

Precision in Measurement: Using SNAP Administrative Records to Evaluate Poverty Measurement

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This presentation was prepared for the Association for Public Policy Analysis and Management (APPAM) 2017 Fall Research Conference. It 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 any official position of the Bureau. Do not cite or distribute without author permission.

Outline

- Overview
- Background
- Data
- Methodology and Analysis
- Conclusion

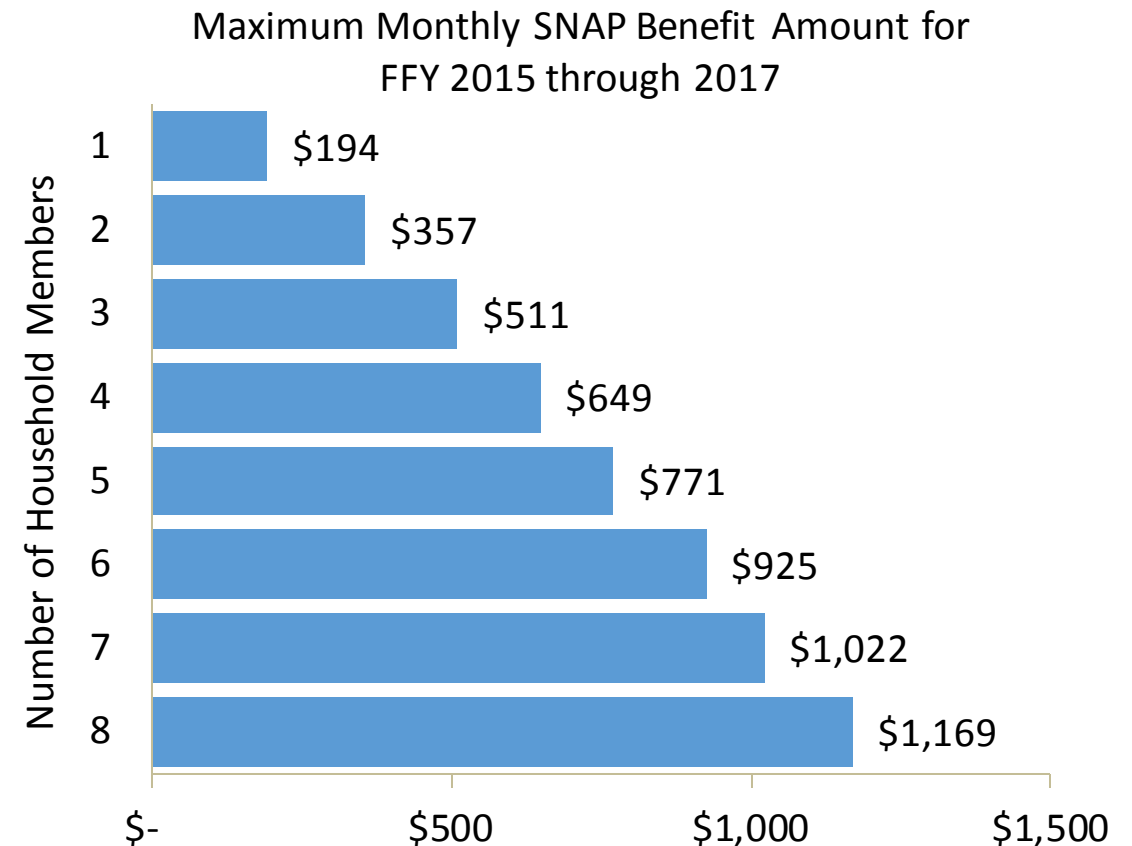
Overview

- We link state SNAP administrative records to the CPS ASEC to examine two main outcomes related to poverty measurement
 1. To what extent does self-reported SNAP participation and associated amounts in the CPS ASEC align with administrative records?
 - 51% of SNAP recipients do not report receipt on the CPS
 2. When values do not align, to what extent does replacing values with administrative records affect the Supplemental Poverty Measure rate?
 - Underreporting of SNAP participation inflates the SPM rate by 0.6 percentage points

BACKGROUND

Supplemental Nutrition Assistance Program (SNAP)

- In-kind benefits
- Eligibility requirements
 - Gross income test: 130% of FPG
 - Net income test: 100% of FPG
 - Asset limits
 - Work requirements
- Benefit amount calculation



Source: United States Department of Agriculture Food and Nutrition Services. 2017. "Supplemental Nutrition Assistance Program (SNAP) Cost of Living Adjustment (COLA) Information." Retrieved September 19, 2017 (<https://www.fns.usda.gov/snap/cost-living-adjustment-cola-information>).

