Small Area Income and Poverty Estimates: 2017

Small Area Estimates

Current Population Reports

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Introduction

This report presents summary statistics of the 2017 data released by the Small Area Income and Poverty Estimates (SAIPE) program of the U.S. Census Bureau in December 2018.¹ 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 the 3,141 counties and 13,213 school districts in the United States.² Some state and local programs also use SAIPE income and poverty estimates to distribute funds and manage programs.

The Census Bureau and other federal agencies created the SAIPE program to provide annual income and poverty statistics for states, counties, and school districts in the United States.³ The SAIPE program produces yearly poverty estimates for the total population (all ages) and by selected characteristics for counties

HIGHLIGHTS

- Based on median household income estimates for the 3,141 counties, 11.2 percent (352 counties) had an increase in median household income between 2007—the year before the most recent recession—and 2017. In the same period, 7.5 percent (237 counties) had a decrease in median household income.
- Between 2016 and 2017, 7.3 percent of counties (228) had an increase in median household income, and 3.0 percent (95 counties) had a decrease.
- Based on poverty rate estimates for the 3,141 counties for all ages, 7.5 percent of counties (237) had an increase in poverty between 2007 and 2017. Only 3.2 percent of counties (100) had a decrease in poverty.
- Between 2016 and 2017, 6.5 percent of counties (205) had a decrease in poverty, and only 1.7 percent (52 counties) had an increase.

and states. These estimates include the number of children under age 5 in poverty (for states only), the number of related children aged 5 to 17 in families in poverty, the number of children under age 18 in poverty, and median household income.



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¹ The Census Bureau's Disclosure Review Board and Disclosure Avoidance Officers have reviewed this data product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release. CBDRB-FY18-316.

² There were 3,142 total counties in the United States. Kalawao County, HI, was omitted due to small sample size. There were also 13,222 school districts in the United States; however, 9 were excluded due to lack of school-age children.

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

The 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.

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.⁴ **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.

COUNTY-LEVEL ESTIMATES

Median Household Income

The 2017 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 \$22,679 to \$136,191, and half of the counties had values below \$48,885.⁵

Figure 1 highlights the range of median household income throughout the United States.

Small Area Income and Poverty Estimates (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). A 2017 ACS map of unpublished counties is available at <www.census.gov/library/visualizations/2018 /demo/2017-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>.

⁴ 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. See text box on page 8 for additional information on the sources of uncertainty.

⁵ The median value of county-level median household income estimates (\$48,885) 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 (\$60,336).



Seventy counties had an estimated median household income within the highest range (\$88,150 to \$136,191). Thirty-seven of these highincome counties were located in the Northeast region, Maryland, and Virginia. About 81.7 percent of counties in the lowest income range (\$22,679 to \$39,941) were located in the South.

Figure 1a depicts the metropolitan statistical areas (MSA) corridor that includes Boston, New York, Philadelphia, Baltimore, and Washington, DC.⁶ There were 31 high-income counties located within this corridor.

From 2016 to 2017, more counties experienced an increase in median household income than a decrease. Figure 2 shows the percent change in median household income between 2016 and 2017. As displayed in the map, orange shades highlight counties with estimated increases compared to 2016, and purple shades highlight counties with estimated decreases. All changes were adjusted for inflation using the national Consumer Price Index (CPI-U).

About 7.3 percent of counties (228) had an increase in median household income. During the same period, 3.0 percent (95 counties) had a decrease. About 89.7 percent (2,818 counties) did not have a statistically significant change. In 22 states, more than 15 percent of counties had an increase



Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Dec. 2018.

in median household income between 2016 and 2017.

Comparing 2017 with 2007 (the year before the most recent recession), more counties had an increase in median house-hold income than a decrease.⁷ Of all counties in the United States, 11.2 percent (352 counties) had an increase in median household income between

2007 and 2017. In the same period, 7.5 percent (237 counties) had a decrease in median household income. About 81.2 percent (2,552 counties) did not have a statistically significant change.

Figure 3 shows the percent change in median household income between 2007 and 2017. 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

⁶ A reference map on metropolitan/ micropolitan area status is available at <www.census.gov/library/visualizations /2018/demo/2017-state-county-maps .html>.

⁷ The National Bureau of Economic Research (NBER) is the official source for recession timing. The NBER pinpoints December 2007 and June 2009 as the beginning and end of the most recent recession.



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).



inflation using the national Consumer Price Index (CPI-U).

counties in the darkest orange, the majority (41 counties) are located in the Great Plains states of Montana, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas.

Figure 4 displays the number of statistically significant county-level changes in median household income over the past 10 years, with 2007 as the base year of comparison for each year. This comparison shows whether median household income for a particular year was higher or lower than it was before the most recent recession. Additionally, 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, and if it is positive, then more counties had an increase. From 2008 through 2015, each year had more decreases than increases. However, in 2016, the number of increases and decreases was nearly equal, with 312 increases and 311 decreases. In 2017, there were 115 more counties with increases than decreases, making 2017 the year with the most increases (352 counties) and net increases in county-level median household income since the start of the recession.



