

THE SUPPLEMENTAL POVERTY MEASURE (SPM) AND THE AGED: HOW AND WHY THE SPM AND OFFICIAL POVERTY ESTIMATES DIFFER

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In 2011, the Census Bureau released its first report on the Supplemental Poverty Measure (SPM). The SPM addresses many criticisms of the official poverty measure and is intended to provide an improved statistical picture of poverty. This article examines the extent of poverty identified by the two measures. First, we look at how the SPM and official estimates differ for various age groups. One finding is that the SPM poverty rate exceeds the official rate for each subgroup of the aged (65–69, 70–74, 75–79, and 80 or older) by 4.3 to 8.3 percentage points. Then, we look at why the SPM poverty rate for the aged is higher than the official rate. The most important factor here is the difference in the treatment of medical-out-of-pocket expenses.

Introduction

The current official poverty measure was developed in the early 1960s by Mollie Orshansky of the Social Security Administration. Only a few minor changes have been made since it was first adopted as the official measure in 1969 (Orshansky 1963, 1965a, 1965b; Fisher 1992).¹ The official measure consists of a set of thresholds for families of different sizes and compositions that are compared with before-tax cash income to determine a family's poverty status. Those poverty thresholds are the minimum amounts of such income that families of particular sizes and composition need in order to be considered not poor. When they were developed, the official thresholds represented the cost of a minimum food diet multiplied by 3 (to allow for expenditures on other goods and services). These thresholds have been kept constant in real terms over time by increasing their money values to keep pace with increases in the general price level.

Concerns about the weaknesses of the official measure have increased markedly over time. Critics of the official measure point out that the official income or resource measure fails to account for noncash government benefits, taxes, medical out-of-pocket (MOOP)

expenses, and work expenses. They also argue that the official thresholds are based on a very narrow measure of necessary expenditures, that is, food, and are based on very old data. Critics also point out that the official thresholds fail to adjust for geographic differences in the cost of living.

In November 2011, the Census Bureau released its first report on the Supplemental Poverty Measure, or SPM (Short 2011). The SPM addresses the concerns of the official measure's critics and is intended to provide an improved statistical picture of poverty. It is designed to provide information on economic need at the national level and within large subpopulations.²

Selected Abbreviations

CPS/ASEC	Current Population Survey's Annual Social and Economic Supplement
FCSU	food, clothing, shelter, and utilities
LIHEAP	Low-Income Home Energy Assistance Program
MOOP	medical out-of-pocket [expenses]
MSA	metropolitan statistical area

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Selected Abbreviations—Continued

SNAP	Supplemental Nutrition Assistance Program
SPM	supplemental poverty measure
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children

The SPM income or resource measure is cash income plus in-kind government benefits (such as food stamps and housing subsidies) minus nondiscretionary expenditures (taxes, MOOP expenses, and work expenses). The SPM thresholds are based on a broad measure of necessary expenditures (food, clothing, shelter, and utilities (or FCSU)) and are based on recent, annually updated expenditure data. The SPM thresholds are adjusted for geographic differences in the cost of living.

The two measures (official and SPM) produce rather different pictures of who is counted as poor. Thus, one's view regarding the relative merits of the two poverty measures is relevant to his or her views regarding appropriate public policy. For the aged, key public policies are those affecting Social Security, Medicare, Medicaid, and Supplemental Security Income (SSI).

This article focuses on the measurement of poverty among people aged 65 or older. In the next section, we discuss the evolution of the SPM. In the following section, we describe in more detail the various features of the SPM (resource measure, threshold measure, and unit definition) and contrast them with the corresponding features of the official measure. In the next two sections, we present an empirical examination for 2011 of the two poverty measures. First, for various groups, we compare the SPM poverty estimates with official estimates. That is, we look at how the SPM and official estimates differ. We present some estimates for all age groups, but focus on the aged (65 or older). Then, for the aged as a whole, we estimate the effects of various features of the SPM on poverty levels. In effect, we look at why SPM estimates for the aged differ from official estimates.

We conclude this introduction by previewing some of our empirical findings. For the total population, the SPM poverty rate (16.1 percent) exceeds the official rate (15.1 percent).³ For broad age groups, the SPM and official measures give quite different results. The SPM shows much *more* poverty for people aged 65 or older (the poverty rate increases from 8.7 percent to 15.1 percent) and much *less* poverty for those

younger than age 18 (the poverty rate decreases from 22.3 percent to 18.2 percent). For all detailed subgroups of the aged (65–69, 70–74, 75–79, and 80 or older), the SPM poverty rates markedly exceed the official rates.

Many people are classified as poor by only one of the two measures. For the aged, the official measure and the SPM classify 3.6 million and 6.3 million as poor, respectively. Some 3.2 million aged adults are counted as nonpoor by the official measure, but as poor by the SPM. On the other hand, some 0.6 million aged adults are counted as poor by the official measure, but as nonpoor by the SPM.

We examine poverty of the aged (65 or older) for various demographic and socioeconomic groups. For all of the groups examined, SPM poverty exceeds official poverty. Compared with the official measure, the SPM shows larger increases in poverty rates for (1) people in units that have homeowners with mortgages than for those in units that have homeowners without mortgages, (2) people residing inside metropolitan statistical areas (MSAs) than for those residing outside MSAs, and (3) married people than for the nonmarried.

The combined effect of all changes (from the official to the SPM) in the *resource* measure increases the poverty rate of the aged by 5.5 percentage points. When subtracting taxes and other nondiscretionary expenses, only the subtraction of MOOP expenses results in a large increase in the measured poverty rate (7.1 percentage points). This effect is substantially larger than that of any other change in the poverty measure. When adding noncash transfers, the addition of housing subsidies produces the largest decrease in the poverty rate (1.2 percentage points). The combined effect of all the changes in the *threshold* measure increases the poverty rate by 1.6 percentage points.

Evolution of the SPM

What ultimately became the official poverty measure was developed by Mollie Orshansky in the 1963–1964 period (Orshansky 1963, 1965a, 1965b). In May 1965, the Office of Economic Opportunity—newly established as part of the Johnson administration's War on Poverty—adopted the Orshansky measure as a working or quasi-official definition of poverty.⁴ In August 1969, the Orshansky measure was designated as the federal government's official statistical definition of poverty (Fisher 1992).

Over time, concerns about the adequacy of the official measure increased. As a result, in the early 1990s

at the request of Congress, the National Academy of Sciences (NAS) conducted an independent scientific study of the concepts, measurement methods, and information needs for a poverty measure. For that purpose, NAS established the Panel on Poverty and Family Assistance, which released its report, *Measuring Poverty: A New Approach* (Citro and Michael 1995). Based on its assessment of the weaknesses of the official poverty measure, the NAS panel recommended a considerably different poverty measure that it believed would reflect much better contemporary government policy and economic and social realities.

Over the next 15 years or so, numerous government and nongovernment studies examined alternative poverty measures. For example, the Census Bureau released studies that presented a set of experimental poverty measures based on the recommendations of the NAS panel (Short 2001; Short and others 1999). These studies suggested that the new measures would identify a rather different population as poor than that identified by the official poverty measure.

In 2009, the Office of Management and Budget formed a working group of representatives from a number of government agencies to consider improving the measurement of poverty. This working group was asked to develop a set of initial starting points to permit the Census Bureau, in cooperation with the Bureau of Labor Statistics, to produce a supplemental poverty measure. The Interagency Technical Working Group on Developing a Supplemental Poverty Measure (ITWG) issued its report in 2010.⁵

The Census Bureau released its first report on the SPM in 2011 (Short 2011). That report described the new measure in some detail and presented estimates of SPM-based poverty for 2009 and 2010. The second annual SPM report, which was released in November 2012, presented estimates for 2011 (Short 2012). The recently released SPM is largely based on the recommendations of the NAS panel. Deviations of the SPM from the panel's recommendations reflect suggestions from the ITWG and more current research.

Descriptions and Comparisons of Various Features of the Two Poverty Measures

Measurement of poverty within the population has three critical elements: (1) resource measures (What should be counted as resources?); (2) threshold measures (What minimum resources are required to be considered nonpoor?); and (3) unit measures (How does one combine individuals into resource-sharing

units?). In this section, we consider each of those elements in turn.⁶ The SPM and official poverty estimates examined in this article use the public-use version of the 2012 Current Population Survey's Annual Social and Economic Supplement (CPS/ASEC), which gives income information for calendar year 2011.⁷ In the rest of this section, we describe the SPM elements as they were implemented for the 2012 CPS/ASEC.

