	136
Allendale	85		3	Greenville	135
Anderson	113		4	Lexington	131
Bamberg	81		5	Beaufort	130
Barnwell	87		6	Spartanburg	122
Beaufort	130		7	Dorchester	120
Berkeley	111		8	York	118
Calhoun	102		9	Horry	114
Charleston	136		10	Anderson	113
Cherokee	99		11	Berkeley	111
Chester	91		12	Aiken	107
Chesterfield	84		13	Pickens	105
Clarendon	95		14	Georgetown	105
Colleton	91		15	Florence	105
Darlington	95		16	Sumter	104
Dillon	85		17	Calhoun	102
Dorchester	120		18	Oconee	101
Edgefield	91		19	Kershaw	101
Fairfield	91		20	Cherokee	99
Florence	105		21	Orangeburg	97
Georgetown	105		22	Greenwood	97
Greenville	135		23	Laurens	96
Greenwood	97		24	Clarendon	95
Hampton	87		25	Darlington	95
Horry	114		26	Newberry	92
Jasper	91		27	Lancaster	92
Kershaw	101		28	Jasper	91
Lancaster	92		29	Colleton	91
Laurens	96		30	Chester	91
Lee	81		31	Fairfield	91
Lexington	131		32	Edgefield	91
McCormick	89		33	McCormick	89
Marion	88		34	Abbeville	88
Marlboro	78		35	Marion	88
Newberry	92		36	Hampton	87
Oconee	101		37	Williamsburg	87
Orangeburg	97		38	Barnwell	87

Table 4.4 Index Values for Real Per Capita Wage Income, 2008

Alphabetical Listing			Rank Listing		
County	Index Value	Rank	County	Index Value	Rank
Pickens	105	39	Allendale	85	46
Richland	139	40	Dillon	85	45
Saluda	78	41	Union	84	44
Spartanburg	122	42	Chesterfield	84	43
Sumter	104	43	Lee	81	42
Union	84	44	Bamberg	81	41
Williamsburg	87	45	Saluda	78	40
York	118	46	Marlboro	78	39

4.3 INFERENCES FROM THE FINDINGS

First, we note that the findings are consistent across the years examined. The years 2000-2008 did not bring dramatic change to the state’s economy—certainly not dramatic localized change—so the consistency of the rankings squares with our expectations. Second, the index values and rankings verify the importance of key variables in the regression model. Clearly, educational attainment and population density are critical to prosperity, as postulated in earlier sections of this report. Civic engagement matters too, as does water access. We note that while miles of interstate highway was a weak performer in the regression model, Charleston, Greenville, Lexington, and Richland counties all benefit from interstate access, while bottom ranking Allendale and Marlboro counties, along with Bamberg and Saluda counties have none. Simply put, the index values support the importance of the causal factors used in the regression analysis.

Further, and of great importance in our view, the findings are intuitively appealing. Our expectations of which counties are strong and weak performers and of the factors that determine this performance were met. We now describe a dynamic index, one that is based on economic growth across 2000-2008.

5. A DYNAMIC PROSPERITY INDEX

5.1 WHAT ABOUT GROWTH?

The static index values reveal much about economic prosperity at specific points in time, but economic growth across time—and the potential for future growth—are also critical determinants in our assessment of the prosperity of S.C. counties. In this section we design two indices that view S.C. counties through the lens of an evolutionary model, which suggests that prospering human communities must create wealth on a sustainable basis. Prosperous communities also grow by internal population increases and by attracting outsiders. Our model again covers the years from 2000-2008, a time period that is a short and difficult one in U.S. economic history. Two recessions took place

during this interval, 2001-2002 and 2008-2009, and the imprint of the second recession, the most severe since World War II, is evident in the data. This said, we also note that the period chosen enables us to assess where South Carolina counties stand currently and how they may be positioned as the economy recovers from the 2008-2009 recession.

There are many determinants of prosperity, but we focus on five key indicators that we believe are good signals of community prosperous. We see these indicators not only as “markers” of prosperity but also as critical survival variables in an evolutionary model. Communities with poor records for these variables will have trouble sustaining jobs and keeping residents. They will struggle to prosper. The five variables we use are: real per capita personal income, real per capita wage income, total population, non-dependent population, and total employment.

