

AMERICAN ACADEMY OF ARTS & SCIENCES

The following explains the methodology behind the calculation of the CORE Score, the category values, and the individual metrics. Please contact CORE@amacad.org with any questions.

Category 1: Economic Security

Household financial Resilience:

The data for the financial resilience measure was purchased by the American Academy of Arts and Sciences from a large credit bureau. The purchased data set is a continuous household-based score of 1 to 1000 that ranks households by their likely capacity to spend, save, or invest. The measure is relative in that it compares households to one another, where higher values indicate a higher capacity to spend money or pay for necessary expenses based on income, savings, and debts. A higher value indicates households that have a large amount of discretionary funds available to them.

The bureau's score system is created using millions of financial records from hundreds of thousands of individual Americans each year. The raw data received from the large credit reporting agency was at the individual household level with ZIP-4 geographic identifiers (and no identifiers for race/ethnicity, age, sex, or education). The data represented in the Score reflects data from June of each year, 2014-2021. To calculate county averages, we assigned each ZIP-4 to the county where the majority of the people in that ZIP-4 lived. Each ZIP-4 was assigned to one county. The final data used in the CORE Score is the county-level average resilience score.

Note: The credit bureau changed its formula to calculate its index starting in 2020. Our metric is calculated using the data provided by the bureau, which includes its original formula for 2014-2019 and its updated formula for 2019-2021. The bureau did not furnish the Academy with details on how it calculates its indexes.

Not Housing Burdened:

Data on fair market rent at the county level was acquired from the U.S. Department of Housing and Urban Development. This data has details for the rent for 1-bedroom, 2-bedroom, 3-bedroom, 4-bedroom and 5-bedroom apartments. This data was then matched to the American Community Survey (ACS) data. Households that the ACS identified as having 3 rooms or less were considered 1-bedroom houses, houses with 3-5 rooms were considered 2-bedroom houses, houses with 6-8 rooms were considered 3-bedroom houses, houses with 9-10 rooms were considered 4-bedroom houses and houses with more than 10 rooms were considered 5-bedroom houses. The fair market rent for each particular house size was then divided by household income. Any ratio that exceeded 0.3 was coded as 1 any ratio that was less than 0.3 was coded as zero.

Poverty:

Data was obtained from the ACS about the ratio of individual income to the poverty rate using the Supplemental Poverty Measure. All values less than 1 were coded as 0. All values greater than 1 were coded as 1.

Category 2: Economic Opportunity**Prime Age Labor Force Participation**

Data was obtained from the ACS. All people currently in the labor force or actively looking for work were coded as 1, all people not in the labor force or not actively looking for work were coded as zero. All people outside the working age population (25-54) were coded as NA

Average Education Level

Data was obtained from the ACS. All people under 40 years of age were coded as NA.

Median Wage Growth

Wage growth of the county's median-wage workers. Data was obtained from the ACS. All people with negative income were coded as NA.

Category 3: Health**Healthcare Coverage**

Data was obtained from the ACS. All people under age 65 with health insurance (private or public), were coded as 1, all people without health insurance were coded as 0. All people over the age of 65 were coded as NA.

Life Expectancy

Life expectancy data was procured from the Institute for Health Metrics and Evaluation (IHME), an independent global health research center at the University of Washington. The measures of life expectancy used are "life expectancy at birth," expressed in years. This data is available at the county level and broken down by race/ethnicity, and gender. Data was not available for 2020-2021 at the time of publication.

Category 4: Political Voice

Due to sample sizes, all measures in Category 4 are presented by county for the entire period 2005-2021, rather than year by year.

Voter Turnout

The total county level voter turnout for each presidential election was obtained from the MIT Election Lab. This was divided by county level population estimates obtained from the ACS.

Civic Participation

The measure of civic participation is created from the following survey question asked on the Cooperative Election Study (CES), which is a national survey of Americans focused on politics and elections:

“During the past year did you ... (Check all that apply) <1> Attend local political meetings (such as school board or city council) <2> Put up a political sign (such as a lawn sign or bumper sticker) <3> Work for a candidate or campaign <4> Attend a political protest, march or Demonstration <5> Contact a public official <6> Donate money to a candidate, campaign, or political organization <7> Donate blood <8> None of these”

Notes:

(1) For our measure of civic participation, we did not include the question regarding whether someone had donated blood.

