

# Does Source Matter? Using State-Level SNAP Administrative Records and the Transfer Income Model (TRIM3) to Evaluate Poverty Measurement

Kathryn Stevens, Liana Fox, & Misty L. Heggeness, Social, Economic, and Housing Statistics Division (SEHSD), U.S. Census Bureau

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## MOTIVATION

Policy leaders today look to quality statistics to help inform and guide programmatic decisions. Assessing the quality and validity of major household surveys in capturing accurate program participation is essential. One method for evaluating survey quality is to compare self-reported program participation in surveys to administrative records from the program itself. Previous research using administrative records to evaluate self-reported Supplemental Nutrition Assistance Program (SNAP) receipt have found evidence of underreporting in the Current Population Survey Annual Social and Economic Supplement (CPS ASEC).

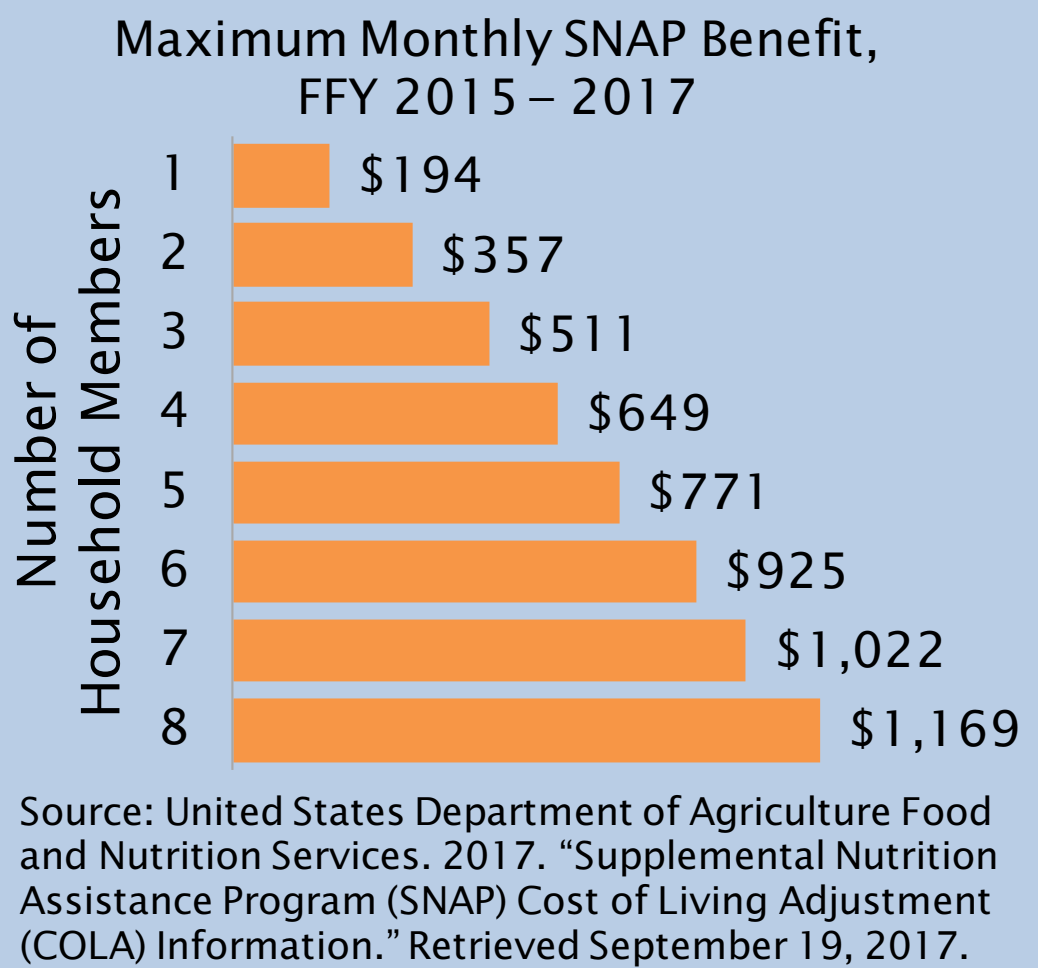
One possible solution to the issue of underreporting of transfer program benefits is to use a microsimulation model that corrects for this underreporting, such as the Transfer Income Model, version 3 (TRIM3). TRIM3 produces annual baseline simulations of actual program rules to correct for the underreporting of transfer program participation in the CPS ASEC.