Growth in real per capita personal income and growth in real per capita wages are clear signals of progress and increasing prosperity for community members. Further, these two variables act as proxies for other measures of quality of life. For example, high-income communities are more likely to have lifestyle amenities, such as shopping, restaurants, parks, museums, and community centers that attract population and spur further growth. Population growth signals that an area is prospering—people want to live where life is good, however good is defined. Similarly, growth in non-dependent population⁸ and growth in employment are other key signals of prosperity. We employ all five of these variables in different combinations in our models.

5.2. TOWARD A SUSTAINABLE PROSPERITY INDEX

In our first index, we attempt to measure sustainable variables that are likely indicators of long-term growth. We exclude the effects of income transfers and the portion of the population that is likely to be dependent on others. The variables that focus on sustainability are: real per capita wage growth, non-dependent population growth, and employment growth.

A simple way to compare counties based on these sustainability measures is to average the growth rates for each variable and form an index. This simple method gives equal weight to the variables included in the respective indices. Table 5.2 reports the Sustainable Prosperity Index.

⁸ Dependent population is defined as the sum of the population under age 5 and aged 65 and above; therefore, non-dependent population is the population between ages 5 and 65.

Table 5.2. Sustainable Prosperity Index					
Wages, Non-dependent Population, and Employment Growth					
Rank	County	Index Score	Rank	County	Index Score
1	Dorchester	21.75	24	Lancaster	3.77
2	Beaufort	20.46	25	Bamberg	2.69
3	Berkeley	17.83	26	Oconee	2.26
4	Horry	16.62	27	Fairfield	1.39
5	York	16.04	28	Cherokee	1.29
6	Jasper	14.22	29	Darlington	1.12
7	Charleston	13.93	30	Clarendon	0.88
8	Georgetown	13.80	31	Hampton	0.63
9	Lexington	12.48	32	Lee	0.62
10	Aiken	10.09	33	Laurens	0.24
11	Richland	9.96	34	Greenwood	-0.30
12	Kershaw	9.66	35	Chesterfield	-0.32
13	Greenville	8.93	36	Marlboro	-1.13
14	Edgefield	8.71	37	Saluda	-1.33
15	Florence	6.52	38	Chester	-1.70
16	Anderson	6.14	39	McCormick	-2.02
17	Spartanburg	6.10	40	Williamsburg	-2.27
18	Colleton	4.93	41	Dillon	-3.60
19	Calhoun	4.91	42	Abbeville	-3.87
20	Newberry	4.86	43	Allendale	-6.67
21	Orangeburg	4.26	44	Union	-6.69
22	Sumter	4.10	45	Marion	-7.54
23	Pickens	3.96	46	Barnwell	-8.24
	South Carolina	4.55			

We note that the high and low performers are not necessarily the same as those observed in the static indexes. Focusing on the top five, performers, we see only Beaufort County in both the Sustainable Prosperity Index and the static indexes for per capita real wages. The fast-growth counties of Dorchester, Berkeley, Horry, and York vault to the top of the sustainability index, indicating they are in a strong position for future growth and will likely move up in future static rankings.

Turning to the bottom five counties, we see that not only is Allendale County a poor performer in terms of its static rank, but its future prospects are also poor. Other counties in a state of steep decline are Union, Marion, and Barnwell.

5.3. TOWARD A DYNAMIC PROSPERITY INDEX

As an alternate to the Sustainable Prosperity Index, we calculate a Dynamic Prosperity Index that accounts for income growth from all components and population growth from all segments of society. The index relies on three variables: per capita personal income growth, total population growth, and employment growth. The Dynamic Prosperity Index is presented in Table 5.3.

Income, Population, and Employment Growth					
Rank	County	Index Score	Rank	County	Index Score
1	Dorchester	35.98	24	Pickens	2.36
2	Berkeley	26.57	25	Sumter	2.22
3	Beaufort	25.48	26	Oconee	1.84
4	York	23.91	27	McCormick	1.39
5	Horry	21.80	28	Clarendon	0.78
6	Georgetown	19.87	29	Fairfield	0.63
7	Jasper	15.36	30	Lee	0.55
8	Charleston	14.48	31	Darlington	0.23
9	Kershaw	13.85	32	Lancaster	0.21
10	Edgefield	13.73	33	Bamberg	-0.66
11	Richland	12.21	34	Laurens	-1.05
12	Lexington	9.82	35	Cherokee	-1.15
13	Greenville	9.39	36	Marlboro	-2.20
14	Newberry	8.11	37	Dillon	-2.54
15	Aiken	7.92	38	Chesterfield	-2.87
16	Florence	7.89	39	Hampton	-3.63
17	Colleton	6.03	40	Chester	-3.87
18	Williamsburg	6.00	41	Greenwood	-4.05
19	Spartanburg	4.41	42	Allendale	-7.93
20	Calhoun	3.91	43	Marion	-10.09
21	Orangeburg	3.78	44	Union	-10.79
22	Saluda	3.04	45	Abbeville	-13.76
23	Anderson	2.46	46	Barnwell	-18.04
	South Carolina	4.86			

