Using ACS Earnings Data to Adjust Supplemental Poverty Measure Thresholds[1]

Trudi Renwick

U.S. Census Bureau of the Census

Social, Economic and Housing Statistics Division Working Paper #2020-04

Abstract

Official poverty statistics are used in the United States to evaluate economic well-being at the national level, and to distribute federal anti-poverty funds across states and urban areas. However, these statistics are based on poverty thresholds that do not take into account geographic differences in price levels. To provide an alternative estimate, beginning in 2011, the U.S. Census Bureau has issued a supplemental poverty measure (SPM). Unlike the official measure, the SPM adjusts the poverty thresholds for geographic differences in the cost of housing.[2] This paper examines the impact of a different methodology for calculating geographic adjustments for the Supplemental Poverty Measure (SPM) that uses a comparable wage index modeled on the work done by the National Center for Education Statistics.

Introduction

Each year, the Census Bureau estimates two sets of poverty measures. The official measure, developed in the 1960s, is based on a family's cash income relative to national thresholds below which a family is considered to be in poverty. Since 2011, the Census Bureau has also issued a supplemental poverty measure (SPM). The SPM differs in many ways from the official measure, including adjusting the housing portion of the poverty thresholds for geographic differences in housing costs.[3] These differences are measured using American Community Survey (ACS) data on median rent and utilities for two-bedroom housing units, and the resulting geographic cost index is referred to as the median rent index (MRI).

The ACS Median Rent Index (MRI)

The MRI is the ratio of the median gross rent of a two-bedroom unit with complete kitchen and plumbing facilities in a specific metro area or state to the U.S. median gross rent of the same type of unit (see Renwick, 2011). The MRI is applied to the national threshold values, as defined by the Bureau of Labor Statistics using Consumer Expenditure survey (CE), in proportion to the national average shares of housing and utility expenditures from total expenditures. The result is a metro area- and state-specific threshold value, and the poverty rate is given by the estimated population below this threshold.

---

[2] National thresholds are produced by the Bureau of Labor Statistics, available at www.bls.gov/pir/spmhome.htm.
[3] For a full description of the methodological differences, see Fox (2019).

$$Threshold_{ijt} = [(HousingShare_t \times MRI_{ij}) + (1 - HousingShare_t)] \times Threshold_t$$

where ij refer to the geographic unit (state and metro area, respectively), t refers to housing tenure (owner with mortgage, owner without a mortgage, renter), and in 2017 the housing share ranges from 40 to 50 percent of total expenditures, depending on tenure status. The thresholds are the dollar values for income below which households are considered in poverty. The MRI was estimated using the 2014-2018 5-year ACS. Separate medians are estimated for each of 260 metropolitan statistical areas large enough to be identified on the public-use version of the CPS ASEC file. For each state, a median is estimated for all nonmetropolitan areas (47) and for a combination of all smaller metropolitan areas within a state (35). This results in 342 adjustment factors. For details, see Renwick (2011).

A Wage-Based Index[4]

The National Center for Education Statistics (NCES) uses a different approach to facilitate the comparison of education expenditures across local districts and states. Since 2006, NCES has used a Comparable Wage Index (CWI) based on geographic variations in the wages and salaries of college graduates who are not PK-12 educators.

Researchers (Baker et al.) have suggested that similar approach be used to adjust poverty thresholds for differences in the cost of living. In a 2013 article in the journal of the Association for Education Finance and Policy, Baker et al. propose an index based on an estimate of the prevailing wage for individuals with the typical characteristics of the working poor. These estimates are created using a hedonic wage analysis that is designed to capture differences in the cost of living as well as access to desirable local amenities. As they summarize it, "Essentially, we presume that if the prevailing wage for Chicago for a worker with poverty-level characteristics is 10 percent above the national average, then the poverty income threshold in Chicago should also be 10 percent above the national average" (Baker et al., 2013, p.399). They argue that this approach is preferable to a market-basket approach because it incorporates amenities and allows for geographic differences in the cost and composition of the entire bundle of goods and services. For example, this approach allows for the possibility that families may choose a more modest dwelling in amenity-rich locations like San Francisco than they would choose in other parts of the country.

Researchers working for the Institute of Education Sciences of NCES have developed the ACS Comparable Wage Index for Teachers (ACS-CWIFT) which is modeled after the baseline analysis used to construct the original CWI released by NCES in 2006. Using internal ACS data, the ACS-CWIFT incorporates the recommendations of an expert panel on the CWI convened by NCES in January 2012 and using internal ACS data is able to provide labor cost estimates for 1,570 local labor market areas.

Data

---

[4] The Census Bureau has produced several working papers evaluating the impact of alternative methods for adjusting the SPM thresholds. Renwick (2018) incorporates the value of amenities by reducing the median rent index weights by half. Renwick, Figueroa and Aten (2017) analyzes the impact of using Regional Price Parities produced by the Bureau of Economic Analysis to adjust the thresholds.

This paper uses the 2012-2016, 2013-2017 and 2014-2018 5-year ACS files to create both the median rent index (MRI) and the wage-based index for each Current Population Survey Annual Social and Economic Supplement (CPS ASEC) year.[5] Separate index values are estimated for each of 260 metropolitan statistical areas large enough to be identified on the public-use version of the CPS ASEC file. For each state and each year, an index value is estimated for all nonmetropolitan areas (47) and for a combination of all smaller metropolitan areas within a state (35). This results in 342 adjustment factors.

In order to capture the prevailing wages of the individuals with the typical characteristics of the working poor, the wage-based index selects only individuals reporting a level of educational attainment of an associate's degree or less. The sample is further restricted to include only individuals aged 18 to 65 with annual personal earnings greater than $5,000 who reported working more than 20 hours per week and more than 40 weeks per year. In order to provide estimates consistent with the ACS-CWIFT approach, this analysis has eliminated any records with imputed wages, industry or occupation; anyone working outside the United States and anyone reporting work status as self-employed or unpaid family work. Hours worked and annual earnings are expressed as logs. For the 2014-2018 5-year ACS file this left 3,253,352 records for analysis (out of approximately 19.8 million). The estimates of the wage-based index are normalized so that the national average is equal to 1.

