

# The Effect of the Changes to the Current Population Survey Annual Social and Economic Supplement on Estimates of the Supplemental Poverty Measure<sup>1</sup>

Kathleen Short  
Social, Economic, and Housing Statistics Division  
U.S. Census Bureau  
Washington, D.C. 20233-8500

## Introduction

This paper will evaluate the effect of changes to the Current Population Survey Annual Social and Economic Supplement (ASEC) on estimates of the Supplemental Poverty Measure (SPM), (Short, 2014) and examine if those changes bring about similar results as seen in earlier studies. Most important will be the effect of changes to questions about retirement income and medical out-of-pocket expenses (MOOP).

The percent of the population that was poor using the official measure for 2013 was 14.5 percent. The research SPM rate was 15.5 percent. For most groups, SPM rates are higher than official poverty rates. Lower poverty rates were found for children, individuals included in new SPM resource units, Blacks, those living outside metropolitan areas, renters, those covered by only public health insurance, and individuals with a disability. An important finding was that SPM rates for those over 64 years of age were higher under the SPM, 9.5 percent using the official measure compared to 14.6 using the SPM. This partially reflects that the official thresholds are set lower for families with householders in this age group, while the SPM thresholds do not vary by age. It also reflects large medical out-of-pocket expenses (MOOP) reported by those over the age of 64, a necessary expense that is subtracted from income in the SPM calculation. In addition, many have suggested that the ASEC does not collect information on retirement income well (Bee, 2013, Angelov et al., 2012 ).

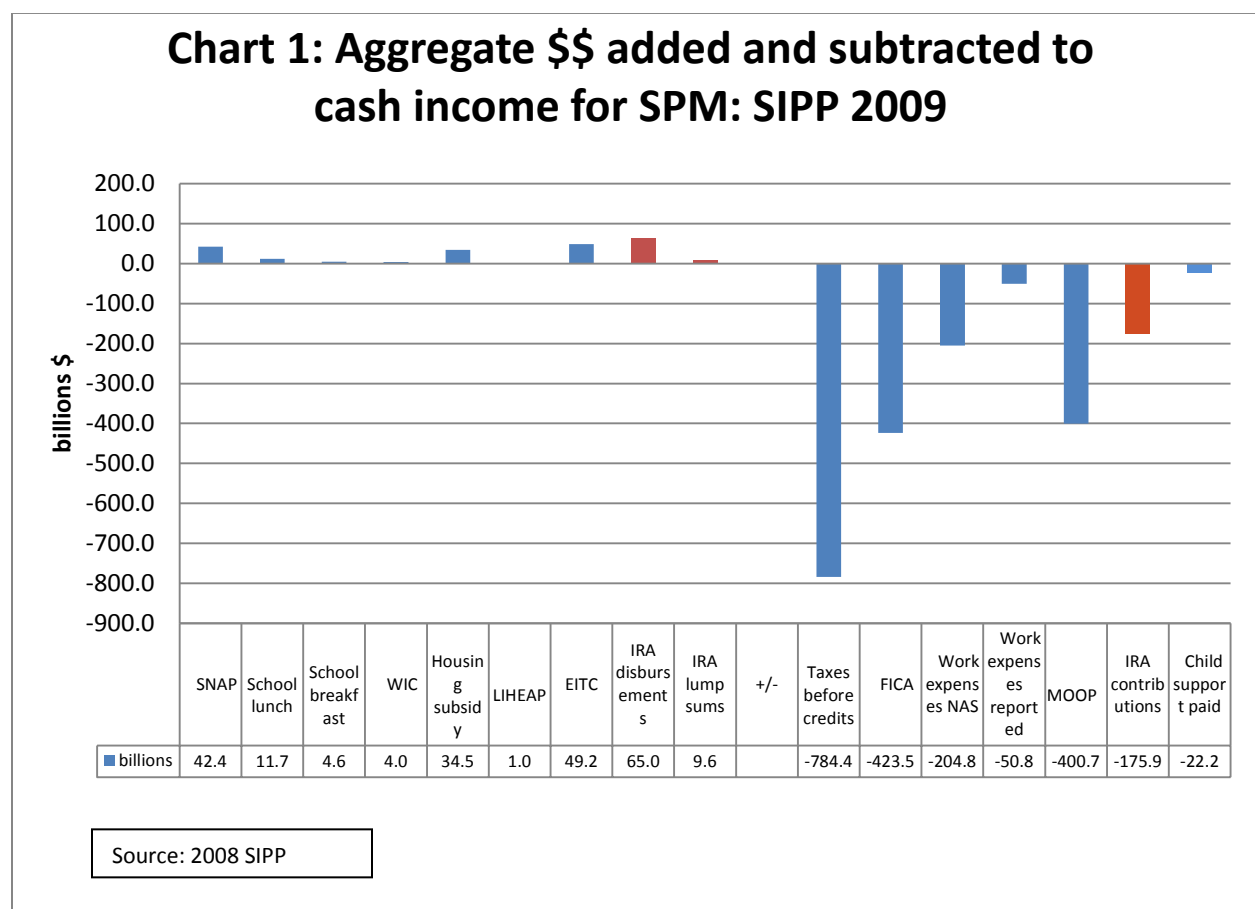
This failure to adequately account for retirement income may result in higher poverty rates using the SPM for older individuals. A previous study addressed these questions by using the Survey of Income and Program Participation (SIPP) to calculate the SPM and taking advantage of the greater detail collected there about retirement income available in that survey (Short and Skog, 2014). Evaluating the effect on SPM rates when more detailed information on retirement accounts is included shows what we might expect from the redesigned questions in the ASEC. That paper used information in the SIPP topical module on retirement accounts to understand the effects of measuring poverty without accounting for these important resources. We calculated the SPM that uses cash income that is regularly received as is generally included in our income measure. This may include retirement income in the form of an annuity that is received on a regular basis. To this we added retirement account distributions that are received