Resource Measures

The official resource measure is unit before-tax money income.⁸ People in units whose before-tax money income is less than the unit's threshold are classified as poor. Proponents of the SPM believe that the official resource measure has the following major weaknesses:⁹

1. Effects of government programs that alter the resources available to families and, thus, their poverty status are not reflected in this measure. These are in-kind public benefits, refundable tax credits, and various taxes. Some of these are large. For example, in fiscal year 2011, federal outlays for the Supplemental Nutrition Assistance Program or SNAP (formerly known as the Food Stamp Program) amounted to about \$80 billion or 2.1 percent of all federal outlays. Federal expenditures for refundable tax credits and for housing subsidies were about \$80 billion and \$40 billion (Falk 2012). All three of these in-kind benefit programs are designed to assist the low-income population.¹⁰
2. Expenses that are necessary to hold a job and earn income are not accounted for. These expenses include transportation costs for getting to work and the costs of childcare for working families. More than 80 percent of the population under study are members of SPM units with work expenses. For those units, such expenses can be substantial; unit work expenses on average amount to 12 percent of SPM poverty thresholds.
3. MOOP expenses are not accounted for. More than 95 percent of our sample universe are members of SPM units with MOOP expenses, which include expenses for health insurance premiums; own medical care (hospital visits, medical providers, dental services, prescription medicine, vision aids, and medical supplies); and over-the-counter health-related products. For those units, MOOP expenses can be large; unit MOOP expenses on average amount to 22 percent of SPM thresholds. In addition, there is great dispersion around this average;

a minority of units have very high MOOP expenses relative to their poverty thresholds.

The SPM resource measure attempts to overcome the weaknesses of the official resource measure. The SPM resource measure is the sum of cash income *plus* refundable tax credits and any government in-kind benefits that families can use to meet their basic needs, which are represented in the thresholds, *minus* taxes and other nondiscretionary expenses for critical goods not included in the thresholds. These thresholds represent the amount needed for a basic set of goods that consists of FCSU and an additional amount allowed for other basic needs (for example, household supplies, personal care, nonwork-related transportation). The importance of these various additions to and subtractions from cash income varies greatly across age groups.

The SPM resource measure includes the following government in-kind benefit programs: (1) Housing subsidies; (2) Low-Income Home Energy Assistance Program (LIHEAP); (3) National School Lunch Program; (4) Supplemental Nutrition Assistance Program (SNAP); and (5) Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). For programs (1), (3), and (5), the CPS/ASEC collects information on receipt, but not on amounts received. In estimating the amounts of these benefits, the Census Bureau uses information from other government agencies.¹¹

Housing subsidies, LIHEAP benefits, and SNAP benefits go to both aged and nonaged people. On the other hand, school lunch and WIC benefits are intended to help nonaged people. Housing assistance programs usually take the form of rental subsidies and mortgage-interest subsidies targeted to very low-income people and are either dwelling based (public housing) or tenant based (vouchers). SNAP benefits are also targeted to low-income people. LIHEAP is not a large enough program to have much effect on the poverty rates of aged people or members of any other age group.

The SPM resource measure also includes the following refundable tax credits: (1) Earned Income Tax Credit (EITC) and (2) the additional federal childcare tax credit. These credits are intended to help low-income working families, especially those with children.

The following expenses are deducted in deriving SPM resources: (1) federal individual income tax (after nonrefundable credits), (2) state individual income tax, (3) Social Security tax payments by employees and

the self-employed plus federal employee retirement payroll deductions, (4) child support paid, (5) MOOP expenses, and (6) work expenses (including childcare expenses). The CPS/ASEC does not collect information on taxes, refundable tax credits, or work expenses. The Census Bureau applies a tax-calculating computer program to the CPS/ASEC to simulate taxes and tax credits and uses information from another household survey to estimate work expenses.¹²

It should be clear that the relative impact of various types of expenses on household resources tends to vary by age. Low-income aged units typically have no or low income tax liabilities. Payroll taxes and work expenses affect working families. Child support payments come mostly from nonaged people.

MOOP expenses are very important for the aged population. As stated earlier, MOOP expenses include the payment of health insurance premiums plus other medically necessary items, such as prescription drugs and doctor copayments that are not paid for by health insurance.¹³ Subtracting MOOP expenses from income, in addition to subtracting taxes and work expenses, leaves the amount of income that the family has available to purchase the basic bundle of goods included in the threshold.

Threshold Measures

The official measure uses a set of thresholds for families of different size and composition. The threshold values depend on unit size, number of children, and age of the unit head (younger than age 65 or aged 65 or older). At the time they were developed, the official thresholds represented the cost of a minimum food diet multiplied by 3 (to allow for expenditures on other goods and services).¹⁴ The thresholds are updated each year using the US Consumer Price Index for all items.

Proponents of the SPM believe that the official threshold measure has the following major weaknesses:

1. The official thresholds are based on only one category of necessary expenditures, that is, food. (For 2011, food expenditures accounted for only 36 percent of the bundle of necessary expenditures or FCSU that form the basis of the SPM thresholds.) The expenditure information used is more than 50 years old. The share of food in expenditures is much lower now than it was 50 years ago. The threshold levels are fixed in real terms and do not reflect real increases over time in spending on basic needs.

2. The measure does not adjust for differences in FCSU-expenditure needs resulting from differences in housing status. For example, homeowners with mortgages on average need to make sizable mortgage payments. (In determining SPM thresholds for 2011, the FCSU needs of units that have owners with mortgages are estimated to be 21 percent larger than those of units that have owners with no mortgages.)
3. The measure does not adjust for geographic differences in the cost of living. Such differences are often large. (For 2011, the geographic adjustment factors used in the SPM range from .80 for the lowest-cost area to 1.48 for the highest-cost area.)
4. The thresholds use family size and composition adjustments that in some cases produce questionable results. For example, in some cases, single-parent families have higher thresholds than married-couple families of the same size, implying that children cost more than adults in certain size families. The evidence used in setting thresholds for aged units and for one-person nonaged units is quite weak. In addition to these questionable results, the fact that the equivalence scales are implicit and not transparent is a substantial weakness.

The SPM threshold measure attempts to overcome the weaknesses of the official threshold measure and has the following properties:

1. As stated earlier, these thresholds represent the amount needed for a basic set of goods that consists of FCSU and an additional amount allowed for other basic needs (household supplies, personal care, nonwork-related transportation). The basic FCSU needs reflect expenditures on this basic bundle of goods around the 33rd percentile of the expenditure distribution, as reported in the Bureau of Labor Statistics' Consumer Expenditure Survey (CE).¹⁵ The SPM thresholds for 2011 are based on 2007–2011 data from the CE. To include other basic needs in the threshold, the basic FCSU needs are multiplied by 1.2. Over time, the thresholds are not fixed in real terms. Each year the thresholds are updated using the most recent CE data.
2. The SPM thresholds are adjusted for differences in shelter and utilities expenditure needs and depend on housing-status group. Those groups are made up of units that have owners with mortgages, owners with no mortgages, and renters. The adjustments are based on CE data.

3. The thresholds are adjusted for geographic differences in housing costs. The adjustment factors are for more than 300 areas and are based on American Community Survey estimates of apartment rents.
4. The threshold for units with two children (the base threshold) is derived from CE data as described in item #1. The thresholds for other unit types (differing in size and number of children) are then derived by applying an explicit equivalence scale to this base threshold. Equivalence scales are measures of the relative cost of living of units of different size and composition that are otherwise similar. For example, if a unit of two adults can live as well as a unit of two adults and two children while spending only three-fourths as much, then relative to the reference unit of two adults and two children, the equivalence scale value for a two-adult unit is three-fourths. For the purpose of poverty measurement, using an equivalence scale adjusts the threshold value for the reference unit to provide corresponding thresholds for other unit types. The three-parameter SPM equivalence scale used has the following four properties: (1) a child always costs less than an adult; (2) the scale always exhibits economies of scale in consumption; (3) the scale does not depend on the age of the unit head; and (4) for one-person nonaged units, the SPM scale value is rather different from the official scale value.¹⁶

Unit Measures

The official measure uses as its unit of analysis the Census-defined family, which includes all people residing together who are related by birth, marriage, or adoption; it treats all unrelated individuals aged 15 or older independently. Proponents of the SPM unit criticize the failure of the official unit to include all people at an address who are likely to share resources. In particular, they believe that the official unit concept does not treat cohabiters and their relatives properly.

Proponents of the SPM believe that the SPM unit better represents the unit that shares economic resources. The SPM unit includes all related people at the same address plus any cohabiters and their relatives and any coresident unrelated children who are cared for by the family (such as foster children).¹⁷ Most aged people whose SPM units differ from their official units are in SPM units that contain cohabiters—some aged and others nonaged.