Again, it is interesting to compare this dynamic index with the static indexes. Beaufort County is again the only county to rank in the top five for the static indexes for per capita personal income and in the Dynamic Prosperity Index. And, once again, Dorchester, Berkeley, Horry, and York counties demonstrate strong growth over these years and stand poised to grow strongly in the coming decade.

Turning to the bottom end of the spectrum, Allendale County continues to underperform, with low ranks in the dynamic index as well as the static index. Marion, Union, Abbeville, and Barnwell counties face poor prospects, with double-digit declines in the dynamic index.

6. FORMING THE FINAL SOUTH CAROLINA COUNTY PROSPERITY INDEX

6.1 COMBINING STATIC AND DYNAMIC MEASURES OF PROSPERITY

Our final South Carolina Prosperity Index is based on real per capita personal income, which is the more inclusive income measure. The index combines two elements, one that is static using 2008 data and based on regression analysis, and the other dynamic and based on data analysis for growth across 2000 to 2008. We average the static and dynamic rankings taken from previous tables to give the final prosperity index. We note that doing so assigns equal weight to the two components. We report the rankings in Table 6.1.

County	Static Rank	Dynamic Rank	Average	FINAL RANK
Beaufort	1	3	2	1
Charleston	2	8	5	2
Berkeley	8	2	5	2
Horry	7	5	6	3
Georgetown	6	6	6	3
Dorchester	12	1	6.5	4
York	9	4	6.5	4
Richland	3	11	7	5
Lexington	4	12	8	6
Greenville	5	13	9	7
Spartanburg	10	19	14.5	8
Kershaw	20	9	14.5	8
Aiken	15	15	15	9
Florence	18	16	17	10
Anderson	11	23	17	10
Sumter	19	25	17	10
Orangeburg	24	21	17.5	11
Calhoun	16	20	18	12

Table 6.1. Final South Carolina County Prosperity Index				
County	Static Rank	Dynamic Rank	Average	FINAL RANK
Jasper	30	7	18.5	13
Pickens	14	24	19	14
Oconee	13	26	19.5	15
Colleton	23	17	20	16
Edgefield	31	10	20.5	17
Newberry	27	14	20.5	17
Clarendon	17	28	22.5	18
McCormick	22	27	24.5	19
Williamsburg	35	18	26.5	20
Fairfield	26	29	27.5	21
Cherokee	25	35	30	22
Darlington	28	31	29.5	23
Laurens	29	34	31.5	24
Saluda	42	22	32	25
Lancaster	32	32	32	25
Greenwood	21	41	32	25
Barnwell	36	46	36	26
Chester	33	40	36.5	27
Lee	44	30	37	28
Hampton	37	39	38	29
Bamberg	45	33	39	30
Chesterfield	41	38	39.5	31
Abbeville	34	45	39.5	31
Dillon	43	37	40	32
Marion	38	43	40.5	33
Marlboro	46	36	41	34
Allendale	46	42	41	34
Union	39	44	41.5	35

6.2. FOUR PROSPERITY CATEGORIES AND UPWARD BOUND COUNTIES

We now call attention to the top 10 ranked counties, which include counties that are tied for a ranking. These 16 counties form a *high prosperity* category. In the chart, these begin with Beaufort, the state's leading prosperity county, and reach to Sumter. We note that Sumter is the marginal county, just at the border that separates the *high* and *moderately high prosperity* categories. Examination of the static and dynamic index components reveals wide variation in the dynamic component, which implies wide variation in growth momentum. (We note that reference to Table 5.3 shows that each of the counties in this category has a positive momentum measure.)

