

POVERTY STATUS OF SOCIAL SECURITY BENEFICIARIES, BY TYPE OF BENEFIT

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In this article, we examine the 2012 poverty status of Social Security adult type of benefit (TOB) groups using both the official poverty measure and the Supplemental Poverty Measure (SPM). For each TOB group, we compare the SPM estimate with the official poverty measure estimate. In addition, we estimate the effects of various features of the SPM on poverty rates, noting why SPM estimates differ from official estimates. For each poverty measure, we also compare poverty estimates across TOB groups. We find that for both poverty measures, retired-worker beneficiaries and aged spouse beneficiaries have lower poverty rates than aged widow(er) beneficiaries and disabled-worker beneficiaries have. Compared with the official measure, the SPM shows much higher poverty rates for each of the three groups of aged beneficiaries. For the disabled-worker group, switching from the official measure to the SPM does not appreciably affect the poverty rate.

Introduction

There are numerous types of benefits (TOBs) paid under the U.S. Social Security program. Each benefit type has its own set of eligibility rules and, generally, its own benefit structure. An individual's current total income has no direct bearing on his or her eligibility for any TOB or on the benefit amount he or she receives. (One type of current income, earnings, can affect the benefit amount.) However, the different eligibility rules and benefit structures among the various Social Security benefit types are likely to be associated with sizable differences in poverty rates among TOB groups.¹ Many proposals to modify Social Security benefits affect some types of beneficiaries and not others. For example, there have been proposals to increase the widow's benefit to 75 percent of the couple's retired-worker benefits and proposals to raise the divorced wife's benefit to 75 percent of the ex-husband's benefit while he is still alive (Government Accountability Office 2012).² Policymakers are interested in knowing the poverty rates of the affected TOB groups.

The Census Bureau has published official estimates of poverty for more than 40 years.³ In 2011, the Bureau began the annual publication of alternative estimates

of poverty based on a new measure, the Supplemental Poverty Measure (SPM), which was intended to address shortcomings in the official measure of poverty. The SPM produces a different overall estimate of the number of poor people in the United States and substantially alters the composition of the population in poverty—much more aged poverty, more nonaged adult poverty, and much less child poverty.

In this article, we examine the 2012 poverty status of eight Social Security adult beneficiary groups using both of these poverty measures.⁴ For each TOB group, we compare the SPM estimates with the official poverty measure estimates. We estimate the effects of

Selected Abbreviations

| | |
|--------|---|
| BLS | Bureau of Labor Statistics |
| CE | Consumer Expenditure Survey |
| CPS | Current Population Survey |
| FCSU | food, clothing, shelter, and utilities |
| FRA | full retirement age |
| LIHEAP | Low-Income Home Energy Assistance Program |

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Selected Abbreviations—Continued

| | |
|------|---|
| MBR | Master Beneficiary Record |
| MOOP | medical out-of-pocket [expenses] |
| NSLP | National School Lunch Program |
| PHUS | Payment History Update System |
| PIA | primary insurance amount |
| SER | Summary Earnings Record |
| SNAP | Supplemental Nutrition Assistance Program |
| SPM | Supplemental Poverty Measure |
| SSA | Social Security Administration |
| SSI | Supplemental Security Income |
| TOB | type of benefit |
| WIC | Special Supplemental Nutrition Program for Women, Infants, and Children |

various features of the SPM on poverty rates, noting why SPM estimates differ from official estimates.⁵ For each poverty measure, we also compare poverty estimates across groups. The main data source for this article is the 2013 Current Population Survey (CPS), a Census Bureau household survey, supplemented with exactly matched administrative records on benefits from the Social Security Administration (SSA).

Two of the TOB groups examined in this article, retired workers and disabled workers, are primary beneficiaries.⁶ A primary beneficiary receives a benefit based on his or her own earnings in Social Security–covered employment. The other six TOB groups examined are composed of secondary beneficiaries—that is, beneficiaries who receive benefits based on the earnings record of another Social Security number holder.⁷ Spouses of living primary beneficiaries constitute two of the secondary-beneficiary groups (aged spouses and child-in-care spouses). Surviving spouses constitute three other secondary-beneficiary groups (aged widow(er)s, child-in-care widow(er)s, and disabled widow(er)s). Disabled adult children constitute the final group of secondary beneficiaries.

The official poverty measure determines a family’s poverty status by comparing a set of thresholds for families of different sizes and compositions with their before-tax cash income.⁸ That measure was developed in the early 1960s by SSA’s Mollie Orshansky (1963, 1965a, 1965b). The poverty thresholds associated with the official measure are the minimum amounts of such income that families of particular sizes and compositions need to be considered not poor.⁹ When they

were developed, the official thresholds represented the cost of a minimum food diet multiplied by three (to allow for expenditures on other goods and services). The thresholds have been kept constant in purchasing power over time by increasing their money values to keep pace with increases in the general price level.

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. Those critics also point out that the official thresholds are a very narrow measure of necessary expenditures—that is, food—and are based on very old data.¹⁰ They argue that the official thresholds also fail to adjust for geographic differences in the cost of living and that the official measure’s unit of analysis (the Census-defined family) is too narrow.¹¹

In November 2011, the Census Bureau published its first report on the new SPM (Short 2011).¹² The SPM addresses numerous concerns of official-measure critics, and its intent is to provide an improved statistical picture of poverty. The SPM income or resource measure is cash income *plus* in-kind government benefits (such as food stamps and housing subsidies) and refundable tax credits *minus* certain nondiscretionary expenses (taxes, MOOP expenses, and work expenses). The SPM thresholds are based on a broad measure of necessary expenditures—food, clothing, shelter, and utilities (FCSU)—and are based on recent, annually updated expenditure data. The SPM thresholds are adjusted for geographic differences in the cost of living. The SPM uses a broader unit of analysis that treats cohabiters and their relatives in a more satisfactory way.¹³

This article consists of seven sections, including the introduction. In the second section, we present a detailed description of the eligibility rules and benefit structures of the various types of adult Social Security benefits. In the third section, we describe the various features of the SPM (unit, resource, and threshold measures) and contrast them with the corresponding features of the official measure. The fourth section discusses our primary data source. In the fifth and sixth sections, we present an empirical examination of the 2012 poverty status of adult beneficiary groups using both poverty measures. The final section provides a summary of our empirical findings.

Among the eight TOB groups we examine, the largest four are retired workers, disabled workers, aged spouses, and aged widow(er)s. We find that for both

poverty measures, retired workers and aged spouses have the lowest poverty rates among the four large TOB groups, well below the corresponding poverty rates for the total U.S. population. For example, the SPM poverty rates for retired workers, aged spouses, and the total population are 13 percent, 13 percent, and 16 percent, respectively. For both measures, aged widow(er)s have higher poverty rates (SPM rate of 20 percent), and disabled workers have even higher poverty rates (SPM rate of 23 percent).

For aged beneficiaries, the SPM shows much higher poverty rates than the official poverty measure does. We find that for the three aged TOB groups, switching from the official poverty measure to the SPM increases estimated poverty rates by 6–7 percentage points. For each of these TOB groups, the MOOP expense deduction is by far the most important SPM feature, increasing poverty rates by 6–8 percentage points. For the disabled-worker TOB group, switching from the official measure to the SPM does not affect the poverty rate. This is because the large poverty-increasing effects of MOOP expenses (7 percentage points) and the higher SPM threshold level are offset by the poverty-decreasing effects of housing subsidies, food assistance, geographic cost-of-living adjustments, and the unit definition.

Social Security Eligibility Rules and Benefit Structures

This article examines eight adult TOB groups.¹⁴ Retired workers and disabled workers are primary beneficiaries; the other six groups are secondary beneficiaries. Some beneficiaries are dually entitled to both a primary benefit and a (higher) secondary benefit. In sorting persons into our TOB groups, we assign all dually entitled beneficiaries to the appropriate secondary beneficiary group. Four of the eight TOB groups are large; in 2012, they collectively represented 97 percent of the beneficiaries we examine: retired workers (28 million), disabled workers (9 million), aged spouses (5 million), and aged widow(er)s (7 million).¹⁵ The other four TOB groups are small, each containing 100,000–800,000 beneficiaries. The small groups are child-in-care spouses, child-in-care widow(er)s, disabled widow(er)s, and disabled adult children. Minor child beneficiaries are not examined.¹⁶

The two groups of primary beneficiaries, retired workers and disabled workers, receive monthly benefit amounts based on the primary insurance

amount (PIA) generated from their own work records. The PIA is a function of an average of past earnings (higher earnings produce a higher PIA). The other beneficiary groups examined in this article are secondary beneficiaries. A secondary beneficiary is a person who receives a benefit because of his or her relationship to a retired worker, a disabled worker, a deceased insured person, or, in some cases, an insured ex-spouse not yet receiving benefits.¹⁷ The benefit amount paid to a secondary beneficiary depends on the PIA generated from the work record of the retired worker, the disabled worker, or the insured person. For many benefit types, the amount of the benefit received is permanently reduced if it is claimed before the full retirement age (FRA). For individuals born in 1937 or earlier, the FRA is 65. For those born from 1938 through 1943, the FRA for members of each birth cohort is 2 months older than that of the prior cohort, reaching 66 for those born in 1943. The FRA is 66 for all birth cohorts from 1943 through 1954.¹⁸ Because members of later birth cohorts have older FRAs than those of earlier cohort members, the proportion of their PIA that is payable at the earliest age of eligibility declines relative to that of earlier cohort members.

To receive a retired-worker benefit, a person must be at least 62 years old. The benefit amount for a retired worker who first receives benefits at the FRA is equal to the PIA. The benefit is reduced if it is first received before the FRA, and it is augmented if it is first received after the FRA. To receive a disabled-worker benefit, a person does not have to be a certain age but does have to have a health problem severe enough to meet SSA's definition of disability. The benefit amount is equal to the disabled worker's PIA and is not adjusted for the age at which the benefit is first received. At the FRA, a disabled worker is automatically reclassified as a retired worker.

Two of the secondary beneficiary groups examined in this article consist of spouses of living persons. An individual who is aged 62 or older and is married to a retired or disabled worker is eligible to receive an aged spouse benefit. Someone who is aged 62 or older and is divorced from a retired worker, a disabled worker, or a living insured person aged 62 or older is also eligible to receive an aged spouse benefit, as long as the marriage to the worker or insured person lasted 10 years or more. (Later in this article, we present separate poverty estimates for nondivorced and divorced aged spouse beneficiaries.) A person of any age who is

married to a retired or disabled worker and who is caring for the worker's child is eligible to receive a child-in-care spouse benefit (the child must be younger than 16 or have a disability that began before age 22). The benefit amount for an aged spouse who first receives benefits at the FRA is equal to the PIA multiplied by 0.5 (thus, a worker generally receives an amount twice as large as his or her spouse or ex-spouse); the benefit amount is reduced if first received before the FRA. For a child-in-care spouse benefit, the amount is equal to the PIA multiplied by 0.5 and is not adjusted for the age at which the benefit is first received.