National poverty rates are estimated using the 2019 CPS ASEC which has an income reference year of 2018. State poverty rates combine three years of CPS ASEC data with reference years 2016, 2017 and 2018. In order to use data that has been processed with the new CPS ASEC processing system, the analysis uses the 2019 CPS ASEC file, the 2018 CPS ASEC Bridge file, and the 2017 CPS ASEC Research file.[6]

The Variables

Consistent with the ACS-CWIFT, the model used for this analysis uses as a dependent variable the log of reported wage and salary earnings in the past year.

The independent variables describe the workers and the jobs they held. The worker characteristics include continuous variables for age, age squared and the number of hours worked per week and categorical variables for gender, race, English-speaking ability, and educational attainment. The model includes the interaction between sex and age. The job characteristics include indicator variables for

---

[5] For information on sampling and estimation methods, confidentiality protection, and sampling and nonsampling errors, please see the "American Community Survey Multiyear Accuracy of the Data (5-year 2014-2018) 2018 ACS Accuracy of the Data" document located at
https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists.html

[6] The estimates in this paper (which may be shown in text, figures, and tables) are from the 2017, 2018 and 2019 CPS ASEC and are based on responses from a sample of the population. They may differ from actual values because of sampling variability or other factors. As a result, apparent differences between the estimates for two or more groups may not be statistically significant. All comparative statements have undergone statistical testing and are significant at the 90-percent confidence level unless otherwise noted. Standard errors were calculated using replicate weights. Further information about the source and accuracy of the estimates is available at www2.census.gov/library/publications/2019/demo/p60-266sa.pdf.

occupations and industry that are also interacted by year in the survey to control for different industrial and occupational trends.

The Estimates

Table 1 compares the national poverty estimates for 2018 with the two adjustment mechanisms by a number of demographic, economic and geographic characteristics. Table 2 compares the distribution of the poverty population across the two measures. Using the wage-based index increases the share of the poor for several groups: those living in the Northeast and Midwest, those living outside metropolitan statistical areas, those categorized as disabled, and those who did not work. See Table 2 for a complete list of groups with statistically significant changes in the shares.

State estimates using a 3-year average for 2016 to 2018 comparing poverty rates using the existing median rent index with the alternative wage-based index are include on Table 3. The differences in the poverty rates are statistically significant in 41 states and the District of Columbia. In 13 states the wage-based index resulted in higher poverty rates than the median rent index. In the remaining 28 states and the District of Columbia the poverty rates with the wage-based index were lower. Florida, Hawaii, Nevada, and California were among the states with the largest percentage point differences in state poverty rates.[7]

Since we are not able to disclose the adjustment factors for small geographies, Table 4 shows the weighted average adjustment factor for each state. The differences in the adjustment factor across the two methods were significant in all but three states (Alabama, Arkansas and Missouri). The District of Columbia has the highest adjustment factor using both methods. Of the 50 states, using the MRI factor, Hawaii has the highest average threshold adjustment factor while Alaska has the highest adjustment factor using the wage-based index.[8] Arkansas and Kentucky have among the lowest adjustment factors using the MRI while the lowest using the wage-based index was Mississippi.[9] The largest absolute change in the adjustment factor across the two methods was in Hawaii with the adjustment factor falling from 1.28 to 1.13. In Nevada, the adjustment factor increased from .99 using the MRI to 1.09 using the wage-based index.

One way to evaluate these two approaches to geographic adjustments is to examine how well state poverty rates under each approach correlate to other state-level indicators of economic well-being. An alternative measure of well-being is a multi-dimensional deprivation index (MDI) currently published recently by the Census Bureau. (Glassman, 2019). This measure considers various dimensions of well-being including, health, income, education, economic security, housing and neighborhood quality. Although data are drawn primarily from the American Community Survey, the MDI also uses from the Current Population Survey Annual Social and Economic Supplement, as well as data on neighborhood quality. We also have state-level rates of food security from USDA and state level

---

[7] Hawaii's percentage point change is not significantly different from Florida, Nevada, California and North Dakota. Nevada's percentage point change is also not significantly different from California and North Dakota.
[8] The difference between the adjustment factor for Alaska and the adjustment factor for Connecticut is not statistically significant.
[9] The differences between the MRI adjustment factors for Arkansas, Kentucky, and Alabama are not statistically significant, and the difference between the MRI adjustment factor for Kentucky and Mississippi is not statistically significant.

rankings for the overall Human Development Index (HDI) as well its life expectancy and homelessness components.

Table 5 compares the correlation of the two sets of state poverty estimates to the overall MDI, the component parts of the MDI, food security, life expectancy and the Human Development Index. There are no statistically significant differences between the correlations of the estimates using the MRI and the estimates using the wage-based index. Looking at correlations with other measures of material well-being, the differences between the state rates estimated with the wage-based index and state estimates estimated with the MRI index were not statistically different for any of the measures tested.

Sensitivity Analysis

Since the specification of the model to derive the waged-based index requires a number of decisions, sensitivity analysis was run to determine if any one or combination of these decisions were driving the poverty rate results. The model was run with and without imputations; with all levels of educational attainment, with only those with a high school diploma or less, with and with controls for state level unionization rates, unemployment rates and a dummy for whether or not the state had a minimum wage higher than the federal minimum. Results from these sensitivity analyses are available upon request.

Conclusion

This working paper shows the results at the state level of implementing a wage-based cost of living adjustment to the SPM thresholds. This wage-based index is derived from ACS data that allow us to model personal earnings controlling for a wide range of variables including age, sex, race, industry, occupation, usual hours worked, weeks worked and educational attainment as well as location. The coefficient estimates from the regression analysis were used to predict the log wage and salary that a person without a college degree with average characteristics would earn in each location. These index values were then applied to SPM thresholds to calculate alternative poverty estimates for each state using three years of CPS ASEC data. These alternative adjustments reduced poverty rates in 28 states and the District of Columbia and increased poverty rates in 13 states. Correlations between these poverty rates using thresholds adjusted with the wage-based index and several measures of material well-being were compared to correlations of SPM poverty rates with these same measures. The differences were not statistically significant.

