

Impact of Using State Average WIC Values in the Supplemental Poverty Measure

Liana E. Fox and Danielle Wilson
Social, Economic and Housing Statistics Division
U.S. Census Bureau

SEHSD Working Paper #2020-16¹

September 2020

Introduction

The Supplemental Poverty Measure (SPM) is produced each year by the Census Bureau with support from the Bureau of Labor Statistics (BLS). The SPM was developed after decades of research including a National Academies of Sciences Panel and an Interagency Technical Working Group on Developing a Supplemental Poverty Measure (Citro and Michael, 1995; ITWG 2010). The SPM extends the official poverty measure by taking into account non-cash benefits, such as nutritional and energy assistance programs, tax credits such as the Earned Income Tax Credit (EITC) and subtracting necessary expenses such as work-related expenses, medical expenses, and income and payroll taxes paid (see Fox 2019 for full details of the SPM).

In 2016, a new Interagency Technical Working Group (ITWG) on improving the SPM was formed to advise on challenges and opportunities brought before it by the Census Bureau and the BLS concerning data sources, estimation, survey production, and processing activities for development, implementation, publication, and improvement of the SPM. Currently, this ITWG is reviewing potential changes to implement in September 2021. One change under consideration by the Working Group is how the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) benefits are valued in the SPM, allowing for state-level variation in the average assistance received by program participants. Using data from the 2018 Current Population Survey Annual Social and Economic Supplement (CPS ASEC), this paper analyzes the impact of using state-varying WIC values instead of national WIC values to estimate SPM rates.

¹ This paper is released to inform interested parties of ongoing research and to encourage discussion of work in progress. Any views expressed are those of the authors and not necessarily of the U.S. Census Bureau. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see <www2.census.gov/programs-surveys/cps/techdocs/cpsmar19.pdf>. The Census Bureau reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied to this release. CDDRB-FY20-POP001-0223.

WIC Program and Implementation in SPM

WIC is a federal grant program administered by the U.S. Department of Agriculture’s Food and Nutrition Service that provides federal grants to states for supplemental foods health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children under age five. Participants must have incomes at or below 185 percent of federal poverty guidelines and must be found to be at nutritional risk (having abnormal nutritional conditions, nutrition-related medical conditions, or dietary deficiencies).² While most states use the maximum guidelines, states may set lower income limit standards. WIC benefits include supplemental foods in the form of food items or vouchers for purchases of specific food items.

As the dollar value of WIC benefits is not directly asked in the CPS ASEC, we must estimate a value for inclusion in SPM resources (Renwick, 2010). The CPS ASEC asks respondents whether anyone in the household received WIC benefits in the past year. If the respondent replies yes, we then estimate the number of likely WIC recipients in a household based on the household composition (Macartney, 2013). In these estimates, we assume that all children less than 5 years old in a household where someone reports receiving WIC are assigned receipt of WIC. If the child is aged 0 or 1 year, then we assume that the mother also receives WIC benefits. If there is no child in the household, but the household reference person said “yes” to the WIC question, we assume this is a pregnant woman receiving WIC. The number of WIC recipients is then summed at the SPM unit level.

The CPS ASEC does not ask respondents about the number of months participants receive WIC benefits, thus they are assumed to receive aid all year. Consequently, the annual WIC cash benefit per person is calculated by multiplying the national average monthly benefit by 12 months. These average monthly benefit amounts are published by FNS. Assuming yearlong participation may overestimate the value of WIC benefits received by a given SPM unit. In 2018 approximately 4.2 percent of individuals lived in an SPM unit which received WIC benefits, and approximately 2.1 percent of SPM units had at least one WIC recipient.

Change Under Consideration

The change under consideration would allow the monthly benefit value to vary by state. In the equation below, N is the total number of eligible WIC participants in an SPM unit and S_i is the WIC average monthly cost per person in individual i ’s state. See Table 1 in the Appendix for values of S_i for each state in 2018.

