# Small Area Income and Poverty Estimates: 2019

Small Area Estimates

# **Current Population Reports**

Staci Bell and Sara Robinson December 2020 <sup>P30-08</sup>

# INTRODUCTION

This report presents summary statistics of the 2019 data released by the Small Area Income and Poverty Estimates (SAIPE) program of the U.S. Census Bureau in December 2020.<sup>1</sup> Each year, the SAIPE program provides timely, reliable estimates of income and poverty for the administration of federal programs and the allocation of federal funds to local jurisdictions and school districts. SAIPE is the only source of data on single-year, median household income and poverty statistics for all 3,141 counties and 13,174 school districts in the United States.<sup>2</sup> Some state and local organizations also use SAIPE income and poverty estimates to distribute funds and manage programs.

The Census Bureau and other federal agencies created the SAIPE program in the early 1990s to provide annual income and poverty statistics for states, counties, and school districts in the United States.<sup>3</sup> The SAIPE program produces yearly poverty estimates for the total population (all ages) and by selected characteristics for counties and states. These estimates include the number of children under the age of 5 in poverty (for states only), the number of related children aged 5 to 17 in families in poverty, the number of

<sup>3</sup> For more information on the creation of the SAIPE program, visit <www.census.gov/programs-surveys/saipe/about/origins.html>.

# **HIGHLIGHTS**

- Based on median household income estimates for the 3,141 counties in the United States, 74.8 percent (2,350 counties) did not experience a change in median household income between 2007—the year before the Great Recession—and 2019. In the same period, 22.8 percent (716 counties) had an increase and 2.4 percent (75 counties) had a decrease in median household income.
- Based on poverty rate estimates for the 3,141 counties for all ages, 2.5 percent (80 counties) had an increase in poverty between 2007 and 2019. Meanwhile, 7.4 percent (231 counties) had a decrease in poverty.
- For all school districts, the median estimated poverty rate for school-age children was 13.9 percent in 2019.

children under the age of 18 in poverty, and median household income.

The U.S. Department of Education uses SAIPE data to aid in determining annual Title I allocations of federal funds to states and school districts. At the school district level, estimates are generated for the total population, the number of children aged 5 to 17, and the number of related children aged 5 to 17 in families in poverty.



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<sup>&</sup>lt;sup>1</sup> The U.S. Census Bureau reviewed this data product for unauthorized disclosure of confidential information and approved the disclosure avoidance practices applied to this release. CBDRB-FY20-328.

<sup>&</sup>lt;sup>2</sup> There were 3,142 total counties in the United States. Kalawao County, HI, was omitted due to small sample size. There were also 13,183 school districts in the United States; however, nine school districts were excluded due to a lack of school-age children.



Due to the comprehensive geographic coverage and 1-year focus, SAIPE data can be used to analyze geographic variation in poverty and income. The purpose of this report is to highlight several key aspects from such analyses.<sup>4</sup>

# **COUNTY-LEVEL ESTIMATES**

#### **Median Household Income**

The 2019 SAIPE program provides estimates of median household income for 3,141 counties in the United States. At the county level, median household income ranged from \$24,732 to \$151,806, and half of the counties had values below \$53,341.<sup>5</sup>

Figure 1 highlights the range of median household income throughout the United States. Sixty-two counties had an estimated median household income within the highest range (\$96,967 to \$151,806). Of these highincome counties, 34 were located in the Northeast region, Maryland, and Virginia. About 77.2 percent of counties in the lowest income range (\$24,732 to \$44,388) were located in the South.

<sup>5</sup> The median value of county-level median household income estimates (\$53,341) is not the same measure as the median household income in the United States. The legends in Figures 1 and 1a show the median household income for the nation, as estimated by the 2019 American Community Survey 1-year estimates (\$65,712). **Household income** includes income of the householder and all other people 15 years and older in the household, whether or not they are related to the householder.

**Median** is the point that divides the household income distributions into halves: one-half with income above the median, and the other with income below the median. The median is based on the income distribution of all households, including those with no income.

**Children aged 5 to 17 in families** are children who are related to householder by birth, marriage, or adoption. Foster children are not included in families.

**School-age population** refers to children aged 5 to 17 who live within the geographic boundaries of a school district and who are in an appropriate grade range. It is not a measure of school district enrollment.

Figure 1a depicts the corridor that includes the metropolitan statistical areas of Boston, New York, Philadelphia, Baltimore, and Washington, DC. There were 31 high-income counties located within this corridor.