We report the extent of mismatch between self-reports, a microsimulation model, and administrative records. We also replace values from the CPS ASEC with TRIM3 values or administrative records to see how it changes poverty measurement.



## ABOUT THE SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP)

- Provides in-kind benefits aimed at reducing hunger for low-income individuals and households.
- May qualify if working for low wages, unemployed or working part time, receiving public assistance, are elderly, disabled and living on a low income, or homeless.
- The benefit amount is determined by the household's net income and the number of household members.



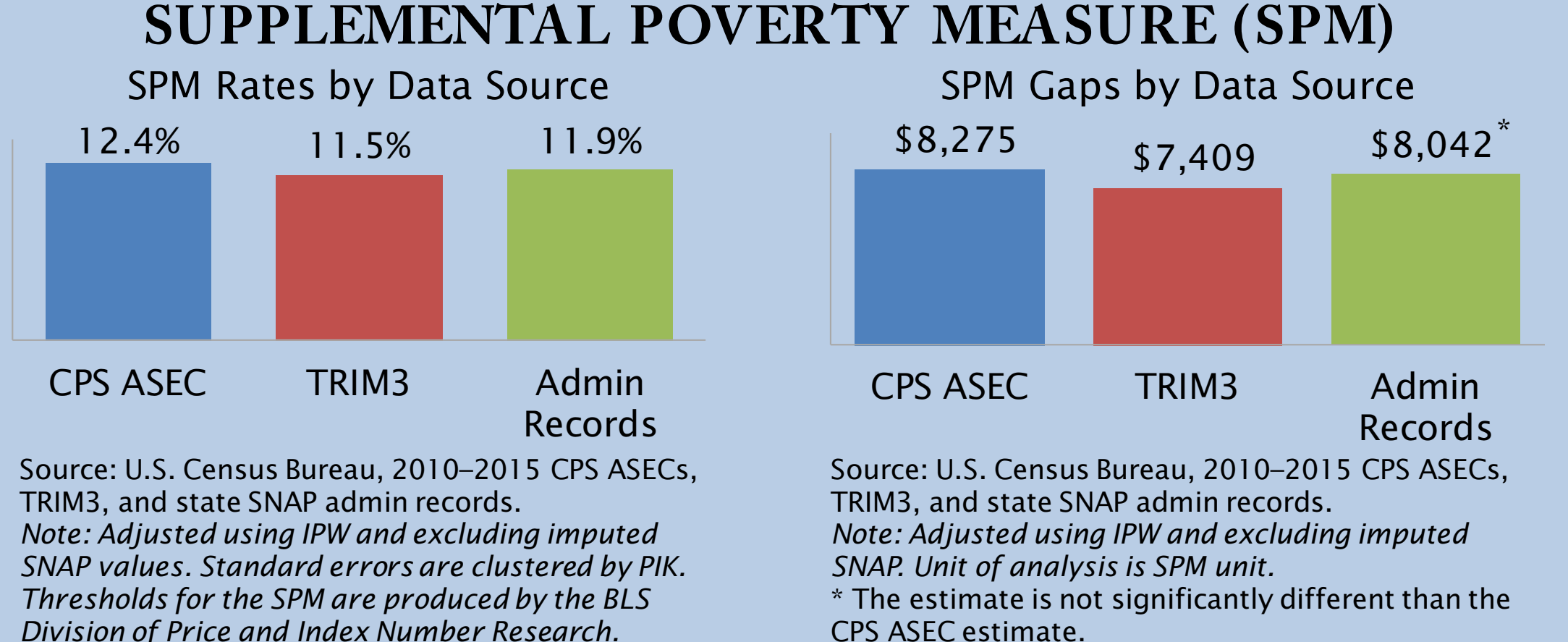
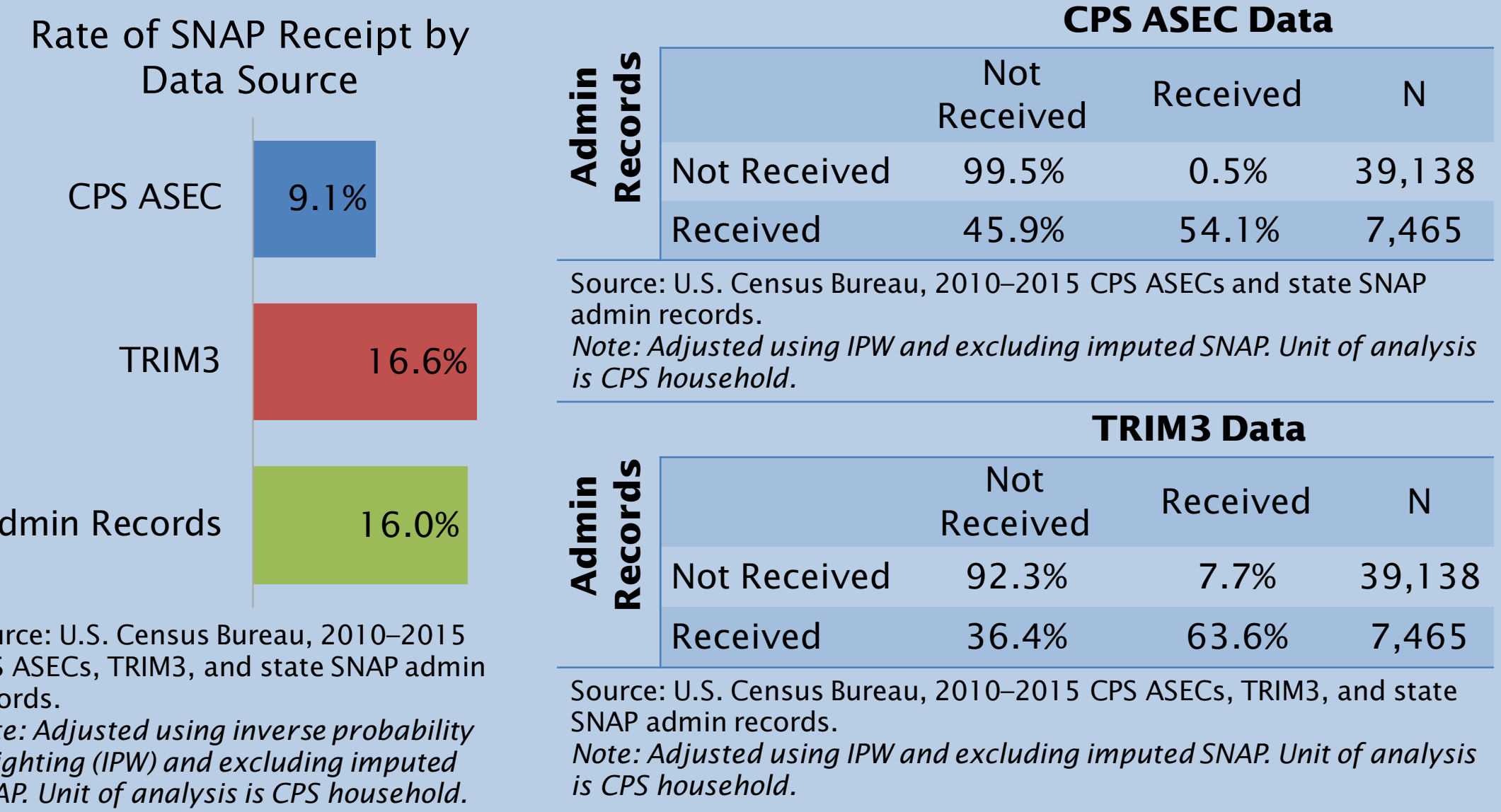
The data are subject to error arising from a variety of sources, including sampling error and nonsampling error. For more information, please visit <https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar17.pdf>. TRIM3 is developed and maintained by the Urban Institute under funding from the Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (HHS/ASPE). For more information on TRIM3, see <http://trim.urban.org>.

## DATA

This paper pools data from the CPS ASEC for calendar years 2009 to 2014. We link to SNAP administrative records from seven states and imputed microdata from the Transfer Income Model, version 3 (TRIM3). Links are created using the Census Bureau's Personal Identifier Key (PIK) process.