Consider the eight counties in the *high prosperity* category that had a stronger or equal dynamic rank as compared to their static rank. The larger the gap between the two indexes, the higher the growth momentum that led them to their static ranking. (Recall that the static ranking is for 2008. The dynamic ranking is based on growth between 2000 and 2008.) We call these *upward bound* counties. Included in this strongest of the strong, ranked from highest to lowest, are Dorchester, Kershaw, Berkeley, York, Horry, Florence, Georgetown and Aiken. These counties are predicted to move to a higher overall prosperity position in the years ahead. We note that Beaufort, Charleston, Richland, Lexington, Greenville, Spartanburg, Anderson and Sumter have dynamic ranks that were lower than their static ranks. These are highly ranked but low momentum counties. They also may have been adversely affected by the recent recession.

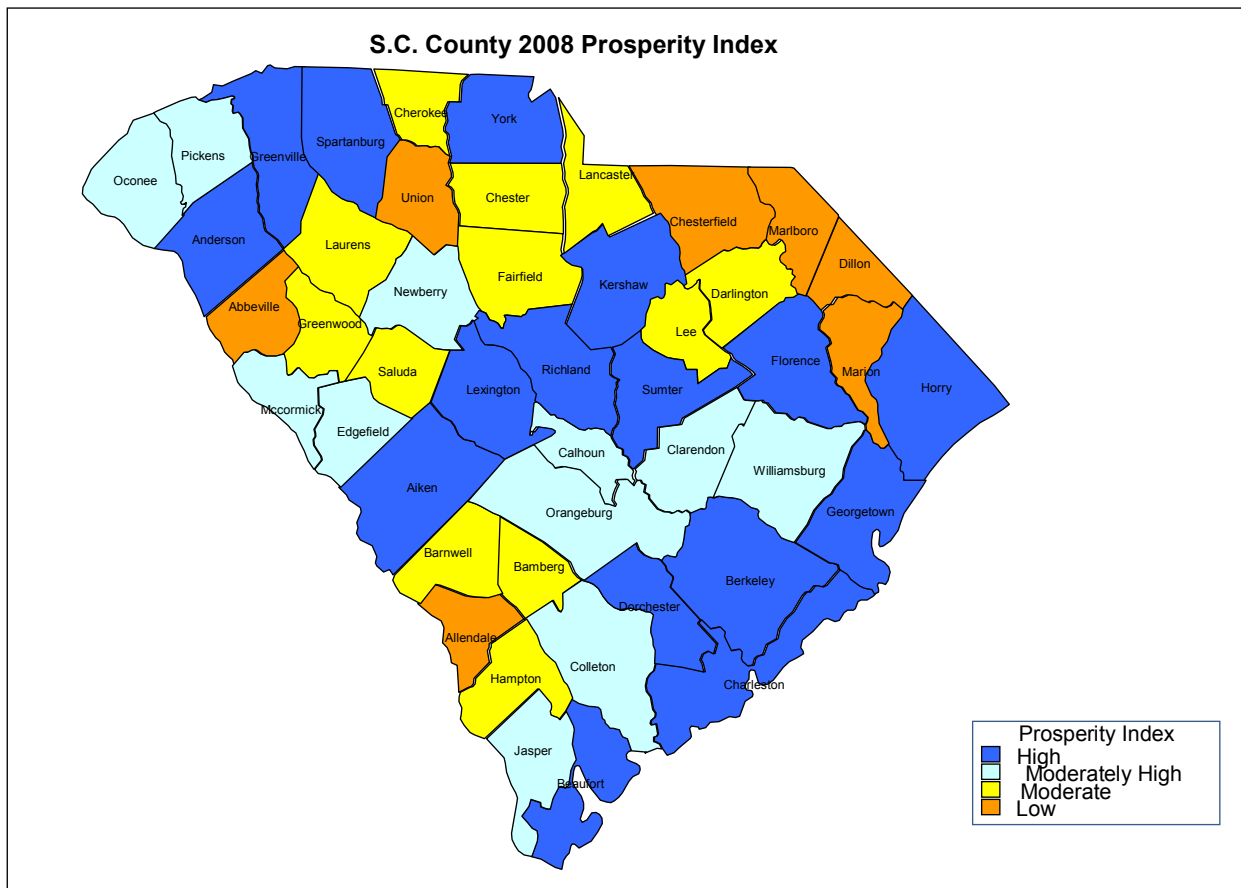
Now, consider the next group that ranks from 11th to 20th. These eleven counties form a *moderately high prosperity* group. They begin in the chart with Orangeburg and end with Williamsburg. Again, we note that Williamsburg is the marginal county. It lies just inside the *moderately high prosperity* group and just a rank order away from the *moderate prosperity category*. Again, we compare dynamic and static rankings. With reference to Table 5.3, we note that all the counties in this category had a positive dynamic reading. Those with the largest positive gap between their dynamic and static rankings had the strongest growth momentum. Ranked for positive dynamic momentum from highest to lowest are Jasper, Edgefield, Williamsburg, Newberry, Colleton, and Orangeburg. We note that Calhoun, Pickens, Oconee, Clarendon, and McCormick had negative gaps between their dynamic and static rankings. This lack of momentum suggests these counties may fall to a lower prosperity ranking in future years. It is also possible that the negative gap relates to the effect of the last recession.