(2) The CES only asks this question every two years (on even numbered years). Given this, data for odd years was imputed from the even year preceding it. For example, data in 2009 is the same data as 2008.

(3) There was a slight difference in question wording across different CES years, particularly comparing 2008 to the years that followed.

The measure of civic participation was calculated originally at the individual respondent level. At the individual respondent level, this is a binary measure that takes on a value of 0 or 1, depending on if the respondent has said “yes” that they have participated in any of the activities listed in the question (other than donating blood). A value of zero indicates that an individual did not participate in any of the listed activities in the past year. A value of 1 indicates that an individual participated in one or more of these listed activities.

The county level civic participation score is the average civic participation score for all individuals in this county per year. At the county level, the civic participation score is a continuous score from 0 to 1 and represents the proportion of individuals in the county that participated in any of the listed activities.

Quality of Representation

The metric is the average share of CES respondents in a county who “get what they want” on high profile policy issues that are voted on in Congress. This is determined by looking at how responses to the CES matched up with the actual voting behavior of their representative for roughly 130 issues asked about in the CES between 2006 and 2022 (CES offers respondents’ county as well as congressional district). Each county receives a score based on the degree to which respondents’ representative voted in line with the expressed desires of their constituents. A high level of support among constituents and a “yes” vote by their Congressional representative, for example, would yield a high score, while low levels of support and a “yes” vote would yield a low score.

Crosswalk

The data from the ACS is only available at the Public Use Micro Area level (PUMA). A crosswalk was conducted between PUMA's and counties. The cross used Shapefiles made publicly available by the Census Bureau. Data from PUMAs is apportioned into counties based on the percentage of the area of the PUMA that lands in a particular county.

County Level

County- and sub-county-level estimates for the following variables were found by taking a weighted mean of each variable:

- Not Housing Burdened
- Poverty Rate
- Labor Force Participation
- Average Education Level
- Median Wage Growth
- Healthcare Coverage
- Quality of Representation
- Civic Engagement

For the variables based on the ACS we used the individual weighting created by the ACS. For the variables based on the CES, we used the individual weighting created by the CES.

Scaling

Variables in the CORE Score have a corresponding scaled variable. The scaling was conducted in the following way:

First, the variable was normalized. This was done by subtracting the mean of the variable and dividing by the standard deviation. The newly normalized variable was then converted into a score between 0 and 10. This was done by subtracting the minimum of the normalized variable and dividing by the range.

CORE Score

Category scores were created by taking a simple mean of the scaled variables.

The Category 1 Score was calculated by taking a simple mean of the following scaled variables:

- Not Housing Burdened
- Household Financial Resilience
- Poverty

The Category 2 Score was calculated by taking a simple mean of the following scaled variables:

- Prime Age Labor Force Participation Rate
- Education
- Median Wage Growth

The Category 3 Score was calculated by taking a simple mean of the following scaled variables:

- Life Expectancy
- Percept with Healthcare Coverage

The Category 4 Score was calculated by taking a simple mean of the following scaled variables:

- Quality of Representation
- Civic Engagement
- Voter Turnout

The CORE Score was calculated by taking a simple mean of the scaled variables for all 11 metrics.

NAs

For the following variables. If the ACS in a given year had a sample size of less than 10 for the subgroup in question, the variables for that group were coded as NA.

- Not Housing Burdened
- Poverty Rate
- Labor Force Participation
- Education
- Median Wage Growth
- Percept with Healthcare Coverage
- Category 1 Score
- Category 2 Score
- Category 3 Score
- CORE Score

Additionally, if less than 1.5% of a county's population comprised a certain racial category, that racial category is coded as N/A in the portion of the visualization that offers a breakdown by race/ethnicity.

For the following variables, if the CES across all years had a sample size of less than 10 for the subgroup in question, the variables for that group were coded as NA.

- Quality of Representation
- Civic Engagement
- Voter Turnout