Official and SPM Poverty Estimates: A Comparison

In this section, we begin our empirical examination of the two poverty measures. For the various age groups, we compare the SPM poverty estimates with official estimates; that is, we look at the degree to which the two estimates differ. Then in the following section, for people aged 65 or older, we estimate the effects of various features of the SPM on poverty levels. In effect, we look at why SPM estimates for the aged differ from the official estimates.

We begin this section by looking at poverty for the total population and for various groups of aged and nonaged people. Next, we examine deep poverty and the distribution of people by welfare-ratio intervals. Then we examine movements into and out of poverty. Finally, we look at poverty of the aged for various demographic and socioeconomic groups.

Poverty by Age Groups

Table 1 gives numbers and percentages of people in poverty for the total population, broad age groups, and narrow age subgroups. For the total population, the SPM poverty rate (16.1 percent) exceeds the official rate (15.1 percent) by 1.0 percentage points.¹⁸ The number of people poor under the SPM (49.8 million) exceeds the number poor under the official measure (46.6 million) by 3.2 million or 7 percent.¹⁹

For broad age groups of the aged and nonaged populations, the SPM and official measures give quite different results. Compared with the official measure, the SPM shows much *more* poverty for the aged (adults aged 65 or older) and much *less* poverty for children (those younger than age 18). For the group aged 65 or older, the SPM poverty rate (15.1 percent) exceeds the official rate (8.7 percent) by 6.4 percentage points or by 73 percent.²⁰ As we stated earlier, MOOP expenses are very important for the aged population. On the other hand, for the group younger than age 18, the SPM rate (18.2 percent) falls short of the official rate (22.3 percent) by 4.1 percentage points or by 18 percent.²¹ Note that for the official measure, the rate for children is much higher than that for the aged; however, for the SPM, the poverty rate for children is only modestly higher than that for the aged. For the group aged 18–64, the SPM rate (15.6 percent) exceeds the official rate (13.7 percent) by 13 percent.

For the aged population, we also look at poverty rates for narrow age subgroups (Table 1). For each of those age subgroups, the SPM rates exceed the official poverty rates. This excess tends to increase with age, increasing from 4.3 percentage points for the subgroup aged 65–69 to 8.3 percentage points for the subgroup aged 80 or older.

In addition, we look at poverty rates for the near-aged subgroups (55–61 and 62–64). For those

Table 1.
Number and percentage of people in poverty, by the two poverty measures and selected age groups, 2011

Age group	Total number	Official poverty		SPM poverty		Percentage point difference between SPM and official poverty rates
		Number	Percent	Number	Percent	
Total population	308,827	46,618	15.1	49,797	16.1	1.0
Younger than 18	74,108	16,506	22.3	13,484	18.2	-4.1
18–64	193,213	26,492	13.7	30,052	15.6	1.8
55–61	27,814	2,983	10.7	3,798	13.7	2.9
62–64	10,157	1,097	10.8	1,369	13.5	2.7
65 or older	41,507	3,620	8.7	6,260	15.1	6.4
65–69	13,599	1,026	7.5	1,615	11.9	4.3
70–74	9,784	713	7.3	1,363	13.9	6.6
75–79	7,331	730	10.0	1,236	16.9	6.9
80 or older	10,792	1,152	10.7	2,045	19.0	8.3

SOURCE: The public-use version of the 2012 CPS/ASEC.

NOTE: Numbers are in thousands.

subgroups, the SPM poverty rates exceed the official rates by a little less than 3 percentage points or by about 25 percent. Note that these differences are smaller than those for the groups aged 65 or older.

Deep Poverty by Age Groups

We say that people in units with unit resources less than 50 percent of the unit threshold are in deep SPM or deep official poverty.²² Table 2 gives numbers and percentages of people in deep poverty for the total population, broad age groups, and narrow age subgroups—the same groups shown in Table 1.

For the total population, the SPM deep poverty rate (5.2 percent) falls short of the official measure deep poverty rate (6.7 percent) by 1.5 percentage points or by 22 percent; in contrast, we just saw that the SPM rate (16.1 percent) exceeds the official poverty rate (15.1 percent) by 1.0 percentage points or by 7 percent. It follows that the number of people in poverty (but not in deep poverty) under the SPM substantially exceeds the number in poverty (but not in deep poverty) under the official measure.

For broad age groups of the aged and nonaged populations, the SPM and official measures give quite different results for deep poverty. Compared with the official measure, for deep poverty (as well as for poverty) the SPM shows a much higher rate for the aged (adults aged 65 or older) and a much lower

rate for children (those younger than age 18). For the group aged 65 or older, the SPM deep poverty rate (4.3 percent) exceeds the official deep poverty rate (2.3 percent) by 2.0 percentage points or by 89 percent. On the other hand, for the group younger than age 18, the SPM rate (5.1 percent) falls short of the official rate (10.3 percent) by 5.2 percentage points or by 50 percent. Notice that for both deep poverty and poverty, as determined by the official measure, the rate for children is much higher than that for aged adults; on the other hand, for both deep poverty and poverty, as determined by the SPM, the rate for children is only modestly higher than that for aged adults. For people aged 18–64, the SPM deep poverty rate (5.5 percent) falls short of the official deep poverty rate (6.3 percent) by 0.8 percentage points or about 13 percent.

For the aged, we also look at deep poverty rates for narrow age subgroups (Table 2). For each of those age subgroups, the SPM rates exceed the official deep poverty rates. This difference tends to increase with age, increasing from 1.4 percentage points for the 65–69 subgroup to 2.6 points for the 80-or-older subgroup.

In addition, we look at deep poverty rates for the near aged (55–61 and 62–64). For those subgroups, the SPM deep poverty rates exceed the official rates by 0.8 and 1.4 percentage points. Note that these differences are smaller than those for the subgroups aged 70 or older.

Table 2.
Number and percentage of people in deep poverty,^a by the two poverty measures and selected age groups, 2011

Age group	Total number	Official deep poverty		SPM deep poverty		Percentage point difference between SPM and official deep poverty rates
		Number	Percent	Number	Percent	
Total population	308,827	20,727	6.7	16,141	5.2	-1.5
Younger than 18	74,108	7,624	10.3	3,789	5.1	-5.2
18–64	193,213	12,164	6.3	10,578	5.5	-0.8
55–61	27,814	1,239	4.5	1,463	5.3	0.8
62–64	10,157	439	4.3	579	5.7	1.4
65 or older	41,507	940	2.3	1,773	4.3	2.0
65–69	13,599	272	2.0	457	3.4	1.4
70–74	9,784	185	1.9	340	3.5	1.6
75–79	7,331	198	2.7	407	5.5	2.9
80 or older	10,792	285	2.6	569	5.3	2.6

SOURCE: The public-use version of the 2012 CPS/ASEC.

NOTE: Numbers are in thousands.

a. People in units with resources less than 50 percent of the poverty threshold.

Welfare-Ratio Classes by Age Groups

We next compare distributions of economic welfare measured using SPM concepts with those measured using official poverty measure concepts. Table 3 shows the percentage distributions of people in broad age groups and narrow age subgroups by welfare-ratio intervals. Welfare ratio is the ratio of unit resources to the unit poverty threshold.²³ People in poverty and in deep poverty are those in units with welfare ratios less than 1.0 and less than 0.5, respectively.

Compared with the official measure, for the total population the SPM shows a higher share of people in each of the middle welfare-ratio classes (the non-poor with welfare ratios less than 2.00) and a much

lower share in the top welfare-ratio class (4.00 or more). This pattern also holds for most of the age groups shown in Table 3. The lower shares in the top welfare-ratio class result in large part from the subtraction of tax payments in computing the SPM resource measure.

“Movements” Into and Out of Poverty by Age Groups

When the basis for poverty measurement changes, the composition of the population designated as poor also changes. We now discuss the effects on poverty status (movements into and out of poverty) of changing the way that poverty is measured—from the official measure to the SPM.