#### CHANGE IN COUNTY MEDIAN HOUSEHOLD INCOME

Figure 2 shows the percent change in median household income between 2007 (the year before the Great Recession) and



Median Household Income of the Total Population From Washington, DC, to Boston, MA: 2019



<sup>&</sup>lt;sup>4</sup> All data shown are estimates containing uncertainty. Unless specifically noted in the text, apparent differences among the estimates may not be statistically significant. All direct comparisons cited in the text have been statistically tested at the 90 percent confidence level. Confidence intervals for all state and county estimates are available at <www.census.gov/data /datasets/2019/demo/saipe/2019-state -and-county.html>. Guidance on the uncertainty contained in the school district estimates is available at <www.census.gov /programs-surveys/saipe/guidance /district-estimates.html>.



Note: The data provided are indirect estimates produced by statistical model-based methods using sample survey, decennial census, and administrative data sources. The estimates contain error stemming from model error, sampling error, and nonsampling error. The percent change was adjusted for inflation using the national Consumer Price Index (CPI-U). All counties have been statistically tested at the 90 percent confidence level to determine significant change. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, December 2020. 2019.<sup>6</sup> As displayed in the map, orange shades highlight counties with estimated increases compared to 2007, and purple shades highlight counties with estimated decreases. Of the counties in the darkest orange, the majority (43 counties) were located in the Great Plains states of Nebraska, North Dakota, Oklahoma, South Dakota, and Texas.

Comparing 2019 with 2007, 22.8 percent of all counties in the United States (716) had an increase in median household income, 2.4 percent (75 counties) had a decrease in median household income, and 74.8 percent (2,350 counties) did not have a statistically significant change. The majority of counties did not experience changes, which indicates that most counties had returned to pre-Great Recession levels of median household income.

Figure 3 displays the number of statistically significant countylevel changes in median household income over the past 12 years, with 2007 as the base year for each comparison. In this figure, the bars represent how many counties had an increase or decrease in median household income for a particular year compared to 2007. Additionally,

#### SMALL AREA INCOME AND POVERTY ESTIMATES (SAIPE)

SAIPE are model-based enhancements of the American Community Survey (ACS) estimates created by integrating additional information from administrative records, intercensal population estimates, and decennial census data. SAIPE methodology employs statistical modeling techniques to combine this supplemental information with survey data to produce estimates with less uncertainty. SAIPE are broadly consistent with the direct ACS estimates, but with help from other data sources, SAIPE estimates are more precise than the ACS 1-year and 5-year survey estimates for most counties and school districts. ACS 1-year estimates are not available for most of these smaller geographic areas (approximately 800 counties with a population of 65,000 or more are included in the ACS 1-year estimates, and since 2015, supplemental 1-year estimates are available for populations as small as 20,000). A 2019 map of ACS 1-year published counties is available at <www.census.gov/library/visualizations /2020/demo/2019-state-county-maps.html>.

Additional detailed information on the various input data sources used in producing SAIPE is available at <www.census.gov /programs-surveys/saipe/guidance/model-input-data.html>.

SAIPE estimates are subject to several types of uncertainty. Details on SAIPE methodology are available at <www.census.gov /programs-surveys/saipe/technical-documentation/methodology .html>.

this graph tracks the net number of counties that had changes in median household income compared to 2007. If the net number of counties is negative, this means more counties had a decrease in median household income between 2007 and the respective year; if it is positive, then more counties had an increase. The chart illustrates that, starting in 2008, the number of counties with declining median household income outweighed those that increased. This trend grew annually, reaching a peak in 2011, and then reversed. In 2016, the number of increases and decreases was nearly equal, with 312 increases and 311 decreases. In 2019, there were 641 more counties with increases than decreases, making 2019 the year with the most increases from year-to-year (716 counties) and net increases in county-level median household income since the start of the Great Recession.

<sup>&</sup>lt;sup>6</sup> The National Bureau of Economic Research (NBER) <www.nber.org/cycles .html> is the official source for the timing of the Great Recession. The NBER pinpoints December 2007 and June 2009 as the beginning and end of the Great Recession.



Figure 3a. Number of Counties by Region With Change in Median Household Income: 2007 to 2019



Note: Regions with a decrease in median household income are repesented by a negative bar. Regions with an increase in median household income are represented by a positive bar. For this analysis, 2007 is used as the base year for comparison, and all values were adjusted for inflation using the national Consumer Price Index (CPI-U). Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, December 2020.