References

Baker, Bruce D., Lori Taylor, Jesse Levin, Jay Chambers and Charles Blankenship. 2013. "Adjusted Poverty Measures and the Distribution of Title I Aid: Does Title I Really Make the Rich States Richer?" Education and Finance Policy, MIT Press, vol 8(3), pages 394-417, July.

Coleman-Jensen, Alisha, Matthew P. Rabbit, Christian A. Gregory and Anita Singh. 2019. "Household Food Security in the United States in 2018." ERR-270, U.S. Department of Agriculture, Economic Research Service.

Cornman, Stephen Q., Laura Nixon, Matthew Spence, Lori L. Taylor and Douglas Geverdt. 2019. Education Demographic and Geographic Estimates (EDGE) Program American Community Survey

Comparable Wage Index for Teachers (ACS-CWIFT)(NCES 2018-130). U.S. Department of Education. Washington, DC: National Center for Education Statistics. http://nces.ed.gov/pubsearch/.

Fox, Liana. 2019. Supplemental Poverty Measure: 2018. Current Population Reports P60-268(RV). September.

Glassman, Brian. 2019. Multidimensional Deprivation in the United States: 2017. U.S. Census Bureau. ACS-40.

Interagency Technical Working Group. 2010. "Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure." Available at <www.census.gov/hhes/www/poverty/SPM_TWGObservations.

Measure of America. "American HD Index by State." In The Measure of America 2010-2011: Mapping Risks and Resilience. New York: Social Science Research Council, 2010.

Renwick, Trudi. 2018. "Incorporating Amenities into Geographic Adjustments of the Supplemental Poverty Measure. U.S. Census Bureau. Working Paper #SEHSD-WP2018-32. https://www.census.gov/library/working-papers/2018/demo/SEHSD-WP2018-32.html

Renwick, Trudi, Eric Figueroa and Bettina Aten. 2017. Supplemental Poverty Measure: A Comparison of Geographic Adjustments with Regional Price Parities vs. Median Rents from the American Community Survey: An Update. SEHSD Working Paper 2017-36. Paper presented at the 2017 International Statistical Institute World Statistics Congress in Marrakech, Morocco.

Renwick, Trudi. 2011. "Geographic Adjustments of Supplemental Poverty Measure Thresholds: Using the American Community Survey Five-Year Data on Housing Costs. Paper presented at the July 2011 Western Economic Association, San Diego, CA. Available from Census Bureau working papers.

Impact of Geo Adjustment Factor on SPM Rates: 3-Year Average 2016 to 2018

Change — Difference Not Statistically Signficant — Poverty rate using wage-based index higher
Poverty rate using rent-based index higher
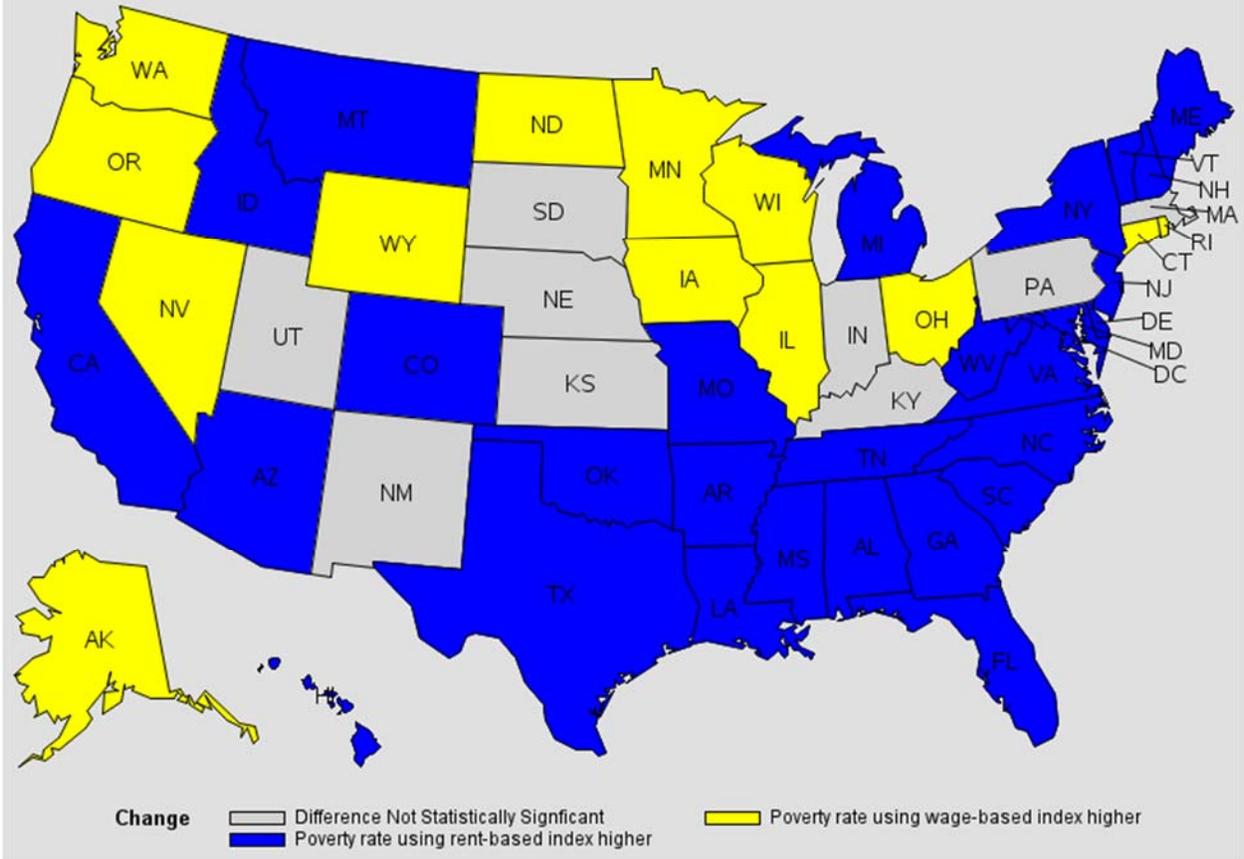
Source: Current Population Survey Annual Social and Economic Supplements: 2016-2018.

