Using WIC Administrative Data to Evaluate the Supplemental Poverty Measure*

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Abstract

The Special Supplemental Nutrition Program for Women, Infants, and Children program (WIC) is designed to provide food assistance and nutritional screening to low-income pregnant, postpartum women and their infants, and to low-income children up to the age of 5. The Supplemental Poverty Measure (SPM) is an alternative poverty measure produced by the Census Bureau since 2011 using the Current Population Survey Annual Social and Economic Supplement (CPS ASEC). Unlike the official poverty measure, the SPM incorporates in-kind transfer income from programs such as WIC, SNAP, and TANF. Past research suggests that survey responses to transfer program questions produce undercounts of both participation and total aggregate benefit amounts (Meyer and Mittag 2015, Shantz and Fox 2018, Mittag 2019). This underreporting can deteriorate data quality and potentially overestimate SPM poverty rates. To assess the impact of WIC misreporting on the SPM, this paper links state administrative data on the WIC program to the CPS ASEC covering calendar years 2009-2017. We use this linkage to directly compare self-reported WIC participation to the administrative data.

Overall, the CPS ASEC and the SPM procedure to estimate number of WIC recipients underreports participation when compared to the administrative records (5.0 percent vs 6.7 percent). About 41.5 percent who do report receiving WIC according to the administrative records do not report receiving WIC in the survey (false negative rate) while 1.2 percent who do report receiving WIC in the survey do not receive WIC according to the administrative records (false positive rate). Comparing the average annual benefit amount shows no difference between the survey and administrative data in our sample at the individual level which translates to a very small difference in overall Supplemental Poverty Measure rates; however, there are differences for some subgroups.

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* This paper was developed to promote research and advancements in our understanding of poverty measurement. In that spirit and to encourage discussion and thoughtful feedback at early stages of our work, this paper has undergone a more limited review than official Census Bureau reports. All views and any errors are solely those of the authors and do not necessarily reflect those of the Bureau. 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-FY21-POP001-0110. All comparisons made are at the 0.10 significance level where applicable, unless otherwise noted. More information on confidentiality protection, sampling error, non-sampling error, and definitions available at: https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar21.pdf

Background

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a federal program designed to provide food assistance and nutritional screening to low-income pregnant and postpartum women, infants, and children up to the age of 5.[1] Assistance from this program comes in the form of nutritional education and counseling, breastfeeding support, and Electronic Benefit Cards (EBT) for food. WIC participants must be low-income and nutritionally-at-risk. Low-income is determined by family income that falls below 185 percent of the Federal Poverty Guidelines while nutritionally-at-risk is based on a medical and/or nutritional assessment by a professional authority such as a physician, nutritionist, or other health professional (Kline et al, 2020). Participants in TANF, SNAP, or Medicaid are adjunctively eligible for WIC.

Current Population Survey and WIC

The Census Bureau uses the Current Population Survey Annual Social and Economic Supplement (CPS ASEC) to collect data on income and program participation for the official poverty measure and the Supplemental Poverty Measure (SPM). The CPS ASEC is a survey of roughly 90,000 households (60,000 from the usual CPS monthly rotation plus an additional 30,000 households oversampled as part of the Children's Health Insurance Program) mostly conducted in March of each year. Respondents are asked income and program participation questions with a reference period of the prior calendar year. For the WIC program, the survey asks the household reference person whether anyone in the household participated in WIC in the prior year. Specifically, the question is:

> *"At any time during 20XX, (was/were) (you/anyone in the household) on WIC, the Women, Infants, and Children Nutrition Program?" Enter Yes or No*

If the reference person answers yes, the number of likely WIC recipients in a household is estimated based on household composition (Macartney, 2013). Included in the count of individuals eligible for WIC are all children less than 5 years old. If the child is aged 0 or 1 year, then the mother is also assumed to receive WIC. If there is no child in the family, but the household reference person says "yes" to the WIC question, it is assumed there is a pregnant woman receiving WIC in the household.[2] Pregnancy and breastfeeding status are not asked in the CPS ASEC. In 2018, approximately 4.5 percent of individuals

[1] Refer to the USDA's website for additional details on the WIC program: https://www.fns.usda.gov/wic.

[2] The WIC question is only asked of households with either at least one female household member age 15 or above and a child less than 6 years old OR households with at least one female household member between the age of 15 and 45.

lived in an SPM unit which received WIC benefits, and approximately 2.3 percent of SPM units had at least one WIC recipient.

