

Indiana Community Resilience Index

The Indiana Business Research Center at Indiana University’s Kelley School of Business (IBRC) worked with the Indiana Office of Community and Rural Affairs (OCRA) to develop a new Indiana Community Resilience Index. This resilience index is designed to complement the [Community Distress Scores](#) used in CDBG grant applications that the IBRC has generated for OCRA since the early 2000s.

The Community Distress Score—which includes measures of poverty, unemployment, income, housing vacancy, and population change—is useful for describing current economic conditions and outcomes. The Community Resilience Index, by contrast, is designed to be more forward-looking by focusing on a community’s capacity for future economic growth. The resilience index gauges this capacity for future growth along the following dimensions:

- Structure of local economy
- Entrepreneurial activity
- Human capital
- Social capital
- Broadband connectivity
- Income inequality
- Homeownership (an indicator of community attachment)

Methodology

The IBRC conducted an extensive literature review to compile a list of potential variables for use in the resilience index. Some candidate variables were removed from consideration if they created too much overlap with the Community Distress Score. A correlation analysis was conducted to reach a draft set of variables. These variables, along with preliminary resilience index scores, were presented to OCRA’s Rural Affairs Working Group for feedback. Based on the input received from the working group, the measures of social capital and broadband connectivity were added to the index.

The Indiana Community Resilience Index is comprised of the following variables:

Topic	Source (table #)	Description
Industry Diversity	StatsAmerica Innovation Intelligence	Index that measures the degree to which a county’s economy features a broad assortment of industries or is concentrated in only a few
Entrepreneurship	Census ACS (S2408)	% of workers who are self-employed
Educational Attainment	Census ACS (S1501)	% of adults with at least some college or higher
Labor force participation	Census ACS (S2301)	Employment-to-population ratio for residents age 16 or older
Social Capital	FEMA Resilience Analysis and Planning Tool (RAPT)	Composite index of three variables: # of social/civic organizations per capita, % of inactive voters, % of population w/ no religious affiliation
Broadband	Census ACS (B28003)	% of households with a broadband internet connection
Income Inequality	Census ACS (B19083)	GINI index
Homeownership	Census ACS (B25003)	% of occupied housing units that are owner-occupied

The industry diversity and social capital measures are only available at the county level. When calculating resilience scores for cities and towns, the IBRC applies the county-level values for these measures to all cities and towns within a given county.

The IBRC uses the same set of calculations to construct the resilience index as it uses for the distress score. After calculating the above variables, the research team calculates the mean, standard deviation, maximum and minimum values for each variable. The maximum and minimum values are adjusted for outliers. The adjusted max is defined as the minimum of (1) the largest observation and (2) the mean plus three standard deviations. The adjusted min is defined as the maximum of (1) the smallest observation and (2) the mean minus three standard deviations. The range is the adjusted max minus the adjusted min. For each variable, a variable resilience score is calculated so that the score takes values from zero to the desired maximum variable resilience score.

The composite resilience score is the sum of the eight variable resilience scores based on the following weighting scheme.

Variable	Maximum Score (variable weight)
Industry Diversity	30 (16.7%)
Entrepreneurship	30 (16.7%)
Educational Attainment	30 (16.7%)
Labor force participation	30 (16.7%)
Social Capital	30 (16.7%)
Broadband	10 (5.6%)
Income Inequality	10 (5.6%)
Homeownership	10 (5.6%)
Total Resilience Score	180 (100%)