Difference in Weighted Average Adjustment Factor: 3-year Average 2016 to 2018
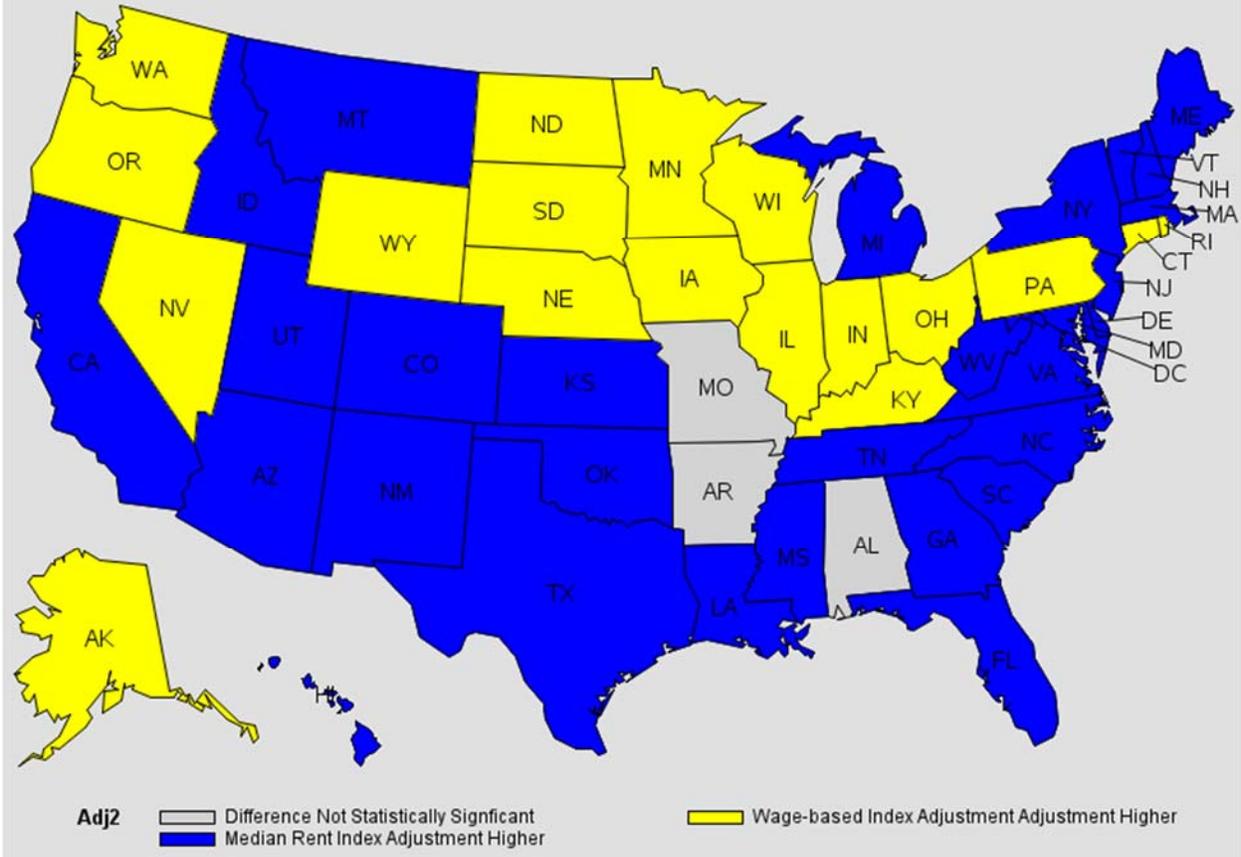
Source: Current Population Survey Annual Social and Economic Supplements: 2016-2018.

Table 1

Differences in the Number and Percentage of People in Poverty Using the Supplemental Poverty Measure: 2018 Median Rent Compared to Wage-Based Index

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar19.pdf*)