---

<sup>1</sup> This paper reports the results of research and analysis undertaken by Census Bureau staff. It has undergone a more limited review than official Census Bureau publications. This report is released to inform interested parties of research and to encourage discussion. *Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau*

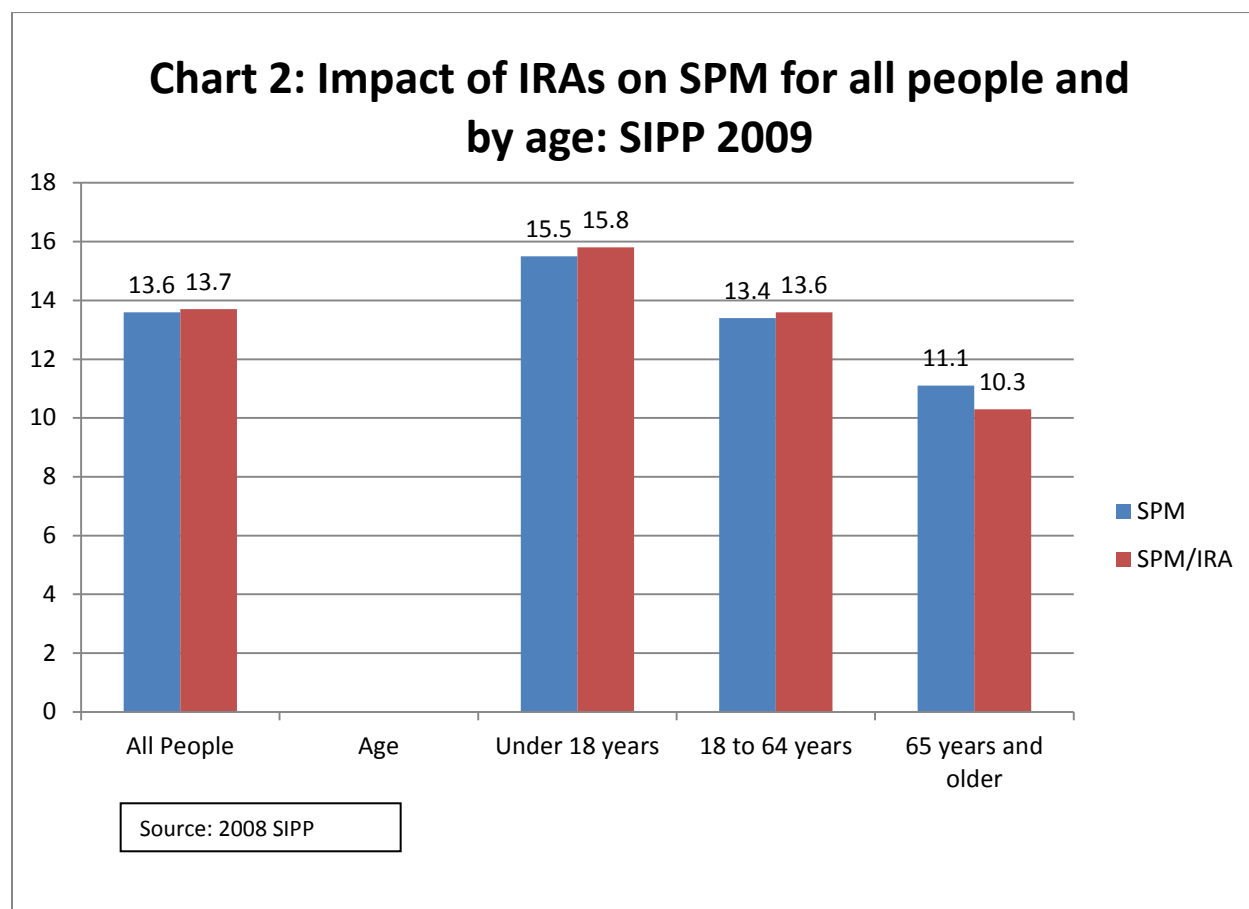
as lump sums or on an irregular basis. As income is deferred by younger households in the form of contributions to retirement accounts, we subtracted reported contributions from the income of these families. As such, we acknowledged that these funds are not available for the purchase of basic needs contained in the SPM thresholds and are treated, along with taxes and work expenses, as a *necessary expense*.