Three of the secondary beneficiary groups examined in this article consist of survivors of deceased insured persons. A widow(er) aged 60 or older is eligible for an aged widow(er) benefit. A divorced person who is aged 60 or older and whose ex-spouse is deceased is also eligible to receive an aged widow(er) benefit, as long as the marriage to the ex-spouse lasted 10 years or more. (Later in this article, we present separate poverty estimates for nondivorced and divorced aged widow(er) beneficiaries.) A widow(er) of any age who is caring for the deceased spouse's child is eligible for a child-in-care widow(er) benefit; divorced persons who survive their ex-spouses can qualify for child-in-care widow(er) benefits. A widow(er) aged 50–59 and disabled is eligible for a disabled widow(er) benefit; divorced persons who survive their ex-spouses can also qualify for disabled widow(er) benefits.

An aged widow(er) receives a benefit equal to his or her deceased spouse's PIA if it is first received at the FRA (the secondary benefit is reduced if first received prior to the FRA).¹⁹ A disabled widow(er) receives a benefit equal to his or her deceased spouse's PIA multiplied by 0.715, and a child-in-care widow(er) receives a benefit equal to his or her deceased spouse's PIA multiplied by 0.75; there is no age-at-first-receipt adjustment for either TOB.

The final group of secondary beneficiaries examined in this article consists of those who receive disabled adult child benefits. These benefits are paid to the children of retired workers, disabled workers, or deceased insured persons. Disabled adult children are aged 18 or older and have a disability that began prior to age 22. The benefit amount is equal to the primary worker's PIA multiplied by 0.5 (if the worker is alive) or equal to the primary worker's PIA multiplied by 0.75 (if the insured person is deceased). The benefit amount is not adjusted for the age at which the benefit is first received.

Some secondary benefits require a person to be unmarried. Marriage generally prevents payment of an aged divorced spouse benefit, a widow(er) benefit based on having a child in care, or a disabled adult child benefit. A remarried person cannot collect an aged widow(er) benefit unless his or her current marriage occurred after age 60. For example, a woman who lost her first husband and who remarried before age 60 would not be eligible for an aged widow benefit on the first husband's record as long as she was married to her second husband. A married person cannot receive a disabled widow(er) benefit unless the current marriage occurred after age 50 and after the disablement.

When a person's primary benefit exceeds his or her secondary benefit, only the primary benefit is paid. This feature of the law makes comparisons of demographic groups with TOB groups inappropriate. Divorced aged spouse beneficiaries are an important example. Most aged women with a marital status of divorced do not receive divorced aged spouse benefits. This is partly because many divorced women have earnings histories that entitle them to higher primary benefits.

Additional factors may further affect the benefit amounts certain beneficiaries receive. For instance, Social Security's earnings tests reduce benefits if earnings exceed certain thresholds. Also, the law specifies a maximum amount that can be paid to a family based on the earnings record of one primary beneficiary.

As stated earlier, a dually entitled beneficiary is a person who is entitled to a primary benefit and a *higher* secondary benefit. The primary benefit is paid in full but the secondary benefit is paid only in the amount by which it exceeds the primary benefit. Although a dually entitled beneficiary receives a primary benefit, his or her total Social Security benefit is equal to the full secondary benefit. An individual may be eligible for two or more secondary benefits, but he or she generally only receives the highest secondary benefit. In that case, an individual is not considered dually entitled unless he or she also is entitled to a primary benefit. Later in this article, we present separate estimates for dually entitled and not dually entitled beneficiaries in the aged spouse and aged widow(er) TOB groups.

From a policy perspective, we believe it makes more sense to classify dually entitled persons into TOB groups as secondary beneficiaries. This is

because a change in Social Security law that, for example, increases primary benefits would have no effect on the total benefit amounts received by many dually entitled beneficiaries. An increase in secondary benefits, however, would affect the total benefit amounts of all these dually entitled beneficiaries.

Key Features of the Two Poverty Measures: Descriptions and Comparisons

Measurement of poverty within the population has three critical elements:

1. *Unit* measures. Which individuals in a household can reasonably be expected to share resources?
2. *Resource* measures. What should be counted as resources?
3. *Threshold* measures. What minimum resources are required to be considered nonpoor?

In this section, we consider each of those elements in turn.²⁰ For the SPM and official poverty estimates examined in this article, we use data from the public-use version of the 2013 Annual Social and Economic

Supplement to the CPS (which reports income information for calendar year 2012), supplemented with exactly matched administrative records from SSA. For the remainder of this article, we refer specifically to the 2013 Annual Social and Economic Supplement when we mention the CPS. In the following three subsections, we describe the SPM and official-measure elements as they were implemented for the 2013 CPS. Box 1 summarizes the conceptual differences between the two poverty measures.

Unit Measures

The official measure uses the Census-defined family as its unit of analysis. This unit includes all persons 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 persons at an address who are likely to share resources. In particular, those proponents believe that the official-unit concept does not properly treat cohabiters and their relatives.

| Box 1. Poverty measure concepts: Official and Supplemental Poverty Measure (SPM) | | |
|---|--|---|
| Concept | Official poverty measure | SPM |
| Unit definition | Conventional definition: Families and unrelated individuals | Broadened definition: All related individuals who live at the same address, including any cohabiters and their relatives and foster children |
| Resource measure | Before-tax cash income | Cash income <i>plus</i> noncash transfers (such as food stamps and housing subsidies) and refundable tax credits <i>minus</i> income and payroll taxes, medical out-of-pocket expenses, and work expenses (includes childcare expenses) |
| Threshold level for base two-adult/two-child unit | Three times the cost of a minimum food diet (from the Department of Agriculture), updated by the U.S. Consumer Price Index | 33 rd percentile of expenditures on food, clothing, shelter, and utilities (from recent Bureau of Labor Statistics surveys) multiplied by 1.2 |
| Threshold adjustments | Implicit equivalence scale that varies by family size, composition, and age of the family head | Explicit equivalence scale that varies by unit size and composition, but not by age of unit head; also, adjustments for differences in housing costs by (1) housing status (owner with a mortgage and so forth) and (2) geographic area |

SOURCE: Adapted from Short (2013), <http://www.census.gov/prod/2013pubs/p60-247.pdf>.

Proponents of the SPM believe that the SPM unit better represents the unit that shares economic resources. The SPM unit includes all related persons at the same address, as well as any cohabiters and their relatives, and any coresident unrelated children who are cared for by the family (such as foster children).²¹ Most persons whose SPM units differ from their official units are in SPM units that are larger than their official units. In larger units, there is more resource sharing that tends to reduce the number of people in poverty.

Resource Measures

The official resource measure is family before-tax money income.²² Persons in families whose before-tax money income is less than the family's threshold are classified as poor. Proponents of the SPM believe that the official resource measure has the following major weaknesses:²³

1. It does not reflect the effects of government benefit and tax programs that alter the resources available to families and, thus, their poverty status. Those programs are in-kind public benefits, refundable tax credits, and payroll and income taxes.²⁴
2. It does not account for expenses that are necessary to hold a job and to earn income. Those expenses include transportation costs for getting to and from work and the costs of childcare for working families.²⁵
3. It also does not incorporate a deduction for MOOP expenses.²⁶

The SPM resource measure attempts to overcome the weaknesses of the official resource measure. The SPM resource measure is 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 that are not included in the thresholds (such as MOOP and work expenses). The importance of these various additions to and subtractions from cash income varies greatly across age groups.

Threshold Measures

The official measure uses a set of thresholds for families of different sizes and compositions. The threshold values depend on unit size, number of children, and age of the unit head (younger than 65; 65 or older). At the time they were developed, the official thresholds represented the cost of a minimum food diet multiplied

by three (to allow for expenditures on other goods and services).²⁷ The thresholds are updated each year using the U.S. Consumer Price Index for all items.

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

1. It is based on only one category of necessary expenditures; that is, food. 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.²⁸ The threshold levels are fixed in real or inflation-adjusted dollars and do not reflect increases over time in real spending on basic needs.
2. It does not adjust for differences in shelter and utility expenditure needs resulting from differences in unit housing status. For example, homeowners with mortgages, on average, need to make sizable mortgage payments.²⁹
3. It does not adjust for geographic differences in the cost of living, which are often large.³⁰
4. It uses family size and composition adjustments that in some cases produce questionable results. For example, some single-parent families have higher thresholds than married-couple families of the same size, implying that children require more resources than adults in certain size families. Critics of the official threshold measure believe that the evidence used in setting thresholds for aged units and for one-person nonaged units is quite weak. In addition, the fact that the equivalence scales are implicit and not transparent is a substantial weakness.³¹

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

1. SPM 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, and nonwork-related transportation). The 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' (BLS) Consumer Expenditure Survey (CE).³² The SPM thresholds for 2012 are based on 2008–2012 data from the CE. To include other basic needs in the threshold, the FCSU needs are multiplied by 1.2.³³ Over time, the thresholds are not fixed in real or inflation-adjusted dollars. Each year, the thresholds are updated using the most recent CE data.

2. SPM thresholds are adjusted for differences in shelter and utility expenditure needs resulting from differences in unit housing status.
3. The thresholds are adjusted for geographic differences in housing costs.
4. The threshold for units with two children (the base threshold) is derived from CE data as described in item 1 above. The thresholds for other unit types (differing in size and number of children) are then derived by applying an explicit equivalence scale to that base threshold.³⁴ Equivalence scales are measures of the relative cost of living for units of different sizes and compositions 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, an equivalence scale is used to adjust the threshold value for the reference unit to provide corresponding thresholds for other unit types. We use a three-parameter equivalence scale, which is described later.

Data

The main data source for this article is the 2013 Annual Social and Economic Supplement to the CPS, supplemented with exactly matched Social Security administrative records.³⁵ For each person in the CPS, an attempt was made to find his or her administrative data (for more information about the matching procedures, see Appendix A). SSA and the Census Bureau jointly developed this restricted-access data file, which can be used only for research purposes by persons authorized by the Census Bureau. Among the many socioeconomic and demographic variables included in the CPS are official measure poverty variables, SPM poverty variables, and Social Security income. All of the poverty-related variables used in this analysis are from the CPS; we use existing CPS weights. The CPS does not include reliable information on types of Social Security benefits.

The administrative data are from two benefit files—the Master Beneficiary Record (MBR) and the Payment History Update System (PHUS)—and from one earnings file—the Summary Earnings Record (SER). In this article, we use PHUS and MBR files to determine benefit reciprocity and type. Because the SER includes data for every person in the SSA

record system, we use it to establish a person's match status. The presence of a SER record indicates a match between the person's CPS record and his or her SSA earnings and benefit records; this is a *match* person. Many match persons do not have MBR or PHUS records. Most were not eligible for benefits; some were eligible but had not applied for benefits. The absence of a SER record indicates failure to find a match between the CPS record and SSA's earnings and benefit records; this is a *nonmatch* person.

Matches were found for 87 percent of persons aged 18 or older; match rates ranged from a low of 83 percent for those aged 25–34 to a high of 91 percent for those aged 70–79.³⁶ For persons aged 18 or older who report Social Security income in the CPS, the match rate is 91 percent.

As stated earlier, this article presents estimates of poverty by type of Social Security adult beneficiary. Most of these beneficiaries are match persons, but some are nonmatch persons. In the following paragraphs, we briefly discuss how we identify match persons as Social Security beneficiaries and determine their TOB. Then, we discuss the corresponding process for nonmatch persons.

For *match* persons, we use PHUS and MBR files to determine whether a person received Social Security benefits during 2012; that is, is a 2012 Social Security beneficiary. For match beneficiaries, we derive benefit type, divorced beneficiary status, and dual entitlement status from the MBR files. For further details, see Appendix B. We use these derived variables to assign match Social Security beneficiaries to TOB groups.