#### MEDIAN HOUSEHOLD INCOME BY REGION

Figure 3a depicts median household income by region. Among counties whose incomes increased, 36.6 percent (262 counties) were in the Midwest, 8.9 percent (64 counties) were in the Northeast, 36.3 percent (260 counties) were in the South, and 18.2 percent (130 counties) were in the West. Among counties whose incomes decreased, 20 percent (15 counties) were in the Midwest, 5.3 percent (4 counties) were in the Northeast, 54.7 percent (41 counties) were in the South, and 20 percent (15 counties) were in the West.

# POVERTY

The SAIPE data also include poverty estimates for all counties in the United States. In 2019, county poverty rates for all ages ranged from 2.7 percent to 47.7 percent. Figure 4 shows 2019 countylevel estimated poverty rates for all ages throughout the United States. Counties with higher estimated poverty rates are depicted in purple shades, while counties with lower estimated poverty rates are depicted in light blue shades.

Figure 5 shows the poverty rate by county for school-age (aged 5 to 17) children in families. In 2019, 27.2 percent (855) of counties had a poverty rate statistically greater than the national poverty rate of

# HOW IS POVERTY MEASURED?

Poverty status is determined by comparing total annual family income before tax to a table of federal poverty thresholds that vary by family size, number of related children, and age of householder. If a family's income is less than the dollar value of the appropriate threshold, then that family and every individual in it are considered to be in poverty. For people not living in families, poverty status is determined by comparing the individual's total income to their threshold.

For more general information on poverty, please see <www.census .gov/topics/income-poverty/poverty.html>.

The table of federal poverty thresholds is updated annually by the Census Bureau to allow for changes in the cost of living based on the Consumer Price Index (CPI-U). The thresholds do not vary geographically.

Small Area Income and Poverty Estimates' primary inputs are estimates of poverty from the American Community Survey (ACS), a monthly survey with people responding throughout the year. Since income is reported for the previous 12 months, the appropriate poverty threshold for each family is determined by multiplying the base-year poverty threshold (1982) by the average of the monthly CPI values for the 12 months preceding the survey.

For more information, see "How the Census Bureau Measures Poverty" at <www.census.gov/topics/income-poverty/poverty /guidance/poverty-measures.html>.

15.8 percent for children aged 5 to 17 in families, while 21.4 percent (673) of counties had a poverty rate statistically lower than the national poverty rate.<sup>7</sup>

In Mississippi and Louisiana, 70.0 percent or more of counties had a school-age child poverty rate statistically higher than the national average. In five states, 70.0 percent or more of counties had a school-age child poverty rate statistically lower than the national average: Connecticut, Hawaii, Massachusetts, New Hampshire, and Rhode Island.

<sup>&</sup>lt;sup>7</sup> The national poverty rate for schoolage (aged 5 to 17) related children is derived from the 2019 ACS. While the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC) serves as the official national estimate of poverty, the primary input to the SAIPE model is the ACS, and therefore is an appropriate reference in this context.



sources. The estimates contain error stemming from model error, sampling error, and nonsampling error. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, December 2020.



data sources. The estimates contain error stemming from model error, sampling error, and nonsampling error.



Note: The data provided are indirect estimates produced by statistical model-based methods using sample survey, decennial census, and administrative data sources. The estimates contain error stemming from model error, sampling error, and nonsampling error. All counties have been statistically tested at the 90 percent confidence level to determine significant change.



# CHANGE IN COUNTY POVERTY RATES

Comparing poverty rates between 2007 and 2019, more counties had a decrease in their poverty rates than an increase. Figure 6 shows the change in county-level poverty rates for all ages between 2007 and 2019. Of all counties, 2.5 percent (80 counties) had an increase in their poverty rate for the 12-year period, while 7.4 percent (231 counties) had a decrease. Figure 7 displays the number of counties with statistically significant changes in poverty rates for all ages between 2007 and 2019, with 2007 as the base year of comparison. Until 2019, each vear had more increases than decreases, as shown by the positive net number of changes for 2008 through 2018. Compared with 2007, the number of increases in poverty rates for all ages peaked at 1,029 counties in the year 2012. However, the number of decreases rose each year between 2013 and 2019, marking

2019 as the year with the highest number of decreases. By the end of the full 12-year period between 2007 and 2019, 90.1 percent (2,830 counties) did not have a statistically significant change, indicating that most counties had returned to pre-Great Recession levels of poverty.