Chart 1 shows the aggregate amounts across all SPM family units<sup>2</sup> that reported retirement account distributions and lump sum withdrawals, along with aggregate amounts for other items in the SPM calculations. Also shown is the amount of contributions to retirement accounts. As shown, amounts from retirement accounts in 2009 were about \$75 billion, of which about \$10 billion were taken as lump sums.



<sup>2</sup> The SPM unit includes family members, as well as cohabiters, unrelated children under the age of 18, foster children between the ages of 15 and 22, and unmarried parents of children in the family unit.

That study showed that for 2009 about 6 percent of families reported IRA distributions while about 28 percent reported making contributions. Average annual amounts for contributions were greater than distributions. Across all SPM family units, more was contributed than withdrawn, suggesting a possible small increase in SPM rates. However results showed that incorporating contributions to retirement accounts and including IRA distributions did not significantly change poverty rates overall. We did find a slight reduction in the poverty rate for those over 64, falling from 11.1 to 10.4 percent, and a slight increase for younger age groups with the subtraction of IRA contributions from income. Chart 2 shows SPM rates with and without retirement account income and contributions.



For the SIPP study, we included IRA distributions that are not included in the total income definition and departed from the traditional income definition to include lump sum withdrawals as income. The conceptual definition of household income follows, to a large extent, the recommendations put forward by the Canberra Group on household income statistics in its final report (UNECE, 2012, p. 16):

*Household income consists of receipts in cash, in kind or in services, that are usually recurrent and regular and are received by the household or by individual members of the household at annual or at more frequent intervals. During the reference period when they are received, such receipts are potentially available for current consumption and, as a rule, do not reduce the net worth of the household.*

Another departure from traditional income accounting was the subtraction of reported contributions to retirement accounts by younger households. While contributions to Social Security are subtracted from income for an after-tax figure, contributions to owned retirement accounts generally are not. These contributions may be considered as income and savings, even though they are not treated as income from a tax liability perspective.

These additional calculations depart from traditional income definitions but make sense in an SPM formulation where we are including all available resources that a family has to meet basic needs, excluding necessary expenses. It should be noted, however, that not subtracting these contributions from income double counts these monies in the cross section and, as such, would distort estimates of income distributions. Unfortunately, contributions to retirement accounts were not collected in the ASEC and so the estimates shown in the ASEC estimates include both contributions by young households and withdrawals by older households, including both regularly received amounts and lump sums withdrawn. Taken together we would expect to see greater declines in poverty rates in the ASEC calculations compared to the SIPP calculations.

In addition to examining the effect of changed income questions, changes to the collection and processing of data on MOOP and health insurance coverage affects the SPM estimates for calendar year 2013. This paper will contrast and compare SPM estimates using the old questions in the ASEC and the newer redesigned questions with the expectation of seeing lower SPM rates for those over 64 years of age, as was seen using the SIPP.

## DATA

The data for this paper are the 2014 ASEC. The sample is representative of the civilian, non-institutionalized population.<sup>3</sup> Approximately 74,000 households were interviewed (or approximately 200,000 individuals). The ASEC is the survey used for official poverty statistics.

The 2014 ASEC included redesigned questions for income and health insurance coverage. All of the approximately 98,000 addresses were selected to receive the redesigned set of health insurance coverage items. The redesigned income questions were implemented to a subsample of these 98,000 addresses using a probability split panel design. Approximately 68,000 addresses were eligible to receive a set of income questions similar to those used in the 2013 CPS ASEC and the remaining 30,000 addresses were eligible to receive the redesigned income questions. . Every household received the redesigned health insurance and medical expenditures questions.

## Income

The income questions in the ASEC were redesigned to address , among other things, the changing retirement account environment. While retirement income is still dominated by Social Security and traditional pensions, the aggregate holdings in newer types of retirement accounts (such as tax-advantaged IRAs and 401k plans) already exceed those of traditional pension plans by a substantial margin.

---

<sup>3</sup> The estimates in this paper (which may be text, figures, and tables) are based on responses from a sample of the population and may vary from the 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 stated.

In addition to the changes in format and universe, there are a number of new and modified questions in the Redesigned ASEC income section. There are new questions presented anytime a respondent does not know, or refuses to provide, an amount for a source of income someone in the household indicated having received. These questions aim to get the respondent to provide a range in lieu of an exact dollar amount. The income amounts presented in the range questions depend on the source of income.