After the number of eligible WIC recipients in a household is estimated, the value of WIC benefits is assigned by multiplying the national average monthly WIC benefit amount produced by the United States Department of Agriculture (USDA) by the estimated number of eligible WIC recipients in a household.[3] Assuming twelve months of participation, this amount is annualized and added to SPM resources (Fox and Burns, 2021).[4] Assuming yearlong participation may overestimate the value of WIC benefits received by a given SPM unit.[5]

Data

This paper links state level WIC administrative records to the CPS ASEC for 8 states (Arizona, Idaho, Maine, Montana, Pennsylvania, South Dakota, Utah, and Washington) covering calendar years 2009-2017 (ASEC survey years 2010-2018). The administrative records do not cover the full period for all states. The years covered for each state include Arizona (2014-2016), Idaho (2012-2016), Maine (2009-2017), Montana (2012-2017), Pennsylvania (2009-2017), South Dakota (2015-2017), Utah (2014-2016), and Washington (2009-2015).

While the structure and information contained in the administrative records varies by state, each annual state file is typically organized at the individual-month level and contains information on WIC participation and monthly benefit amount received during the calendar year. Some files also classify the type of WIC recipient (infant, child, pregnant, breastfeeding postpartum, non-breastfeeding postpartum). Since the unit of observation for each file is the individual-month, each file is collapsed into one observation per WIC participant, aggregating monthly benefit amounts to the annual frequency. In addition, each recipient is assigned their WIC recipient type in the last month of participation.

[3] In 2021, the Interagency Technical Working Group on Improving the Supplemental Poverty Measure approved a change to the WIC valuation methodology, moving from using the national average monthly WIC benefit to state-varying WIC benefit values. Revised estimates for past years will be available in the future, but this paper examines the old methodology. Details of the impact of the change can be found at <www.census.gov/content/dam/Census/library/working-papers/2020/demo/SEHSD-WP2020-16.pdf>.

[4] In 2017 according to FNS, the monthly average WIC benefit amount was $43.26, implying an average annual value of $519.12 per WIC recipient. Monthly average WIC benefit values are available on FNS's website at<www.fns.usda.gov/pd/wic-program>.

[5] Details on the definition of a SPM unit and components of the SPM are available at www.census.gov/content/dam/Census/library/publications/2021/demo/p60-275.pdf.

Each collapsed administrative file containing annual benefit amount is linked to the CPS ASEC file using a unique Protected Identification Key (PIK) produced within the Census Bureau. The PIK is a confidentiality-protected version of the Social Security Number (SSN). Since the Census Bureau does not ask respondents for a SSN, Census uses its own record linkage software system, the Person Validation System, to assign a SSN. This assignment relies on a probabilistic matching model based on name, address, date of birth, and gender. The SSN is then converted to a PIK. Not all individuals in the CPS ASEC file for 2010-2018 can be assigned a PIK. Across all the states in the sample for these years, about 89.7 percent are assigned a PIK. To address the issue of nonrandom exclusion of individuals without a PIK, the analysis reweights the data using inverse probability weighting (IPW).[6]

After the collapsed administrative files are linked to the ASEC, we sum the annual WIC benefit amount across all members in the SPM unit to create a WIC benefit value comparable to the estimated WIC benefit assigned in the CPS ASEC file.

Sample Selection

The main analytic sample includes all individuals in the SPM poverty universe, excluding individuals who are not assigned a PIK, who responded to some of the CPS ASEC but not enough for a supplement interview (whole imputation), or who had their WIC participation imputed. We also exclude individuals with state mismatches. A state mismatch occurs when an individual indicates they live in one state in the CPS ASEC but the administrative records show them living in a different state for WIC receipt.[7] After applying these sample selection criteria, the main analytic sample includes 95,400 individual-year observations divided into the following states: 6,900 in Arizona; 8,900 in Idaho; 16,700 in Maine; 35,000 in Pennsylvania; 4,300 in South Dakota; 6,300 in Utah; and 17,300 in Washington.[8] Of the 95,400 individual-year observations, 2,800 are linked to the administrative data, yielding an unweighted linkage

[6] IPW is a general solution to missing data when the data are missing at random (Wooldridge 2007). We estimate in each year a logit model of the probability of the individual having a PIK using the following explanatory variables: sex, age, education, race and Hispanic origin, nativity, marital status, region, residence, and work experience. The inverse probability weights are created by dividing the ASEC weight by the predicted probability of the individual having a PIK.