We now move to the *moderate prosperity* counties. These 12 counties rank from 21st to 30th. This group begins in the chart with Fairfield and ends with Bamberg. Reference to Table 5.3 shows that Cherokee, Laurens, Greenwood, Barnwell, Chester, Hampton, and Bamberg had negative dynamic readings, which is to say prosperity momentum was losing ground. When rank is considered, four of the counties have a positive or zero momentum gap. These are Saluda, Lee, Bamberg, and Lancaster and are predicted to

rise to a higher future prosperity ranking, or as the case with Bamberg to decline at a slower pace. The other counties had negative momentum gaps.

Finally, consider the *low prosperity* category. These rank from 31st to 37th. In the chart, these seven counties begin with Chesterfield and end with Union. Each county in this category had a negative dynamic reading. Those in this bottom category having some positive momentum are Marlboro, Dillon, Allendale, and Chesterfield, which means they were declining at a slower pace. The other counties in this category—Abbeville, Marion, and Union—had weaker dynamic than static rankings.

We now provide a map based on the four prosperity categories: high, moderately high, moderate, and low. The data mapping tells us even more about regional economic development patterns. As can be seen, the state has three distinct prosperity belts. The stronger one lies along the coast. The second belt encompasses much of the central midlands, and the third is centered in the upstate. Along with these three belts, there is a healthy scattering of moderately high prosperity counties that forms a belt between the coastal and central midlands. The influence of the state’s metropolitan regions is clearly evident.



7. CONCLUSION

We began our report by noting that South Carolina's counties form a rich tapestry of differing economic, demographic, and developmental traits. We examined the counties based on many of those traits in order to learn about patterns of prosperity in the state. We modeled prosperity in various ways and built indices from South Carolina county data. By examining relative levels of prosperity in South Carolina, we also learned about areas of economic hardship.

Before building indices or regression models of our own, we surveyed the landscape of similar research, found in Section 2. Various indices and reports use economic, demographic, and developmental indicators to measure economic progress. Our survey suggested that factors we already had in mind—such as education, employment, and migration—are keys to prosperity. Conversely, they suggested that low levels of education and high levels of poverty and unemployment are key indicators of economic hardship.

In the next section of the report, we used regression analysis to examine causal factors behind our rankings and, presumably, behind prosperity. We modeled both real per capita personal income and real per capita wages, while noting the limitations of regression analysis. Factors that we thought were important for a county's development and prosperity included civic or social capital, human capital, potential division of labor and access to other inputs, natural amenities, public infrastructure, and population living in poverty. Our regression results suggested that most of these variables were in fact critical for economic development.

Taking our regression results one step further, we constructed a static prosperity index for South Carolina counties. An advantage of this approach was that we used regression results to weight variables. Using this method, we built prosperity indices for 2000 and 2008 using both an income-based model and a wage-based model.

In Section 5, we posited that counties should be viewed through the lens of an evolutionary model of prosperity. A prosperous community creates wealth sustainably, and we examined factors that drive prosperity and sustainability. These factors related to income, wages, population, and employment. Based on these variables we built a dynamic prosperity index using growth rate data from 2000-2008. The dynamic index is a momentum indicator, since it is based on counties' recent prosperity trends.

Finally, we built a 2008 South Carolina Prosperity Index based on real per capita personal income, which of course includes both earned and transfer income. The index had dynamic and static components. With the index constructed, we grouped counties into high, moderately high, moderate, and low prosperity categories. Within these, we identified counties with strong momentum for future growth as well as counties with lagging momentum.