The questions used to collect income from dividends, interest, and retirement sources have changed in the Redesigned income section. In the traditional income section, one broad question was asked about pension and retirement income. The respondent named the pension and/or retirement source and the interviewer would select from a precode list that would include Annuities. For the redesigned income section, Pensions and Annuities are now two standalone series of questions separated from retirement income. A new section then asks about the most common types of retirement accounts. This section also includes new questions about withdrawals and distributions and the “rolling over” of that money into another retirement account. The interest earned on these retirement accounts was collected in the amount section separately from interest on nonretirement accounts. There is a new question about an initial Social Security Disability Insurance (SSDI) payment that may have been larger than recurring payments to make up for a delay in processing the benefit. A question about capital gains asked respondents about money in stocks or mutual funds.

## MOOP

The 2014 redesign of the ASEC health insurance questions was accompanied by revisions to the MOOP questions and revisions to the edit specifications of MOOP questions that define the rules for imputation of missing responses. More information on the ASEC instrument redesign of health insurance and accompanying questions is found in Brault (2014), Medalia *et al.* (2014), and Janicki (2014).

The 2014 survey saw several significant changes incorporated into the survey instrument. First, the questions were revised and clarified. The health insurance premiums question now includes a reference to the respondent’s employer contribution when applicable. Second, the order of the questions changed with medical out-of-pocket payments now preceding over-the-counter medical expenses. Third, the questions were allowed to be optionally shortened at the discretion of the field representative in an effort to reduce repetition and respondent burden.

Apart from these instrument changes, several aspects of the edit specification that details the imputation procedure were changed. These changes to the edit specification were needed to address changes in employment-based health insurance estimates due to the survey instrument redesign (Medalia *et al.*, 2014). Furthermore, there is evidence that some respondents report that their employer paid for some or none (but not all) of the health insurance premium, yet report a seemingly inconsistent value of the employee contribution of zero (Janicki *et al.*, 2013). To address these concerns, imputation is now done separately for policyholders of employer-sponsored plans only, or direct-purchase plans only, public, and other policyholders or dependents. In particular, the imputation procedure now uses the information obtained in the variable PAID that collects information on whether the policyholder’s employer paid for all, some, or none of the total health insurance premium.

Examining the effect of the changes Janicki reported that the fraction of policyholders reporting zero health insurance premiums paid increased between 2013 and 2014 using either edit specification. One potential reason for this increase could be the introduction of health insurance exchanges with subsidies to health insurance premiums for eligible enrollees.

## Income and MOOP

Finally, changes to the income questions will affect SPM estimates of MOOP. In the redesigned ASEC, a question was added asking the respondent the amount of their Medicare deduction from their Social Security or Social Security Disability payments. This question was added in order to calculate gross Social Security income more accurately. In the traditional ASEC, if someone reported receiving an amount of Social Security payments, they were asked one follow-up question about whether the amount reported was before or after the Medicare part B deduction. If “after”, the typical monthly amount was added to the Social Security benefit amount.

The question later asking about amounts spent for health insurance premiums, unchanged in the redesigned ASEC, asks the amount paid for health insurance premiums but excluding Medicare Part B. Part B premiums were excluded because they either had been calculated in the instrument or could be calculated in a straightforward way. It was acknowledged that there were other deductions from Social Security benefits, such as Part D premiums, but that was ignored for valuing Social Security benefits. The redesigned question was aimed at getting all deductions into the benefit amount.

In the redesigned ASEC, if someone receives Social Security payments, they are asked whether the amount reported is before or after the Medicare deductions and if the amount is after the deduction, they are asked to report the Medicare deduction amount. Here I use the reported deductions and add those to premiums even though they may include deductions for amounts other than part B. For those cases where there are no reported amounts I calculate part B premiums based on income, marital status, and Medicaid receipts. How to incorporate these changes into the SPM is the subject of further study.

## RESULTS

This paper examines two sets of estimates for the SPM. One as published using the 5/8s sample with traditional income questions (Short, 2014) and another using the remaining 3/8s sample, with redesigned income questions. Both files have new health insurance variables. The 5/8s sample estimates use new MOOP questions that were processed in the old way while the 3/8s sample uses new MOOP questions with improved edit procedures in place.

Tables 1a and 1b show many of the elements that comprise the resource measure for the SPM in the two samples. The first two columns show the percent either receiving a given benefit or spending for a given expense. For example, table 1a shows that 28 percent of all SPM units reported receiving Social Security benefits in 2013 using traditional income questions. On average those who received the benefits received about \$18,378 for the year. Across all units this was about \$674 billion. Similar statistics are shown for most benefits and necessary expenses.