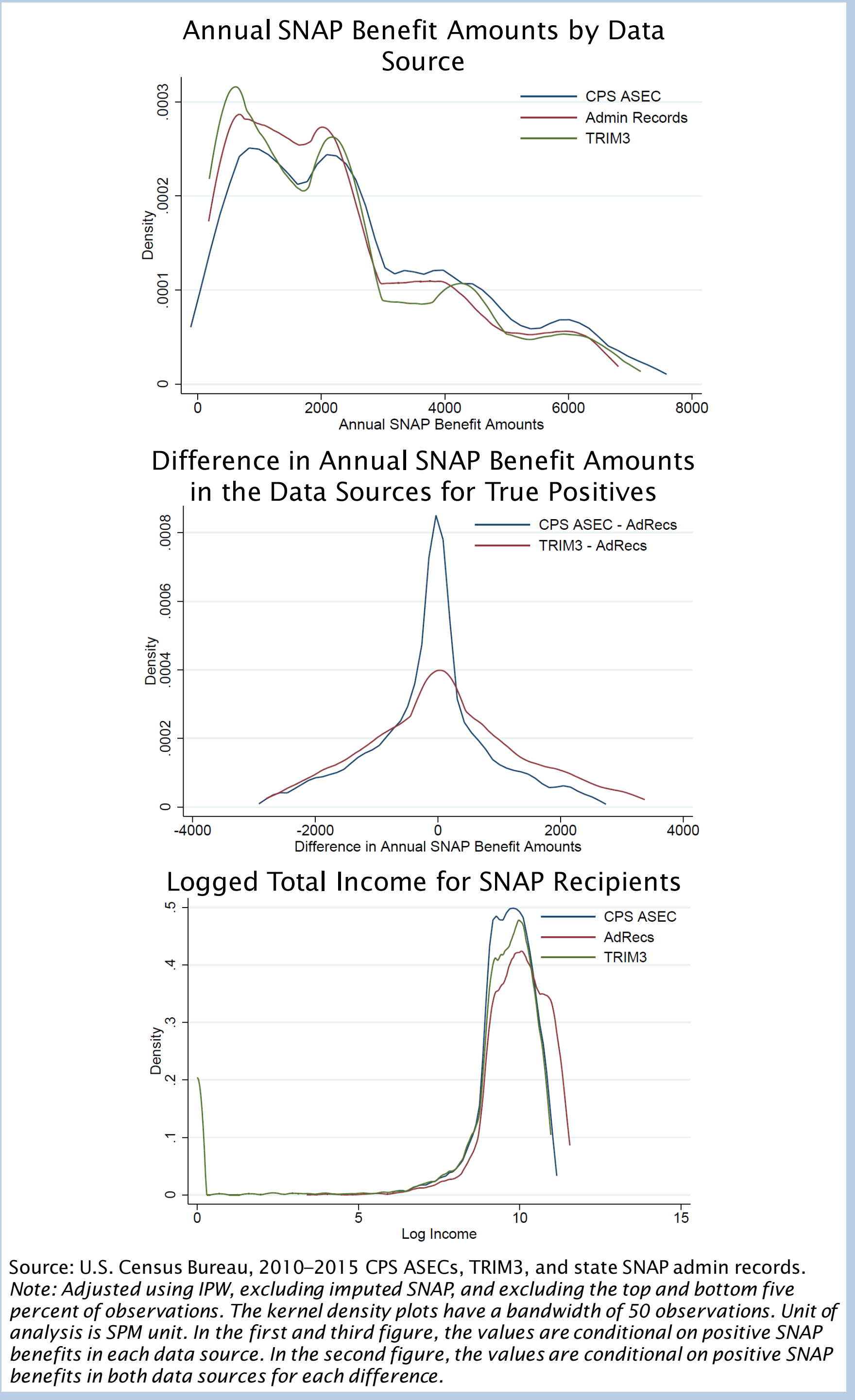
There are 148,449 individuals in the pooled sample. Of those, 130,146 individuals had PIKs and matching states. We then exclude individuals whose SNAP benefits were imputed. The final sample includes **121,698** individuals; **48,024** SPM units; and **46,603** CPS households.

## DIFFERENCES IN SNAP PARTICIPATION BY DATA SOURCE



Source: U.S. Census Bureau, 2010–2015 CPS ASECs, TRIM3, and state SNAP admin records. Note: Adjusted using inverse probability weighting (IPW) and excluding imputed SNAP. Unit of analysis is CPS household.