Table 3.
Percentage distribution of people, by welfare-ratio^a intervals, the two poverty measures, and selected age groups, 2011

Age group	Welfare-ratio intervals						
	Less than 0.50	0.50–0.99 ^b	1.00–1.24 ^b	1.25–1.49 ^b	1.50–1.99 ^b	2.00–3.99 ^b	4.00 or more
Official							
Total population	6.7	8.4	4.8	5.1	9.5	30.5	35.1
Younger than 18	10.3	12.0	6.0	6.0	10.3	29.1	26.3
18–64	6.3	7.4	4.0	4.4	8.5	30.2	39.1
55–61	4.5	6.3	3.3	3.2	6.8	26.0	49.9
62–64	4.3	6.5	3.3	4.3	7.7	29.0	44.9
65 or older	2.3	6.5	5.8	6.5	12.6	34.2	32.2
65–69	2.0	5.5	4.0	4.3	8.8	31.6	43.8
70–74	1.9	5.4	5.6	5.7	12.5	34.9	34.1
75–79	2.7	7.3	6.0	7.1	15.2	35.8	25.8
80 or older	2.6	8.0	8.1	9.6	15.8	35.6	20.2
SPM							
Total population	5.2	10.9	8.6	8.4	15.0	34.2	17.7
Younger than 18	5.1	13.1	10.4	10.9	17.5	31.6	11.4
18–64	5.5	10.1	7.6	7.5	14.2	35.3	19.9
55–61	5.3	8.4	6.1	5.5	10.8	34.0	30.0
62–64	5.7	7.8	6.2	5.5	11.9	35.1	27.7
65 or older	4.3	10.8	9.7	8.4	14.3	33.6	18.9
65–69	3.4	8.5	7.1	6.3	12.8	35.7	26.3
70–74	3.5	10.5	8.8	7.8	14.1	34.5	20.8
75–79	5.5	11.3	11.2	9.9	15.2	31.8	15.0
80 or older	5.3	13.7	12.7	10.6	15.8	31.4	10.6

SOURCE: The public-use version of the 2012 CPS/ASEC.

NOTE: Row percentages sum to approximately 100.0.

a. The ratio of unit resources to the unit poverty threshold.

b. Less than the lower bound of the next interval.

Table 4 gives percentages of people who exit poverty, stay in poverty, and enter poverty for broad age groups and narrow age subgroups. We have seen that for the total population, the SPM poverty rate (16.1 percent) exceeds the official rate (15.1 percent) by 1.0 percentage points. Switching to the SPM moves some people into poverty (those who are official non-poor who become SPM poor) and others out of poverty (those who are official poor who become SPM non-poor). The switch to the SPM moves about 5.0 percent of the population into poverty and about 3.9 percent out of poverty. The number of people entering poverty is about 25 percent greater than the number exiting poverty. Some 11.2 percent of the population is considered poor under both poverty measures.

For the aged (adults 65 or older), the SPM poverty rate (15.1 percent) exceeds the official rate (8.7 percent) by 6.4 percentage points. Switching to the SPM moves about 7.7 percent of the aged population into poverty and only about 1.4 percent out of poverty. The number of aged people entering poverty is more than five times the number exiting poverty (Table 4). Some 7.3 percent of the aged are considered poor under both poverty measures.

For children (younger than age 18), the SPM poverty rate (18.2 percent) falls short of the official

rate (22.3 percent) by about 4.0 percentage points. A switch to the SPM moves about 3.4 percent of children into poverty and about 7.4 percent out of poverty. The number of children entering poverty is less than half of the number exiting poverty. A very sizable share of children (14.8 percent) are considered poor under both poverty measures. For adults in each of the narrow age subgroups (65–69, 70–74, 75–79, and 80 or older), the number entering poverty is at least four times the number exiting poverty.

Joint percentage distributions are presented in Table 5 for people aged 65 or older—by their official measure and SPM welfare-ratio classes—for those who leave poverty, those who stay in poverty, those who enter poverty, and those who remain nonpoor. For people aged 65 or older, much of the movement into and out of poverty occurs near the poverty line. Thus, of the 3.2 million aged adults entering poverty, some 53 percent move from the 1.00–1.49 official welfare-ratio class to the 0.50–0.99 SPM class.²⁴ Similarly, of the 0.6 million exiting poverty, 90 percent move from the 0.50–0.99 official welfare-ratio class to the 1.00–1.49 SPM class.²⁵ Of those poor under both poverty measures, 16 percent move into deep poverty and only 3 percent move out of deep poverty.

Table 4.
Percentage of people in selected age groups, by poverty-status components of the two sets of poverty rates, 2011

Age group	Official poor ^a	Exit poverty ^b	Stay in poverty ^c	Enter poverty ^d	SPM poor ^e
Total population	15.1	3.9	11.2	5.0	16.1
Younger than 18	22.3	7.4	14.8	3.4	18.2
18–64	13.7	3.1	10.6	5.0	15.6
55–61	10.7	2.1	8.7	5.0	13.7
62–64	10.8	1.8	9.0	4.4	13.5
65 or older	8.7	1.4	7.3	7.7	15.1
65–69	7.5	1.3	6.3	5.6	11.9
70–74	7.3	1.1	6.2	7.8	13.9
75–79	10.0	1.9	8.1	8.8	16.9
80 or older	10.7	1.4	9.3	9.6	19.0

SOURCE: The public-use version of the 2012 CPS/ASEC.

- a. "Exit poverty" column + "Stay in poverty" column.
- b. Official poor, but SPM nonpoor.
- c. Official poor and SPM poor.
- d. Official nonpoor, but SPM poor.
- e. "Stay in poverty" column + "Enter poverty" column.

Table 5.**Changes in poverty status of people aged 65 or older, by welfare-ratio^a interval, 2011: Joint percentage distributions by change category**

Official measure welfare-ratio interval	SPM welfare-ratio interval					
	Less than 0.50	0.50–0.99 ^b	1.00–1.49 ^b	1.50–1.99 ^b	2.00–3.99 ^b	4.00 or more
People who exit poverty^c						
Less than 0.50	0.0	0.0	1.9	0.0	1.4	0.0
0.50–0.99 ^b	0.0	0.0	89.8	2.0	4.5	0.4
People who enter poverty^d						
1.00–1.49 ^b	8.3	52.6	0.0	0.0	0.0	0.0
1.50–1.99 ^b	3.8	23.7	0.0	0.0	0.0	0.0
2.00–3.99 ^b	2.3	8.3	0.0	0.0	0.0	0.0
4.00 or more	0.5	0.4	0.0	0.0	0.0	0.0
People poor under both measures						
Less than 0.50	26.8	3.4	0.0	0.0	0.0	0.0
0.50–0.99 ^b	15.6	54.2	0.0	0.0	0.0	0.0
People not poor under both measures						
1.00–1.49 ^b	0.0	0.0	8.2	0.7	0.1	0.0
1.50–1.99 ^b	0.0	0.0	7.2	4.8	0.5	0.0
2.00–3.99 ^b	0.0	0.0	4.6	11.2	23.8	0.3
4.00 or more	0.0	0.0	0.1	0.3	15.7	22.3

SOURCE: The public-use version of the 2012 CPS/ASEC.

NOTE: For each change category (people who exit poverty, people who enter poverty, people poor under both measures, and people not poor under both measures), the percentages sum to approximately 100.0.

- a. The ratio of unit resources to the unit poverty threshold.
- b. Less than the lower bound of the next higher interval.
- c. Official poor, but SPM nonpoor.
- d. Official nonpoor, but SPM poor.

Poverty of the Aged by Various Demographic and Socioeconomic Characteristics

We now turn to more detailed comparisons of SPM and official poverty for the aged (adults 65 or older). We examine poverty for various demographic and socioeconomic groups.

Table 6 shows poverty numbers; poverty rates; and differences in poverty by sex, race, Hispanic origin, nativity, housing-tenure status, residence, region, health insurance coverage, Social Security beneficiary status, and marital status. For all of the categories shown in this table, SPM poverty exceeds official poverty. These differences generally range from 3.4 to 9.8 percentage points.

For housing-status categories, the percentage point increases (SPM poverty rate minus the official poverty rate) are larger for people in units that have owners

with mortgages than for those in units that have owners with no mortgages or those in units that have renters. These differences in part reflect the fact that the SPM thresholds take housing status into account.

For residence categories, the percentage point increases are larger for people residing inside MSAs. For region categories, the percentage point increases are largest for the West and Northeast and smallest for the Midwest and South. These patterns of percentage point differences reflect the fact that the SPM threshold incorporates adjustments for geographic differences in housing costs.

For Social Security beneficiary-status categories, the percentage point increase is a bit larger for beneficiaries than for nonbeneficiaries. In part, this difference reflects the fact that MOOP expenses are more important for units with beneficiaries.

For marital-status categories, the percentage point increase is larger for married people than for the non-married. We later discuss the fact that this difference in part reflects equivalence scale differences between the two poverty measures.

For the demographic characteristics shown in Table 6, the excesses of SPM poverty over official poverty range from 28 percent to 181 percent. For most of the categories (sex, residence, and so forth), the groups with the largest *percentage* increases in poverty are those with the lowest official poverty rates.²⁶ For example, although the percentage point increases for whites (6.2 percent) and blacks (6.5 percent) are

similar, the percentage increase for whites (81 percent) substantially exceeds that for blacks (37 percent). The official poverty rates for whites and blacks are 7.7 percent and 17.3 percent.