Table 1b shows similar calculations for the 3/8s sample. Comparing the two samples shows greater aggregate amounts for Social Security, SSI, SNAP, school lunch, and WIC benefits, and energy assistance in the 3/8s sample. There were also greater aggregate amounts for income taxes paid in this file compared with the 5/8s sample. Aggregate amounts for the two samples are shown in Chart 3.

[illegible]

## Aggregate amounts for SPM units: 2013

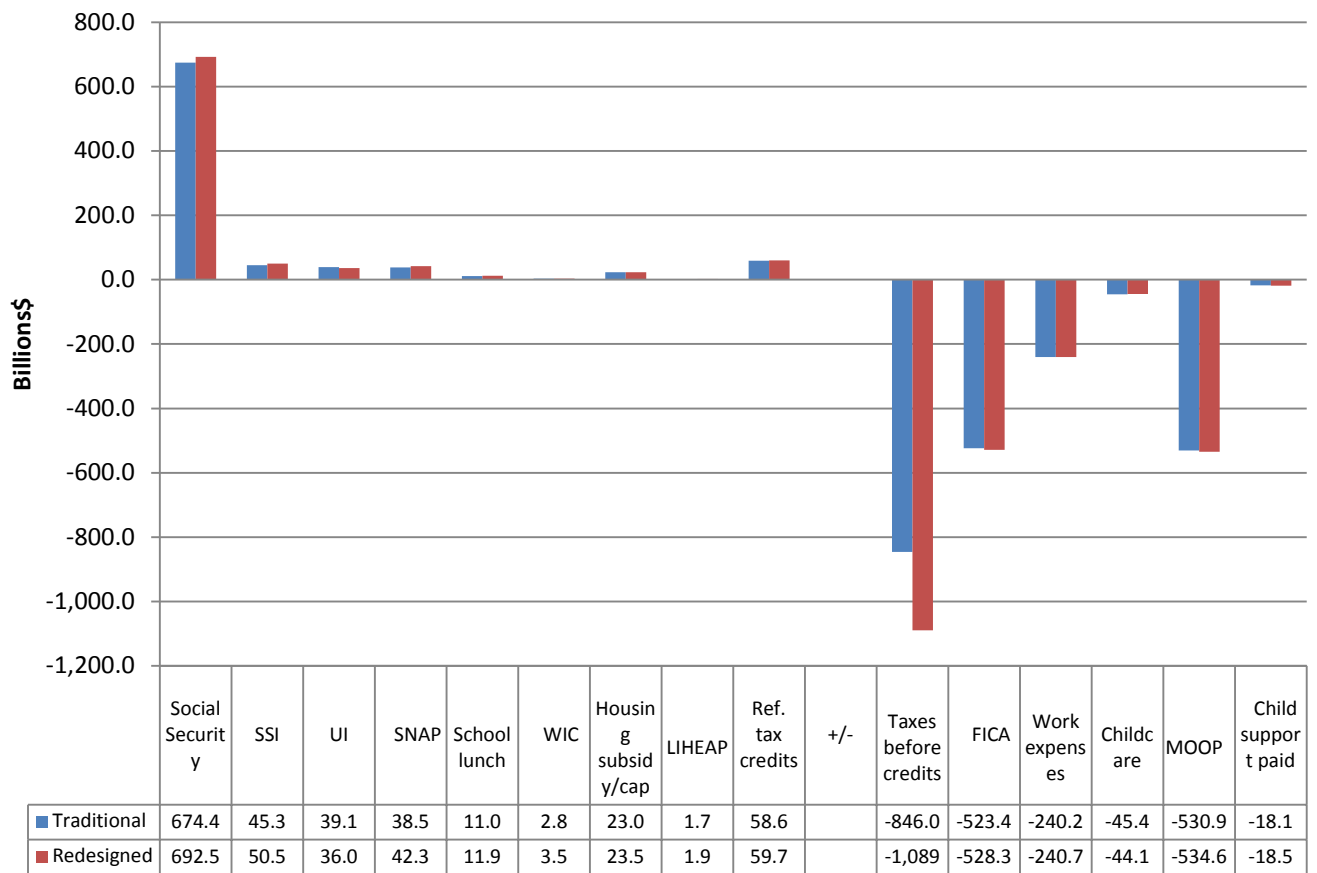


Table 2 and Chart 4 shows poverty rates for the two samples. Overall, we see no statistically significant difference in SPM rates. There are a few significant differences for some groups. Individuals between 18 and 64 years of age show a decline in poverty, from 15.4 to 14.5 percent, with the redesigned questions. There is a significant decline in poverty inside principal cities and for the West. We also see declines in poverty for workers, especially those working less than year round full time. There were also declines for those with or without a disability, all of working age. Declines for those with a disability, from 27.3 to 24.9, likely reflects the changes in collection of information about Social Security Disability income.