The South Carolina economy is spurred by population growth, investments in physical and human capital, and connections to a growing global economy. Always in a transition from economic patterns of the past to an evolving future economy, South Carolina travels a path to more prosperous times. Future prosperity research will identify leading and lagging state regions as the economic trip continues.

APPENDIX A. REGRESSION RESULTS

Appendix Table A.1. Regression Results for Real Per Capita Personal Income: 2000		
Dependent Variable: Real Per Capita Income, 2007 \$s		
Variable	Coefficient/t-statistic	Coefficient/t-statistic
Constant	-7251/(-1.37)	6382/(0.80)
Percent Voting	193/(2.57)	146/(1.95)
Percent with High School Diploma or Higher	267/(3.29)	164/(1.82)
Population Density	19/(3.94)	17/(3.80)
Water Area as Percent of Total Area	120/(2.57)	149/(3.20)
Interstate Highway Miles as a Percent of Total Area	-4/(-0.03)	8/(0.06)
Poverty Rate		-224/(-2.21)
Adjusted R-square	0.82	0.84
F-statistic	42.85	39.98
Number of Observations	46	46
Note: All coefficient values have been rounded to the nearest whole number.		

Appendix Table A.2. Regression Results for Real Per Capita Personal Income: 2008

Dependent Variable: Real Per Capita Income, 2007 \$s		
Variable	Coefficient/t-statistic	Coefficient/t-statistic
Constant	-33878/(-3.06)	-23314/(-1.79)
Percent Voting	415/(3.32)	368/(2.89)
Percent with High School Diploma or Higher	352/(4.33)	296/(3.33)
Population Density	9/(2.20)	8/(1.89)
Water Area as Percent of Total Area	209/(4.14)	207/(4.16)
Interstate Highway Miles as a Percent of Total Area	253/(1.63)	210/(1.35)
Poverty Rate		-118/(-1.49)
Adjusted R-square	0.77	0.78
F-statistic	31.52	27.44
Number of Observations	46	46
Note: All coefficient values have been rounded to the nearest whole number.		

Appendix Table A.3. Regression Results for Real Per Capita Wage Income: 2000

Dependent Variable: Real Per Capita Wage Income, 2007 \$s		
Variable	Coefficient/t-statistic	Coefficient/t-statistic
Constant	-12121/(-3.58)	-3483/(-0.68)
Percent Voting	152/(3.15)	122/(2.55)
Percent with High School Diploma or Higher	222/(4.27)	157/(2.71)
Population Density	11/(3.57)	10/(3.41)
Water Area as Percent of Total Area	-31/(-1.03)	-13/(-0.42)
Interstate Highway Miles as a Percent of Total Area	77/(0.85)	84/(0.97)
Poverty Rate		-142/(-2.18)
Adjusted R-square	0.82	0.84
F-statistic	42.59	39.60
Number of Observations	46	46
Note: All coefficient values have been rounded to the nearest whole number.		

Appendix Table A.4. Regression Results for Real Per Capita Wage Income: 2008		
Dependent Variable: Real Per Capita Wage Income, 2007 \$s		
Variable	Coefficient/t-statistic	Coefficient/t-statistic
Constant	-25534/(-2.54)	-12578/(-1.09)
Percent Voting	228/(2.01)	171/(1.51)
Percent with High School Diploma or Higher	283/(3.82)	213/(2.71)
Population Density	8/(2.13)	7/(1.76)
Water Area as Percent of Total Area	32/(0.70)	30/(0.68)
Interstate Highway Miles as a Percent of Total Area	264/(1.87)	212/(1.53)
Poverty Rate		-145/(-2.06)
Adjusted R-square	0.66	0.68
F-statistic	18.14	17.06
Number of Observations	46	46
Note: All coefficient values have been rounded to the nearest whole number.		