Supplemental Poverty Measure (SPM)

- Alternative measure of poverty
- Incorporates multiple resources entering units
- Subtracts certain expenses the unit incurs
- Uses the Current Population Survey Annual Social and Economic Supplement (CPS ASEC)

Prior Research

- Survey responses to SNAP participation undercount participation rates and benefit amounts
 - About 40% of SNAP recipients in NY did not report receipt in the CPS (Meyer and Mittag 2015)
 - About 16% of SNAP recipients in IL, MD, and VA did not report receipt in the Survey of Income and Program Participation (SIPP) (Colby, Debora, Heggeness 2017)

DATA

Data Sources

- Current Population Survey Annual Social and Economic Supplement (CPS ASEC) from 2010 through 2016
 - Fielded in February through April
 - Asks respondent about SNAP receipt in the previous calendar year
- Administrative records
 - IL and MD from calendar year 2009 through 2015
 - OR from calendar year 2009 through 2014
 - VA from calendar year 2009 through 2013

METHODOLOGY AND ANALYSIS

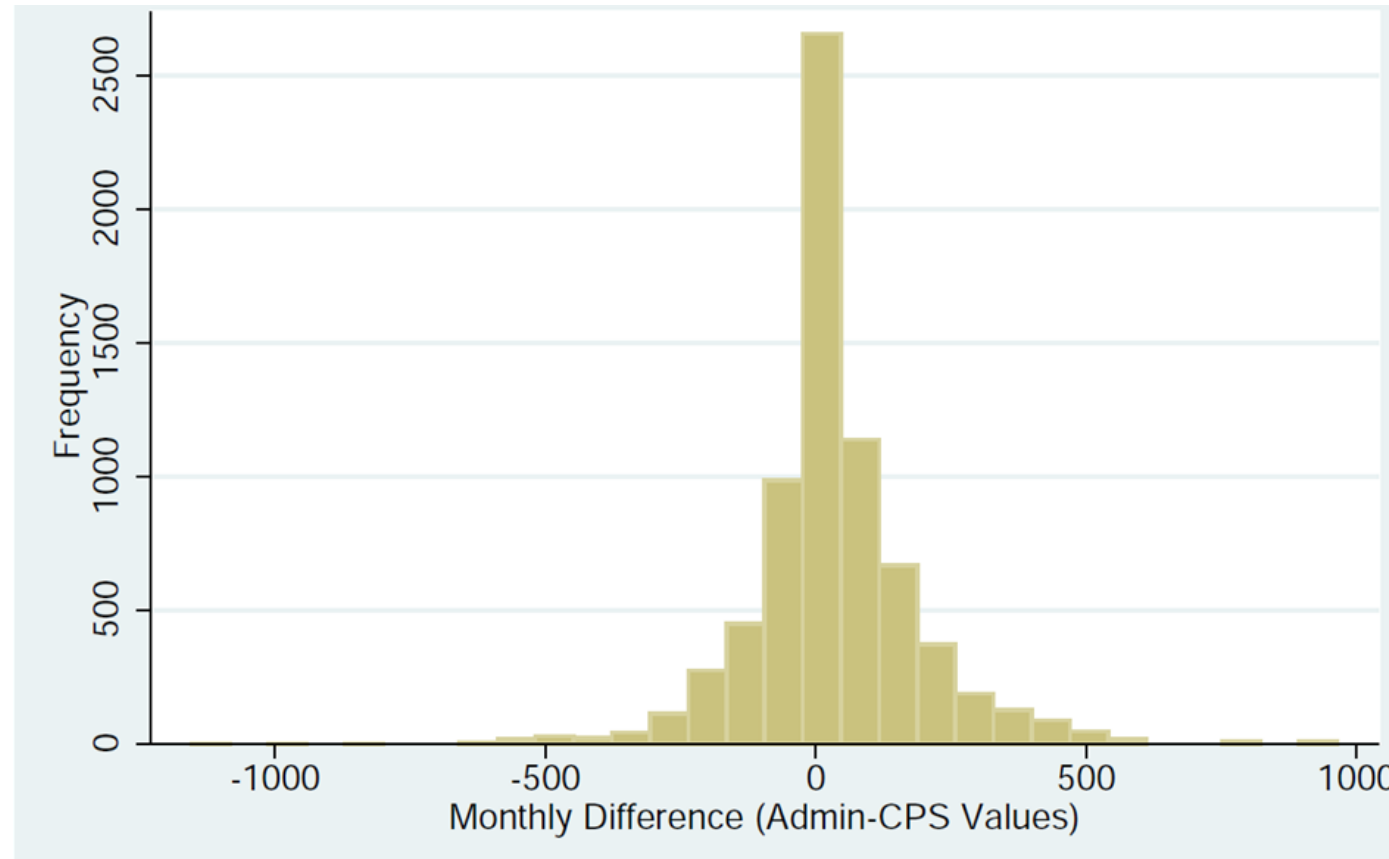
Misreporting in SNAP Participation

		CPS ASEC Data		Unweighted Observations
		Not Reported	Reported	
Administrative Records	Not Received	99.6%	0.4%	68,794
	Received	51.4%	48.6%	15,128

Source: Current Population Survey March Supplement (CPS ASEC) and state-level SNAP administrative records.

Note: Adjusted using IPW and excluding imputed SNAP values.

Misreporting in SNAP Benefit Amount



Source: Current Population Survey March Supplement (CPS ASEC) and state-level SNAP administrative records.
Note: Unweighted and excluding imputed SNAP values. Values are conditional on positive SNAP benefit in both CPS ASEC and administrative records.

Extensive and Intensive Margins

	CPS ASEC	Administrative Records
SNAP Rate of Receipt	9%	18%
Average Monthly SNAP Benefit	\$291	\$325
Total Reported SNAP Dollars (in millions)	\$16,712	\$29,011