**Table 2: Number and Percentage of People in Poverty by Different Poverty Measures: 2013**

(Data are based on a sample of approximately 68,000 addresses.<sup>1</sup> Numbers in thousands, confidence intervals (C.I.) in thousands or percentage points as appropriate. People as of March of the following year. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see [www.census.gov/prod/techdoc/cps/cpsmar14.pdf](http://www.census.gov/prod/techdoc/cps/cpsmar14.pdf))

Characteristic	Number** (in thousands)	Traditional				Redesigned				Difference	
		Number		Percent		Number		Percent			
		Est.	90 percent C.I.† (+/-)	Est.	90 percent C.I.† (+/-)	Est.	90 percent C.I.† (+/-)	Est.	90 percent C.I.† (+/-)	Number	Percent
All People	313,395	48,671	1,051	15.5	0.3	47,662	1,451	15.2	0.5	1,009	0.3
Sex											
Male	153,596	22,839	593	14.9	0.4	22,136	808	14.4	0.5	703	0.5
Female	159,799	25,832	581	16.2	0.4	25,526	832	16.0	0.5	306	0.2
Age											
Under 18 years	74,055	12,177	388	16.4	0.5	12,655	615	17.2	0.8	-478	-0.7
18 to 64 years	194,833	29,987	700	15.4	0.4	28,247	963	14.5	0.5	*1,740	*0.9
65 years and older	44,508	6,507	271	14.6	0.6	6,760	376	15.0	0.8	-253	-0.4
Type of Unit											
Married couple unit	188,571	17,855	709	9.5	0.4	16,676	1,112	8.9	0.6	1,179	0.6
Female householder unit	62,924	17,959	652	28.5	0.9	18,948	952	28.8	1.2	-989	-0.3
Male householder unit	33,947	7,853	394	23.1	1.1	7,496	580	21.9	1.5	357	1.2
New SPM unit	27,953	5,004	379	17.9	1.3	4,543	574	17.2	2.1	462	0.7
Race2 and Hispanic Origin											
White	243,399	33,445	818	13.7	0.3	33,173	1,104	13.6	0.5	272	0.1
White, not Hispanic	195,399	20,946	668	10.7	0.3	20,993	842	10.8	0.4	-46	0
Black	40,671	10,056	498	24.7	1.2	9,674	649	23.8	1.6	382	0.9
Asian	17,070	2,800	260	16.4	1.5	2,569	335	14.9	2.0	231	1.5
Hispanic (any race)	54,253	14,085	556	26.0	1.0	13,686	852	25.2	1.6	399	0.8
Nativity											
Native born	272,387	38,928	949	14.3	0.3	38,484	1,186	14.1	0.4	444	0.2
Foreign born	41,009	9,743	427	23.8	0.9	9,178	652	22.6	1.4	565	1.2
Naturalized citizen	19,150	3,356	204	17.5	1.0	3,189	338	16.6	1.6	167	1
Not a citizen	21,859	6,387	366	29.2	1.3	5,989	540	28.0	2.1	398	1.3
Tenure											
Owner	208,717	20,504	761	9.8	0.4	20,069	898	9.7	0.4	435	0.2
Owner/mortgage	136,059	11,267	569	8.3	0.4	10,537	777	7.8	0.6	730	0.5
Owner/no mortgage/rentfree	75,999	9,970	524	13.1	0.6	10,529	734	14.0	0.9	-559	-0.9
Renter	101,338	27,434	855	27.1	0.7	26,597	1,268	25.9	1.0	838	*1.2
Residence											
Inside MSAs	266,259	42,452	1,052	15.9	0.4	41,152	1,482	15.5	0.5	1,300	0.5
Inside principal cities	102,295	20,516	760	20.1	0.6	19,192	1,097	19.0	1.0	*1,324	*1.1
Outside principal cities	163,963	21,936	819	13.4	0.4	21,960	1,175	13.4	0.7	-24	0
Outside MSAs3	47,137	6,220	586	13.2	0.9	6,510	670	13.6	1.1	-291	-0.4
Region											
Northeast	55,566	7,947	490	14.3	0.9	8,812	774	15.8	1.4	-865	-1.5
Midwest	66,872	8,351	416	12.5	0.6	8,211	621	12.3	0.9	140	0.2
South	117,109	18,565	705	15.9	0.6	18,224	960	15.6	0.8	341	0.3
West	73,849	13,809	495	18.7	0.7	12,416	669	16.8	0.9	*1,393	*1.9
Health Insurance coverage											
With private insurance	201,064	16,439	604	8.2	0.3	16,417	750	8.1	0.4	21	0
With public, no private insurance	70,378	20,032	681	28.5	0.8	19,917	919	28.3	1.1	115	0.2
Not insured	41,953	12,201	468	29.1	1.0	11,328	684	27.5	1.4	*872	1.6
Work Experience											
Total, 18 to 64 years	194,833	29,987	700	15.4	0.4	28,247	963	14.5	0.5	*1,740	*0.9
All workers	146,252	14,357	447	9.8	0.3	13,205	537	9.0	0.4	*1,152	*0.8
Worked full-time, year-round	100,855	5,479	214	5.4	0.2	5,216	362	5.2	0.4	263	0.3
Less than full-time, year-round	45,397	8,878	353	19.6	0.7	7,990	442	17.5	0.9	*889	*2.1
Did not work at least 1 week	48,581	15,630	504	32.2	0.8	15,042	701	31.4	1.2	588	0.7
Disability Status4											
Total, 18 to 64 years	194,833	29,987	700	15.4	0.4	28,247	963	14.5	0.5	*1,740	*0.9
With a disability	15,098	4,126	235	27.3	1.2	3,602	305	24.9	1.7	*523	*2.4
With no disability	178,761	25,799	649	14.4	0.4	24,553	873	13.7	0.5	*1,245	*0.7