### POVERTY BY REGION AND METRO STATUS

Figure 8 depicts poverty estimates for all ages by county, highlighting each region and the 25 largest metropolitan areas. The lighter



# WHY ARE THE SMALL AREA INCOME AND POVERTY ESTIMATES IMPORTANT?

The Small Area Income and Poverty Estimates (SAIPE) data are designed primarily for use in the U.S. Department of Education's annual Title I allocations of federal funds to states and school districts. Most school districts in the United States, about 92 percent, have a total population less than 65,000 and do not have American Community Survey (ACS) 1-year estimates available. The SAIPE program was designed specifically to provide estimates for school districts in the United States on a yearly basis.

For additional detailed information on the use of SAIPE estimates, please visit the FAQ Web page at <www.census.gov/programs-surveys/saipe/about/faq.html>.

The SAIPE main page is located at <www.census.gov/programs-surveys/saipe.html>.

Additional information is available by data release year from 2005 to 2019. For example, annual reports, datasets, maps, figures, and ranking tables can be downloaded from the SAIPE Web page at <www.census.gov/programs-surveys/saipe/data.html> or <www.census.gov/programs-surveys/saipe/data.html> or <www.census.gov/programs-surveys/saipe/library.html>.

The online SAIPE Interactive Data Tool provides detailed customized data tables by selected year(s) from 1989-2019, geography (states, counties, and school districts), poverty characteristics (all ages, under the age of 18, aged 5 to 17 in families, and under the age of 5), and median household income. Data at the school district level are available by total population, number of school-age children (aged 5 to 17), and the number of school-age children (aged 5 to 17) in families in poverty. Maps showing school district boundaries are also available. These custom tables can be downloaded to a PDF or CSV file. The interactive data tool can be accessed from the SAIPE homepage or at <www.census.gov/programs-surveys /saipe/data/tools.html>.

For video tutorials on SAIPE methodology, see <www.census.gov/programs-surveys/saipe/library/video .html>.

shaded counties had estimated poverty rates less than the U.S. average rate of 12.3 percent in 2019, while the darker shaded counties had estimated poverty rates of 12.3 percent or more. Approximately 37.0 percent (1,163 counties) had rates statistically greater than the U.S. average rate, while 23.9 percent (751) had statistically lower rates. In the Midwest, 17.3 percent (183 counties) had poverty rates above the U.S. average rate; in the Northeast, 19.8 percent (43 counties); in the South, 57.8 percent (822 counties);

and in the West, 25.7 percent (115 counties).

#### SCHOOL DISTRICT-LEVEL ESTIMATES

#### **Boundary Updates**

To estimate the number of children living in poverty within a school district, the SAIPE program uses the most recent school district boundary updates from the Census Bureau's School District Review Program (SDRP). The SDRP collects annual updates to school district boundaries, names, Local Education Agency ID numbers, grade ranges, and levels for which each school district is financially responsible.<sup>8</sup> The most recent school district boundary updates are effective as of January 1, 2020.

School district population estimates from the SAIPE program are not a measure of school district enrollment. Rather, they are reflective of children aged 5 to 17 who reside within the

<sup>&</sup>lt;sup>8</sup> For more information regarding the SDRP, see <www.census.gov/programs -surveys/sdrp/about.html>.



school district boundaries and are age-relevant to the grade ranges served by the school district. The SDRP collects three distinct school district levels: Elementary (primarily serving children in grades K-8), Secondary (primarily serving children in grades 9-12), and Unified (serving children of all grade levels). Unified school districts composed the majority with 10,849, or 82.3 percent, of the 13,183 total public school districts in the United States.<sup>9</sup> Elementary school districts made up the second largest group with 1,942

elementary school districts (14.7 percent), followed by 392 secondary school districts (3.0 percent).

In the latest SDRP update, there are 13,183 U.S. public school districts, compared with 13,206 in the previous SDRP update. This net decrease of 23 school districts reflects the deletion of 28 previously defined school districts and the creation of 5 school districts. Since 2007, there has been a net decrease of 570 school districts. Changes in the number of school districts are typically the result of school districts shifting, splitting, or consolidating boundaries, which are often driven by state or local policy changes.

#### POVERTY

The 2019 SAIPE data utilize the most recently updated school district boundaries from the 2020 SDRP. This accounts for all school districts in the Title I universe.<sup>10</sup> Since nine school districts did not have any school-age children, these districts were excluded from the analysis (13,183 school districts in the universe, but 13,174 school districts in the analysis).

Figure 9 shows the distribution of school districts, school-age children, and school-age children

<sup>&</sup>lt;sup>9</sup> Of the 13,183 school districts, nine were excluded elsewhere in the analysis due to a lack of school-age children. The data thus reflect a total school district count of 13,174.