Characteristic	Total	Median Rent Index (MRI) Number In Thousands Estimate	Margin of error[1] (±)	Percent Estimate	Margin of error[1] (±)	Wage-Based Index (WBI) Number In Thousands Estimate	Margin of error[1] (±)	Percent Estimate	Margin of error[1] (±)	Difference WBI minus MRI Number	Percent
Characteristic											
All people	324,400	41,420	861	12.8	0.3	39,340	827	12.1	0.3	*-2,085	*-0.6
Sex											
Male	159,000	19,270	479	12.1	0.3	18,270	451	11.5	0.3	*-1,002	*-0.6
Female	165,300	22,150	454	13.4	0.3	21,070	452	12.7	0.3	*-1,084	*-0.7
Age											
Under 18 years	73,790	10,100	381	13.7	0.5	9,530	368	12.9	0.5	* -566	*-0.8
18 to 64 years	197,800	24,150	564	12.2	0.3	22,960	541	11.6	0.3	*-1,190	*-0.6
65 years and older	52,790	7,170	250	13.6	0.5	6,850	249	13	0.5	* -329	*-0.6
Type of Unit											
Married couple	195,800	15,040	526	7.7	0.3	13,870	480	7.1	0.2	*-1,172	*-0.6
Cohabiting partners	14,530	2,200	214	15.1	1.4	2,110	219	14.5	1.4	*-88	*-0.6
Female reference person	41,540	10,390	461	25	0.9	9,980	481	24	1	*-413	*-1
Male reference person	26,340	3,660	267	13.9	0.9	3,590	276	13.6	1	-72	-0.3
Unrelated individuals											
Race[2] and Hispanic Origin											
White	248,000	27,820	665	11.2	0.3	26,380	630	10.6	0.3	*-1,445	*-0.6
White, not Hispanic	195,100	16,930	522	8.7	0.3	16,500	514	8.5	0.3	*-438	*-0.2
Black	42,840	8,730	432	20.4	1	8,310	428	19.4	1	*-414	*-1
Asian	19,790	2,750	220	13.9	1.1	2,610	197	13.2	1	*-143	*-0.7
Hispanic (any race)	60,100	12,220	442	20.3	0.7	11,100	414	18.5	0.7	*-1,112	*-1.9
Nativity											
Native-born	278,500	32,540	744	11.7	0.3	31,370	722	11.3	0.3	*-1,171	*-0.4
Foreign-born	45,820	8,880	344	19.4	0.7	7,970	319	17.4	0.6	*-914	*-2
Naturalized citizen	22,300	3,300	193	14.8	0.8	2,960	180	13.3	0.8	*-341	*-1.5
Not a citizen	23,520	5,580	272	23.7	1	5,010	258	21.3	1	*-573	*-2.4
Educational Attainment											
Total, aged 25 and older	221,500	26,160	576	11.8	0.3	24,840	551	11.2	0.2	*-1,317	*-0.6
No high school diploma	21,980	6,320	241	28.8	1	5,910	231	26.9	0.9	*-408	*-1.9
High school, no college	62,260	9,270	315	14.9	0.5	8,890	299	14.3	0.5	*-378	*-0.6
Some college	57,430	5,600	218	9.7	0.4	5,410	216	9.4	0.4	* -190	*-0.3
Bachelor's degree or higher	79,820	4,970	246	6.2	0.3	4,620	242	5.8	0.3	*-345	*-0.4
Tenure											
Owner/mortgage	133,400	7,830	383	5.9	0.3	7,430	355	5.6	0.3	*-406	*-0.3
Owner/no mortgage/rent free	86,290	10,150	415	11.8	0.4	9,750	409	11.3	0.4	*-397	*-0.5
Renter	104,700	23,440	651	22.4	0.5	22,160	644	21.2	0.5	*-1,283	*-1.2
Residence[3]											
Inside metropolitan statistical areas	282,000	36,250	860	12.9	0.3	34,050	796	12.1	0.3	*-2,197	*-0.8
Inside principal cities	104,900	16,820	689	16	0.6	15,820	656	15.1	0.6	*-999	*-1
Outside principal cities	177,000	19,430	669	11	0.4	18,230	613	10.3	0.3	*-1,198	*-0.7
Outside metropolitan statistical areas	42,400	5,170	439	12.2	0.7	5,280	452	12.5	0.7	*112	*0.3
Region											
Northeast	55,360	6,770	339	12.2	0.6	6,660	340	12	0.6	*-108	*-0.2
Midwest	67,630	6,220	344	9.2	0.5	6,500	356	9.6	0.5	*275	*0.4
South	123,700	17,220	606	13.9	0.5	15,850	576	12.8	0.5	*-1,374	*-1.1
West	77,700	11,210	434	14.4	0.6	10,330	401	13.3	0.5	*-879	*-1.1
Health Insurance Coverage											
With private insurance	217,800	12,750	456	5.9	0.2	12,070	454	5.5	0.2	*-674	*-0.3
With public, no private insurance	78,430	21,810	613	27.8	0.7	20,820	599	26.5	0.7	*-986	*-1.3
Not insured	28,150	6,870	312	24.4	1	6,440	300	22.9	1	*-425	*-1.5
Work Experience											
Total 18 to 64 years	197,800	24,150	564	12.2	0.3	22,960	541	11.6	0.3	*-1,190	*-0.6
All workers	152,800	10,960	318	7.2	0.2	10,180	309	6.7	0.2	*-782	*-0.5
Worked full-time, year-round	111,700	4,850	214	4.3	0.2	4,380	202	3.9	0.2	*-465	*-0.4
Less than full-time, year-round	41,130	6,110	228	14.9	0.5	5,800	223	14.1	0.5	*-317	*-0.8
Did not work at least 1 week	44,940	13,190	383	29.4	0.7	12,780	375	28.4	0.7	*-409	*-0.9
Disability Status[4]											
Total 18 to 64 years	197,800	24,150	564	12.2	0.3	22,960	541	11.6	0.3	*-1,190	*-0.6
With a disability	14,850	3,610	187	24.3	1.1	3,530	182	23.8	1.1	*-79	*-0.5
With no disability	182,000	20,500	497	11.3	0.3	19,400	475	10.7	0.3	*-1,104	*-0.6

* An asterisk preceding an estimate indicates change is statistically different from zero at the 90 percent confidence level.

Z Represents or rounds to zero.

[1] The margin of error (MOE) is a measure of an estimate's variability. The larger the MOE in relation to the size of the estimate, the less reliable the estimate. This number, when added to and subtracted from the estimate, forms the 90 percent confidence interval. The MOEs shown in this table are based on standard errors calculated using replicate weights. For more information see "Standard Errors and Their Use" at <https://www2.census.gov/library/publications/2019/demo/p60-266sa.pdf>.

and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). This table shows data

[3] For the definition of metropolitan statistical areas and principal cities, see <www.census.gov/programs-surveys/metro-micro/about/glossary.html>.

[4] The sum of those with and without a disability does not equal the total because disability status is not defined for individuals in the Armed Forces.

Note: Details may not sum to totals due to rounding.

Source: U.S. Census Bureau, Current Population Survey, 2019 Annual Social and Economic Supplement.