\*Statistically different from zero at the 90 percent confidence level.

\*\*Includes unrelated individuals under the age of 15.

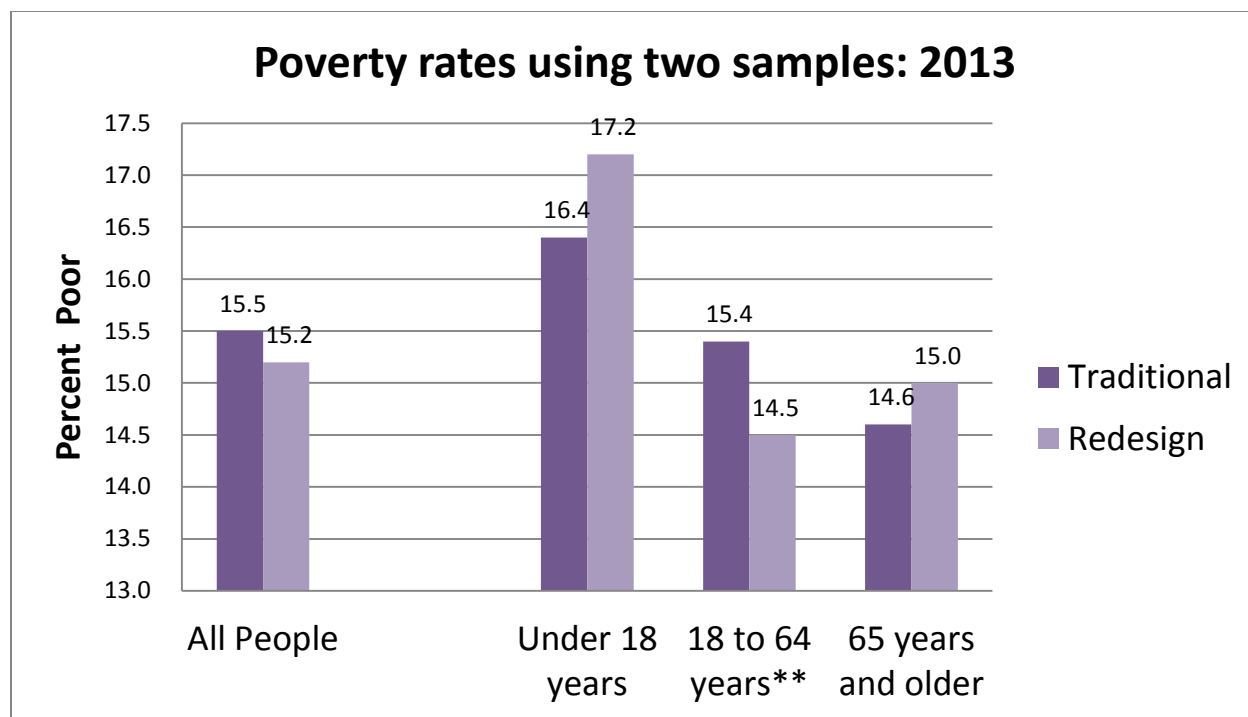
†The 2014 CPS ASEC included redesigned questions for income and health insurance coverage. All of the approximately 98,000 addresses were selected to receive the

†A 90 percent confidence interval is a measure of an estimate's variability. The larger the confidence interval in relation to the size of the estimate, the less 2 Federal surveys give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who 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 Census 2010 through American FactFinder. About 2.9 percent of people reported more than one race in Census 2010. Data for American Indians and Alaska Natives, Native Hawaiians and Other Pacific Islanders, and those reporting two or more races are not shown separately.

3 The "Outside metropolitan statistical areas" category includes both micropolitan statistical areas and territory outside of metropolitan and micropolitan statistical areas. For more information, see "About Metropolitan and Micropolitan Statistical Areas" at [www.census.gov/population/metro](http://www.census.gov/population/metro).