APPENDIX B. COUNTY DYNAMIC PROSPERITY RANKINGS

Rank	County	Real Per Capita Income Growth	Rank	County	Real Per Capita Wage Growth
1	Edgefield	22.36%	1	Bamberg	28.05%
2	Calhoun	21.05%	2	Jasper	27.33%
3	Williamsburg	19.59%	3	Calhoun	26.80%
4	Berkeley	17.62%	4	Sumter	20.10%
5	Jasper	17.03%	5	Orangeburg	19.42%
6	Georgetown	16.93%	6	Edgefield	19.09%
7	Saluda	16.92%	7	Charleston	17.21%
8	Bamberg	16.40%	8	Hampton	16.92%
9	McCormick	14.52%	9	Georgetown	16.77%
10	Orangeburg	13.37%	10	Berkeley	16.23%
11	Allendale	12.44%	11	Aiken	15.13%
12	Sumter	12.07%	12	Florence	13.59%
13	Colleton	11.24%	13	Chester	12.86%
14	Dorchester	10.34%	14	Colleton	12.75%
15	Kershaw	10.12%	15	Lexington	11.33%
16	Chester	9.99%	16	Union	11.33%
17	Florence	9.92%	17	Beaufort	10.69%
18	Clarendon	8.81%	18	Clarendon	9.85%
19	Union	8.66%	19	Darlington	9.31%
20	Lee	8.62%	20	Kershaw	9.22%
21	Newberry	7.92%	21	Allendale	9.15%
22	Marlboro	7.52%	22	Fairfield	8.92%
23	Fairfield	6.96%	23	Anderson	8.88%
24	Darlington	6.67%	24	Lee	8.63%
25	Hampton	6.63%	25	Marlboro	7.89%
26	Marion	6.55%	26	Oconee	7.68%
27	Charleston	6.09%	27	Pickens	7.65%
28	Oconee	5.86%	28	Laurens	7.48%
29	Beaufort	5.60%	29	Richland	7.27%
30	Laurens	5.59%	30	Chesterfield	6.73%
31	Dillon	4.25%	31	Saluda	5.70%
32	Richland	3.48%	32	Abbeville	5.51%
33	Aiken	2.71%	33	Spartanburg	5.29%
34	Chesterfield	2.57%	34	McCormick	4.82%
35	Pickens	2.11%	35	Marion	4.56%
36	Cherokee	-0.03%	36	Newberry	4.20%

Appendix Table B.1. Rankings for Income Growth, Wage Growth, 2000-2008						
Rank	County	Real Per Capita Income Growth		Rank	County	Real Per Capita Wage Growth
37	York	-0.60%		37	Cherokee	4.14%
38	Greenwood	-1.44%		38	Greenwood	4.11%
39	Spartanburg	-2.05%		39	Greenville	2.61%
40	Greenville	-2.56%		40	Williamsburg	1.58%
41	Anderson	-2.71%		41	Dorchester	0.31%
42	Lexington	-4.07%		42	Dillon	-1.19%
43	Horry	-5.68%		43	Barnwell	-2.06%
44	Abbeville	-10.70%		44	Horry	-5.24%
45	Lancaster	-12.85%		45	York	-5.69%
46	Barnwell	-13.70%		46	Lancaster	-5.74%
	South Carolina	6.57%			South Carolina	9.29%

Appendix Table B.2. Rankings for Population Growth, Non-dependent Population Growth, 2000-2008						
Rank	County	Population Growth		Rank	County	Non-dependent Population Growth
1	York	32.10%		1	York	31.16%
2	Dorchester	31.86%		2	Dorchester	30.46%
3	Horry	30.90%		3	Horry	26.90%
4	Beaufort	24.37%		4	Lancaster	22.87%
5	Lancaster	23.74%		5	Beaufort	18.06%
6	Berkeley	18.70%		6	Berkeley	16.42%
7	Greenville	15.41%		7	Greenville	15.20%
8	Lexington	15.05%		8	Richland	13.57%
9	Richland	13.51%		9	Lexington	12.79%
10	Charleston	12.28%		10	Charleston	11.01%
11	Kershaw	11.88%		11	Kershaw	10.37%
12	Spartanburg	10.62%		12	Spartanburg	9.66%
13	Anderson	10.31%		13	Anderson	9.09%
14	Georgetown	8.84%		14	Jasper	6.88%
15	Aiken	8.08%		15	Georgetown	5.80%
16	Jasper	7.99%		16	Aiken	5.61%
17	Oconee	7.64%		17	Newberry	5.39%
18	Florence	5.60%		18	Edgefield	4.78%
19	Pickens	5.56%		19	Cherokee	4.14%
20	Newberry	4.75%		20	Pickens	3.83%
21	Edgefield	3.87%		21	Oconee	3.59%