For some match persons, there are discrepancies between the administrative record and the CPS benefit information. For example, Table 1 shows that 6.4 million (or 14 percent) of the 46.4 million match persons aged 18 or older with SSA records as beneficiaries do not report Social Security income to the CPS.³⁷ For disabled workers, the percentage not reporting Social Security income to the CPS is a much higher 33 percent; the corresponding figures for retired workers, aged spouses, and aged widow(er)s are 10 percent, 10 percent, and 5 percent, respectively (not shown in the article's tables). All 46.4 million of these Social Security beneficiaries are included in our poverty analysis by TOB. Under both poverty measures, the poverty rates for the 14 percent of match persons who have SSA records as beneficiaries but no CPS-reported Social Security income are substantially higher than they are for the 86 percent who do

report their Social Security income to the CPS. For example, Table 2 shows respective SPM poverty rates for those two groups of 33 percent and 13 percent. In addition, there are 3.0 million match persons aged 18 or older who are not Social Security beneficiaries but who report Social Security income to the CPS (Table 1).³⁸ These 3.0 million persons are not included in our poverty analysis by TOB. Under both poverty measures, the poverty rates for this group of 3.0 million are markedly higher than those for the match beneficiaries who also report Social Security income to the CPS (for example, SPM poverty rates of 20 percent versus 13 percent).

For *nonmatch* persons, we use the CPS to determine whether a person received Social Security benefits during 2012; that is, is a Social Security beneficiary. We designate all nonmatch persons

with CPS-reported Social Security income as Social Security beneficiaries. We impute TOB to these nonmatch beneficiaries. For nonmatch beneficiaries with an imputed TOB of aged spouse or aged widow(er), we also impute divorced beneficiary status and dual entitlement status. For further details, see Appendix B. These imputed variables are used solely to assign nonmatch Social Security beneficiaries to groups. Nonmatch Social Security beneficiaries consist of the 4.4 million CPS-reported beneficiaries with an imputed TOB code (Table 1). We include them in our analysis of poverty by TOB.

The 4.4 million nonmatch beneficiaries account for 8.6 percent of the 50.8 million (46.4 million plus 4.4 million) beneficiaries included in our poverty analysis. For the four large TOB groups (retired workers, disabled workers, aged spouses, and aged

Table 1.
Number of persons aged 18 or older by beneficiary status, data source, and match status, 2012
(in millions)

| Social Security administrative data | Total | CPS-reported Social Security income | |
|---|-------|-------------------------------------|-------|
| | | Yes | No |
| Match persons | 206.1 | 43.0 | 163.1 |
| Administrative record indicates person is a beneficiary | | | |
| Yes | 46.4 | 40.0 | 6.4 |
| No | 159.7 | 3.0 | 156.7 |
| Nonmatch persons | 30.8 | 4.4 | 26.4 |

SOURCE: Authors' calculations based on the public-use version of the 2013 CPS's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Highlighted values indicate the populations covered in the poverty analysis by type of benefit.

CPS = Current Population Survey.

Table 2.
SPM poverty rates of persons aged 18 or older, by beneficiary status, data source, and match status, 2012 (in percent)

| Social Security administrative data | Total | CPS-reported Social Security income | |
|---|-------|-------------------------------------|------|
| | | Yes | No |
| Match persons | 13.8 | 13.7 | 13.8 |
| Administrative record indicates person is a beneficiary | | | |
| Yes | 15.9 | 13.2 | 33.2 |
| No | 13.1 | 20.2 | 13.0 |
| Nonmatch persons | 25.9 | 18.9 | 27.0 |

SOURCE: Authors' calculations based on the public-use version of the 2013 CPS's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Highlighted values indicate the populations covered in the poverty analysis by type of benefit.

SPM = Supplemental Poverty Measure; CPS = Current Population Survey.

widow(er)s, the corresponding figures are 7.3 percent, 12.8 percent, 7.1 percent, and 8.6 percent, respectively (not shown).³⁹

The population of nonmatch CPS-reported beneficiaries differs markedly from the population of match CPS-reported beneficiaries. CPS-reported beneficiaries numbering 43.0 million account for 20.8 percent of the total match population aged 18 or older of 206.1 million; that is, the CPS-reported benefit receipt rate is 20.8 percent within the match population. The CPS-reported benefit receipt rate for the nonmatch population is quite a bit lower at 14.3 percent. For persons aged 25–54, the CPS-reported benefit receipt rates are higher for the nonmatch population than for the match population, but for persons aged 65 or older, the CPS-reported benefit receipt rates are much lower for the nonmatch population than for the match population (not shown). For individuals aged 18 or older, poverty rates are markedly higher for nonmatch CPS-reported beneficiaries than for match CPS-reported beneficiaries (for example, SPM poverty rates of 18.9 percent and 13.7 percent). For individuals aged 25–61, poverty rates are lower for the nonmatch CPS-reported beneficiaries than for match CPS-reported beneficiaries, but for those aged 62 or older, poverty rates are much higher for the nonmatch CPS-reported beneficiaries than for the match CPS-reported beneficiaries (not shown).

In Appendix C, we compare our numbers of adult Social Security beneficiaries (match plus nonmatch) with corresponding estimates from a 1 percent sample of SSA administrative records (Tables C-1 and C-2). In general, the two sets of estimates are similar for TOB groups and subgroups. In Appendix D, we present additional comparisons for the four largest TOB groups. Table D-1 shows average benefits by TOB group and data source for persons reported as receiving benefits in both the CPS and the PHUS. Table D-2 gives numbers of beneficiaries by match status and CPS-reported Social Security benefit status. Table D-3 gives poverty rates for the same populations covered in Table D-2.

Official Poverty Measure and SPM Estimates: A Comparison

In this section, we begin our empirical examination of the eight TOB groups. For each TOB group, we compare the SPM estimates with the official poverty measure estimates. For each measure, we also compare poverty estimates across TOB groups. In the following

section, we estimate the effects of various features of the SPM on poverty levels, noting why SPM estimates differ from the official estimates.

As stated above, the sample for our analysis of poverty by TOB includes both match beneficiaries (with and without benefits reported in the CPS) and nonmatch beneficiaries. TOB codes are used to assign beneficiaries to groups (for example, retired workers). Our poverty estimates for these groups depend solely on CPS variables such as income components and thresholds; we use the existing CPS weights. Thus, our poverty estimates for beneficiaries may be compared to those for other groups presented in recent papers published by the Census Bureau and SSA that examine official and SPM poverty estimates for 2012 (Short 2013; Bridges and Gesumaria 2015a).

We begin this section by looking at poverty for the eight TOB groups. Next, we examine deep poverty and the distribution of beneficiaries by welfare-ratio intervals. Then, we examine movements into and out of poverty. Finally, we look at poverty for various subgroups within the TOB groups.

Poverty by TOB Groups

Table 3 gives numbers and percentages of beneficiaries in poverty for the eight TOB groups.⁴⁰ For both poverty measures, retired workers and aged spouses have the lowest poverty rates of the eight TOB groups; all of the poverty rates for these two TOB groups are well below the corresponding poverty rate for the total U.S. population. For example, the SPM rates for retired workers and for the total population are 12.7 percent and 16.0 percent, respectively.⁴¹ Aged widow(er)s have the next lowest poverty rates for both poverty measures (SPM rate of 19.7 percent) followed by disabled workers and child-in-care widow(er)s (both with SPM rates of about 23.5 percent). Three small TOB groups (child-in-care spouses, disabled widow(er)s, and disabled adult children) have the highest poverty rates (about 31–38 percent).

Compared with the official poverty measure, the SPM produces higher estimated poverty rates for aged beneficiaries (retired workers, aged spouses, and aged widow(er)s). For these TOB groups, the SPM rates are 5.6–6.6 percentage points higher than the official poverty rates. (As we show later, MOOP expenses—accounted for in the SPM but not in the official measure—are very important for these aged groups.) On the other hand, the SPM and official poverty rates are similar for disabled workers.

Table 3.
Number and percentage of Social Security beneficiaries in poverty under the two poverty measures, by TOB group, 2012 (numbers in thousands)

| TOB group | Total number | Official poverty | | SPM poverty | | Percentage point difference ^a between SPM and official poverty rates |
|--------------------------------|--------------|------------------|---------|-------------|---------|---|
| | | Number | Percent | Number | Percent | |
| Primary beneficiaries | | | | | | |
| Retired workers | 28,413 | 2,018 | 7.1 | 3,608 | 12.7 | 5.6 |
| Disabled workers | 8,828 | 2,074 | 23.5 | 2,066 | 23.4 | -0.1 |
| Secondary beneficiaries | | | | | | |
| Aged spouses | 4,922 | 354 | 7.2 | 662 | 13.4 | 6.3 |
| Child-in-care spouses | 116 | 37 | 32.2 | 39 | 33.8 | 1.6 |
| Aged widow(er)s | 7,262 | 952 | 13.1 | 1,432 | 19.7 | 6.6 |
| Child-in-care widow(er)s | 206 | 48 | 23.5 | 48 | 23.5 | 0.0 |
| Disabled widow(er)s | 230 | 72 | 31.2 | 71 | 31.0 | -0.1 |
| Disabled adult children | 771 | 276 | 35.8 | 290 | 37.6 | 1.9 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

TOB = type of benefit; SPM = Supplemental Poverty Measure.

a. Percentage point differences do not necessarily equal the difference between rounded poverty rate values.

We refer to the ratio of a given unit's resources to its poverty threshold as a welfare ratio. We use the average welfare ratio of a group to indicate the average economic status of the group. For each of the four large TOB groups (retired workers, disabled workers, aged spouses, and aged widow(er)s), the average SPM welfare ratios for the SPM poor (.48–.59; not shown) are lower than the average official-measure welfare ratios for the official poor (.64–.67; not shown).

Deep Poverty by TOB Groups

People in units with resources that amount to less than 50 percent of the unit threshold are said to be in deep SPM or deep official-measure poverty.⁴² Table 4 gives numbers and percentages of people in deep poverty for the four large TOB groups. For both deep poverty measures, retired workers and aged spouses have the lowest deep poverty rates (SPM rates of 3.8 percent and 4.8 percent).⁴³ Aged widow(er)s have higher deep poverty rates for both measures (SPM rate of 5.6 percent). For both deep poverty measures, disabled workers have the highest deep poverty rates (SPM rate of 6.7 percent).

For the large TOB groups, the SPM and official deep poverty measures give rather different results. The SPM shows considerably more deep poverty for aged beneficiaries (retired workers, aged spouses,

and aged widow(er)s) than the official measure does. For those groups, the SPM deep poverty rates are 1.8–2.8 percentage points higher than the official deep poverty rates—proportionally large differences from official-measure estimates that range from 2.0 percent to 3.1 percent. For disabled workers, the SPM deep poverty rate exceeds the official deep poverty rate by only 0.8 percentage points.

For each of the four large TOB groups, the average SPM welfare ratios for the SPM deep poor (–.12 to +.06; not shown)⁴⁴ are lower than the average official-measure welfare ratios for the official deep poor (.19 to .22; not shown).