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.

Source: U.S. Census Bureau, Current Population Survey, 2014 Annual Social and Economic Supplement.



## Conclusion

In general, changes to the ASEC questionnaire and processing resulted in very few statistically significant changes to the SPM estimates. It appears that additional income was collected with the redesigned questions that lowered SPM rates for those aged 18 to 64 years, but not necessarily for families with children or those over age 64, for whom there was no statistically significant difference in SPM rates between the two samples. Improvements in the collections of SSDI significantly lowered the poverty rates for the disabled.

Differences across regions, specifically increases in poverty for those in the Northeast and declines for those in the West, may be due to differences in the samples as a result of the subsample draw for the questionnaire tests.

Unfortunately, unlike our study using the SIPP, we do not find a decline in poverty rates for those 65+ years of age. As contributions to IRAs are not available in the ASEC, we see lower SPM rates for those aged 18-64 due to including additional income for that group, without a counterbalancing subtraction of retirement account contributions. For the SPM, this misrepresents the availability of resources and also double counts income in the cross section.

As was found with the SIPP, receipt of retirement plan distributions is not widespread. SIPP estimates for 2009 showed only about 6 percent of families reported IRA distributions while about 28 percent reported making contributions to such accounts. This finding suggests that such withdrawals will likely increase and become a more important part of the income of the retired population, but for now there is no statistically significant effect on SPM rates using the ASEC.

## References

Anguelov, Chris E. Howard M. Iams, and Patrick J. Purcell, *Shifting Income Sources of the Aged*, Social Security Bulletin, Vol 72, No. 3, 2012.

Bee, C. Adam, *An Evaluation of Retirement Income in the CPS ASEC Using Form 1099-R Microdata*, US Census Bureau Working paper, <http://www.census.gov/hhes/www/income/publications/Bee-PAA-paper.pdf>

Brault, M. (2014) "Non-Response Bias in the 2013 CPS ASEC Content Test," SEHSD Working Paper 2014-17, U.S. Census Bureau, Washington, D.C.

DeNavas-Walt, Carmen, Bernadette D. Proctor, and Jessica C. Smith. *Income, Poverty, and Health Insurance Coverage in the United States: 2012*. U.S. Census Bureau, Current Population Reports, P60-245, U.S. Government Printing Office, Washington DC, September 2013.

Tim Marshall - **IMPLICATIONS OF THE REDESIGNED ANNUAL, SOCIAL, & ECONOMIC SURVEY ON DATA PROCESSING REQUIREMENTS.**

Medalia, C., O'Hara, B., Rodean, J., Steinweg A. and Brault, M. (2014) "Changing the CPS Health Insurance Questions and the Implications on the Uninsured Rate: Redesign and Production Estimates," SEHSD Working Paper 2014-16, U.S. Census Bureau, Washington, D.C.

Caswell, K.J. and B. O'Hara (2010) "Medical-out-of-pocket Expenses, Poverty, and the Uninsured," SEHSD Working Paper 2010-17, U.S. Census Bureau, Washington, D.C.

Citro, C.F. and R.T. Michael (1995) *Measuring Poverty: A New Approach*. Washington, D.C.: National Academies Press.

Janicki H. (2014) "Comparing 2010 SIPP and 2013 CPS Content Test Health Insurance Offer and Take-Up Rates," SEHSD Working Paper 2014-08, U.S. Census Bureau, Washington, D.C.

Janicki H., O'Hara, B., Zawacki, A. (2013) "Comparing Methods for Imputing Employer Health Insurance Contributions in the Current Population Survey," SEHSD Working Paper 2013-23, U.S. Census Bureau, Washington, D.C.

Mitchell, Josh and Trudi Renwick, "A Comparison of Official Poverty Estimates in the Redesign Current Population Survey Annual Social and Economic Supplement," forthcoming.

O'Hara, Brett and Carla Medalia, "Health Insurance in the CPS ASEC: Examining the 2014 "Break-in-Series," forthcoming.

Short, Kathleen. *The Research Supplemental Poverty Measure: 2013*, U.S. Census Bureau, *Current Population Reports*, P60-251, October 2014.

Short, Kathleen and Jeremy Skog, "An Examination of Retirement Income for the 65+ Population Using the SIPP", Poster presented at the Population Association of America annual meeting, Boston, MA, May 2014. <http://www.census.gov/hhes/povmeas/methodology/supplemental/research.html>

UNECE (2011), *Canberra Group Handbook on Household Income Statistics*, Second Edition. Available at <http://www.unece.org/index.php?id=28894>.

Welniak, Ed and Jessica Semega, "The Effect of the Changes to the Current Population Survey Annual Social and Economic Supplement on Estimates of Income," forthcoming.