Source: Current Population Survey March Supplement (CPS ASEC) and state-level SNAP administrative records.

Note: Adjusted using IPW and excluding imputed SNAP values. Average monthly SNAP benefit values are conditional on positive SNAP benefit in both CPS ASEC and administrative records.

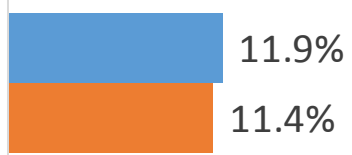
Demographic Characteristics of Misreporting, Regression Results

	Unreported SNAP Receipt	Underreported SNAP Monthly Amount
Number of kids	-0.027***	26.50***
Married partner		(omitted)
Cohabiting partners	-0.019	26.61**
Female reference person	-0.092***	9.30
Male reference person	0.036	22.72
Unrelated individuals	-0.024	19.11**
Owner/mortgage		(omitted)
Owner/no mortgage/rent free	-0.042*	-11.90
Renter	-0.115***	-16.38*
With private insurance	(omitted)	(omitted)
With public, no private insurance	-0.304***	8.99
Not insured	-0.094***	16.65
No one with a disability in the household		(omitted)
At least one individual with a disability in the household	-0.071***	16.25*

Supplemental Poverty Measure (SPM) Rates

Overall SPM Rate

Total Population *



SPM Rate by Source Data

CPS Self-Report *



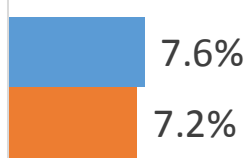
Administrative Records *



■ CPS Self-Reported Data
■ Administrative Records

SPM Rate by Family Unit Type

Married couple *



Cohabiting partner *



Female reference person *



Male reference person *

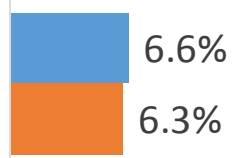


Unrelated individuals *



SPM Rate by Type of Insurance Coverage

With private insurance *



With public, no private *



Not insured *



CONCLUSION

Conclusion

- 51% of SNAP recipients do not report receipt on the CPS.
- Of those who do, the average SNAP benefit is underreported by 10% in the CPS.
- 58% of total SNAP dollars in the administrative records are captured by the survey data.
- Underreporting of SNAP participation inflates the SPM rate by 0.6 percentage points.