Table 2

Differences in the Distribution of Persons in Poverty using the Supplemental Poverty Measure: 2018
Median Rent Index vs. Wage-based Index

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar19.pdf*)

Characteristic	Percent of Total Population	Percent of Poor				Difference WBI minus MRI
		Median Rent Index (MRI)		Wage-based Index (WBI)		
		Percent	Margin of error[1] (±)	Percent	Margin of error[1] (±)	
Sex						
Male	49.0	46.5	Z	46.4	0.4	-0.1
Female	51.0	53.5	Z	53.6	0.4	0.1
Age						
Under 18 years	22.8	24.4	Z	24.2	0.7	-0.1
18 to 64 years	61.0	58.3	0.1	58.4	0.7	0.1
65 years and older	16.3	17.3	0.1	17.4	0.6	0.1
Type of Unit						
Married couple	60.4	36.3	0.4	35.3	1.0	*-1.1
Cohabiting partners	4.5	5.3	0.2	5.4	0.5	0.1
Female reference person	12.8	25.1	0.3	25.4	0.9	0.3
Male reference person	8.1	8.8	0.2	9.1	0.6	*0.3
Race[2] and Hispanic Origin						
White	76.5	67.2	Z	67.1	1.0	-0.1
White, not Hispanic	60.1	40.9	0.1	41.9	1.0	*1.1
Black	13.2	21.1	0	21.1	0.9	0.1
Asian	6.1	6.6	0.1	6.6	0.5	Z
Hispanic (any race)	18.5	29.5	Z	28.2	0.9	*-1.3
Nativity						
Native-born	85.9	78.6	0.2	79.7	0.7	*1.2
Foreign-born	14.1	21.4	0.2	20.3	0.7	*-1.2
Naturalized citizen	6.9	8.0	0.1	7.5	0.4	*-0.4
Not a citizen	7.3	13.5	0.2	12.7	0.6	*-0.7
Educational Attainment						
Total, aged 25 and older	68.3	63.2	0.7	63.2	0.8	Z
No high school diploma	6.8	15.3	0.5	15.0	0.5	*-0.2
High school, no college	19.2	22.4	0.7	22.6	0.6	*0.2
Some college	17.7	13.5	0.4	13.8	0.5	*0.2
Bachelor's degree or higher	24.6	12.0	0.6	11.8	0.6	*-0.2
Tenure						
Owner/mortgage	41.1	18.9	0.4	18.9	0.8	Z
Owner/no mortgage/rent free	26.6	24.5	0.3	24.8	0.9	*0.3
Renter	32.3	56.6	0.4	56.3	1.0	-0.3
Residence[3]						
Inside metropolitan statistical areas	86.9	87.5	0.8	86.6	1.0	*-0.9
Inside principal cities	32.4	40.6	0.6	40.2	1.4	-0.4
Outside principal cities	54.6	46.9	0.8	46.4	1.3	*-0.6
Outside metropolitan statistical areas	13.1	12.5	0.8	13.4	1.0	*0.9
Region						
Northeast	17.1	16.3	0.1	16.9	0.8	*0.6
Midwest	20.9	15.0	0.1	16.5	0.8	*1.5
South	38.1	41.6	0.1	40.3	1.1	*-1.3
West	24.0	27.1	0.1	26.3	0.9	*-0.8
Health Insurance Coverage						
With private insurance	67.1	30.8	0.4	30.7	0.9	-0.1
With public, no private insurance	24.2	52.6	0.3	52.9	0.9	0.3
Not insured	8.7	16.6	0.2	16.4	0.7	-0.2
Work Experience						
Total 18 to 64 years	61.0	58.3	0.1	58.4	0.7	0.1
All workers	47.1	26.5	0.2	25.9	0.5	*-0.6
Worked full-time, year-round	34.4	11.7	0.2	11.1	0.5	*-0.6
Less than full-time, year-round	12.7	14.8	0.1	14.7	0.4	Z
Did not work at least 1 week	13.9	31.8	0.2	32.5	0.7	*0.6
Disability Status[4]						
With a disability	4.6	8.7	0.1	9.0	0.4	*0.3
With no disability	56.1	49.5	0.1	49.3	0.6	-0.2

* An asterisk preceding an estimate indicates change is statistically different from zero at the 90 percent confidence level.

Z Represents or rounds to zero.

[1] The margin of error (MOE) is a measure of an estimate's variability. The larger the MOE in relation to the size of the estimate, the less reliable the estimate. This number, when added to and subtracted from the estimate, forms the 90 percent confidence interval. The MOEs shown in this table are based on standard errors calculated using replicate weights. For more information see "Standard Errors and Their Use" at <https://www2.census.gov/library/publications/2019/demo/p60-266sa.pdf>.

reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). This table shows data using the first approach (race alone). The use of the single-race population does not imply that it is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches. Information on people who reported more than one race, such as White and American Indian and Alaska Native or Asian and Black or African American, is available from 2010 Census through American FactFinder. About 2.9 percent of people reported more than one race in 2010 Census. Data for American Indians and Alaska Natives, Native Hawaiians

[3] For the definition of metropolitan statistical areas and principal cities, see <www.census.gov/programs-surveys/metro-micro/about/glossary.html>.

[4] The sum of those with and without a disability does not equal the total because disability status is not defined for individuals in the Armed Forces.

Note: Details may not sum to totals due to rounding.

Source: U.S. Census Bureau, Current Population Survey, 2019 Annual Social and Economic Supplement.

Table 3

Percentage of People in Poverty using the Supplemental Poverty Measure by State
Using 3-Year Average 2016 to 2018
Median Rent Index vs Wage-Based Index

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar19.pdf*)