## SNAP BENEFIT AMOUNTS BY DATA SOURCE



Source: U.S. Census Bureau, 2010–2015 CPS ASECs, TRIM3, and state SNAP admin records. Note: Adjusted using IPW, excluding imputed SNAP, and excluding the top and bottom five percent of observations. The kernel density plots have a bandwidth of 50 observations. Unit of analysis is SPM unit. In the first and third figure, the values are conditional on positive SNAP benefits in each data source. In the second figure, the values are conditional on positive SNAP benefits in both data sources for each difference.

## WHO UNDERREPORTS?

	Unreported SNAP Receipt in the CPS ASEC	Misestimated TRIM3	Underreported SNAP Annual Amount in the CPS ASEC	Underestimated SNAP Amount in TRIM3
Log of total income	-0.180***	-0.197***	31.9	499.6***
Log of total income squared	0.017***	0.022***	-4.8	-60.0***
Number of kids in unit	-0.040***	-0.053***	-200.1***	125.2***
Owner with mortgage			(omitted)	
Owner with no mortgage	0.011	0.040*	136.7	-366.0***
Renter	-0.033*	0.005	152.9	-202.8*
Unit head with private insurance			(omitted)	
Unit head with public, no private insurance	-0.221***	-0.125***	41.2	-342.4***
Unit head without insurance	-0.040*	-0.073***	-67.4	-84.1
Unit head does not have a disability			(omitted)	
Unit head has a disability	-0.107***	-0.074***	10.6	-144.8
Number of SPM units	8063	8063	4281	5057

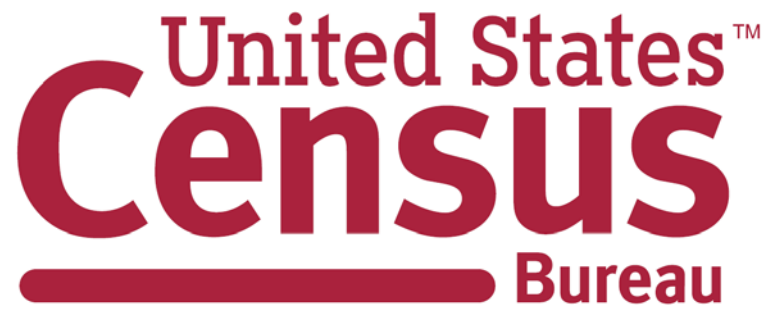
Source: U.S. Census Bureau, 2010–2015 CPS ASECs, TRIM3, and state SNAP admin records. Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. State- and year-level fixed effects included. Adjusted using IPW, excluding imputed SNAP values, and standard errors are clustered by PIK. Unit of analysis is SPM unit. Probability of reporting is a linear probability model estimating the probability of a benefit of zero in CPS ASEC (or TRIM3) conditional on positive values in admin records. Predicted difference in reporting is an ordinary least squares model predicting the difference between annual admin records and CPS ASEC (or TRIM3) reported SNAP values (CPS ASEC/TRIM3 – admin records) conditional on positive values in both CPS ASEC (or TRIM3) and admin records.

## KEY TAKEAWAYS

- The overall SNAP rate of receipt is 9.1 percent in the CPS ASEC and 16.0 percent in TRIM3, whereas it is 16.0 percent in the administrative records.
- 46 percent of SNAP recipients do not report their receipt on the CPS ASEC survey, compared to 36 percent in TRIM3.
- Underreporting of SNAP participation in the CPS ASEC inflates the SPM rate by 0.4 percentage points.
- Over allocating SNAP receipt to units in poverty in TRIM3 reduces the SPM rate by 0.5 percentage points.
- Significant predictors of SPM units accurately reporting SNAP receipt in the CPS ASEC include having higher income, having more kids in the unit, renting, having public insurance or no insurance, and having a disability.

## SUMMARY

Our analysis highlights the need to reduce false negatives in self-reported SNAP receipt. Using administrative records is a possible method to more accurately identify those individuals who received SNAP in the prior year. Another method is to use a microsimulation model to adjust for the underreporting of SNAP in the CPS ASEC. However, it appears that TRIM3 over allocates SNAP benefits to those in poverty. Additional efforts will focus on adding other program administrative records into our curated dataset and re-estimating the SPM.



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