[7] A state mismatch may indicate an incorrect link due to the wrong PIK being assigned or the individual resided in a different state during the reference year of the survey or the early months of the survey year. The ASEC collects state of residence on the survey date which is between February and April of the survey year while the administrative data reports state of residence in the prior year.

[8] Montana is excluded from the main analytic sample since no benefit amount is reported in the administrative data.

rate of about 3.0 percent. WIC is a relatively small program, serving about 6.7 million individuals (or slightly higher than 50 percent of eligible individuals) across the United States in 2018.[9]

Methods and Analysis

Part A of Table 1 shows a comparison of administrative records and CPS ASEC WIC benefit values.[10] The process in place during the years of this analysis allocated WIC values based on the national average WIC benefit value underestimates the monthly value ($43/person/month in CPS ASEC compared to $65/person/month in administrative records) while our assumption of 12 months of participation overestimates the average months of participation we observe in administrative records (6.7 months of participation, on average). Taken together, the current assignment process for estimating an annual per person value of WIC benefits produces more than what is observed in administrative records ($520/person/year in CPS ASEC and $435/person/year in administrative records).

Part B of Table 1 shows the observed variation in annual per person WIC values received by participant type in the administrative records.[11] Panel B shows that there is considerable variation in annual WIC value by participant type, ranging from $194/year for pregnant individuals to $777/year for infants.[12] However, it should be noted that individuals move between participant types throughout the course of the year while this figure only shows participant type in December. Therefore, the annual value reported for a breastfeeding mother could also include benefits received as a pregnant mother, while the value for a pregnant woman likely includes months of no receipt prior to pregnancy.

Extensive Margin

Table 2 shows the share of WIC recipients reporting receiving a WIC benefit in the CPS ASEC or in the WIC administrative data and the share that do not. It also shows the degree of agreement or disagreement between the CPS ASEC and administrative data. The sample for this table includes all individuals who have been assigned a PIK regardless of whether they have been linked to the administrative data.[13] Overall, 96.1 percent of individuals are in households that correctly report that

[9] For more details about eligibility and coverage rates, please refer to: <www.fns.usda.gov/wic/eligibility-and-coverage-rates-2018>.
[10] The universe for Table 1 is all administrative records and all CPS ASEC records regardless of link status.
[11] The sample for Part B is restricted to the states which reported participant type.
[12] The values reported in state administrative records are prior to accounting for infant formula rebates received by state agencies. Details about the WIC infant formula rebate program can be found at: <https://www.ers.usda.gov/webdocs/publications/43025/31621_efan02001c_002.pdf?v=41479>.
[13] Individuals not linked to the administrative data are assigned an administrative value of zero.

they receive or don't receive WIC. About 41.5 percent report receiving WIC according to the administrative records do not report receiving WIC in the survey (false negative rate). About 1.2 percent report receiving WIC in the survey do not receive WIC according to the administrative records (false positive rate). For reference, past administrative data linkage research using CPS ASEC found a false positive rate of 0.6 percent for SNAP and 0.6 percent for TANF and found a false negative rate of 43.0 percent for SNAP and 62.4 percent for TANF (Shantz and Fox, 2018).

Since the estimated WIC benefit amount in SPM resources relies on the count of individuals receiving WIC in the SPM unit, we provide a comparison of WIC participation at the SPM unit level. Table 3 compares the estimated number of WIC recipients in the SPM unit using the CPS ASEC to the number of WIC recipients in the SPM unit using administrative records. Panel A of the table is arranged by SPM unit size. In this panel, 92.2 percent of individuals are in SPM units who do not receive WIC according to both sources. Panel B of the table summarizes Panel A by showing the degree to which CPS ASEC estimates exactly, overestimates, or underestimates the number of recipients compared to administrative records for all SPM units (first column) and for SPM units with at least 1 WIC recipient (second column; excludes SPM units with zero). Both sources estimate the same number of WIC recipients in the SPM unit for 92.4 percent of individuals while the CPS underestimates the number of WIC recipients in the SPM unit for 6.5 percent of individuals. Excluding units with zero WIC recipients shows the CPS underestimates the number of WIC recipients in the SPM unit for 82.1 percent of individuals and overestimates for 14.1 percent of individuals.