Distributions of People by Welfare-Ratio Classes and TOB Groups

Table 5 shows the percentage distributions of people in the four large TOB groups by welfare-ratio interval. People residing in units with welfare ratios less than 1.0 are in poverty, and those in units with welfare ratios of less than 0.5 are in deep poverty. For both poverty measures, disabled workers and aged widow(er)s have the lowest shares of people with welfare ratios of 2.0 or more. Compared with the official poverty measure, the SPM shows a lower share of people with welfare ratios of 4.0 or more for all four large TOB groups.

Table 4.
Number and percentage of Social Security beneficiaries in deep poverty under the two poverty measures, by selected TOB group, 2012 (numbers in thousands)

| TOB group | Total number | Official deep poverty | | SPM deep poverty | | Percentage point difference ^a between SPM and official deep poverty rates |
|--------------------------------|--------------|-----------------------|---------|------------------|---------|--|
| | | Number | Percent | Number | Percent | |
| Primary beneficiaries | | | | | | |
| Retired workers | 28,413 | 557 | 2.0 | 1,075 | 3.8 | 1.8 |
| Disabled workers | 8,828 | 525 | 5.9 | 596 | 6.7 | 0.8 |
| Secondary beneficiaries | | | | | | |
| Aged spouses | 4,922 | 96 | 2.0 | 236 | 4.8 | 2.8 |
| Aged widow(er)s | 7,262 | 227 | 3.1 | 404 | 5.6 | 2.4 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: "Deep poverty" describes individuals residing in units with resources that amount to less than 50 percent of the poverty threshold.

Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

TOB = type of benefit; SPM = Supplemental Poverty Measure.

a. Percentage point differences do not necessarily equal the difference between rounded deep poverty rate values.

Table 5.
Percentage distribution of Social Security beneficiaries by welfare-ratio^a interval and selected TOB group under the two poverty measures, 2012

| TOB 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 poverty | | | | | | | |
| Primary beneficiaries | | | | | | | |
| Retired workers | 2.0 | 5.1 | 4.6 | 5.2 | 12.5 | 35.4 | 35.2 |
| Disabled workers | 5.9 | 17.6 | 10.5 | 8.3 | 13.2 | 28.3 | 16.2 |
| Secondary beneficiaries | | | | | | | |
| Aged spouses | 2.0 | 5.2 | 4.8 | 5.1 | 12.1 | 37.5 | 33.3 |
| Aged widow(er)s | 3.1 | 10.0 | 9.7 | 11.8 | 17.8 | 31.5 | 16.1 |
| SPM poverty | | | | | | | |
| Primary beneficiaries | | | | | | | |
| Retired workers | 3.8 | 8.9 | 7.9 | 8.0 | 14.4 | 35.5 | 21.6 |
| Disabled workers | 6.7 | 16.7 | 13.9 | 10.9 | 16.9 | 25.7 | 9.2 |
| Secondary beneficiaries | | | | | | | |
| Aged spouses | 4.8 | 8.7 | 9.1 | 8.8 | 14.1 | 34.2 | 20.3 |
| Aged widow(er)s | 5.6 | 14.2 | 13.2 | 12.5 | 16.3 | 29.1 | 9.2 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

Row percentages sum to approximately 100.0.

TOB = type of benefit; SPM = Supplemental Poverty Measure.

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

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

“Movements” Into and Out of Poverty by TOB Groups

When the basis for poverty measurement changes, the composition of the population designated as poor also changes. We refer to redesignations in poverty status that are solely attributable to the switch to a different method for determining who is poor as *movements* into and out of poverty.⁴⁵

Table 6 gives percentages of people exiting poverty, staying in poverty, and entering poverty for the four large TOB groups if the criteria change from the official poverty measure to the SPM. For each of the aged beneficiary groups (retired workers, aged spouses, and aged widow(er)s), switching to the SPM moves about 7–9 percent of people into poverty and only 1–2 percent out of poverty. For disabled workers, switching to the SPM moves about 7 percent of people into poverty and about 7 percent out of poverty.

Poverty of TOB Groups by Selected Characteristics

We now examine poverty rates for selected subgroups of the four large TOB groups. Tables 7–9 show population counts and poverty rates for a number of beneficiary subgroups.

Worker beneficiaries by sex and marital status.

Men comprise 61 percent of retired workers and 53 percent of disabled workers, but only 3 percent of aged spouses and 3 percent of aged widow(er)s.⁴⁶

Table 7 shows poverty estimates for retired and disabled workers by sex and marital status.

For each sex, poverty rates for retired workers are markedly lower for married persons than for the various categories of nonmarried persons. The marital status information is from the CPS and indicates status at the time of the interview. For nonmarried retired workers, poverty rates are higher for women than for men, but for married retired workers, poverty rates of men and women are similar. For retired workers, the switch to the SPM increases poverty rates by 3–6 percentage points.

For each sex, poverty rates for disabled workers are markedly lower for the married than for the divorced and never married. For disabled workers, the switch to the SPM increases poverty rates for the married, but reduces poverty rates for the divorced, widowed, and never married.

Divorced and nondivorced beneficiaries. Divorced spouse beneficiaries account for 8 percent of aged spouse beneficiaries (Table 8).⁴⁷ For both poverty measures, poverty rates for divorced spouses are quite high and are higher than those for nondivorced aged spouses (SPM rates of 25.8 percent and 12.4 percent, respectively).

Divorced widowed beneficiaries account for about 10 percent of aged widowed beneficiaries. For both measures, poverty rates for divorced aged widow(er)s are similar to those of nondivorced aged

Table 6.
Percentage of Social Security beneficiaries defined as poor under the official measure and poverty-status effects of a shift to the SPM, by selected TOB group, 2012

| TOB group | Official poor ^a | Exit poverty ^b | Stay in poverty ^c | Enter poverty ^d | SPM poor ^e |
|-------------------------|----------------------------|---------------------------|------------------------------|----------------------------|-----------------------|
| Primary beneficiaries | | | | | |
| Retired workers | 7.1 | 1.0 | 6.1 | 6.6 | 12.7 |
| Disabled workers | 23.5 | 6.6 | 16.9 | 6.5 | 23.4 |
| Secondary beneficiaries | | | | | |
| Aged spouses | 7.2 | 1.4 | 5.8 | 7.6 | 13.4 |
| Aged widow(er)s | 13.1 | 2.0 | 11.1 | 8.6 | 19.7 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

SPM = Supplemental Poverty Measure; TOB = type of benefit.

- "Exit poverty" column plus "Stay in poverty" column.
- Official poor, but SPM nonpoor.
- Official poor and SPM poor.
- Official nonpoor, but SPM poor.
- "Stay in poverty" column plus "Enter poverty" column.

widow(er)s (SPM rates of 20.6 percent for the divorced and 19.6 percent for the nondivorced).

Dually entitled and not dually entitled beneficiaries.

Table 8 also shows that 2.9 million of 4.9 million aged spouses (about 60 percent) are dually entitled. For both measures, poverty rates for dually entitled spouses are a bit lower than the poverty rates for those who are not dually entitled (SPM rates of 12.8 percent and 14.4 percent, respectively).

Dually entitled widow(er)s account for one half of aged widow(er)s. For both poverty measures, poverty

rates for dually entitled aged widow(er)s are lower than the poverty rates for those who are not dually entitled (SPM poverty rates of 18.6 percent and 20.9 percent, respectively).

The following differences contribute to lower poverty rates for the dually entitled. On average, dually entitled aged spouses and aged widow(er)s receive somewhat higher Social Security benefits than do their counterparts who are not dually entitled. In addition, dually entitled aged spouses and aged widow(er)s have higher lifetime earnings than do their not dually entitled counterparts.

Table 7.
Number and percentage of Social Security retired worker and disabled worker beneficiaries in poverty under the two poverty measures, by sex and marital status, 2012 (numbers in thousands)

| Marital status ^a | Total number | Official poverty | | SPM poverty | | Percentage point difference between SPM and official poverty rates |
|-----------------------------|--------------|------------------|---------|-------------|---------|--|
| | | Number | Percent | Number | Percent | |
| Retired workers | | | | | | |
| <i>Men</i> | | | | | | |
| Subtotal | 17,444 | 1,037 | 5.9 | 2,041 | 11.7 | 5.8 |
| Married | 13,002 | 548 | 4.2 | 1,352 | 10.4 | 6.2 |
| Divorced | 1,654 | 185 | 11.2 | 236 | 14.3 | 3.1 |
| Widowed | 2,027 | 182 | 9.0 | 302 | 14.9 | 5.9 |
| Never married | 762 | 122 | 16.0 | 152 | 19.9 | 3.9 |
| <i>Women</i> | | | | | | |
| Subtotal | 10,968 | 981 | 8.9 | 1,567 | 14.3 | 5.4 |
| Married | 6,236 | 289 | 4.6 | 656 | 10.5 | 5.9 |
| Divorced | 1,906 | 274 | 14.4 | 329 | 17.2 | 2.8 |
| Widowed | 2,052 | 272 | 13.2 | 390 | 19.0 | 5.8 |
| Never married | 774 | 146 | 18.9 | 194 | 25.0 | 6.1 |
| Disabled workers | | | | | | |
| <i>Men</i> | | | | | | |
| Subtotal | 4,655 | 1,010 | 21.7 | 1,085 | 23.3 | 1.6 |
| Married | 2,478 | 358 | 14.5 | 504 | 20.3 | 5.8 |
| Divorced | 1,020 | 279 | 27.4 | 248 | 24.3 | -3.1 |
| Widowed | 168 | 31 | 18.7 | 30 | 17.7 | -1.0 |
| Never married | 990 | 341 | 34.5 | 304 | 30.7 | -3.8 |
| <i>Women</i> | | | | | | |
| Subtotal | 4,172 | 1,064 | 25.5 | 981 | 23.5 | -2.0 |
| Married | 2,082 | 275 | 13.2 | 349 | 16.7 | 3.5 |
| Divorced | 1,092 | 430 | 39.4 | 336 | 30.7 | -8.7 |
| Widowed | 259 | 77 | 29.6 | 71 | 27.3 | -2.3 |
| Never married | 739 | 282 | 38.1 | 226 | 30.6 | -7.5 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Data do not include dually entitled beneficiaries.

Subtotals of numbers of beneficiaries do not necessarily equal the sums of the rounded numbers for the component groups.

SPM = Supplemental Poverty Measure.

a. Status at the time of Current Population Survey interview.

Retired worker beneficiaries by disability conversion status. Disabled-worker beneficiaries are automatically converted to retired-worker beneficiaries when they reach the FRA. In Table 9, we compare the poverty rates of these converted retired workers to the poverty rates of (1) nonconverted retired workers and (2) disabled workers.⁴⁸ We restrict our analysis to match beneficiaries.⁴⁹

The poverty rates for converters are substantially higher than those for nonconverters are (SPM rates of 16.8 percent and 12.2 percent, respectively).⁵⁰ However, poverty rates for converters are much lower than the rates for disabled-worker beneficiaries are (SPM rates of 16.8 percent and 23.8 percent, respectively).⁵¹ Switching to the SPM increases poverty rates for converters and nonconverters by 5–6 percentage points.