<sup>&</sup>lt;sup>10</sup> The Title I universe is the set of U.S. school districts to which Title I of the Elementary and Secondary Education Act pertains.

in families in poverty by school district resident population size. School-age children, including school-age children in families in poverty, often were concentrated in school districts with a population of 20,000 or more. In 2019, an estimated 26.1 percent of school districts had a total population size of 20,000 or more. These school districts contained an estimated 82.1 percent of all school-age children in the nation and an estimated 82.4 percent of school-age children in poverty.

Figure 10 shows the distribution of school-age children (aged 5 to 17) living in families in poverty by school district. This map displays the range in poverty rates throughout the United States by school district. The lighter colors show school districts with lower poverty rates, and the darker colors show school districts with higher poverty rates. School districts with high and low poverty rates are scattered throughout the nation, with some clustering within regions. For all school districts, the median estimated poverty rate for school-age children was 13.9 percent.

Figure 11 shows the distribution of school district poverty rates by state, where categories consist of school districts with less than 10 percent, 10 to 20 percent, and

more than 20 percent of schoolage children in poverty. There were 53.5 million school-age children in 13,174 school districts. Of these, 30.0 percent of school-age children resided in school districts with poverty estimates below 10 percent, 42.6 percent resided in districts with poverty estimates between 10 and 20 percent, and an estimated 27.4 percent resided in districts with poverty estimates greater than 20 percent. The figure also shows the distributions for individual states sorted by the percentage of school districts in each state with poverty estimates greater than 20 percent.

# INCOME AND POVERTY DATA SOURCES AVAILABLE FROM THE CENSUS BUREAU

Small Area Income and Poverty Estimates (SAIPE) is one of several sources of income and poverty data available from the Census Bureau. Other sources include the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC), the American Community Survey (ACS), the Survey of Income and Program Participation (SIPP), and the long forms from the 1960–2000 decennial censuses. Each of these sources differs from the others in various ways, such as the length and detail of its questionnaire, the number of households included (sample size), and the methodology used to collect and process the data.

With its detailed questionnaire, the CPS ASEC is the source of both the official national estimates of poverty rates and of widely used estimates of the distribution of household income and individual earnings. The CPS ASEC provides a consistent historical time series at the national level beginning in 1959 and can also be used to look at state-level trends and differences (through multiyear averages) beginning in 1980.

Since 2006, the ACS has released annual subnational estimates of income and poverty for places, counties, and metropolitan statistical areas with a population of at least 65,000, as well as for all states and the nation. The sample size of the ACS is about 3.5 million addresses per year, making this survey exceptionally useful for subnational analyses. ACS 3-year estimates were made available for 2008 through 2013 for areas and subpopulations as small as 20,000. Since 2015, supplemental 1-year estimates are available for populations as small as 20,000. ACS 5-year estimates became available for census tracts/block groups and for small subgroups of the population starting in 2010. More information on the ACS is located at <www.census.gov/programs-surveys/acs/>.

The SIPP is useful for understanding the dynamics of income and poverty (changes in income and poverty rates for the same households over 3 or 4 years) and for examining the nature and frequency of poverty spells. The SIPP also permits researchers to look at monthly or quarterly changes in income and poverty.

Decennial census long form estimates offer the best measure of change between 1960 and 2000 for subnational areas and for subpopulations. Since the ACS replaced the long form, the 2010 and 2020 Censuses do not provide income and poverty estimates. Since 2010, ACS 5-year estimates provide data at the census tract level that are comparable to earlier decennial census estimates.





#### ACKNOWLEDGEMENTS

The Small Area Estimates Branch of the Census Bureau prepared this report.

# CONTACT

For questions related to the contents of this document, including the SAIPE program's estimates and methodology, contact the Small Area Estimates Branch at 301-763-3193 or <sehsd.saipe @census.gov>.

For questions related to income and poverty definitions, the American Community Survey, or other Census Bureau surveys, contact the Census Bureau call center at 1-800-923-8282 (toll-free) or visit <ask.census.gov> for further information.

A related program to SAIPE is the Small Area Health Insurance Estimates (SAHIE) program, which produces estimates of health insurance coverage for all counties and states. Information about the SAHIE program is available at <www.census.gov/programs -surveys/sahie.html>.

#### **SUGGESTED CITATION**

Bell, Staci, and Sara Robinson, "Small Area Income and Poverty Estimates: 2019," U.S. Census Bureau, Washington, DC, 2020.