Table 4 reports the WIC receipt rate by various demographic characteristics. Overall, 5.0 percent of the weighted sample receives WIC according to the CPS ASEC compared to 6.7 percent in the administrative records.[14] Across all demographic characteristics shown in Table 4, the CPS underestimates WIC receipt rates compared to administrative records. Examining the difference by income-to- poverty ratio (as measured using the official poverty measure) shows the difference is among the largest for individuals in families falling in the 0-49% FPL and 50-99% FPL ranges (differences of 5.1 percentage points and 3.6 percentage points, respectively). Large underestimates exist by race and Hispanic origin as well, particularly for non-white individuals.

Intensive Margin

[14] Individuals not linked to the administrative data are assigned an administrative value of zero.

Tables 5 and 6 provide comparisons of the annual WIC benefit amount—overall for the SPM unit in Table 5 and at the individual level by various demographic characteristics in Table 6. The sample for Table 5 includes individuals reporting WIC receipt in the CPS ASEC and linked to the administrative records. Table 5, Panel A compares mean and median values, conditional on receiving WIC in both data sources. The differences in conditional means ($983 in CPS vs $936 in administrative) and conditional medians ($1,038 in CPS vs $754 in administrative) are statistically significant. Table 5, Part B gives a sense of how close the WIC annual values are by showing the percent of individuals with CPS benefit amount falling within specific dollar ranges (±$100, ±$300, and ±$500) when compared to the administrative benefit amount.[15]

Table 6 compares the average annual WIC benefit amount for various demographic characteristics. The sample for this table includes individuals reporting WIC receipt in the CPS ASEC or administrative records. Overall, the difference in the average annual WIC benefit amount between the data sources is not statistically significant. There are differences by income-to-poverty ratio (defined by the official poverty measure). For individuals in families in the 0-49% FPL range, the average benefit amount in the survey *exceeds* the average benefit amount in the administrative records by $88. This difference is not statistically significant for income range 50-199% FPL. In contrast, the difference for the highest income range, 200% FPL and over, shows the average benefit amount in the survey is *below* the average benefit amount in the administrative records by $138.

Impact on Supplemental Poverty Measure

Table 7 provides a comparison of using survey and administrative WIC benefits in the Supplemental Poverty Measure (SPM). The table displays poverty rates using the survey and administrative records separately as inputs into the SPM resource calculation. It first shows the poverty rate using an estimated WIC benefit based on the estimated number of individuals in the SPM unit receiving WIC as currently estimated in the CPS ASEC. The table then shows the poverty rate with one change—using the WIC receipt and benefit from the administrative records in place of the estimated WIC benefit from the survey.[16] For observations with no link to the administrative records, we use a WIC benefit amount of $0. Overall, while the difference in the SPM poverty rate is statistically significant, it is not meaningfully

[15] For reference, the standard deviation of the annual WIC benefit distribution conditional on positive amounts is $469 and $646 for CPS and administrative data, respectively. An additional person receives annual benefit amount of about $520.

[16] Specifically, we calculate SPM resources as spm_resoures_wic=spm_resources-spm_wicval+spm_wicval_admin and compare to spm_povthreshold.

different, but there are notable differences for certain subgroups. Individuals who receive WIC benefits according to the administrative records have an SPM poverty rate that is 0.9 percentage points lower when using administrative records. Individuals in families falling in the 0-49% FPL and 100-149% FPL ranges have an SPM poverty rate that is lower by 0.3 percentage point. The highest income families (200% FPL and over) face a very small difference in SPM poverty.

Finally, Figure 1 gives kernel density plots of the income-to-poverty ratio for SPM units receiving WIC by data source. Income in this figure is family income from the CPS ASEC. Both plots exhibit a similar shape with the WIC Admin plot higher than the CPS ASEC plot, suggesting overall more families receive WIC according to the administrative data.[17] The largest difference between the two sources is generally in the 0.5-1.33 income-to-poverty ratio range. The WIC administrative data also show more families at higher income-to-poverty ratios receiving WIC than the CPS ASEC. These observations are generally corroborated in Table 4.

Conclusion

This paper provides an analysis of WIC participation and benefits using survey data from the CPS ASEC and administrative data from 8 state WIC programs. It also discusses the implications of benefit reporting by data source on the Supplemental Poverty Measure. Overall, the CPS ASEC and the SPM procedure to estimate number of WIC recipients underreports participation when compared to the administrative records (5.0 percent vs 6.7 percent). About 41.5 percent who do report receiving WIC according to the administrative records do not report receiving WIC in the survey (false negative rate) while 1.2 percent who do report receiving WIC in the survey do not receive WIC according to the administrative records (false positive rate). Comparing the average annual benefit amounts shows no difference between the survey and administrative data in our sample which translates to a very small difference in Supplemental Poverty Measure rates; however, there are differences for some subgroups, including by income and race.