Table 8.
Number and percentage of Social Security aged spouse and aged widow(er) beneficiaries in poverty under the two poverty measures, by divorce and dual entitlement statuses, 2012 (numbers in thousands)

| Divorce and dual entitlement status | Total number | Official poverty | | SPM poverty | | Percentage point difference between SPM and official poverty rates |
|-------------------------------------|--------------|------------------|---------|-------------|---------|--|
| | | Number | Percent | Number | Percent | |
| <i>Aged spouses</i> | | | | | | |
| Not divorced | 4,542 | 245 | 5.4 | 564 | 12.4 | 7.0 |
| Divorced ^a | 379 | 109 | 28.7 | 98 | 25.8 | -2.9 |
| Not dually entitled | 1,998 | 154 | 7.7 | 288 | 14.4 | 6.7 |
| Dually entitled | 2,924 | 200 | 6.8 | 374 | 12.8 | 6.0 |
| <i>Aged widow(er)s</i> | | | | | | |
| Not divorced | 6,550 | 859 | 13.1 | 1,285 | 19.6 | 6.5 |
| Divorced ^a | 712 | 93 | 13.0 | 147 | 20.6 | 7.6 |
| Not dually entitled | 3,611 | 553 | 15.3 | 754 | 20.9 | 5.6 |
| Dually entitled | 3,651 | 399 | 10.9 | 678 | 18.6 | 7.7 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: SPM = Supplemental Poverty Measure.

a. Refers to individuals receiving benefits as divorced persons; they may report a marital status other than divorced in the Current Population Survey.

Table 9.
Number and percentage of Social Security primary beneficiaries in poverty under the two poverty measures, by TOB group and disability conversion status, 2012 (match persons only; numbers in thousands)

| TOB group and conversion status | Total number | Official poverty | | SPM poverty | | Percentage point difference ^a between SPM and official poverty rates |
|---------------------------------|--------------|------------------|---------|-------------|---------|---|
| | | Number | Percent | Number | Percent | |
| Retired workers | | | | | | |
| Converters | 1,548 | 189 | 12.2 | 260 | 16.8 | 4.6 |
| Nonconverters | 24,797 | 1,649 | 6.6 | 3,015 | 12.2 | 5.5 |
| Disabled workers | 7,696 | 1,857 | 24.1 | 1,832 | 23.8 | -0.3 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Data do not include dually entitled beneficiaries.

TOB = type of benefit; SPM = Supplemental Poverty Measure.

a. Percentage point differences do not necessarily equal the difference between rounded poverty rate values.

Effects of Various Features of the SPM on the Poverty of TOB Groups

The changes in measured poverty of the TOB groups can be attributed to specific features of the SPM. We now consider the effects of the SPM's resource, threshold, and unit measures for the four large TOB groups.

Effects of Elements of the Resource Measure

In the following three subsections, we (1) consider the effects of noncash transfers and refundable tax credits, (2) examine the effects of taxes and other nondiscretionary expenses, and (3) analyze the combined effect of all of these resource measure elements.

Noncash transfers and refundable tax credits. For each of the six noncash (in-kind) benefit or tax-credit programs, we compare SPM poverty estimates with those that result when the benefits of the program are subtracted from the resource measure but the SPM thresholds and SPM units are unchanged.⁵² We view the change in poverty as the result of a specified change in the way poverty is measured.

Alternatively, we could interpret the change in poverty as the effect of a change in program policy for a given measure of poverty, namely, the effect on SPM poverty of introducing the program. Our estimate of the change in resources that results when the program is introduced does not attempt to account for changes in resource components that are due to the program's behavioral (work effort, saving, and so forth) and interprogram effects. (An interprogram effect exists when program rules specify that the benefit amount of one program affects the benefit amount or tax liability amount of another benefit or tax program.) Our estimate of the change in resources simply equals the amount of program benefits.⁵³

Box 2 summarizes the derivation of the SPM resource concept. The SPM resource measure includes the following in-kind benefit programs: (1) housing subsidies, (2) the Low-Income Home Energy Assistance Program (LIHEAP), (3) the National School Lunch Program (NSLP), (4) the Supplemental Nutrition Assistance Program or SNAP (formerly known as the Food Stamp Program), and (5) the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).⁵⁴ The SPM resource measure also includes the following refundable tax credits: the earned income tax credit and the additional federal childcare tax credit.⁵⁵

Five in-kind benefit programs and the refundable tax credit program are considered here. In Table 10, the top panel gives the percentage point decreases in the SPM poverty rate attributed to each program for each of the large TOB groups. For the aged TOB groups (retired workers, aged spouses, and aged widow(er)s), only two of the programs—SNAP and housing subsidies—have effects on SPM poverty in excess of 0.2 percentage points. SNAP benefits and housing subsidies respectively reduce measured poverty rates by 0.6–1.0 and 0.8–1.1 percentage points for aged beneficiaries. SNAP benefits and housing subsidies target low-income aged and nonaged persons. Refundable tax credits, the NSLP, and WIC are intended to help low-income nonaged persons. LIHEAP is not large enough to have much effect on the poverty rate of aged beneficiaries. For the aged TOB groups, the sum of the six individual effects is modest (1.8–2.4 percentage points).

For disabled workers, the effects of these programs are considerably larger. SNAP benefits and housing subsidies each reduce measured poverty by 2.9 percentage points. Refundable tax credits reduce the poverty rate by 0.9 percentage points. The sum of the six individual effects is a sizable 7.2 percentage points.

Box 2. Deriving SPM unit resources

SPM resources = money income from all sources—

Plus:

- Housing subsidies
- Low-Income Home Energy Assistance Program (LIHEAP)
- National School Lunch Program (NSLP)
- Supplemental Nutrition Assistance Program (SNAP)
- Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
- Refundable tax credits (such as earned income tax credits (EITC))

Minus:

- Federal individual income taxes
- State individual income taxes
- Payroll taxes
- Child support paid
- Medical out-of-pocket (MOOP) expenses
- Work expenses (includes childcare expenses)

SOURCE: Adapted from Short (2013), <http://www.census.gov/prod/2013pubs/p60-247.pdf>.

NOTE: SPM = Supplemental Poverty Measure.

Table 10.**Percentage point changes in the SPM poverty rate attributed to individual additions to and subtractions from SPM resources, by selected TOB group, 2012**

| SPM resource addition or subtraction | Primary beneficiaries | | Secondary beneficiaries | |
|--|-----------------------|------------------|-------------------------|-----------------|
| | Retired workers | Disabled workers | Aged spouses | Aged widow(er)s |
| Poverty-reducing components | | | | |
| Additions | | | | |
| Refundable tax credits | -0.2 | -0.9 | -0.1 | -0.1 |
| Housing subsidies | -0.9 | -2.9 | -0.8 | -1.1 |
| LIHEAP | -0.1 | -0.2 | -0.2 | -0.2 |
| NSLP | 0.0 | -0.2 | 0.0 | 0.0 |
| SNAP (formerly the Food Stamp Program) | -0.6 | -2.9 | -0.9 | -1.0 |
| WIC | 0.0 | -0.1 | 0.0 | 0.0 |
| Poverty-increasing components | | | | |
| Subtractions | | | | |
| Federal income tax | 0.1 | 0.3 | 0.1 | 0.2 |
| Payroll taxes | 0.2 | 0.5 | 0.1 | 0.1 |
| State income tax | 0.1 | 0.1 | 0.1 | 0.2 |
| Child support paid | 0.0 | 0.3 | 0.0 | 0.0 |
| MOOP expenses | 5.9 | 6.9 | 7.3 | 8.4 |
| Work expenses | 0.5 | 1.1 | 0.2 | 0.3 |
| Combined effect of all SPM additions and subtractions ^a | 4.8 | 1.5 | 5.8 | 6.8 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

SPM = Supplemental Poverty Measure; TOB = type of benefit; LIHEAP = Low-Income Home Energy Assistance Program; NSLP = National School Lunch Program; SNAP = Supplemental Nutrition Assistance Program; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children; MOOP = medical out-of-pocket.

a. Because of interaction effects and the rounding of component values, the combined-effect values do not equal the sum of the individual changes.

Government cash transfers such as Social Security benefits and Supplemental Security Income (SSI) payments are included as resources by both the SPM and the official poverty measure.⁵⁶ In Appendix F, we examine the effects of including these cash transfers as resources on official and SPM poverty rates.

Taxes and other nondiscretionary expenses. For each expense element, we compare SPM poverty rates with the poverty rates that result when we use SPM resources *plus* the expense-element amount as our resource measure but continue to use the SPM thresholds and SPM units. We view the change in poverty as the result of a specified change in the way poverty is measured.

The following six expenses are deducted in deriving SPM unit resources: (1) federal individual income tax (after nonrefundable credits), (2) payroll taxes (Old-Age, Survivors, Disability, and Health Insurance

tax payments by employees and the self-employed *plus* federal employee retirement payroll deductions), (3) state individual income tax,⁵⁷ (4) child support paid, (5) MOOP expenses, and (6) work expenses (including childcare expenses).⁵⁸

The relative impact of various types of expenses on household resources tends to vary by age. For instance, payroll taxes and work expenses affect working families. Child support payments mostly come from nonaged persons. Low-income aged units typically have no or low income-tax liabilities.

MOOP expenses are very important for aged persons but are also important for those who are nonaged. MOOP expenses include health insurance premiums *plus* out-of-pocket expenses for one's own medical care (hospital visits, medical providers, dental services, prescription medicine, vision aids, and medical supplies) and over-the-counter health-related

products.⁵⁹ Subtracting MOOP expenses from income, as with taxes and work expenses, better identifies the amount of income that the unit has available to purchase the basic bundle of goods included in the threshold.

The bottom panel of Table 10 gives the percentage point increases in the SPM poverty rates attributable to each expense item for each of the four large TOB groups. MOOP expenses have the largest effect by far; subtracting MOOP expenses in calculating the resource measure increases the measured poverty rates by 5.9–8.4 percentage points. For disabled workers, the poverty-rate increase attributed to work expenses is 1.1 percentage points; the poverty-rate increases attributed to work expenses for aged TOB groups range from 0.2 to 0.5 percentage points.

For the large TOB groups, 94–98 percent of SPM-poor beneficiaries are members of SPM units with MOOP expenses. Average MOOP expenses for those units amount to about 30 percent of their unit’s SPM poverty threshold for disabled workers and aged widow(er)s, 45 percent for retired workers, and 62 percent for aged spouses (not shown).

For the four large TOB groups, the sums of the six individual expense effects range from about 7 percentage points for retired workers to about 9 percentage points for disabled workers and aged widow(er)s.

All resource elements. Here we compare the SPM poverty rates with the poverty rates that result when we replace the SPM resource measure with the official resource measure but use the SPM thresholds and SPM units. We see in Table 10 that for aged

beneficiaries, using the SPM resource measure increases the poverty rates by 4.8 percentage points or more. For disabled workers, the corresponding increase is modest (1.5 percentage points).

The combined effect of all the differences between the SPM resource measure and the official resource measure on poverty need not equal the sum of the effects of the 12 individual differences. This is because there are interaction effects. For example, deducting either MOOP expenses or work expenses from the resource measure may move a person into poverty; this increase in poverty would be reflected in *both* the MOOP expense effect and the work expense effect.⁶⁰ The net interaction effect equals the combined resource effect *minus* the sum of the 12 individual effects. For the four large TOB groups, the interaction effects are small (0.0 to –0.6 percentage points).