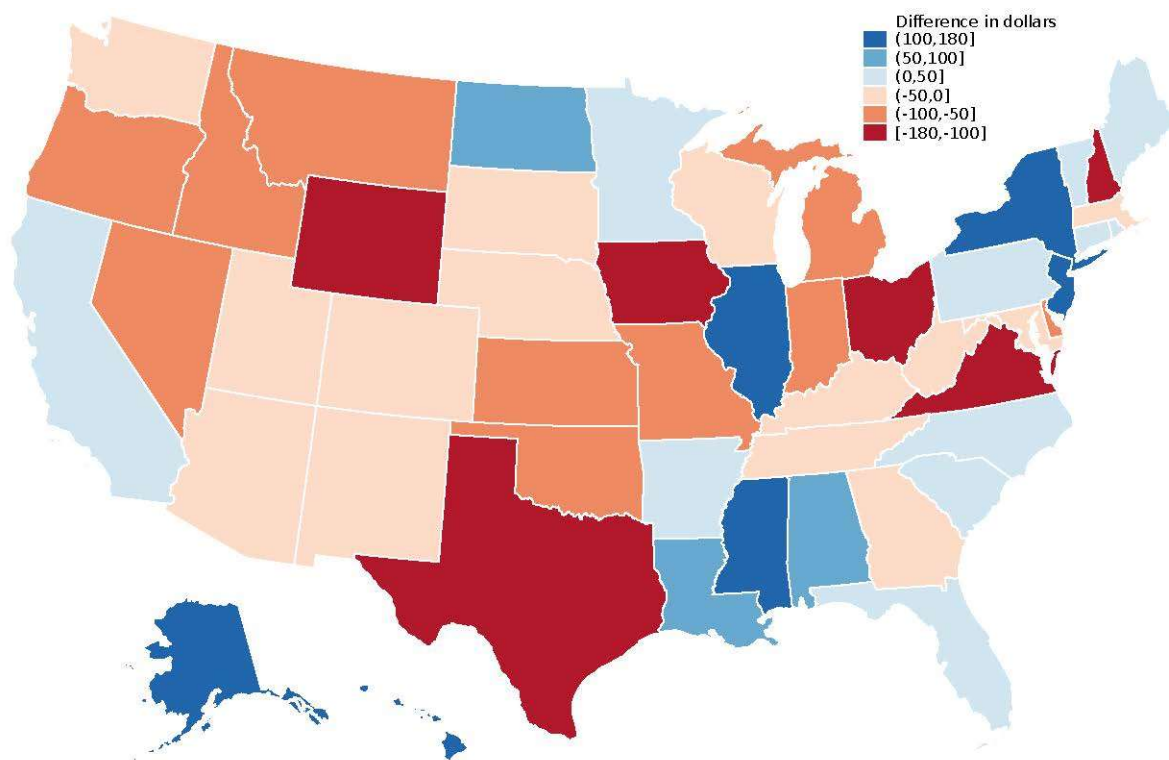
$$SPM\ Unit's\ WIC\ Aid_{per\ year} = 12 \times (N \times S_i)$$

The national monthly average WIC cost in 2018 was \$40.96, while the state monthly average values varied from \$26.52 in Texas to \$55.87 in Hawaii. Assuming 12 months of participation,

² See the USDA’s website for additional details on the WIC program, <https://www.fns.usda.gov/wic>.

Figure 1 illustrates the difference between the annual state average WIC cost per person and the national average cost per person in 2018.³ Over 60% of WIC recipients had their annual SPM unit-level WIC value change by less than \$100, with a median change of \$63 (in absolute dollars).

Figure 1. Annual Difference between Average State and National WIC Benefit Values, 2018



Note: Differences are calculated by subtracting the national annual average from the state annual average. States highlighted in a shade of red have a lower state WIC allocation than the national average and states highlighted in a shade of blue have a higher state WIC allocation than the national average.

Source: USDA, WIC Data Tables: Annual State Level Data, 2018

Impact on SPM Rates

Given the small impact on individual’s resources and the targeted nature of this program, it is not surprising that moving to state-varying WIC values also would have a small impact on SPM rates. Table 1 shows the impact of using state-varying WIC values compared with the current methodology of using national average WIC values. Overall, the SPM rate increased by 0.01 percentage point when moving to state-varying WIC values. Among the directly impacted subgroup of WIC recipients, poverty rates increased by 0.27 percentage points. There were no

³ Values in Figure 1 are based on values reported in Table A1 in the Appendix.

significant differences by region. Less than 1 percent of people who received WIC had a different poverty status when state WIC averages were used.