Conclusion

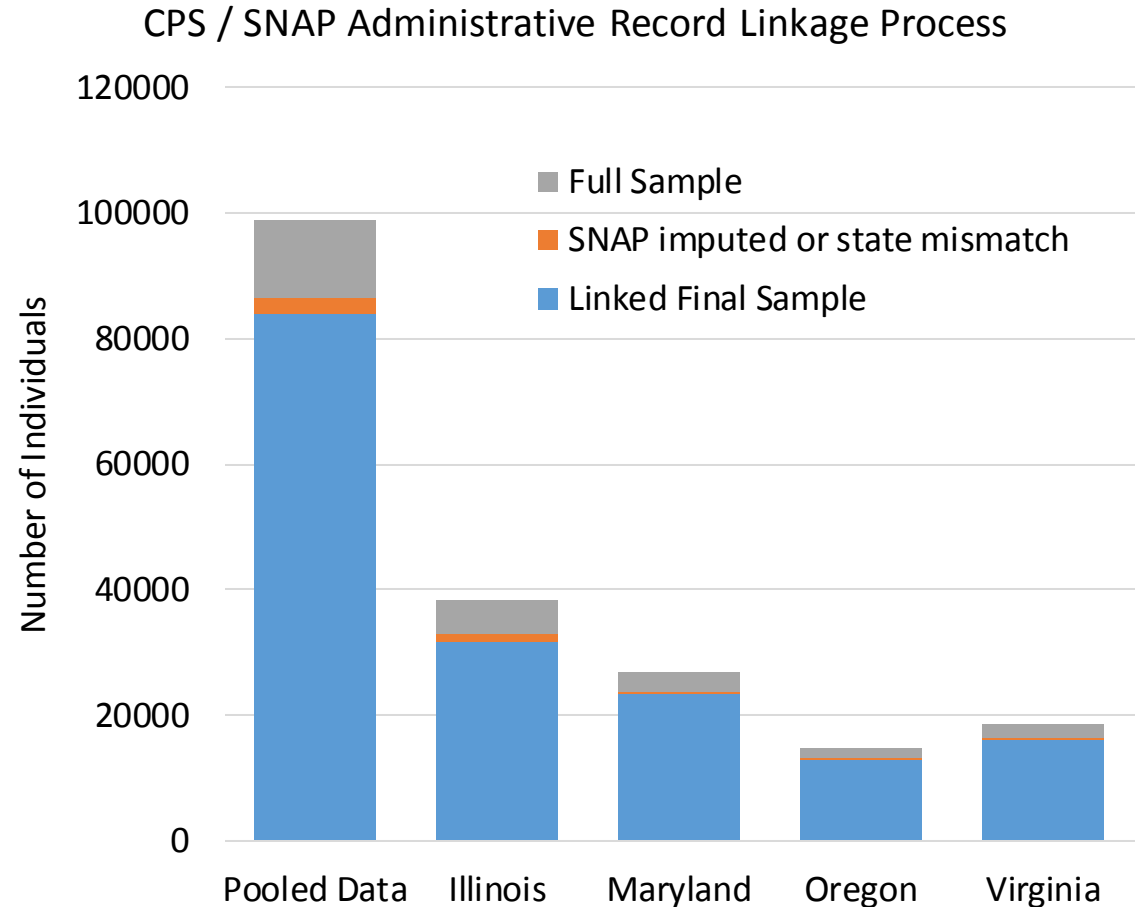
- Findings highlight the need to reduce false negatives in self-reported SNAP receipt.
- Using administrative records is a possible option.
- Future research will focus on adding other program administrative records.

QUESTIONS?