State	Median Rent Index (MRI)			Wage-Based Index (WBI)			Difference MRI minus WBI	
	Estimate	Margin of error[1] (±)	RANK	Estimate	Margin of error[1] (±)	RANK	Estimate	Rank
Alabama	13.8	1.3	13	13.3	1.4	11	*-0.5	-2
Alaska	12.8	1.6	18	13.3	1.5	11	*0.5	-7
Arizona	14.0	1.4	10	13.9	1.5	8	*-0.2	-2
Arkansas	12.9	1.0	17	12.3	0.9	19	*-0.6	2
California	18.1	0.6	2	15.7	0.6	3	*-2.4	1
Colorado	10.8	1.2	31	10.5	1.1	36	*-0.4	5
Connecticut	11.6	1.4	25	12.6	1.3	18	*1	-7
Delaware	11.9	1.2	24	11.2	1.1	28	*-0.7	4
District of Columbia	18.2	1.2	1	16.6	1.1	1	*-1.6	0
Florida	16.2	0.9	4	13.1	0.8	15	*-3.2	11
Georgia	14.3	1.1	8	13.6	1.1	9	*-0.7	1
Hawaii	13.7	1.3	14	11.2	1.2	28	*-2.5	14
Idaho	9.0	1.0	44	8.6	1.0	44	*-0.4	0
Illinois	12.3	1.0	23	12.7	1.0	16	*0.4	-7
Indiana	11.1	1.1	29	11.2	1.1	28	0.1	-1
Iowa	6.7	1.0	51	7.6	0.9	49	*1	-2
Kansas	7.8	1.0	48	7.6	1.0	49	-0.2	1
Kentucky	12.5	1.2	21	12.2	1.1	20	-0.3	-1
Louisiana	16.5	1.3	3	15.7	1.3	3	*-0.9	0
Maine	10.1	1.9	36	9.6	1.8	40	*-0.6	4
Maryland	12.4	1.2	22	11.3	1.1	25	*-1.1	3
Massachusetts	11.4	1.0	28	11.3	1.0	25	-0.1	-3
Michigan	10.1	0.9	36	10.0	0.8	38	*-0.1	2
Minnesota	7.0	1.4	50	8.0	1.4	48	*1	-2
Mississippi	15.8	1.0	5	14.9	1.0	5	*-0.9	0
Missouri	10.5	1.1	33	10.1	1.1	37	*-0.3	4
Montana	9.4	1.1	41	9.1	1.1	42	*-0.3	1
Nebraska	9.1	1.3	43	9.1	1.4	42	0	-1
Nevada	13.5	1.3	15	16.0	1.3	2	*2.4	-13
New Hampshire	8.2	1.1	46	7.5	1.0	51	*-0.7	5
New Jersey	14.0	1.1	10	13.3	1.1	11	*-0.7	1
New Mexico	14.4	1.2	7	14.3	1.2	6	-0.1	-1
New York	14.0	0.7	10	13.3	0.7	11	*-0.7	1
North Carolina	13.4	1.0	16	12.7	1.0	16	*-0.7	0
North Dakota	10.0	1.0	39	11.8	1.1	23	*1.8	-16
Ohio	10.4	0.9	35	10.9	0.9	32	*0.5	-3
Oklahoma	11.1	1.5	29	10.9	1.5	32	*-0.2	3
Oregon	11.5	1.3	26	11.9	1.5	22	*0.4	-4
Pennsylvania	10.8	1.0	31	10.9	1.0	32	0.2	1
Rhode Island	8.0	1.3	47	9.2	1.4	41	*1.1	-6
South Carolina	12.6	1.1	20	12.0	1.1	21	*-0.6	1
South Dakota	9.8	1.3	40	10.0	1.3	38	0.2	-2
Tennessee	11.5	1.3	26	11.0	1.1	31	*-0.5	5
Texas	14.2	0.7	9	13.5	0.7	10	*-0.7	1
Utah	8.3	1.4	45	8.1	1.3	47	-0.1	2
Vermont	9.4	1.2	41	8.6	1.1	44	*-0.8	3
Virginia	12.8	1.0	18	11.3	0.9	25	*-1.5	7
Washington	10.5	1.1	33	11.7	1.1	24	*1.3	-9
West Virginia	14.5	1.1	6	14.0	1.1	7	*-0.5	1
Wisconsin	7.8	1.0	48	8.6	1.0	44	*0.8	-4
Wyoming	10.1	1.5	36	10.9	1.5	32	*0.8	-4

* An asterisk preceding an estimate indicates change is statistically different from zero at the 90 percent confidence level.

[1] The margin of error (MOE) is a measure of an estimate's variability. The larger the MOE in relation to the size of the estimate, the less reliable the estimate. This number, when added to and subtracted from the estimate, forms the 90 percent confidence interval. The MOEs shown in this table are based on standard errors calculated using replicate weights. For more information see "Standard Errors and Their Use" at <https://www2.census.gov/library/publications/2019/demo/p60-266sa.pdf>.

Note: Details may not sum to totals due to rounding.

Source: U.S. Census Bureau, Current Population Survey, 2017-2019 Annual Social and Economic Supplements. Note uses the 2017 Resesarch File and the 2018 Bridge File.

Table 4

Correlation of 3-Year Average 2016 to 2018 State SPM Rates with Other State Level Measures of Material Well-being

Well-being Measure	Median Rent Index		Wage-Based Index		Difference
	Estimate	Margin of error[1] (±)	Estimate	Margin of error[1] (±)	
Multidimensional Deprivation Index (MDI)	0.710	0.050	0.703	0.060	0.007
Official Poverty Measure	0.595	0.055	0.605	0.062	-0.010
Health Component of the MDI	0.334	0.058	0.316	0.065	0.018
Education Component of the MDI	0.723	0.051	0.734	0.060	-0.011
Economic Security Component of the MDI	0.561	0.052	0.578	0.059	-0.017
Housing Quality from MDI	0.641	0.046	0.583	0.052	0.059
Neighborhood Quality from MDI	0.318	0.058	0.319	0.069	-0.001
Food Insecurity - USDA	0.373	0.055	0.426	0.060	-0.052
Very Low Food Security - USDA	0.310	0.053	0.363	0.060	-0.053
Human Development Index (HDI)	-0.127	0.064	-0.157	0.071	0.029
Life Expectancy from the HDI	-0.386	0.056	-0.416	0.064	0.030
Homeless as % of Population from HDI	0.500	0.056	0.509	0.064	-0.009

* An asterisk preceding an estimate indicates change is statistically different from zero at the 90 percent confidence level.

[1] The margin of error (MOE) is a measure of an estimate's variability. The larger the MOE in relation to the size of the estimate, the less reliable the estimate. This number, when added to and subtracted from the estimate, forms the 90 percent confidence interval. The MOEs shown in this table are based on standard errors calculated using replicate weights. For more information see "Standard Errors and Their Use" at <https://www2.census.gov/library/publications/2019/demo/p60-266sa.pdf>.