Table 1. Percentage of People in Poverty Using the Supplemental Poverty Measure by WIC Valuation Method, 2018

	N	2018 SPM-Using National WIC Values		2018 SPM-Using State-Varying WIC Values		Difference	
		Est.	MOE	Est.	MOE	Est.	
All People	324,000	12.77	0.27	12.78	0.27	0.01	*
WIC Recipients	13,500	24.78	2.11	25.05	2.09	0.27	*
Sex							
Male	159,000	12.12	0.30	12.13	0.30	0.01	*
Female	165,000	13.40	0.27	13.41	0.27	0.01	
Age							
Under 18 years	74,000	13.68	0.52	13.71	0.52	0.03	*
18 to 64 years	198,000	12.21	0.28	12.22	0.28	0.01	*
65 years and older	53,000	13.59	0.47	13.59	0.47	0.00	
Region							
Northeast	55,500	12.23	0.62	12.23	0.62	0.00	
Midwest	67,500	9.20	0.51	9.22	0.51	0.02	
South	124,000	13.92	0.49	13.94	0.49	0.02	
West	77,500	14.43	0.56	14.43	0.56	0.00	

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

¹ A 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. MOEs shown in this table are based on standard errors calculated using replicate weights.

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

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

Conclusion

Using state WIC averages, rather than the national WIC average, does not meaningfully change SPM rates, even for the most highly affected subgroup of WIC recipients. While moving to state-varying means could potentially allow for examination of state-level policy changes in the future, they have little impact on poverty rates overall.

References

- Citro, Constance F. and Robert T. Michael (eds.), *Measuring Poverty: A New Approach*, Washington, DC, National Academy Press, 1995, available at www.census.gov/library/publications/1995/demo/citro-01.html.
- Fox, Liana. "The Supplemental Poverty Measure 2018," *Current Population Reports*, P60-268, U.S. Census Bureau, September 2019, available at www.census.gov/content/dam/Census/library/publications/2019/demo/p60-268.pdf.
- ITWG, "Observations From the Interagency Technical Working Group on Developing a Supplemental Poverty Measure," March 2010, available at www.census.gov/content/dam/Census/topics/income/supplemental-poverty-measure/spm-twgobservations.pdf.
- Macartney, Suzanne. "Estimating the value of WIC benefits for the Supplemental Poverty Measure," SEHSD Working Paper 2013-18, U.S. Census Bureau, July 2013, available at [available at www.census.gov/library/working-papers/2013/demo/SEHSD-WP2013-18.html](http://www.census.gov/library/working-papers/2013/demo/SEHSD-WP2013-18.html).
- Provencher, Ashley. "Unit of Analysis for Poverty Measurement: A Comparison of the Supplemental Poverty Measure and the Official Poverty Measure," SEHSD Working Paper 2011-22, U.S. Census Bureau, August 2011, available at www.census.gov/library/working-papers/2011/demo/SEHSD-WP2011-22.html.
- Renwick, Trudi. "Improving the Measurement of Family Resources in a Modernized Poverty Measurement", SEHSD Working Paper, U.S. Census Bureau, January 2010, available at www.census.gov/library/working-papers/2010/demo/renwick-01.html.

Appendix

Table A1. Average Monthly Food Cost per Person, 2018

State	Avg. Monthly Cost, \$ (Dollars)	State	Avg. Monthly Cost, \$ (Dollars)
US	40.96	Missouri	34.77
Alabama	45.15	Montana	34.60
Alaska	55.50	Nebraska	40.63
Arizona	38.58	Nevada	35.00
Arkansas	43.52	New Hampshire	31.10
California	43.32	New Jersey	55.47
Colorado	36.96	New Mexico	37.84
Connecticut	43.57	New York	52.51
Delaware	35.85	North Carolina	42.43
District of Columbia	41.56	North Dakota	45.39
Florida	43.54	Ohio	30.95
Georgia	39.23	Oklahoma	33.62
Hawaii	55.87	Oregon	34.89
Idaho	32.96	Pennsylvania	43.82
Illinois	51.04	Rhode Island	43.47
Indiana	33.59	South Carolina	44.23
Iowa	31.04	South Dakota	40.88
Kansas	36.23	Tennessee	39.63
Kentucky	37.66	Texas	26.52
Louisiana	46.83	Utah	38.27
Maine	41.65	Vermont	44.90
Maryland	38.91	Virginia	30.79
Massachusetts	37.34	Washington	39.87
Michigan	36.48	West Virginia	39.18
Minnesota	41.97	Wisconsin	37.28
Mississippi	50.90	Wyoming	32.02

Source: USDA, WIC Data Tables: Annual State Level Data, 2018.
For more data tables, see <https://www.fns.usda.gov/pd/wic-program>