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, and equivalence scales. In addition, we consider the combined effect of the various elements of the SPM threshold measure. These effects on the SPM poverty rates for the four large TOB groups are given in Table 11 (in percentage points).

Housing-status adjustments. The SPM thresholds depend on a unit’s housing status, which can be one of three types: owner with mortgage, owner without mortgage, and renter. The adjustments are based on CE data. All thresholds for units that have owners

Table 11.
Percentage point changes in the SPM poverty rate attributed to individual features of the SPM threshold, by selected TOB group, 2012

| Threshold feature | Primary beneficiaries | | Secondary beneficiaries | |
|--|-----------------------|------------------|-------------------------|-----------------|
| | Retired workers | Disabled workers | Aged spouses | Aged widow(er)s |
| Housing-status adjustment | -2.0 | -1.5 | -3.0 | -3.9 |
| Geographic adjustment | 0.2 | -1.7 | -0.3 | -0.6 |
| Threshold level | 1.7 | 3.1 | 1.6 | 2.7 |
| Equivalence scale | 1.1 | -0.6 | 1.8 | -0.1 |
| Combined effect of all SPM threshold features ^a | 1.3 | -0.6 | 1.1 | -1.0 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

SPM = Supplemental Poverty Measure; TOB = type of benefit.

a. Because of interaction effects and the rounding of component values, the combined-effect values do not equal the sum of the individual changes.

without mortgages are 14 percent lower than they would be if the thresholds did not depend on housing status. Correspondingly, thresholds for units that have owners with mortgages and renters are respectively 3 percent and 1 percent higher than they would be if the thresholds did not depend on housing status.⁶¹

To estimate the effect of housing-status adjustments, we remove them from the SPM thresholds and compare the SPM poverty rates with the poverty rates that result when we use the modified thresholds. We find that the housing-status adjustment *decreases* the poverty rates of aged beneficiaries (retired workers, aged spouses, and aged widow(er)s) by 2.0–3.9 percentage points.⁶² For each of these three TOB groups, about 60 percent of persons who would be defined as poor in the absence of this adjustment reside in units that have owners without mortgages; the adjustment markedly lowers their thresholds and moves many of them out of the poverty population. The adjustment decreases the poverty rates of aged beneficiaries in units that have owners without mortgages by 4.1–7.6 percentage points. For aged beneficiaries who are in units that have owners with mortgages and for those in units that have renters, there are small increases (usually less than 1 percentage point) in poverty rates (not shown).

The decrease in the poverty rate of disabled workers (1.5 percentage points) is smaller than the decreases for the three aged beneficiary groups. Only about 30 percent of disabled workers who are poor in the absence of the housing-status adjustment reside in units that have owners without mortgages.

Geographic adjustments. The SPM thresholds are adjusted to reflect geographic differences in housing costs. The adjustment factors depend on housing-status group and area rent levels. Rent data for more than 300 areas are from the American Community Survey.⁶³ Among beneficiaries in the four large TOB groups, the smallest and largest geographic-adjustment factors are 0.80 and 1.56, respectively; the factors average about 1.0 for all TOB groups (not shown).

We remove the geographic adjustments from the SPM thresholds and compare SPM poverty rates with the poverty rates that result when we use those modified thresholds.⁶⁴ The geographic adjustment decreases the poverty rate of disabled workers by 1.7 percentage points (Table 11). Among aged beneficiaries, the adjustment decreases the poverty rate of aged widow(er)s by 0.6 percentage points and has little effect on the poverty rates of retired workers and aged spouses. For each of the four large TOB groups, the

adjustment increases poverty rates of beneficiaries in the Northeast and West (by 2–4 percentage points; not shown) and decreases poverty rates in the Midwest and South (by 1–4 percentage points; not shown). For all four large TOB groups, the adjustment decreases poverty rates substantially for beneficiaries living outside of metropolitan statistical areas.

Threshold level. With no housing-status adjustment and no geographic adjustment, the SPM threshold for the two-adult/two-child unit for 2012 would have been \$24,959.⁶⁵ The two-adult/two-child unit official threshold for 2012 was \$23,283. Thus, for this base unit, the official threshold is 93.28 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 0.9328. We then compare SPM poverty rates with the poverty rates that result when we use these modified thresholds. This change *increases* the poverty rates for retired workers, disabled workers, aged spouses, and aged widow(er)s by 1.7, 3.1, 1.6, and 2.7 percentage points, respectively.

Equivalence scales. There are important differences between the official poverty measure and SPM equivalence scales. Equivalence scales are measures of the relative expenditure needs for units of different sizes and compositions. Both scales depend on unit size and number of children, but the scales depend on those two factors in somewhat different ways, as we will show. The implicit official-measure scale also depends on the age of the unit head; one-person and two-person units with aged heads have lower scale values than corresponding units with nonaged heads.

The SPM three-parameter equivalence scale has the following properties:

- a child always costs less than an adult;
- the scale always exhibits economies of scale in consumption;
- the scale does not depend on the age of the unit head; and
- for one-person nonaged units, the SPM-scale value is rather different from the official-measure scale value.⁶⁶

To estimate the total effect of using the SPM equivalence scale on the poverty rates of the TOB groups, we incorporate the official-measure equivalence scale into the SPM thresholds.⁶⁷ We find that using the SPM equivalence scale increases the poverty rates of retired workers and aged spouses by 1.1 and 1.8 percentage

points, respectively, decreases the rate for disabled workers by 0.6 percentage points, and has little effect on the rate for aged widow(er)s.

For units in which the SPM-scale value is greater than the official-scale value, using the SPM scale increases thresholds and thus increases poverty rates. Correspondingly, using the SPM scale decreases poverty rates for units for which the SPM-scale value is less than the official-scale value. Table 12 shows the ratios of SPM-scale value to official-scale value for the various unit types. The ratio of the SPM-scale value to the official-scale value exceeds 1.00 for two-person units with aged heads; for retired workers and aged spouses, these two-person units account for most of the poverty-rate increases. The ratio of scale values is less than 1.00 for one-person units with nonaged heads; for disabled workers, these one-person units account for most of the decrease in poverty.

All threshold elements. To get the combined effect of adjustments for housing and geographic area, threshold level, and equivalence scale on the poverty rates of the large TOB groups, we replace the SPM threshold with the official-measure threshold for each SPM unit. The official-measure thresholds depend on SPM unit size, number of children, and whether the unit head is aged (65 or older). We then compare the SPM poverty rate with the poverty rate that results when we use the modified thresholds but continue to use the SPM resource measure and SPM units.

We find that using the SPM thresholds increases the respective poverty rates of retired workers and aged spouses by 1.3 and 1.1 percentage points, and decreases the respective rates of disabled workers and aged widow(er)s by 0.6 and 1.0 percentage points (Table 11).⁶⁸

Effects of Unit Definition

We now compare the official-measure poverty of TOB groups with the poverty that results when we use the SPM unit but use the official resource and thresholds concepts.⁶⁹ For aged beneficiaries (retired workers, aged spouses, and aged widow(er)s), Table 13 shows that replacing the official unit with the SPM unit produces very small decreases in poverty rates (0.1 to 0.3 percentage points). For disabled workers, the corresponding decrease is decidedly larger (1.7 percentage points).

The majority of disabled workers stay in the same unit; that is, their SPM unit is the same as their official-measure unit. However, about 8 percent end up in a new unit; that is, in a SPM unit that differs from their official unit.⁷⁰ Approximately 98 percent of these new-unit disabled workers end up in larger SPM units.⁷¹ Replacing the official unit with the SPM unit moves about one-fourth of these new-unit disabled workers out of the poverty population; a small proportion moves into the poverty population. In larger units, there is more resource sharing and more economies of scale, which tend to reduce the number of people in poverty.

Table 12.
Ratio of the SPM equivalence-scale value to the official poverty measure equivalence-scale value, by unit size, age of the unit head, and number of children

| Unit size and age of head ^a | Number of children | | | | | | | |
|--|--------------------|------|------|------|------|------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| One person | | | | | | | | |
| Younger than age 65 | 0.90 | ... | ... | ... | ... | ... | ... | ... |
| Aged 65 or older | 0.98 | ... | ... | ... | ... | ... | ... | ... |
| Two people | | | | | | | | |
| Unit head younger than age 65 | 0.99 | 1.03 | ... | ... | ... | ... | ... | ... |
| Unit head aged 65 or older | 1.10 | 1.03 | ... | ... | ... | ... | ... | ... |
| Three people | 1.30 | 1.11 | 1.05 | ... | ... | ... | ... | ... |
| Four people | 1.20 | 1.08 | 1.00 | 0.95 | ... | ... | ... | ... |
| Five people | 1.17 | 1.07 | 1.01 | 0.95 | 0.92 | ... | ... | ... |
| Six people | 1.15 | 1.08 | 1.03 | 0.98 | 0.93 | 0.91 | ... | ... |
| Seven people | 1.11 | 1.05 | 1.02 | 0.97 | 0.94 | 0.90 | 0.91 | ... |
| Eight people | 1.09 | 1.04 | 1.01 | 0.97 | 0.94 | 0.91 | 0.88 | 0.86 |

SOURCE: Authors' calculations.

NOTES: SPM = Supplemental Poverty Measure; ... = not applicable.

a. Ratios for units with three or more persons do not depend on the age of the unit head.

Table 13.
Percentage point changes in the SPM poverty rate attributed to features of the SPM, by selected TOB group, 2012

| SPM element | Primary beneficiaries | | Secondary beneficiaries | |
|--|-----------------------|------------------|-------------------------|-----------------|
| | Retired workers | Disabled workers | Aged spouses | Aged widow(er)s |
| All resource features | 4.8 | 1.5 | 5.8 | 6.8 |
| All threshold features | 1.3 | -0.6 | 1.0 | -1.0 |
| Unit | -0.3 | -1.7 | -0.3 | -0.1 |
| Combined effect of all features ^a | 5.6 | -0.1 | 6.3 | 6.6 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

SPM = Supplemental Poverty Measure; TOB = type of benefit.

a. Because of interaction effects and the rounding of component values, the combined-effect values do not equal the sum of the individual changes.

Combined Effects of All Elements of the SPM

As shown earlier (Table 3), compared with the official poverty measure, the SPM shows much more poverty for aged beneficiaries. For the three aged TOB groups, the SPM poverty rates are 5.6–6.6 percentage points higher than the official rates. Our analysis shows that for aged beneficiaries, the SPM resource features account for most of these differences. The effect of MOOP expenses (5.9–8.4 percentage points) dominates the combined resource effect (Table 10).

For disabled workers, the SPM and official poverty rates are similar. This is because the large poverty rate-increasing effects of MOOP expenses (6.9 percentage points) and of the threshold level (3.1 percentage points) are offset by the combined poverty rate-decreasing effects of housing subsidies, SNAP benefits, housing-status adjustments, geographic cost-of-living adjustments, and the unit definition.

Summary of Empirical Findings

In this section, we first provide an overview of our comparisons of official poverty measure and SPM rate estimates. Then, we summarize our analysis of the effects of the various features of the SPM on the poverty rates of the four large TOB groups.

Comparison of Official Poverty Measure and SPM Estimates

For both poverty measures, retired workers and aged spouses have the lowest poverty rates among the four large TOB groups, well below the corresponding poverty rates for the total U.S. population. For example,

the SPM rates for retired workers, aged spouses, and the total population are 12.7 percent, 13.4 percent, and 16.0 percent, respectively. Aged widow(er)s have the next lowest poverty rates for both measures (SPM rate of 19.7 percent). For both poverty measures, disabled workers have even higher poverty rates (SPM rate of 23.4 percent).