Thus, we find that percentage increases in poverty are larger for men than for women, for the native born than for the foreign born, and for people in units that have owners with mortgages than for those in units that have owners with no mortgages or those in units that have renters. In addition, we find that percentage increases in poverty are larger for people with private health insurance, for Social Security beneficiaries, and for married people.

Table 6.
Percentage of people aged 65 or older in poverty, by the two poverty measures and selected characteristics, 2011

Characteristic	Number	Percent		Difference between SPM and official poverty rates	
		Official poor	SPM poor	Percentage point	Percent
Total population	41,507	8.7	15.1	6.4	73
Sex					
Male	18,332	6.2	12.3	6.1	99
Female	23,174	10.7	17.3	6.6	61
Race ^a and Hispanic origin					
White	35,732	7.7	13.9	6.2	81
White, not Hispanic	32,904	6.7	12.7	6.0	89
Black	3,640	17.3	23.8	6.5	37
Asian	1,555	11.7	20.8	9.1	78
Hispanic (any race)	3,036	18.7	27.4	8.7	46
Nativity					
Native born	36,541	7.7	13.7	6.0	77
Foreign born	4,965	15.9	25.3	9.3	59
Naturalized citizen	3,625	14.9	24.1	9.2	61
Not a citizen	1,341	18.6	28.4	9.8	52
Unit housing-tenure status					
Owner with mortgage	11,056	4.7	13.1	8.4	176
Owner with no mortgage/rent free ^b	24,114	7.4	12.7	5.2	70
Renter	6,337	20.5	27.6	7.1	35
Residence ^c					
Inside MSAs	33,541	8.7	15.8	7.0	81
Outside MSAs	7,676	8.6	12.0	3.4	40
Region					
Northeast	7,948	8.9	15.9	7.0	78
Midwest	9,257	7.3	12.1	4.8	65
South	15,390	10.1	16.0	5.9	58
West	8,912	7.7	15.9	8.3	108
Health insurance coverage					
Private insurance ^d	24,098	4.5	11.0	6.5	144
Public insurance only	16,719	14.0	20.0	6.0	43
No insurance	690	28.1	39.1	11.0	39
Social Security beneficiary status					
Beneficiary	35,169	6.8	13.3	6.5	96
Not a beneficiary	6,337	19.4	24.9	5.4	28

Continued

Table 6.
Percentage of people aged 65 or older in poverty, by the two poverty measures and selected characteristics, 2011—Continued

Characteristic	Number	Percent		Difference between SPM and official poverty rates	
		Official poor	SPM poor	Percentage point	Percent
Marital status					
Married ^e	23,551	3.9	11.0	7.1	181
Not married ^f	17,956	15.0	20.4	5.4	36
Widowed	10,661	13.5	19.2	5.7	42
Divorced	4,517	15.4	19.9	4.5	30
Never married	1,820	19.3	25.0	5.7	29

SOURCE: The public-use version of the 2012 CPS/ASEC.

NOTE: Numbers are in thousands.

- a. The race categories exclude people who report more than one race.
- b. Includes nonowners who live rent free.
- c. Excludes a small number of people in cases where confidentiality rules prevent identification of MSA status on the public-use data file. Such identification is available on the Census Bureau's internal data file.
- d. Most people also have public insurance coverage.
- e. Married with spouse present in the household.
- f. In addition to people who are widowed, divorced, or never married, this category also includes those who are married with spouse absent from the household.

Effects of Various Features of the SPM on Poverty of the Aged

The substantial increase in measured poverty among the aged population can be attributed to specific features of the SPM. We next examine the effects of the SPM's resource measure, threshold measure, and unit measure.

Effects of Elements of the Resource Measure

We first examine the effects on poverty of including noncash transfers and refundable tax credits in the resource measure. Then we look at the effects of excluding taxes and other nondiscretionary expenses from resources.

Noncash transfers and refundable tax credits. We compare SPM poverty rates including and not including each program's benefits (transfer or tax credit) in the resource measure. In other words, for each of the government programs, we compare SPM poverty with the poverty that results when we use SPM resources minus the benefits of the program as our resource measure, but we continue to use the SPM thresholds and SPM units.²⁷ We view the change in poverty as the result of a specified change in the way poverty is measured.

There is another way to view the change in poverty. We could look at the change in poverty as the result of a change in program policy for a given measure of poverty, namely, the effect on poverty—as measured by the SPM—of introducing the program. Our estimate of the increase in resources because of the introduction of the program equals the amount of program benefits.²⁸ It does not include any changes in other resource components that are due to the program's behavioral (for example, work effort) and interprogram effects.²⁹

The six programs considered here are refundable tax credits,³⁰ housing subsidies, LIHEAP, school lunches, SNAP, and WIC. The top section of Table 7 gives the percentage point decreases in the SPM poverty rate of the aged population attributed to each of those six programs. Only two of the programs—housing subsidies and SNAP—have much effect on the SPM poverty rates of the aged. When including housing subsidies and SNAP in the resource measure, the measured poverty rate is reduced by 1.2 and 0.7 percentage points. Those two programs target aged and nonaged low-income people. LIHEAP is not a large enough program to have much effect on the poverty rates of aged people or members of any other age group. School lunches and WIC benefits are intended

Table 7.
Effect on the SPM poverty rate of individual additions to and subtractions from SPM resources for people aged 65 or older, 2011

SPM resource additions and subtractions	Change in poverty rate (percentage points)
Additions (refundable tax credits and noncash transfers)	
Refundable tax credits	-0.2
Housing subsidies	-1.2
LIHEAP (energy assistance)	-0.1
School lunches	^a -0.0
SNAP (formerly the Food Stamp Program)	-0.7
WIC	^a -0.0
Subtractions (taxes and other nondiscretionary expenses)	
Federal income taxes	0.2
FICA taxes	0.2
State income taxes	0.1
Child support paid	0.1
MOOP expenses	7.1
Work expenses	0.3
Combined effect of all SPM additions and subtractions	^b 5.5

SOURCE: The public-use version of the 2012 CPS/ASEC.

a. Negative but greater than -0.05.

b. Because of the interaction effect and rounding, this value does not equal the sum of the individual changes.

to help nonaged people. Refundable tax credits are intended to help working families, especially those with children.³¹ The sum of the six individual program effects is 2.2 percentage points.

Taxes and other nondiscretionary expenses. For each expense element, we compare SPM poverty rates subtracting and not subtracting the element in calculating the resource measure. In other words, for each of the expense elements, we compare SPM poverty with the poverty that results when we use SPM resources plus the expense-element amount as our resource measure, but we continue to use the SPM thresholds and SPM units.

The six expense items considered here are federal income taxes,³² FICA taxes,³³ state income taxes,³⁴ child support paid, MOOP expenses, and work expenses. The bottom section of Table 7 gives the percentage point increases in the SPM poverty rate

of the aged population attributed to each of those six expense items. Only MOOP expenses have much effect on SPM poverty of the aged. Subtracting MOOP expenses in calculating the resource measure results in a large increase in measured poverty; this subtraction increases the poverty rate by 7.1 percentage points.³⁵ More than 98 percent of aged adults are members of SPM units with MOOP expenses. For those units, MOOP expenses can be high; people in such units have MOOP expenses on average that amount to 40 percent of their unit's SPM poverty threshold. In addition, there is great dispersion around that average; a minority of aged adults have very high MOOP expenses relative to their poverty thresholds. The poverty-rate effect of each of the other expense elements is 0.3 percentage points or less. Because of personal exemptions and other factors, low-income aged adults typically have no or low income tax liabilities. Payroll taxes and work expenses affect working families, including a sizable number with aged adults.³⁶ Child support payments come mostly from nonaged people. The sum of these six individual expense effects is 8.0 percentage points.

All resource elements. Here we compare SPM poverty with the poverty that results when we replace the SPM resource measure with the official resource measure, but use the SPM thresholds and SPM units. We find that the SPM poverty rate (15.1 percent) exceeds this modified poverty rate by 5.5 percentage points (Table 7).

The combined effect on poverty of all the differences between the SPM resource measure and the official resource measure need not equal the sum of the effects of the 12 individual differences. There can be interaction effects. An example of an interaction effect is the following: Although including either SNAP benefits or a housing subsidy in the resource measure may not move a unit out of poverty, including both benefits may move the unit out of poverty.³⁷

The sum of the six poverty-increasing resource measure components (8.0 percentage points) exceeds the sum of the six poverty-reducing resource measure components (2.2 percentage points) by 5.8 percentage points. The fact that the 5.8 percentage point excess and the difference between the SPM poverty rate and the modified rate (5.5 percentage points)—the combined effect of all resource additions and subtractions—are similar indicates that the net interaction effect is small.