This analysis covers a limited sample of 8 states based on data availability for calendar years 2009-2017. To the extent that the states who provided their data to the Census Bureau are different than other states, this analysis may not be generalizable to other states. Future work will add more states to the sample and consider alternative methods of assigning WIC benefits. The analysis excludes individuals who did not respond to the ASEC or the WIC questions, so all imputed records are excluded

[17] The Kolmogorov-Smirnov test rejects the equality of both distributions.

from the analytic sample. Future work could examine how the ASEC imputation process affects WIC participation and benefits along with the impact on poverty measurement.

REFERENCES

Fox, Liana and Kalee Burns. 2021. "The Supplemental Poverty Measure: 2020" U.S. Census Bureau Current Population Report No. P60-275.

Kline, N., Thorn, B., Bellows, D., Wroblewska, K., & Wilcox-Cook, E. 2020. WIC Participant and Program Characteristics 2018. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service. Project Officer: Grant Lovellette.

Macartney, Suzanne. 2013. "Estimating the value of WIC benefits for the Supplemental Poverty Measure" SEHSD Working Paper #2013-18, U.S. Census Bureau.

Meyer, Bruce and Mittag, Nikolas. 2015. "Using Linked Survey and Administrative Data to Better Measure Income: Implications for Poverty, Program Effectiveness, and Holes in the Safety Net." NBER Working Paper No. 21676 (October).

Mittag, Nikoas. 2019. "Correcting for Misreporting of Government Benefits" American Economic Journal: Economic Policy, 11(2), 142-64.

Shantz, Kathryn and Fox, Liana. 2018. "Precision in Measurement: Using State-Level Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families Administrative Records and the Transfer Income Model (TRIM3) to Evaluate Poverty Measurement" SEHSD Working Paper #2018-30, U.S. Census Bureau.

Wooldridge, Jeffrey M. 2007. "Inverse Probability Weighted Estimation for General Missing Data Problems" *Journal of Econometrics*, 141(2): 1281-1301.

TABLES and FIGURES

Table 1. Administrative Records and CPS ASEC WIC Values, 2009-2017 (Conditional on Receipt)

Part A. Comparison of Administrative Records and CPS ASEC WIC Values

	Average Monthly Per Person WIC Value	Average Months of Participation	Average Annual Per Person WIC Value (Value*Months)
Administrative Records	$65	6.7	$435
CPS ASEC	$43	12	$520

Part B. Average Annual Per Person WIC Value by Participant Type (Administrative Records)

Overall	$437
Breastfeeding	$341
Child	$448
Infant	$777
Nonbreastfeeding	$233
Pregnant	$194

Source: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and State WIC administrative records, 2009-2017. The administrative records cover Arizona, Idaho, Maine, Montana, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this table is all administrative records and all CPS ASEC records regardless of link status. WIC benefit values are conditional on receipt. CPS ASEC WIC benefit value comes from USDA. The unit of analysis is the individual. The unweighted sample size for administrative records in Part A is 7,041,000. The unweighted sample sizes for Part B are 7,041,000 (overall) and 4,066,000 (participant type).

Table 2. Misreporting in WIC Receipt: CPS ASEC vs Administrative Records, Pooled Sample 2009-2017

		CPS ASEC		
		Not Received	Received	Total
Administrative Records	Not Received	98.8%	1.2% (FP)	100.0%
	Received	41.5% (FN)	58.5%	100.0%

Sources: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and state WIC administrative records, 2009-2017. The sample covers Arizona, Idaho, Maine, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this table is all CPS ASEC records whether they are linked or not linked to WIC administrative records. The unit of analysis is the individual. FP represents the false positive rate while FN represents the false negative rate. Estimates adjusted using IPW. The weighted sample size is 181,000,000.

Table 3. Number of WIC Recipients: CPS ASEC vs. Administrative Records, Pooled Sample 2009-2017

Part A. Distribution of Recipients by SPM Unit Size

Administrative Records: Actual Number of WIC Recipients in SPM unit	CPS ASEC: Estimated Number of WIC Recipients in SPM unit					
	0	1	2	3	4+	Total
0	*92.2%*	*0.7%*	*0.3%*	*0.1%*	*D*	*93.3%*
1	*0.1%*	*D*	*D*	*D*	*D*	*0.1%*
2	*0.2%*	*0.2%*	*0.1%*	*D*	*D*	*0.4%*
3	*0.6%*	*0.4%*	*0.2%*	*0.1%*	*D*	*1.5%*
4+	*1.9%*	*1.3%*	*1.0%*	*0.6%*	*0.1%*	*4.9%*
Total	*95.0%*	*2.5%*	*1.6%*	*0.8%*	*0.1%*	*100.0%*

D Suppressed for disclosure avoidance.