Poverty

The SAIPE data also include poverty estimates for all counties in the United States. In 2017, county poverty rates for all ages ranged from 3.0 percent to 56.7 percent across counties. Figure 5 shows 2017 county-level 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 6 shows the poverty rate by county for schoolage (aged 5 to 17) children in families. In 2017, 32.8 percent (1,031) of counties had a poverty rate statistically greater than the national poverty rate of 17.3 percent for children aged 5 to 17 in families.

In Alabama, Arizona, Louisiana, Mississippi, and New Mexico, 70 percent or more of the counties within each of these states had a school-age child poverty rate statistically higher than the national average. In 6 states, 70 percent or more of the counties had a school-age child poverty rate statistically lower than the national average: Connecticut, Hawaii, Massachusetts, Minnesota, New Hampshire, and Rhode Island.

HOW IS POVERTY MEASURED?

Poverty status is determined by comparing total annual family before-tax income 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 U.S. Census Bureau to allow for changes in the cost of living using the Consumer Price Index (CPI-U). The thresholds do not vary geographically.

SAIPE's primary input is the 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>.

WHAT ARE THE SOURCES OF STATISTICAL UNCERTAINTY?

All data shown are estimates containing uncertainty. Sources of uncertainty include model error, sampling error, and nonsampling error. Confidence intervals for all state and county estimates are available at: <www.census.gov/data /datasets/2017/demo/saipe/2017-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>. 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.



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 administrativ data 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, Dec. 2018.

Change in County Poverty Rates

Figure 7 shows the change in county-level poverty rates for all ages between 2016 and 2017. In the map, tan shades denote an increase in estimated poverty rates, and green shades denote a decrease. From 2016 to 2017, 6.5 percent (205 counties) had a decrease in their poverty rate, and only 1.7 percent (52 counties) had an increase. About 91.8 percent (2,884 counties) did not have a statistically significant change.

Comparing poverty rates from 2007 to 2017, more counties had an increase in their poverty rates in 2017 than a decrease. Figure 8 shows the change in county-level poverty rates for all ages between 2007 and 2017. Of all counties, 7.5 percent (237 counties) had an increase in their poverty rate during the 10-year period, while 3.2 percent (100 counties) had a decrease. About 89.3 percent (2,804 counties) did not have a statistically significant change.

Poverty by Region and Metro Status

Figure 9 depicts county-level poverty data for all ages by region and the 25 largest metropolitan areas. The lighter

shaded counties have estimated poverty rates less than the U.S. average rate of 13.4 percent, while the darker shaded counties have estimated poverty rates of 13.4 percent or more. About 36.3 percent (1,141 counties) were statistically greater than the U.S. average rate, while 27.2 percent (855) were statistically less than the U.S. average rate. In the Midwest, 36.0 percent (380 counties) had poverty rates above the U.S. average rate; in the Northeast, 33.6 percent (73 counties); in the South, 77.8 percent (1,106 counties); and in the West, 50.9 percent (228 counties).

WHY ARE THE SMALL AREA INCOME AND POVERTY ESTIMATES IMPORTANT?

The 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 so do not have 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 2017. 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 /library.html>.

The online SAIPE Interactive Data Tool provides detailed customized data tables by selected year(s) from 1989-2017, geography (states, counties, and school districts), poverty characteristics (all ages, under age 18, aged 5-17 in families, under age 5) and median household income. Data at the school district level are available by total population, number of school-age children (aged 5-17), and the number of school-age children (aged 5-17) 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>.



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. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Dec. 2018.



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. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Dec. 2018.



SCHOOL DISTRICT LEVEL ESTIMATES

Boundary Updates

To estimate the number of children living in poverty within a school district, the SAIPE program must obtain the most recent school district boundary updates. The Census Bureau's Geography Division collects, updates, and releases school district boundaries through its School District Review Program (SDRP).

In the latest SDRP update, there are 13,222 U.S. public school districts, compared with 13,245 in the previous SDRP update. This net decrease of 23 school districts reflects the deletion of 43 previously defined school districts and the creation of 20 school districts. Since 2007, there has been a net decrease of 532 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 2017 SAIPE data utilize the most recently updated school

district boundaries, effective as of January 1, 2018. This accounts for all school districts in the Title I universe.⁸ Since 9 school districts did not have any school-age children, these districts were excluded from the analysis (13,222 school districts in universe, but 13,213 school districts in the analysis).

Figure 10 shows the distribution of school districts, school-age children, and school-age children in families in poverty by school district resident population size.

⁸ The Title I universe is the set of U.S. school districts for which Title I of the Elementary and Secondary Education Act pertains.



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 2017, an estimated 26.0 percent of school districts had a total population size of 20,000 or more. These school districts contained an estimated 81.9 percent of all school-age children in the nation and an estimated 82.4 percent of school-age children in poverty.

Figure 11 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.

INCOME AND POVERTY DATA SOURCES AVAILABLE FROM THE CENSUS BUREAU

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 Census 2000 long-form. 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. Threeyear ACS 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. Five-year ACS 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 Census does 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.



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. Unified and Elementary School District boundaries are as of January 1, 2018.

ACKNOWLEDGEMENTS

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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

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