Effects of Elements of the Threshold Measure

We now examine the effects of various elements of the SPM threshold measure; that is, housing-status adjustments, geographic adjustments, threshold level, equivalence scales, and scale adjustments for the aged. In addition, we consider the combined effect of the various elements of the SPM threshold measure. These effects (in percentage points) on the SPM poverty rate of the aged are given in Table 8.

Housing-status adjustments. The SPM thresholds depend on housing-status group. The groups are units that have owners with mortgages, owners without mortgages, and renters. All thresholds for units that have owners without mortgages are 15 percent lower than they would be if the thresholds did not depend on housing status. Correspondingly, the thresholds for units that have owners with mortgages and renters are 3 percent and 1 percent higher than they would be if the thresholds did not depend on housing status.³⁸

To estimate the effect of housing-status adjustments, we remove those adjustments from the SPM thresholds and compare SPM poverty with the poverty that results when we use those modified thresholds. We find that the housing-status adjustment decreases the poverty rate by a substantial 2.8 percentage points (Table 8).³⁹ Almost 60 percent of poor people in the absence of this adjustment are in units that have owners with no mortgages; the adjustment markedly lowers their thresholds and moves many of those people out of poverty. The adjustment decreases the poverty rate for those in units that have owners with no mortgages by 5.4 percentage points.⁴⁰ For people

in units that have owners with mortgages or those in units that have renters, there are small increases in the poverty rates.

Geographic adjustments. The SPM thresholds are adjusted to reflect geographic differences in living costs. The adjustment factors depend on housing-status group and area rent. Rent data for more than 300 areas are from the American Community Survey. For a given housing-status group, the geographic adjustment factor is derived by multiplying an area's rent index value by the group's share of housing (shelter + utilities) expenditures in its threshold and adding that product to the group's nonhousing share. The rent index is the ratio of the area's rent to the national average rent.⁴¹

The rent-index values range from about .60 to about 1.90. The housing shares of units that have owners with mortgages, owners without mortgages, and renters are .507, .401, and .497, respectively (Bureau of Labor Statistics 2012). For adults aged 65 or older, the geographic adjustment factors average about 1.01 and range from .80 to 1.48.

We remove these geographic adjustments from the SPM thresholds and compare SPM poverty with the poverty that results when we use those modified thresholds.⁴² We find that the geographic adjustment has very little effect on the overall poverty rate of the aged (Table 8). The adjustment does move a sizable number of people into poverty and a sizable number out of poverty. It raises thresholds for people in higher-cost areas and thus moves some of them into poverty; on the other hand, it lowers thresholds for people in lower-cost areas and thus moves some of them out of poverty. It increases poverty in two regions (the Northeast and West) and decreases poverty in the other two regions (the Midwest and South).⁴³ The adjustment decreases poverty substantially for people living outside MSAs.

Threshold level. With no housing-status adjustment and no geographic adjustment, the SPM threshold for the two-adult two-child unit for 2011 would have been \$25,000;⁴⁴ the two-adult two-child official threshold for 2011 was \$22,811. Thus, for this base unit, the official threshold is only 91.24 percent of the SPM threshold.

To estimate the effect of the threshold-level difference, we remove that difference by multiplying each unit's SPM threshold by .9124. We then compare SPM poverty with the poverty that results when we use

Table 8.
Effect on the SPM poverty rate of individual features of the SPM threshold for people aged 65 or older, 2011

Threshold feature	Change in poverty rate (percentage points)
Housing-status adjustment	-2.8
Geographic adjustment	-0.1
Threshold level	2.8
Equivalence scale	1.3
Combined effect of all SPM threshold features	^a 1.6

SOURCE: The public-use version of the 2012 CPS/ASEC.

a. Because of the interaction effect and rounding, this value does not equal the sum of the individual changes.

those modified thresholds. This change increases the poverty rate for the aged by a substantial 2.8 percentage points (Table 8).

Equivalence scales. There are substantial differences between the official and SPM equivalence scales. Both scales depend on unit size and number of unit children, but depend on those two factors in somewhat different ways. The official scale also depends on the age of the unit head; small units with aged heads have lower scale values than corresponding units with non-aged heads.

First, we estimate the total effect of using the SPM equivalence scale on poverty of the aged. We then estimate the role of the official threshold's differential treatment of small aged and nonaged units in the total effect of using the SPM scale.

We incorporate the official equivalence scale into the SPM thresholds as follows. For each poverty measure, the equivalence scale value is set equal to 1.00 for a two-adult two-child unit. For each unit type, we compute the ratio of the official scale value to the SPM scale value, where unit type is defined by unit size, number of unit children, and whether the unit head is at least age 65. We next multiply each unit's SPM threshold by the ratio of scale values to get modified thresholds. We find that using the SPM equivalence scale increases the poverty rate for the aged by 1.3 percentage points (Table 8), an increase of 0.5 million people.

We now turn to the role of the differential treatment of aged units. For one-person units, the official threshold value for people aged 65 or older is 92.19 percent of the threshold for those younger than age 65. For two-adult no-child units, the official threshold for a unit with the head aged 65 or older is 90.26 percent of the threshold for a unit with the head younger than age 65. For one-adult one-child units, the threshold for a unit with the head aged 65 or older is 99.63 percent of the threshold for a unit with the head younger than age 65. That differential treatment of the aged in the official scale plays an important role in the effect on poverty of using the SPM equivalence scale. We incorporate the differential treatment of the aged into the SPM thresholds as follows. For each aged SPM unit, we multiply the unit's SPM threshold by the appropriate adjustment factor (.9219, .9026, or .9963) to get modified thresholds. We find that removing the differential treatment of the aged increases their poverty rate by 2.2 percentage points.⁴⁵ Recall that the overall effect of using the SPM equivalence scale increases

the poverty rate for aged adults by 1.3 percentage points. Thus, properties of the SPM equivalence scale other than the absence of differential treatment of the aged cause a *decrease* in the poverty rate for the aged of 0.9 percentage points (2.2 – 1.3). The key property is that the SPM equivalence scale has a relatively low scale value for one-person units (shown below).

The overall effect of using the SPM equivalence scale reflects (1) the effect of the differential treatment of the aged and (2) the differences between the SPM equivalence scales and the official scales for the nonaged. About five-sixths of the aged population is in either a one-person or two-adult no-child unit. For nonaged two-adult no-child units, the SPM and official equivalence scale values are about the same (.655 and .660). On the other hand, for nonaged one-person units, the SPM scale value (.463) falls short of the official scale value (.513) by about 10 percent; this shortfall decreases poverty for one-person units.

The shortfall is also reflected in the equivalence scale effects on married and nonmarried people. About five-sixths of the aged married population are in two-adult no-child units, and about five-sixths of the aged nonmarried population are in one-person units. Using the SPM equivalence scale affects married and nonmarried people quite differently. The poverty rate for married people increases by 2.1 percentage points, but the rate for nonmarried people shows little change.⁴⁶

All threshold elements. We can examine the combined effect on aged poverty of the housing and geographic adjustments, threshold level, and equivalence scale. For each SPM unit, we replace the SPM threshold with the official threshold, which depends on SPM unit size, number of unit children, and whether the unit head is at least age 65. We then compare SPM poverty with the poverty that results when we use those modified thresholds, but continue to use the SPM resource measure and SPM units.

We find that using the SPM thresholds increases aged poverty by 1.6 percentage points (Table 8). The sum of the four individual threshold component effects—(1) housing adjustment (decreases poverty rate by 2.8 percentage points), (2) geographic adjustment (decreases poverty by 0.1 points), (3) threshold level (increases poverty by 2.8 points), and (4) equivalence scale (increases poverty by 1.3 points)—is a poverty rate increase of 1.2 percentage points. Thus, the interaction effect is a poverty rate increase of 0.4 percentage points (1.6 – 1.2).

Effects of Unit Definition

We can compare official poverty of the aged (65 or older) with the poverty that results when we use the SPM unit, but use the official resource and threshold concepts.⁴⁷ We find that replacing the official unit with the SPM unit reduces the poverty rate for aged adults by 0.3 percentage points (Table 9). For the total population, the reduction is a much larger 1.4 percentage points.⁴⁸

The majority of aged adults stay in the same unit, that is, their SPM unit is the same as their official unit. Only about 2.5 percent of them end up in a new unit, that is, in an SPM unit that differs from their official unit. Some 95 percent of those new-unit adults end up in larger SPM units, that is, their SPM unit is larger than their official unit.⁴⁹ Replacing the official unit with the SPM unit moves about an eighth of those new-unit adults out of poverty; a very small number moves into poverty. In larger units, greater resource sharing and economies of scale tend to reduce the number of people in poverty.