Part B. Agreement Between Actual Recipients and Estimated Recipients

	All SPM Units	SPM Units > 0
Over-Estimated	1.1%	14.6%
Exactly Estimated	92.4%	3.3%
Under-Estimated	6.5%	82.1%
Total	100%	100.0%

Sources: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and state WIC administrative records, 2009-2017. The sample covers Arizona, Idaho, Maine, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this table is all CPS ASEC records whether they are linked or not linked to WIC administrative records. The unit of analysis is the SPM unit. The weighted sample size is 181,000,000.

Table 4. Demographic Characteristics of WIC Recipients, Pooled Sample 2009-2017

		WIC Receipt Rate		
	Weighted N (in thousands)	CPS ASEC	Administrative Records	Difference (CPS ASEC-Admin Records)
All People	181,000	5.0	6.7	-1.7 ***
0-49% of FPL	9,000	18.8	23.9	-5.1 ***
50-99% of FPL	12,500	16.5	20.1	-3.6 ***
100-149% of FPL	15,500	13.2	15.7	-2.5 ***
150-199% of FPL	16,000	8.9	11.2	-2.3 ***
200% of FPL and over	128,000	1.4	2.5	-1.1 ***
Under 18 years	41,500	11.3	14.6	-3.3 ***
18 to 64 years	110,000	3.9	5.3	-1.5 ***
65 years and older	29,000	0.3	0.5	-0.2 ***
White	154,000	4.2	5.5	-1.4 ***
White, non-Hispanic	137,000	3.0	3.9	-1.0 ***
Black	12,500	10.9	17.1	-6.3 ***
Asian	6,700	4.1	7.2	-3.1 ***
Hispanic (any race)	19,000	14.9	19.7	-4.7 ***
Total, aged 25 and older	123,000	2.6	3.6	-1.0 ***
No high school diploma	12,000	6.1	8.3	-2.2 ***
High school, no college	39,500	3.2	4.4	-1.1 ***
Some college, no degree	32,500	2.8	3.7	-0.9 ***
Bachelor's degree or higher	39,000	0.9	1.4	-0.5 ***
With private insurance	126,000	2.1	3.2	-1.1 ***
With public, no private insurance	38,500	14.0	16.6	-2.6 ***
Not insured	16,000	6.3	10.1	-3.8 ***
Total, 18 to 64 years	110,000	3.9	5.3	-1.5 ***
All workers	86,500	3.3	4.6	-1.3 ***
Worked full-time, year-round	57,000	2.3	3.5	-1.2 ***
Less than full-time, year-round	29,000	5.2	6.7	-1.5 ***
Did not work at least 1 week	24,000	6.1	8.0	-1.9 ***

*** Significant at 1%, ** Significant at 5%, * Significant at 10%

Sources: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and state WIC administrative records, 2009-2017. The sample covers Arizona, Idaho, Maine, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this table is all CPS ASEC records whether they are linked or not linked to WIC administrative records. The unit of analysis is the individual. The weighted sample size is 181,000,000.

Table 5. WIC Annual Benefit Value Comparison, Pooled Sample 2009-2017

Part A. Conditional Mean and Median Benefit Value

	CPS ASEC	Administrative Records	Difference (CPS ASEC-Admin Records)	Significance
Conditional Mean	983	936	47	**
Conditional Median	1,038	754	284	***

Part B. Distribution of Annual Values

	$100	$300	$500
Over-estimated (CPS ASEC at least $XXX *over* administrative records)	48.8%	36.0%	26.7%
Values within $XXX Range	12.7%	36.1%	53.7%
Under-estimated (CPS ASEC at least $XXX *less* than administrative records)	38.5%	27.9%	19.6%
Total	100%	100%	100.0%

*** Significant at 1%, **Significant at 5%, * Significant at 10%

Sources: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and state WIC administrative records, 2009-2017. The sample covers Arizona, Idaho, Maine, Montana, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this table is all CPS ASEC records linked to WIC administrative records. The unit of analysis is the SPM unit. Estimates adjusted using IPW. The weighted sample size is 2,933,000.