Sources: Author's calculations based on state poverty estimates from the 2017-2019 Current Population Survey Annual Social and Economic Supplements and the Multi-Dimensional Deprivation Index (Glassman, 2019). Food security estimates are from USDA, Economic Research Service, using data from the December 2016, 2017, and 2018 Current Population Survey Food Security Supplements. Humand Development Index, Life Expectancy and Homeless are from Measure of America. "HD Index and Supplemental Indicators by State, 2013-2014 Dataset." In The Measure of America 2013-2014. New York: Social Science Research Council, 2013.

Table 5

Average Geographic Adjustment by State Using 3-Year Average: 2016 to 2018 - Median Rent Index Compared to Wage-Based Index

State	Median Rent Index (MRI)			Wage-Based Index (WBI)			Difference WBI Minus MRI	
	Estimate	Margin of error[1] (±)	Rank	Estimate	Margin of error[1] (±)	Rank	Estimate	Rank
Alabama	0.884	0.015	47	0.876	0.004	49	-0.008	2
Alaska	1.120	0.001	10	1.143	0.001	2	*0.023	-8
Arizona	0.978	0.005	24	0.972	0.006	23	*-0.006	-1
Arkansas	0.874	0.002	51	0.872	0.003	50	-0.001	-1
California	1.203	0.005	3	1.111	0.003	8	*-0.092	5
Colorado	1.060	0.006	12	1.020	0.003	17	*-0.04	5
Connecticut	1.126	0.005	8	1.142	0.002	3	*0.016	-5
Delaware	1.042	0.003	14	1.016	0.004	18	*-0.026	4
District of Columbia	1.308	0.001	1	1.175	0.000	1	*-0.133	0
Florida	1.040	0.006	15	0.931	0.005	32	*-0.109	17
Georgia	0.959	0.005	26	0.931	0.004	33	*-0.029	7
Hawaii	1.281	0.005	2	1.133	0.001	5	*-0.148	3
Idaho	0.892	0.003	46	0.883	0.002	47	*-0.009	1
Illinois	1.003	0.004	18	1.025	0.004	16	*0.022	-2
Indiana	0.925	0.004	31	0.937	0.007	30	*0.011	-1
Iowa	0.894	0.014	45	0.943	0.007	28	*0.049	-17
Kansas	0.916	0.010	37	0.908	0.005	38	*-0.008	1
Kentucky	0.877	0.004	50	0.880	0.005	48	*0.003	-2
Louisiana	0.926	0.007	30	0.902	0.007	39	*-0.024	9
Maine	0.963	0.006	25	0.930	0.004	34	*-0.033	9
Maryland	1.196	0.006	4	1.124	0.004	6	*-0.072	2
Massachusetts	1.155	0.005	6	1.120	0.002	7	*-0.036	1
Michigan	0.944	0.003	28	0.937	0.006	29	*-0.007	1
Minnesota	0.993	0.003	20	1.035	0.003	14	*0.042	-6
Mississippi	0.878	0.003	49	0.854	0.002	51	*-0.025	2
Missouri	0.916	0.002	38	0.915	0.005	36	-0.001	-2
Montana	0.905	0.001	42	0.886	0.001	46	*-0.019	4
Nebraska	0.913	0.002	39	0.920	0.002	35	*0.007	-4
Nevada	0.994	0.001	19	1.085	0.003	11	*0.092	-8
New Hampshire	1.120	0.005	9	1.067	0.004	13	*-0.053	4
New Jersey	1.183	0.002	5	1.139	0.002	4	*-0.045	-1
New Mexico	0.919	0.002	34	0.915	0.002	37	*-0.004	3
New York	1.127	0.004	7	1.097	0.003	10	*-0.031	3
North Carolina	0.922	0.004	33	0.900	0.004	40	*-0.022	7
North Dakota	0.917	0.001	36	1.000	0.002	20	*0.084	-16
Ohio	0.907	0.002	41	0.932	0.002	31	*0.025	-10
Oklahoma	0.896	0.002	44	0.892	0.001	43	*-0.005	-1
Oregon	0.991	0.006	22	1.008	0.004	19	*0.016	-3
Pennsylvania	0.986	0.007	23	0.992	0.006	21	*0.007	-2
Rhode Island	1.009	0.000	17	1.074	0.000	12	*0.064	-5
South Carolina	0.924	0.004	32	0.892	0.003	42	*-0.032	10
South Dakota	0.882	0.003	48	0.893	0.002	41	*0.011	-7
Tennessee	0.918	0.007	35	0.891	0.004	44	*-0.027	9
Texas	0.991	0.003	21	0.962	0.003	26	*-0.029	5
Utah	0.950	0.003	27	0.946	0.003	27	*-0.004	0
Vermont	1.030	0.004	16	0.978	0.002	22	*-0.052	6
Virginia	1.103	0.010	11	1.026	0.008	15	*-0.077	4
Washington	1.048	0.009	13	1.099	0.004	9	*0.05	-4
West Virginia	0.897	0.006	43	0.887	0.007	45	*-0.01	2
Wisconsin	0.934	0.004	29	0.967	0.006	24	*0.033	-5
Wyoming	0.912	0.001	40	0.962	0.001	25	*0.051	-15

* An asterisk preceding an estimate indicates change is statistically different from zero at the 90 percent confidence level.

[1] The margin of error (MOE) is a measure of an estimate's variability. The larger the MOE in relation to the size of the estimate, the less reliable the estimate. This number, when added to and subtracted from the estimate, forms the 90 percent confidence interval. The MOEs shown in this table are based on standard errors calculated using replicate weights. For more information see "Standard Errors and Their Use" at <https://www2.census.gov/library/publications/2019/demo/p60-266sa.pdf>.

Source: U.S. Census Bureau, Current Population Survey, 2017-2019 Annual Social and Economic Supplements.