For the large TOB groups, the SPM and official poverty measures give quite different results. Compared with the official poverty measure, the SPM shows much more poverty for aged beneficiaries, with differences of 5.6–6.6 percentage points. On the other hand, the SPM and official poverty rates are quite similar for disabled workers.

The four small TOB groups all have high poverty rates for either measure. Child-in-care spouses, disabled widow(er)s, and disabled adult children have poverty rates even higher than those for disabled workers (SPM rates of 31–38 percent versus 23 percent).

For both poverty measures, rates for divorced aged spouses are quite high (SPM rate of 25.8 percent) and are much higher than those for nondivorced aged spouses (SPM rate of 12.4 percent). On the other hand, for both poverty measures, the rates for divorced aged widow(er)s (SPM rate of 20.6 percent) are similar to those of nondivorced aged widow(er)s (SPM rate of 19.6 percent).

Effects of SPM Features on the Poverty of Large TOB Groups

For the three aged TOB groups, switching from the official poverty measure to the SPM increases poverty

rates by 5.6–6.6 percentage points. For each of these three TOB groups, the MOOP expenses deduction is by far the most important SPM feature, increasing poverty rates by 5.9–8.4 percentage points. Two other significant features (housing-status adjustments and threshold level) are offsetting; threshold level effects increase poverty rates by 1.7–2.7 percentage points, but housing-status adjustments decrease poverty rates by 2.0–3.9 percentage points. Equivalence-scale effects increase poverty rates for retired workers and aged spouses.

For the disabled worker TOB group, switching from the official measure to the SPM does not affect the poverty rate. The large poverty rate-increasing effects of MOOP expenses (6.9 percentage points) and of the threshold level (3.1 percentage points) are offset by the combined poverty rate-decreasing effects of housing subsidies, SNAP benefits, housing-status adjustments, geographic adjustments, and the unit definition.

Appendix A: Matching Procedure

Matches were determined using the Census Bureau's Person Identification Validation System (PVS). See Wagner and Layne (2014) for a description of the PVS.

For each CPS person, the PVS compares selected CPS variables (such as name and date of birth) with the corresponding variables of persons in the Census Bureau's reference file to determine the CPS person's Social Security Number (SSN). For this match, the PVS uses information on name, date of birth, sex, address, household members, and SSN. For sample members, the CPS collects information on name, date of birth, sex, household members, and address, but not on SSN. For members of the U.S. population, the Census Bureau's reference file contains information from SSA's Numerical Identification System (Numident) file (supplemented by information from the Internal Revenue Service) on name, date of birth, sex, address, and SSN.

The matching process is not perfect. In addition to the failure to find matches, some of the matches are incorrect.

Appendix B: Determination of Beneficiary Status and TOB Code

Because all persons in the SSA administrative record system have SER records, the presence or absence of a SER record in our data file indicates a person's match status. The presence of a SER record indicates a match between the person's CPS record and his or her SSA

earnings and benefit records; this is a *match* person. The absence of a SER record indicates failure to find a match between the CPS and SSA earnings and benefit records; this is a *nonmatch* person.

Match persons. The PHUS record gives the amount of Social Security benefits paid to a person during calendar year 2012, but does not contain any information on TOB, divorced beneficiary status, or dual entitlement status. The timing of PHUS income flows matches that of the CPS, which gives income amounts for calendar year 2012.

The MBR indicates whether a person was entitled to Social Security benefits for 1 or more months of calendar year 2012. Sometimes benefits for 2012 were not paid until a later year. For example, a person may not have been awarded disabled-worker benefits until 2013, but his or her entitlement is based on a disability that began in 2012. The MBR contains information on TOB, divorced beneficiary status, and dual entitlement status.

We use the PHUS record to determine whether a person is a Social Security beneficiary in 2012 and that person's MBR to determine his or her TOB, divorced beneficiary status, and dual entitlement status (as of December 2012 in the great majority of cases).

Nonmatch persons. We considered alternative procedures to address failures to match. One approach would be to eliminate the nonmatch persons from our analysis sample and to reweight the match persons to reach age-sex group controls for the noninstitutional U.S. population. Because we found that the population of nonmatch CPS-reported beneficiaries differs markedly from the population of match CPS-reported beneficiaries in terms of benefit receipt rates and poverty rates, we decided not to use the reweighting approach. Rather, our chosen approach keeps nonmatch persons in the analysis and uses the existing CPS weights for both match and nonmatch persons. These are the weights used in recent Census Bureau publications (Short 2013; DeNavas-Walt, Proctor, and Smith 2013) and in a recent article by Bridges and Gesumaria (2015a) that examine official and SPM poverty estimates for 2012. We designate all nonmatch persons with CPS-reported Social Security income as 2012 beneficiaries and impute their TOB.

Our imputation method follows. For match Social Security beneficiaries who also have CPS-reported Social Security income, we tabulate distributions of TOB codes for these persons by selected CPS variables that are correlated with TOB values. The CPS

variables used are age, marital status, sex, and reason for receiving Social Security income (namely, retired; disabled—adult or child; spouse; widowed; dependent child; surviving child; on behalf of dependent, surviving, or disabled child; and other—adult or child). The CPS has two variables (resnss1 and resnss2) that record reasons for receiving Social Security. All CPS-reported beneficiaries have a value for resnss1, but only 3 percent have a value for resnss2; thus, all of the imputations use resnss1. Although resnss1 is quite useful in our imputation procedure, among match Social Security beneficiaries we find that agreement between resnss1 codes and the TOB codes from the MBR is far from perfect. We tabulate the set of CPS correlates of TOB for each of the eight reasons for receiving Social Security income; thus, we have eight tables. Our tables for disabled and retired beneficiaries contain more age classes (10 and seven, respectively) than the other six tables do (one or two of each). The marital status categories are married (including separated), divorced, widowed, and never married. Sex is used in only three of the tables (those for retired, disabled, and other beneficiaries). For each combination of CPS variable values, our tables give percentage or probability distributions of persons with each TOB (adult or child). We then draw randomly from

these percentage distributions to assign TOB to these nonmatch beneficiaries. This procedure also assigns divorced beneficiary status (divorced beneficiary or not divorced beneficiary) and dual entitlement status (dually entitled or not dually entitled) for aged spouses and aged widow(er)s.

Appendix C: Our Estimates Compared to Estimates from the 1 Percent Continuous Work History Sample

Table C-1 gives weighted numbers of beneficiaries by TOB. The first column shows our estimated numbers of (match plus nonmatch) beneficiaries. As described in the text of this article, these numbers are derived from the matched CPS-SSA administrative record data file; they are also shown in Table 3. The second column shows estimated numbers of beneficiaries derived from a large Social Security administrative record file, the 1 percent Continuous Work History Sample (CWHS).

In general, our CPS-SSA numbers are similar to the CWHS numbers. For adult beneficiaries (the eight TOB categories combined), the ratio of our beneficiary number to the CWHS number is 0.96. For seven of the eight TOB groups (including all four of the large groups), that ratio is in the 0.91–1.03 range.

Table C-1.
Number of Social Security beneficiaries: Estimates based on two alternative data sources, by TOB group, 2012 (numbers in thousands)

| TOB group | Present study: CPS with SSA data from MBR, PHUS, and SER files | 1 percent CWHS file | Present-study estimate divided by CWHS estimate |
|--------------------------|--|---------------------|--|
| Total | 50,748 | 53,072 | 0.96 |
| Primary beneficiaries | | | |
| Retired workers | 28,413 | 30,138 | 0.94 |
| Disabled workers | 8,828 | 8,813 | 1.00 |
| Secondary beneficiaries | | | |
| Aged spouses | 4,922 | 4,995 | 0.99 |
| Child-in-care spouses | 116 | 116 | 1.00 |
| Aged widow(er)s | 7,262 | 7,783 | 0.93 |
| Child-in-care widow(er)s | 206 | 160 | 1.29 |
| Disabled widow(er)s | 230 | 224 | 1.03 |
| Disabled adult children | 771 | 843 | 0.91 |

SOURCES: Authors' calculations based on the public-use version of the 2013 CPS's Annual Social and Economic Supplement, with data from matched Social Security administrative records; 1 percent CWHS.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

TOB = type of benefit; CPS = Current Population Survey; SSA = Social Security Administration; MBR = Master Beneficiary Record; PHUS = Payment History Update System; SER = Summary Earnings Record; CWHS = Continuous Work History Sample.

Listed below are some conceptual differences between our beneficiary estimates and the CWHS estimates.

Geographic coverage—

- CPS-SSA: Only the 50 states and the District of Columbia.
- CWHS: The 50 states, the District of Columbia, outlying areas, U.S. citizens employed abroad by U.S. employers, persons employed on U.S. ocean-borne vessels, and unknown residence.

Institutionalized population—

- CPS-SSA: Not included.
- CWHS: Includes some institutionalized persons.⁷²

Timing—

- CPS-SSA: Adults who receive benefits sometime during calendar year 2012.
- CWHS: Adults who are entitled to benefits for the month of December 2012.

In addition, the small TOB categories in the CPS are subject to considerable sampling error.

Table C-2 gives numbers of beneficiaries for subgroups of the four large TOB groups. Again, our beneficiary numbers are similar to the CWHS numbers. The ratios of our beneficiary estimates to the CWHS numbers range from 0.87 to 1.02.

Appendix D: Additional Comparisons

Table D-1 shows average benefit amounts reported in the CPS and the PHUS for persons in the four large TOB groups who have benefits reported in both of these sources. For aged spouses, the ratio of the amount reported in the CPS to the amount reported in the PHUS is 1.34. For the other three large TOB groups, the ratio ranges from 0.96 to 1.05.

For the four large TOB groups combined, Table D-2 shows that 12 percent of our (match plus nonmatch) Social Security beneficiaries do not show any Social Security income in the CPS. Although the Social

Table C-2.
Number of Social Security beneficiaries: Estimates based on two alternative data sources, by selected TOB group and selected beneficiary characteristics, 2012 (numbers in thousands)

| TOB group and characteristic | Present study: CPS with SSA data from MBR, PHUS, and SER files | 1 percent CWHS file | Present-study estimate divided by CWHS estimate |
|--------------------------------|--|---------------------|--|
| Primary beneficiaries | | | |
| Retired workers | | | |
| Men | 17,444 | 18,523 | 0.94 |
| Women | 10,968 | 11,615 | 0.94 |
| Disabled workers | | | |
| Men | 4,655 | 4,670 | 1.00 |
| Women | 4,172 | 4,144 | 1.01 |
| Secondary beneficiaries | | | |
| Aged spouses | | | |
| Not divorced | 4,542 | 4,558 | 1.00 |
| Divorced | 379 | 437 | 0.87 |
| Not dually entitled | 1,998 | 2,124 | 0.94 |
| Dually entitled | 2,924 | 2,871 | 1.02 |
| Aged widow(er)s | | | |
| Not divorced | 6,550 | 6,989 | 0.94 |
| Divorced | 712 | 793 | 0.90 |
| Not dually entitled | 3,611 | 3,903 | 0.93 |
| Dually entitled | 3,651 | 3,880 | 0.94 |

SOURCES: Authors' calculations based on the public-use version of the 2013 CPS's Annual Social and Economic Supplement, with data from matched Social Security administrative records; 1 percent CWHS.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

TOB = type of benefit; CPS = Current Population Survey; SSA = Social Security Administration; MBR = Master Beneficiary Record; PHUS = Payment History Update System; SER = Summary Earnings Record; CWHS = Continuous Work History Sample.