Table 6. Ave. Annual WIC Benefit Amount by Demographic Characteristics, Pooled Sample 2009-2017

	Weighted N (in thousands)	WIC Average Annual Benefit		
		CPS ASEC	Administrative Records	Difference (CPS ASEC-Admin Records)
All People	14,000	575	590	-16
0-49% of FPL	2,500	654	565	88 ***
50-99% of FPL	3,000	634	641	-7
100-149% of FPL	2,800	644	627	16
150-199% of FPL	2,100	544	526	17
200% of FPL and over	3,600	435	573	-138 ***
Under 18 years	7,000	619	623	-5
18 to 64 years	6,900	533	559	-26 *
65 years and older	150	455	493	-38
White	9,900	574	588	-14
White, non-Hispanic	6,200	578	590	-11
Black	2,400	552	688	-136 ***
Asian	550	451	563	-112 **
Hispanic (any race)	4,400	568	592	-24
Total, aged 25 and older	5,300	524	556	-33 **
No high school diploma	1,200	533	552	-19
High school, no college	2,000	524	563	-39
Some college, no degree	1,400	542	551	-8
Bachelor's degree or higher	650	460	556	-96 **
With private insurance	4,700	506	599	-93 ***
With public, no private insurance	7,500	651	601	50 ***
Not insured	1,900	440	527	-87 ***
Total, 18 to 64 years	6,900	533	559	-26 *
All workers	4,600	519	556	-38 **
Worked full-time, year-round	2,300	483	583	-100 ***
Less than full-time, year-round	2,300	556	529	26
Did not work at least 1 week	2,300	562	564	-2

*** Significant at 1%, ** Significant at 5%, * Significant at 10%

Sources: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and state WIC administrative records, 2009-2017. The sample covers Arizona, Idaho, Maine, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this table is all CPS ASEC records reporting receipt of WIC in either CPS ASEC or WIC administrative records. The unit of analysis is the individual. Estimates adjusted using IPW. The weighted sample size is 14,000,000.

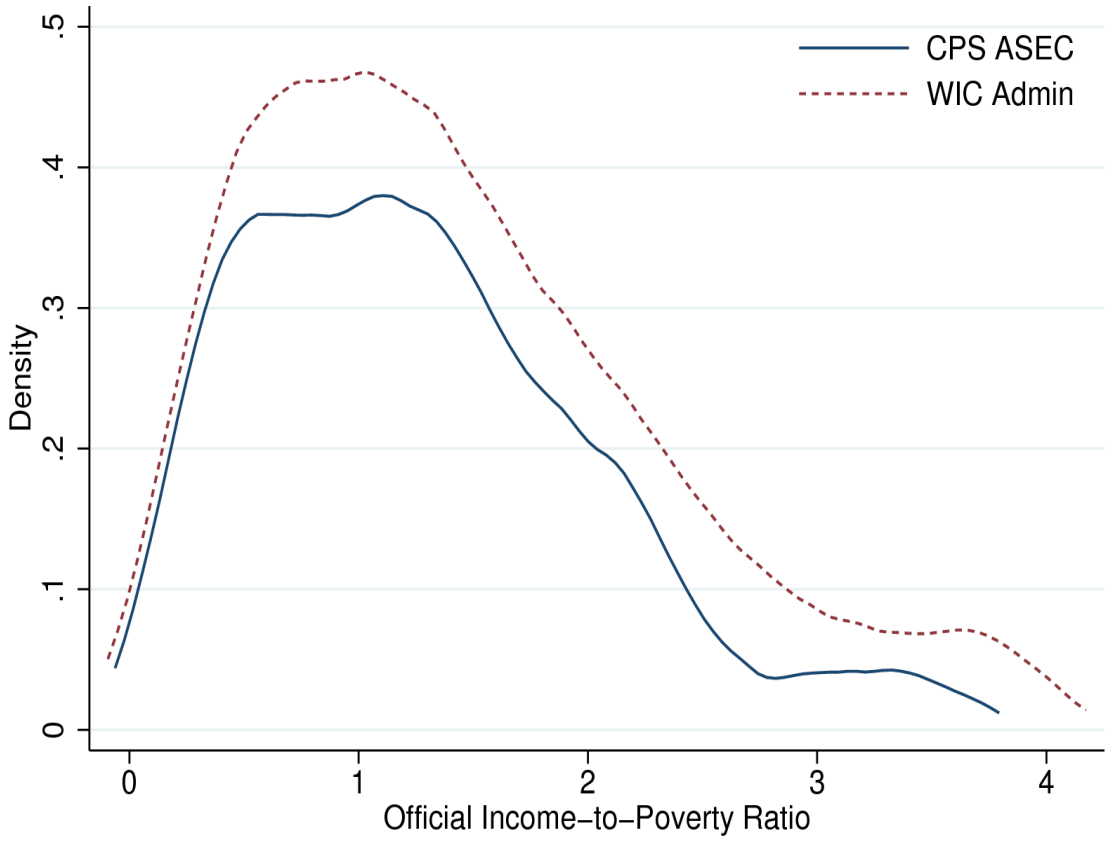
Table 7. Percent of People in Poverty by Demographic Characteristics, Pooled Sample 2009-2017