Effects of All Components of the SPM

For aged adults, the SPM poverty rate exceeds the official rate by 6.4 percentage points. The combined effect of all changes in the resource measure (from the official to the SPM) increases the poverty rate by 5.5 percentage points. The combined effect of all the changes in the threshold measure increases the poverty rate by 1.6 percentage points. On the other hand, replacing the official unit with the SPM unit reduces the poverty rate by 0.3 percentage points. The sum of the resource, threshold, and unit effects ($5.5 + 1.6 - 0.3$) is 6.8 percentage points. Thus, the interaction effect in this case is -0.4 percentage points ($6.4 - 6.8$).

Table 9.
Effect on the SPM poverty rate of features of the SPM for people aged 65 or older, 2011

SPM feature	Change in poverty rate (percentage points)
All resources	5.5
All thresholds	1.6
Unit	-0.3
Combined effect of all SPM features	^a 6.4

SOURCE: The public-use version of the 2012 CPS/ASEC.

a. Because of the interaction effect and rounding, this value does not equal the sum of the individual changes.

Summary of Empirical Findings

First, we summarize our comparisons of official and SPM poverty estimates. Then, we summarize our analysis of the effects of the various features of the SPM on poverty of the aged.

Comparison of Official and SPM Estimates

We find that for the total population under study, the SPM poverty rate (16.1 percent) exceeds the official rate (15.1 percent). For broad age groups, the SPM and official measures give quite different results. Compared with the official measure, the SPM shows much *more* poverty for the aged—those aged 65 or older (an increase in the poverty rate from 8.7 percent to 15.1 percent) and much *less* poverty for children—those younger than age 18 (a decrease from 22.3 percent to 18.2 percent). For aged adults, we also look at poverty rates for narrow age subgroups (65–69, 70–74, 75–79, and 80 or older). For each of these subgroups, the SPM poverty rate exceeds the official rate.

For the total population, the SPM deep poverty rate (5.2 percent) *falls short* of the official measure deep poverty rate (6.7 percent). For broad age groups, the SPM and official measure give quite different results for deep poverty. Compared with the official measure, for deep poverty (as well as for poverty), the SPM shows a much higher rate for aged adults and a much lower rate for children.

Switching to the SPM moves 7.7 percent of the aged population into poverty, but moves 1.4 percent out of poverty. Much of this movement into and out of poverty occurs near the poverty line. We examine poverty of aged adults for various demographic and socioeconomic groups (Table 6). For all of the groups shown in this table, SPM poverty exceeds official poverty.

The percentage point increases in poverty rates (the SPM rate minus the official rate) are larger for those in units that have owners with mortgages than for those in units that have owners without mortgages or those in units that have renters, larger for people residing inside MSAs than for those residing outside MSAs, and larger for married people than for those not married.

Effects of SPM Features on Poverty of the Aged

For the group aged 65 or older, the SPM poverty rate (15.1 percent) exceeds the official poverty rate (8.7 percent) by 6.4 percentage points.

The combined effect of all the changes in the resource measure is an increase in the poverty rate of 5.5 percentage points. Of the subtractions of taxes and other nondiscretionary expenses, only the subtraction of MOOP expenses results in a large increase in the measured poverty rate (7.1 percentage points). This effect is substantially larger than that of any other change in resource measure, threshold measure, or unit definition. Of the additions of noncash transfers and refundable tax credits, the addition of housing subsidies produces the largest decrease in the poverty rate (1.2 percentage points).

The combined effect of all the changes in the threshold measure increases the poverty rate by 1.6 percentage points. Raising the threshold level and using the SPM equivalence scale increase the poverty rate by 2.8 percentage points and 1.3 percentage points, respectively. On the other hand, the housing-status adjustment decreases the poverty rate by 2.8 percentage points.

Replacing the official unit with the SPM unit reduces the poverty rate slightly, by 0.3 percentage points.

Concluding Comments

The SPM produces a picture of who is counted as poor that is quite different from that produced by the official poverty measure. Thus, one's view regarding the relative merits of the two poverty measures is quite relevant to his or her views regarding appropriate public policy. For the aged population, key public policies include those affecting Social Security, Medicare, Medicaid, and Supplemental Security Income.

The effects of certain types of government policies on the economic well-being of the low-income population would be better measured using the SPM than the official measure. For example, consider policies that eliminate Social Security payroll taxes for aged workers or increase SNAP benefits. The effects of these policies would be reflected in SPM estimates, but not in official poverty estimates.

Additional research on the SPM should prove very fruitful. We need further research evaluating the SPM and testing alternative methods of improving it. Research is needed on components of both the resource and threshold measures. For example, research on the valuation of work expenses, adjustments for the underreporting of income and expenses, and geographic adjustments of thresholds should be given high priority.

In addition, it would be worthwhile to conduct more research on how and why the SPM and official poverty estimates differ. This research could focus on specific groups such as children and nonaged adults.

Appendix

The sources of the dollar values for the various in-kind benefits, refundable tax credits, tax liabilities, and other nondiscretionary expense items given in the CPS/ASEC data file are discussed in this Appendix. We begin by discussing in-kind benefits and taxes and refundable tax credits.

- **Housing subsidies.** The CPS/ASEC collects information on reciprocity, but not on amounts received. To estimate amounts of such assistance, the Department of Housing and Urban Development program rules are applied to CPS households.
- **Low-Income Home Energy Assistance Program (LIHEAP).** The CPS/ASEC collects information on amounts received.
- **National School Lunch Program.** The CPS/ASEC collects information on reciprocity, but not on amounts received. To value benefits, the Census Bureau uses the amount of the cost per lunch from the Department of Agriculture's Food and Nutrition Service.
- **Supplemental Nutrition Assistance Program (SNAP).** The CPS/ASEC collects information on amounts received.
- **Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).** The CPS/ASEC collects information on reciprocity, but not on amounts received. To value the benefits, the Census Bureau uses program information from the Department of Agriculture.
- **Taxes and refundable tax credits.** The CPS/ASEC does not collect information on taxes and refundable tax credits, but relies on a tax calculator to simulate those data. The calculator is a computer program that incorporates the main features of federal and state tax laws. These simulations also use a statistical match of the CPS/ASEC to the Internal Revenue Service's Statistics of Income microdata file of tax returns.

We conclude by discussing other necessary expenses that are subtracted from resources.

- **Child support paid.** The CPS/ASEC collects information on amounts paid.

- **Medical out-of-pocket (MOOP) expenses.** The CPS/ASEC collects information on amounts paid for (1) health insurance premiums; (2) over-the-counter health-related products; and (3) medical care (hospital visits, medical providers, dental services, prescription medicine, vision aids, and medical supplies). Caswell and O’Hara (2010) conclude that CPS/ASEC estimates of MOOP expenses compare favorably to estimates from the Medical Expenditure Panel Survey (MEPS) and the Survey of Income and Program Participation (SIPP). The MEPS, in particular, devotes considerably more effort to collecting MOOP expenses than does the CPS/ASEC.
- **Work-related expenses other than childcare expenses.** The CPS/ASEC does not collect information on these work-related expenses (travel to work, tools, uniforms, and so forth). Information on amounts of such work expenses from the most recent SIPP is used to estimate those expenses for workers in the CPS/ASEC.
- **Childcare expenses.** The CPS/ASEC collects information on amounts of such expenses (any type of childcare while parents are at work).

Notes

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¹ There are two slightly different versions of the official poverty measure: (1) poverty thresholds, which are more detailed and primarily used for statistical purposes; and (2) poverty guidelines, which are a simplified version of the thresholds and primarily used for administrative purposes. In this article, we use the term “official poverty measure” to denote the poverty threshold measure. For a discussion of the two measures, see Institute for Research on Poverty (2013).

² See note 1. The poverty guideline measure is sometimes identified in legislation regarding program eligibility. The SPM is not intended to be used in this way.

³ The poverty rate is the percentage of people in a group who are classified as poor.

⁴ In its 1964 report, the President’s Council of Economic Advisors (CEA) set forth a poverty threshold of \$3,000 (in 1962 dollars) for all families of two or more people and a threshold of \$1,500 for unrelated individuals. The Orshansky set of thresholds, which increase with family size, was clearly superior to the CEA alternative.

⁵ ITWG (2010).

⁶ This section draws heavily on Short (2012); refer to the report for further details.

⁷ The 2012 CPS/ASEC is a household survey, which uses a sample of about 100,000 households. The sample universe is the US civilian noninstitutionalized population; it also includes military personnel who live in a household with at least one civilian adult.

⁸ Money income in the CPS/ASEC consists of (1) earnings; (2) unemployment compensation; (3) workers’ compensation; (4) Social Security; (5) Supplemental Security Income; (6) public assistance; (7) veterans’ payments; (8) survivor benefits; (9) disability benefits; (10) pension or retirement income; (11) interest; (12) dividends; (13) rents, royalties, and estates and trusts; (14) educational assistance; (15) alimony; (16) child support; (17) financial assistance from outside of the household; and (18) other income.