Appendix Table B.2. Rankings for Population Growth, Non-dependent Population Growth, 2000-2008					
Rank	County	Population Growth	Rank	County	Non-dependent Population Growth
22	Cherokee	3.53%	22	Florence	2.98%
23	Greenwood	3.44%	23	Greenwood	2.69%
24	Clarendon	1.99%	24	Colleton	0.50%
25	Colleton	1.97%	25	Laurens	-0.15%
26	McCormick	1.36%	26	Lee	-0.22%
27	Chesterfield	0.27%	27	McCormick	-0.26%
28	Laurens	0.16%	28	Fairfield	-0.46%
29	Dillon	-0.08%	29	Chesterfield	-0.81%
30	Fairfield	-0.08%	30	Dillon	-1.58%
31	Marlboro	-0.40%	31	Clarendon	-1.90%
32	Sumter	-0.48%	32	Darlington	-2.09%
33	Darlington	-0.54%	33	Saluda	-2.26%
34	Lee	-1.13%	34	Abbeville	-3.08%
35	Orangeburg	-1.36%	35	Sumter	-3.26%
36	Hampton	-1.45%	36	Hampton	-3.68%
37	Barnwell	-2.58%	37	Barnwell	-3.75%
38	Saluda	-2.90%	38	Orangeburg	-3.88%
39	Abbeville	-2.92%	39	Calhoun	-3.91%
40	Calhoun	-3.96%	40	Chester	-5.55%
41	Chester	-4.26%	41	Marlboro	-5.94%
42	Marion	-4.58%	42	Marion	-6.66%
43	Williamsburg	-5.72%	43	Allendale	-6.92%
44	Allendale	-6.81%	44	Williamsburg	-7.10%
45	Union	-7.39%	45	Union	-7.97%
46	Bamberg	-8.11%	46	Bamberg	-10.82%
	South Carolina	5.67%		South Carolina	4.16%

Appendix Table B.3. Rankings for Employment Growth, 2000-2008		
Rank	County	Employment Growth
1	Dorchester	29.76%
2	Beaufort	20.98%
3	Horry	18.39%
4	Berkeley	16.83%
5	York	16.31%
6	Georgetown	13.97%
7	Charleston	10.59%
8	Lexington	8.67%
9	Richland	7.44%
10	Greenville	5.92%
11	Jasper	5.70%
12	Kershaw	5.69%
13	Aiken	5.05%
14	Newberry	3.55%
15	Edgefield	1.23%
16	Florence	0.26%
17	Spartanburg	0.25%
18	Colleton	-1.15%
19	Williamsburg	-1.86%
20	Anderson	-2.68%
21	Pickens	-2.95%
22	Orangeburg	-4.45%
23	Fairfield	-5.62%
24	Darlington	-5.66%
25	Cherokee	-5.80%
26	Lee	-6.38%
27	Sumter	-7.14%
28	Laurens	-7.85%
29	Saluda	-7.93%
30	Chesterfield	-8.58%
31	Clarendon	-9.23%
32	Dillon	-9.25%
33	Calhoun	-9.26%
34	Bamberg	-9.60%
35	Oconee	-9.83%
36	Greenwood	-10.10%
37	Lancaster	-10.45%
38	Marlboro	-11.53%
39	Hampton	-12.44%

Appendix Table B.3. Rankings for Employment Growth, 2000-2008		
Rank	County	Employment Growth
40	McCormick	-13.09%
41	Chester	-13.46%
42	Abbeville	-13.90%
43	Barnwell	-19.81%
44	Allendale	-21.48%
45	Marion	-22.16%
46	Union	-22.85%
	South Carolina	-2.52%

APPENDIX C. DATA SOURCES

Population 2000: SC Statistical Abstract, <http://abstract.sc.gov/>

Population 2008: SC Statistical Abstract, <http://abstract.sc.gov/>

Population by Age 2000: U.S. Census Bureau, Population Division,
<http://www.census.gov/popest/counties/asrh/files/cc-est2009-alldata-45.csv>

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Per Capita Personal Income 2000: SC Statistical Abstract, <http://abstract.sc.gov/>

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Per Capita Wage Income 2000: Strom Thurmond Institute

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Voting Data 2000: SC Votes, www.scvotes.org/statistics/voter_history

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Land and Water Area: U.S. Bureau of the Census, Census of Population and Housing, 2000:
Table: Area, Population and Density: 2000

Interstate Highway Mileage: Calculated by authors from SC state and county maps.



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