	Weighted N (in thousands)	SPM Using CPS ASEC Reported Receipt and Estimated Value		SPM Using Administrative Benefits		Difference (CPS ASEC-Admin Records)	Significance
		Estimate	SE	Estimate	SE		
All People	181,000	11.1	0.1	11.0	0.1	0.0	***
WIC Recipient in AdRecs	13,000	25.9	0.7	25.0	0.6	0.9	***
0-49% of FPL	9,000	78.5	0.7	78.1	0.8	0.3	***
50-99% of FPL	12,500	55.3	0.8	55.3	0.8	0.0	
100-149% of FPL	15,500	23.6	0.6	23.3	0.6	0.3	**
150-199% of FPL	16,000	8.8	0.4	8.8	0.4	0.0	
200% of FPL and over	128,000	0.7	0.0	0.7	0.0	0.0	**
Under 18 years	41,500	11.9	0.3	11.8	0.3	0.1	
18 to 64 years	110,000	10.6	0.2	10.5	0.2	0.1	***
65 years and older	29,000	11.8	0.4	11.9	0.4	0.0	
White	154,000	9.6	0.1	9.5	0.1	0.1	***
White, non-Hispanic	137,000	8.3	0.1	8.3	0.1	0.1	***
Black	12,500	23.0	0.8	23.0	0.8	0.0	
Asian	6,700	13.1	0.7	13.1	0.7	0.0	
Hispanic (any race)	19,000	20.7	0.5	20.4	0.5	0.3	**
Total, aged 25 and older	123,000	10.1	0.2	10.1	0.2	0.0	
No high school diploma	12,000	23.5	0.7	23.4	0.7	0.1	
High school, no college	39,500	12.4	0.3	12.3	0.3	0.0	
Some college, no degree	32,500	9.3	0.3	9.3	0.3	0.0	
Bachelor's degree or higher	39,000	4.4	0.2	4.4	0.2	0.0	
With private insurance	126,000	5.7	0.1	5.7	0.1	0.0	
With public, no private insurance	38,500	24.0	0.4	23.8	0.4	0.3	***
Not insured	16,000	22.5	0.6	22.3	0.6	0.2	**
Total, 18 to 64 years	110,000	10.6	0.2	10.5	0.2	0.1	***
All workers	86,500	6.5	0.1	6.4	0.1	0.1	**
Worked full-time, year-round	57,000	3.2	0.1	3.2	0.1	0.0	
Less than full-time, year-round	29,000	12.9	0.4	12.8	0.4	0.1	**
Did not work at least 1 week	24,000	25.2	0.5	25.0	0.5	0.2	**

Sources: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and state WIC administrative records, 2009-2017. The sample covers Arizona, Idaho, Maine, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this table is all CPS ASEC records whether they are linked or not linked to WIC administrative records. The unit of analysis is the individual. Estimates adjusted using IPW. The weighted sample size 181,000,000.

Figure 1. Kernel Density Plot of Poverty Ratio for WIC Recipients by Data Source, Pooled Sample 2009-2017



Sources: Current Population Survey Annual Social and Economic Supplement (CPS ASEC), 2010-2018, and state WIC administrative records, 2009-2017. The sample covers Arizona, Idaho, Maine, Pennsylvania, South Dakota, Utah, and Washington.

Notes: The universe for this figure is all CPS ASEC records reporting receipt of WIC in either CPS ASEC or WIC administrative records. The unit of analysis is the SPM unit. Densities exclude the top and bottom five percent of observations and have been scaled based on the rate of WIC receipt. Values are conditional on positive WIC benefits in each data source.