⁹ For a critique of the resource-based SPM, see Meyer and Sullivan (2012). The authors favor a consumption-based poverty measure.

¹⁰ Federal outlays for Supplemental Security Income (SSI) and Temporary Assistance for Needy Families (TANF) were about \$56 billion and \$17 billion. Both of these *cash* benefit programs are also designed to assist the low-income population.

¹¹ The sources of the dollar values for the various in-kind benefit, tax, and other nondiscretionary expense items given in the CPS/ASEC data file are discussed in the Appendix. For more details, see Short (2012) and references cited therein.

¹² See note 11.

¹³ Respondents reported amounts of premium and non-premium MOOP expenses in the 2012 CPS/ASEC.

¹⁴ For families of three or more persons, the multiplier is 3. However, for families of two, the multiplier is 3.7. Without using a food plan and a multiplier, the thresholds for unrelated individuals were set at 80 percent of the corresponding thresholds for two-person families.

¹⁵ To be more precise, the expenditure around the 33rd percentile is the average of expenditures within the 30th to 36th percentile portion of the expenditure distribution.

¹⁶ The three-parameter scale value is calculated as follows:

1. SPM unit with one or two adults and no children:
unadjusted scale value = [number of adults]^{0.5}

2. SPM unit with one adult and one child or more (mostly single-parent units):
unadjusted scale value =
[1 + 0.8 + 0.5(number of children – 1)]^{0.7}

3. All other SPM units:
unadjusted scale value =
[number of adults + 0.5(number of children)]^{0.7}

In computing equivalence scale values, all people aged 18 or older and nondependent people aged 15–17 are counted as adults; all people younger than age 15 and dependent people aged 15–17 are counted as children.

In equation (2), the first child is treated as 80 percent of an adult; each additional child is treated as 50 percent of an adult. In equation (3), each child is treated as 50 percent of an adult. The numbers of adult equivalents are given by the expressions inside the brackets. For example, for a two-adult two-child unit, equation (3) shows that the number of adult equivalents is three.

Economies of scale means that whenever an additional equivalent adult is added to an SPM unit, the unit's equivalence scale value divided by the number of adult equivalents decreases. The exponents outside the brackets are the economy-of-scale factors. The smaller exponent (0.5) exhibits greater economies of scale than does the larger exponent (0.7).

The Census Bureau then adjusts all unadjusted scale values proportionally so that the adjusted scale value for the two-adult two-child unit equals 1. The base threshold level for the two-adult two-child unit is then multiplied by the adjusted scale values in deriving threshold values for the other unit types.

¹⁷ For a detailed discussion of the SPM and official unit measures, see Provencher (2011).

¹⁸ The Census Bureau's report on official poverty shows a poverty rate of 15.0 percent for 2011 (DeNavas-Walt, Proctor, and Smith 2012). That report excludes from the universe of official poverty calculations all unrelated individuals younger than age 15.

In the Census Bureau's report on the SPM (Short 2012) and in this study, those unrelated individuals are included in the universe for official and SPM poverty calculations. In these official poverty calculations, all of those unrelated individuals are counted as poor. In the SPM calculations, those individuals are assumed to share the resources of their SPM unit.

¹⁹ The SPM thresholds incorporate adjustments for geographic differences in housing costs. Because of confidentiality restrictions, the geographic information available for use in calculating SPM thresholds on the public-use data file is slightly more limited than that available for use in calculating the SPM thresholds on the Census Bureau's internal data file. Thus, this study's SPM estimates differ slightly from those in Short (2012).

²⁰ For the group aged 65 or older, the percentage distribution among four age classes (65–69, 70–74, 75–79, and 80 or older) of the poor under the SPM is similar to that for the poor under the official measure. For the 65–79 group, the mean ages of the SPM poor and the official measure poor are 72 and 71.

²¹ Refundable tax credits are very important for children.

²² For official deep poverty, gross before-tax cash income is the resource measure.

²³ For the official welfare ratio, gross before-tax cash income is the resource measure.

²⁴ To be more precise, "1.00–1.49" means equal to or greater than 1.00 but less than 1.50. Correspondingly, "0.50–0.99" means equal to or greater than 0.50 but less than 1.00.

²⁵ Eighty-one percent of them move to the 1.00–1.24 class.

²⁶ The official poverty rates of people residing inside and outside metropolitan statistical areas (MSAs) are similar.

²⁷ For example, we compute the effect on the SPM rate of adding housing subsidies to the SPM resource estimate in the following way: (1) We subtract the value of each SPM unit's housing subsidies from its SPM resource estimate. (2) For each unit, we then compare that modified resource estimate to the unit's SPM threshold to determine the modified poverty status of its members. (3) We then calculate the percentage of aged adults whose modified poverty status is poor, that is, we calculate the modified poverty rate. For this case, the modified poverty rate is 16.3 percent. (4) Finally, we compare the modified poverty rate with the SPM rate. For the aged, the SPM rate is 15.1 percent. We find that the inclusion of housing subsidies in the resource measure reduces the poverty rate by 1.2 percentage points (15.1 – 16.3).

²⁸ These program benefit amounts usually incorporate behavioral and interprogram effects.

²⁹ Government cash transfers are included as resources by both the SPM and the official poverty measure. Cash transfer programs included are (1) Social Security, (2) Supplemental Security Income (SSI), (3) unemployment insurance, (4) workers' compensation, and (5) Temporary Assistance for Needy Families (TANF) and general assistance. Including Social Security in SPM resources reduces the SPM poverty rate of the aged by 39.0 percentage points, a huge reduction. The corresponding reductions that are due to SSI and unemployment insurance are 1.3 percentage points and 0.4 percentage points. The following is an example of an interprogram effect: As specified in SSI program rules, a person's SSI payment amount decreases as that person's Social Security benefit increases.

³⁰ Federal earned income tax credit plus refundable portion of federal child tax credit plus other refundable federal credits.

³¹ Only 6 percent of the aged are in SPM units that receive refundable federal tax credits.

³² Federal individual income tax after subtracting nonrefundable tax credits.

³³ Contributions by employees and the self-employed to Old-Age, Survivors, Disability, and Hospital Insurance (OASDHI) plus retirement contributions by federal employees.

³⁴ State income tax after credits. Some amounts are negative.

³⁵ For both people with private health insurance and those with only public insurance, this MOOP-expense subtraction increases the poverty rates by about 7–8 percentage points.

³⁶ Sixty-one percent of aged adults are in SPM units that do not have either payroll tax liability or work expenses.

³⁷ Interaction effect is not the same as interprogram effect discussed earlier. See note 29.

³⁸ With no geographic adjustment, basic thresholds for two-adult two-child units are \$25,703, \$21,175, and \$25,222 for units that have owners with mortgages, owners without mortgages, and renters, respectively. With no geographic adjustment and no housing-status adjustment, the threshold for the two-adult two-child unit would be 1.2(\$20,833) or \$25,000: \$25,703, \$21,175, and \$25,222 are 103 percent, 85 percent, and 101 percent of \$25,000. See the Bureau of Labor Statistics (2012).

³⁹ Preliminary thresholds are multiplied by geographic adjustment factors to get final thresholds. Those factors depend on housing-status group and on area rent data. The inclusion of housing-status group in the calculation of geographic adjustment factors reduces the poverty rate for adults aged 65 or older by 0.2 percentage points. We include this effect as part of the effects of the geographic adjustment factors and not as part of the effects of the housing-status adjustment.

⁴⁰ Not shown in this article's tables.

⁴¹ The adjustment factors are calculated using the following formula:

$$\text{Factor}_{ah} = \text{HousingShare}_h \times (\text{Rent}_a / \text{Rent}_n) + (1 - \text{HousingShare}_h),$$
where a denotes area, h denotes housing-status group, and n denotes national. See Renwick (2011).

⁴² Renwick (2011) made such estimates for an earlier year.

⁴³ Not shown in the article's tables.

⁴⁴ Derived from Bureau of Labor Statistics (2012).

⁴⁵ Not shown in this article's tables.

⁴⁶ Not shown in this article's tables.

⁴⁷ Note that here we compare official poverty with the poverty that results when we change a specified feature of the official measure. In all our previous estimates of poverty effects, we compare SPM poverty with the poverty that results when we change a specified feature of the SPM. In the case of unit definition, the approach used here is considerably easier to implement than our usual approach.

⁴⁸ Not shown in the article's tables.

⁴⁹ For the remaining new-unit adults, their SPM unit and their official unit are of the same size, but differ in composition.

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