BACK-UP SLIDES

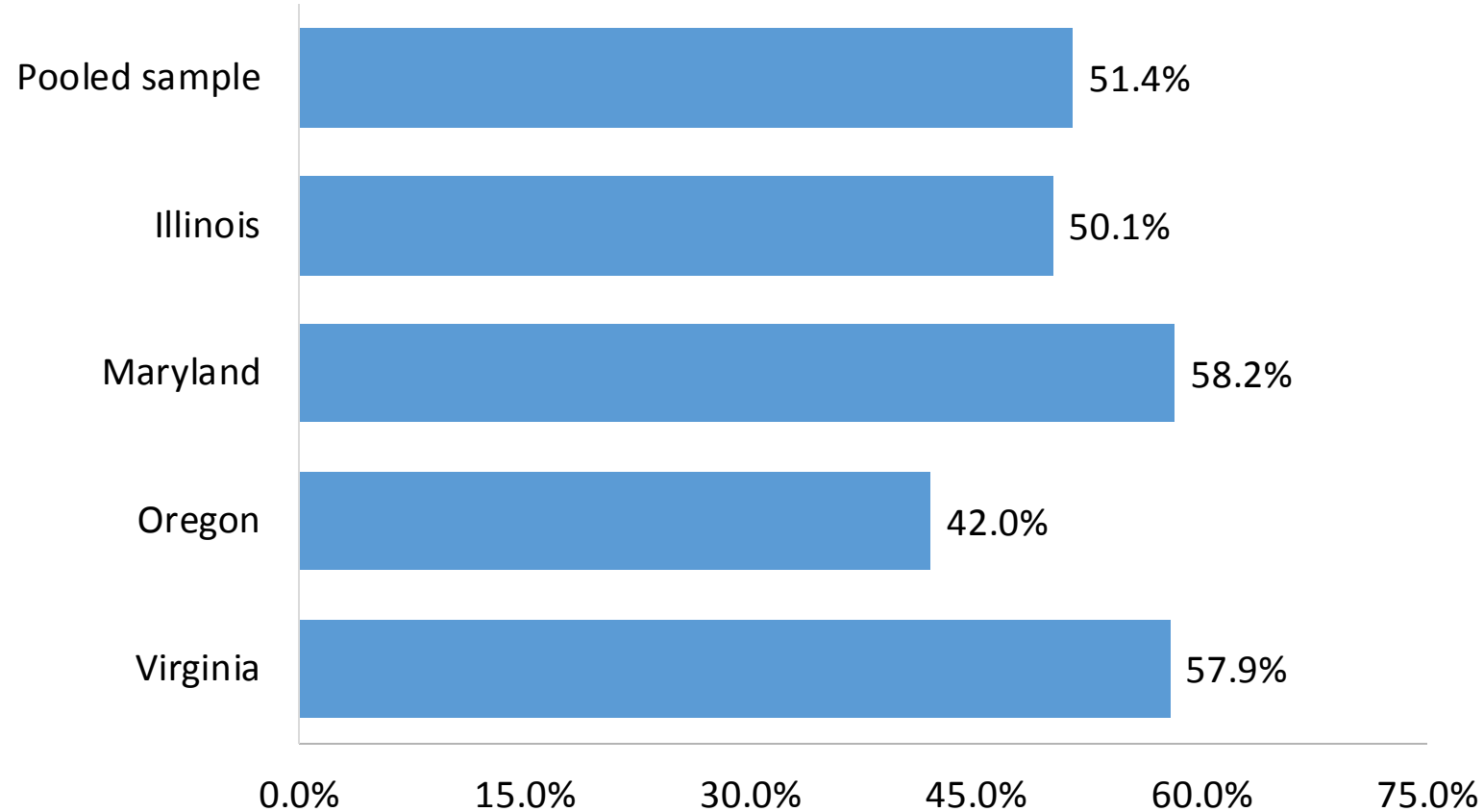
Linking Data Sources

- Linked through probabilistic matching technique
 - Assigns PIKs to CPS and administrative records
- Dropped observations without a PIK
 - Used inverse probability weighting
- Dropped observations with SNAP imputed or a state mismatch



Source: Current Population Survey March Supplement (CPS ASEC) and state-level SNAP administrative records.

False Negative Rates by State



Source: Current Population Survey March Supplement (CPS ASEC) and state-level SNAP administrative records.

Note: Adjusted using IPW and excluding imputed SNAP values.

Demographic Characteristics of Misreporting, Regression Results

	Unreported SNAP Receipt	Underreported SNAP Monthly Amount
Number of kids	-0.027***	26.50***
Married partner		(omitted)
Cohabiting partners	-0.019	26.61**
Female reference person	-0.092***	9.30
Male reference person	0.036	22.72
Unrelated individuals	-0.024	19.11**
White		(omitted)
Black	0.068***	-2.25
Asian	-0.042	-5.04
Hispanic (any race)	0.039	-14.93

Demographic Characteristics of Misreporting, Regression Results (con't)

	Unreported SNAP Receipt	Underreported SNAP Monthly Amount
Owner/mortgage		(omitted)
Owner/no mortgage/rent free	-0.042*	11.90
Renter	-0.115***	-16.38*
With private insurance		(omitted)
With public, no private insurance	-0.304***	8.99
Not insured	-0.094***	16.65
Share with full-time, year-round work		(omitted)
Share with less than full-time, year-round work	-0.269***	31.50**
Share that did not work at least 1 week	-0.224***	7.72
No one of working age (18 to 64 years old)	-0.168***	14.10

Demographic Characteristics of Misreporting, Regression Results (con't)

	Unreported SNAP Receipt	Underreported SNAP Monthly Amount
No one with a disability in the household		(omitted)
At least one individual with a disability in the household	-0.071***	16.25*

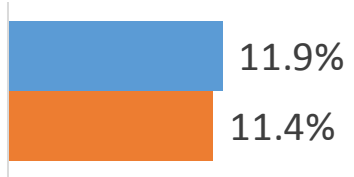
Source: Current Population Survey March Supplement (CPS ASEC) and state-level SNAP administrative records.

*Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. State- and year-level fixed effects included. Adjusted using IPW, excluding imputed SNAP values, and standard errors are clustered by PIK. Probability of reporting is a linear probability model estimating the probability of a benefit amount of zero in CPS ASEC conditional on positive values in administrative records. Predicted difference in reporting is an ordinary least squares model predicting the difference between monthly administrative and CPS ASEC reported SNAP values (admin-cps) conditional on positive values in both CPS ASEC and administrative records. Regressions also include controls for log earnings, nativity, education, and residence.*

Supplemental Poverty Measure (SPM) Rates

Overall SPM Rate

Total Population *



SPM Rate by Source Data

CPS Self-Report *



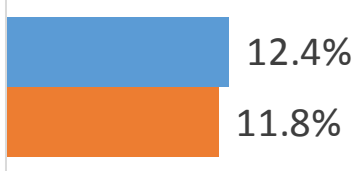
Administrative Records *



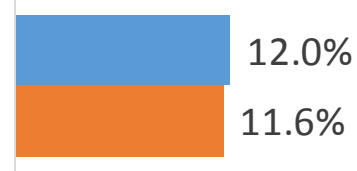
■ CPS Self-Reported Data
■ Administrative Records

SPM Rate by State

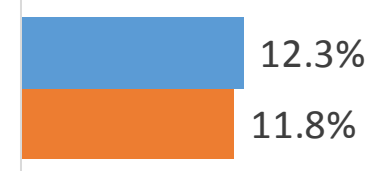
Illinois *



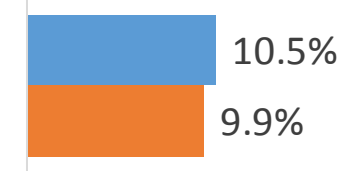
Maryland *



Oregon *



Virginia *

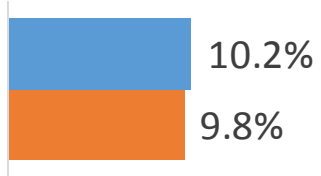


Supplemental Poverty Measure (SPM) Rates (con't)

SPM Rate by Race and Ethnicity

■ CPS Self-Reported Data
■ Administrative Records

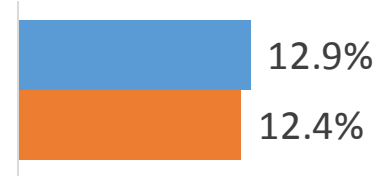
White *



Black *



Asian *

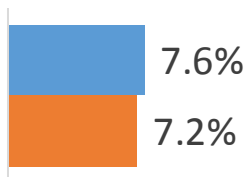


Hispanic (any race) *

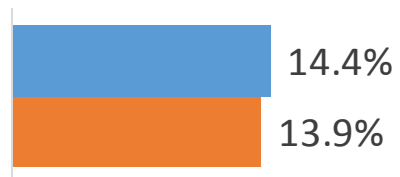


SPM Rate by Family Unit Type

Married couple *



Cohabiting partner *



Female reference person *



Male reference person *



Unrelated individuals *

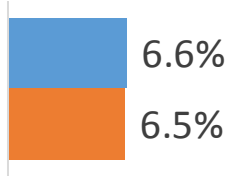


Supplemental Poverty Measure (SPM) Rates (con't)

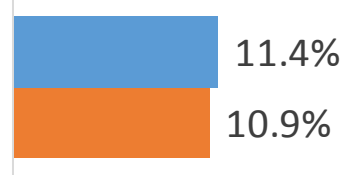
SPM Rate by Home Ownership Status

■ CPS Self-Reported Data
■ Administrative Records

Owner, Mortgage *



Owner, no Mortgage *

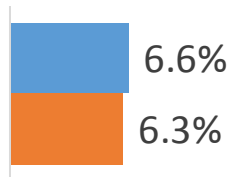


Renter *



SPM Rate by Type of Insurance Coverage

With private insurance *



With public, no private *



Not insured *

