

Comparing Three Economic Diagnosis Measures: Development of a More Precise Socioeconomic Distress Metric

Coddy L. Carter, Ph.D.

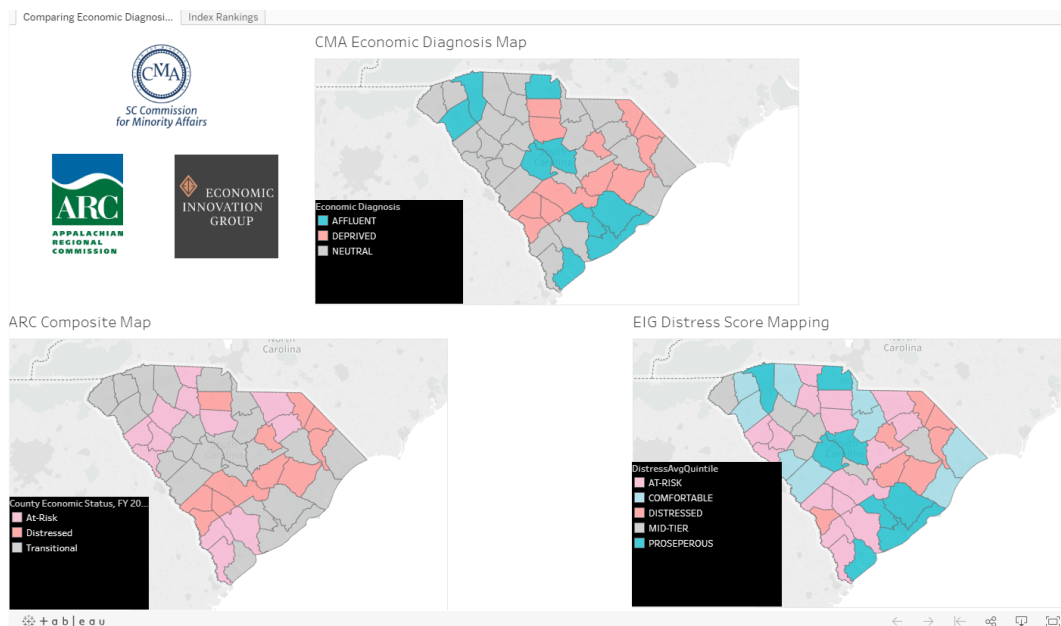
South Carolina Commission for Minority Affairs

Background

The present whitepaper presents choropleth maps of socioeconomic deprivation metrics developed by the South Carolina Commission for Minority Affairs, the Appalachian Regional Commission, and the Economic Innovation Group, respectively. The South Carolina Commission for Minority Affairs metric was computed using four variables that included per capita income, median household, percent below poverty, and unemployment rate. Counties were classified as below average, average, or above average based on standardized scores across South Carolina's 46 counties. Variables were color coded using choropleth such that low socioeconomic counties were coded red and high socioeconomic counties coded with blue. Counties found to be blue on at least two of the four variables were marked as "affluent"; those coded red on at least two variables were designated to be "deprived." The Appalachian Regional Commission Economic Status measure examined how all counties across the United States compared to each other in poverty, unemployment, and per capita market income. Composite index values indicated where counties fell among the 3,113 counties in the United States. Based on the index measure, counties were classified as either "distressed", "at-risk", "transitional", "competitive", or "attainment." Finally, the Economic Innovation Group developed the Distressed Communities Index (DCI) to identify zip codes across the United States that were significantly impoverished. The original DCI used seven indicators for the computation of the measure, but the present whitepaper used a modified measure with four indicators. These indicators included the percentage of residents aged 25 and over without high school diplomas, unemployment for ages 16 to 64, percent below poverty, and county-to-state median income ratio. An average of the four variables was computed, divided by the number of counties in South Carolina (46), and multiplied by 100 to yield a distress score. Scores ranged from 0 to 100 with scores between from 0 to 20 denoting "prosperous" counties, 20 to 40 being "comfortable" counties, 40 to 60 denoting "mid-tier" counties, 60 to 80 as "at-risk", and scores from 80 to 100 indicating "distressed" counties. Like the South Carolina Commission for Minority Affairs socioeconomic metric, the Economic Innovation Group's DCI controlled for geographic area as it ranked each of South Carolina's counties across the variables of interest.

Measure Comparison

The figure below, powered by Tableau, shows the mapping of the three socioeconomic diagnosis measures. Similarities can be observed between the South Carolina CMA and EIG maps in their identification of "affluent" counties. The South Carolina CMA metric identified Anderson, Greenville, York, Lexington, Richland, Dorchester, Berkeley, Charleston, and Beaufort counties as "affluent." The EIG's Distressed Communities Index specifically noted these counties as "prosperous" with Anderson County being affluent yet slightly lower in socioeconomic status as a "comfortable" county. Allendale, Williamsburg, Clarendon, Lee, Marlboro, Dillon, and Marion counties were identified by the South Carolina CMA measure as "deprived" and classified as "distressed" by the DCI. The Appalachian Regional Commission mirrored the metrics of the EIG and Commission for Minority Affairs in its identification of "distressed" counties. At the same time, the ARC metric conflated most of South Carolina's counties into the "transitional" classification. This is because the measure did not control for cost of living across states. Thus, counties that were comparatively affluent could not be identified. Both the South Carolina CMA and the EIG measures addressed this methodological issue through different means. The South Carolina CMA metric's utilization of standardized scores yielded from averages and standard deviations facilitated comparison of 46 counties. The EIG metric controlled for cost of living by computing the county-to-state median income ratio along with the three other variables of interest.



Click [here](#) to view the interactive maps

Conclusions and Future Directions What the South Carolina CMA metric contained in terms of easy comparison across counties was lacking in mathematical precision. Though the ARC County Economic Status measure did not identify relative affluence in South Carolina, its use of an index would allow one to see how counties ranked in the metric. Though mathematically-based, the South Carolina CMA economic diagnosis method was limited in its reliance on determining affluence or deprivation based on a categorical grouping. This could have caused counties that were either deprived or affluent to fall somewhere in a middle tier. The EIG measure identified eight "comfortable" and 11 "at-risk" counties that were classified as "neutral" by the South Carolina CMA economic metric. Moreover, the ARC measure identified 11 counties classified as "neutral" by the South Carolina CMA to be "at-risk." The categorical grouping of the South Carolina CMA metric was able to capture significant affluence or deprivation but missed counties that were not either extremely deprived or significantly affluent. Overall, the findings point to a need for the development of an index measure from the South Carolina CMA to better capture the nuance of deprivation and affluence in the state. This would require the use of other socioeconomic variables that were not utilized in either of the three economic diagnosis measures. For example, a recent New York Times [article](#) identified the age of first-time mothers as a key socioeconomic barometer for a county. The article also pointed to teenage pregnancy as another county socioeconomic barometer, albeit negative, that could gauge the economic outlook of a county. These childbirth variables could be starting points for a new socioeconomic diagnosis measure that goes beyond common variables such as income and education.