Table D-1.**Social Security beneficiaries: Mean annual benefit amounts reported in CPS and PHUS for persons with benefits reported in both sources, by selected TOB group, 2012**

| TOB group | CPS (\$) | PHUS (\$) | CPS amount divided by PHUS amount |
|-------------------------|----------|-----------|-----------------------------------|
| Primary beneficiaries | | | |
| Retired workers | 14,876 | 15,035 | 0.99 |
| Disabled workers | 13,518 | 14,154 | 0.96 |
| Secondary beneficiaries | | | |
| Aged spouses | 9,434 | 7,023 | 1.34 |
| Aged widow(er)s | 14,440 | 13,739 | 1.05 |

SOURCE: Authors' calculations based on the public-use version of the 2013 CPS's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

CPS = Current Population Survey; PHUS = Payment History Update System; TOB = type of benefit.

Table D-2.**Number and percentage of Social Security beneficiaries, by match status, CPS-reported benefit data status, and selected TOB group, 2012**

| TOB group | All persons | Match persons | | Nonmatch persons |
|----------------------------|-------------|----------------------------|-------------------------------|------------------|
| | | With CPS-reported benefits | Without CPS-reported benefits | |
| Numbers (thousands) | | | | |
| Total | 49,424 | 39,350 | 5,900 | 4,174 |
| Primary beneficiaries | | | | |
| Retired workers | 28,413 | 23,814 | 2,530 | 2,068 |
| Disabled workers | 8,828 | 5,155 | 2,541 | 1,132 |
| Secondary beneficiaries | | | | |
| Aged spouses | 4,922 | 4,099 | 475 | 348 |
| Aged widow(er)s | 7,262 | 6,281 | 355 | 626 |
| Percentages | | | | |
| Total | 100.0 | 79.6 | 11.9 | 8.4 |
| Primary beneficiaries | | | | |
| Retired workers | 100.0 | 83.8 | 8.9 | 7.3 |
| Disabled workers | 100.0 | 58.4 | 28.8 | 12.8 |
| Secondary beneficiaries | | | | |
| Aged spouses | 100.0 | 83.3 | 9.6 | 7.1 |
| Aged widow(er)s | 100.0 | 86.5 | 4.9 | 8.6 |

SOURCE: Authors' calculations based on the public-use version of the 2013 CPS's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

Subtotals of numbers of beneficiaries do not necessarily equal the sums of the rounded numbers for the component groups.

Row percentages sum to approximately 100.0.

CPS = Current Population Survey; TOB = type of benefit.

Security income of many of these Social Security beneficiaries is not included in their reported family income, other Social Security beneficiaries may misreport their Social Security income as SSI payments or as Social Security income of another family member. The failure to include Social Security income in the family's CPS-reported income increases measured poverty. For disabled workers, the percentage of Social Security beneficiaries not showing Social Security income in the CPS is a high 29 percent; the corresponding figures for retired workers, aged spouses, and aged widow(er)s are 9 percent, 10 percent, and 5 percent, respectively.

For both poverty measures and all TOB groups, the poverty rates for our Social Security beneficiaries without Social Security income reported in the CPS are much higher than are those for our Social Security beneficiaries with CPS-reported Social Security income (Table D-3).

Appendix E: CPS Data for Components of the SPM Resource Measure

In this section, we provide information on the sources of the dollar values for the various in-kind benefits, taxes and refundable tax credits, and other nondiscretionary expense items given in the CPS/Annual Social

and Economic Supplement data file. We begin by discussing in-kind benefits and taxes and refundable tax credits.

Housing subsidies. The CPS 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 collects information on amounts received.

National School Lunch Program (NSLP). The CPS 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 collects information on amounts received.

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The CPS collects information on reciprocity but not on amounts received. To value the benefits, the Census Bureau uses program information from the Department of Agriculture.

Table D-3. Official and SPM poverty rates of Social Security beneficiaries, by match status, CPS-reported benefit status, and selected TOB group, 2012 (in percent)

| TOB group | All persons | Match persons | | Nonmatch persons |
|-------------------------|-------------|----------------------------|-------------------------------|------------------|
| | | With CPS-reported benefits | Without CPS-reported benefits | |
| Official poverty | | | | |
| Primary beneficiaries | | | | |
| Retired workers | 7.1 | 5.5 | 21.3 | 8.7 |
| Disabled workers | 23.5 | 19.4 | 33.8 | 19.2 |
| Secondary beneficiaries | | | | |
| Aged spouses | 7.2 | 5.6 | 20.5 | 7.7 |
| Aged widow(er)s | 13.1 | 11.0 | 37.7 | 20.2 |
| SPM poverty | | | | |
| Primary beneficiaries | | | | |
| Retired workers | 12.7 | 10.3 | 28.6 | 16.1 |
| Disabled workers | 23.4 | 18.8 | 34.0 | 20.7 |
| Secondary beneficiaries | | | | |
| Aged spouses | 13.4 | 11.7 | 28.0 | 14.1 |
| Aged widow(er)s | 19.7 | 17.6 | 47.6 | 25.5 |

SOURCE: Authors' calculations based on the public-use version of the 2013 CPS's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are included in the appropriate secondary beneficiary group.

SPM = Supplemental Poverty Measure; CPS = Current Population Survey; TOB = type of benefit.

Taxes and refundable tax credits. The CPS does not collect information on taxes and refundable tax credits but relies on a tax calculator to simulate them. 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 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 collects information on amounts paid.

Medical out-of-pocket (MOOP) expenses. The CPS 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 estimates of MOOP expenditures 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 expenditures than does the CPS.

Work-related expenses (excludes childcare expenses). The CPS does not collect information on work-related expenses (travel to work, tools, uniforms, and so forth). Information on amounts of work expenses from the most recent SIPP is used to estimate those expenses for workers in the CPS.

Childcare expenses. The CPS collects information on amounts of such expenses (any type of childcare while parents are at work).

Appendix F: Effects on SPM and Official-Measure Poverty of Including Social Security Benefits and SSI in Resource Measures

We can view the change in poverty rates as the result of a specified change in the way that poverty is measured. Alternatively, we could view the change in poverty rates as the effect of a change in program policy for a given measure of poverty; namely, the effect on poverty of introducing the program. Our estimate of the change in resources that is the result of the introduction of the program does not attempt to take into account changes in resource components that are due to the program’s behavioral effects (saving, work effort, and so forth).

Table F-1 shows that including the CPS-reported amounts of Social Security benefits in SPM resources produces very large decreases in SPM poverty rates for disabled workers (35.0 percentage points), retired workers (40.1 percentage points), aged spouses (45.7 percentage points), and aged widow(er)s (50.1 percentage points). Including the CPS-reported amounts of Social Security benefits in the official resource measure reduces the official poverty rates by smaller numbers of percentage points (29.7 percentage points for disabled workers, 34.5 percentage points for retired workers, 39.0 percentage points for aged spouses, and 48.1 percentage points for aged widow(er)s).

Table F-1.
Percentage point changes in the SPM and official poverty rates attributed to including Social Security benefits and SSI in resources, by selected TOB group, 2012

| Resource inclusion | Primary beneficiaries | | Secondary beneficiaries | |
|--------------------------|-----------------------|------------------|-------------------------|-----------------|
| | Retired workers | Disabled workers | Aged spouses | Aged widow(er)s |
| Official poverty | | | | |
| Social Security benefits | -34.5 | -29.7 | -39.0 | -48.1 |
| SSI | -0.4 | -4.6 | -0.5 | -0.9 |
| SPM poverty | | | | |
| Social Security benefits | -40.1 | -35.0 | -45.7 | -50.1 |
| SSI | -0.7 | -6.6 | -0.9 | -1.3 |

SOURCE: Authors' calculations based on the public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement, with data from matched Social Security administrative records.

NOTES: Dually entitled beneficiaries are categorized according to the appropriate secondary beneficiary group.

SPM = Supplemental Poverty Measure; SSI = Supplemental Security Income; TOB = type of benefit.

Including SSI payment amounts in SPM resources reduces SPM poverty rates by 6.6 percentage points for disabled workers and by 0.7–1.3 percentage points for the aged TOB groups. Including SSI payment amounts in the official resource measure reduces the official poverty rates by smaller numbers of percentage points (4.6 percentage points for disabled workers and 0.4–0.9 percentage points for the aged TOB groups).

Notes

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¹ Weaver (1997) examined the poverty status of most adult beneficiary groups for 1990 and 1993. Bailey and Hemmeter (2014) presented estimates of the official poverty status of disability beneficiaries for 2010.

² Also see Iams and Sandell (1998), Diamond and Orszag (2004), Weaver (2010), and Congressional Budget Office (2012).

³ For a recent example, see DeNavas-Walt, Proctor, and Smith (2013).

⁴ We examine almost all adult beneficiary groups.

⁵ In previously published articles (Bridges and Gesumaria 2013, 2015b, 2015a), we examined the poverty of the aged (65 or older), the nonaged adult population (18–64), and children (under 18).

⁶ These groups do not include dually entitled beneficiaries.

⁷ These groups include dually entitled beneficiaries.

⁸ There are two slightly different versions of the official poverty measure: (1) poverty thresholds, which are relatively detailed and are used primarily for statistical purposes; and (2) poverty guidelines, which are a simplified version of the thresholds and are used primarily 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 the Institute for Research on Poverty (2013).

⁹ All members of a family unit are assigned the same poverty status; that is, poor or not poor.

¹⁰ The share of food in expenditures has decreased markedly over time.

¹¹ An extensive discussion of such criticisms appears in Citro and Michael (1995).

¹² Subsequently, the Census Bureau released SPM reports in 2012, 2013, 2014, 2015, and 2016.

¹³ For a discussion of the evolution of the SPM, see Bridges and Gesumaria (2015a).

¹⁴ This section draws heavily on Weaver (1997). For more detail, see SSA (n.d.).

¹⁵ As described in the following section, titled “Data,” these numbers of beneficiaries are estimated from our main analysis file (the 2013 CPS/Annual Social and Economic Supplement), supplemented with exactly matched SSA administrative record data on benefits.

¹⁶ In the CPS, Social Security income of persons younger than 15 is included in the income of family members aged 15 or older (mainly parents).

¹⁷ A person achieves insured status by working enough in Social Security–covered employment. There are three types of insured status (fully insured, disability insured, and currently insured). No primary or secondary benefit can be paid unless the worker, on whose earnings record the benefit is based, has the appropriate insured status. Which status is appropriate depends on the TOB and is not discussed here. Persons will simply be referred to as insured, without being more specific.

¹⁸ The FRA for members of each birth cohort from 1955 through 1960 is 2 months older than that of the prior cohort, reaching 67 for those born in 1960 or later.

¹⁹ An aged widow(er) may have his or her benefit capped at an amount below the PIA if the deceased insured person received retired-worker benefits before the FRA. An aged widow(er) or a disabled widow(er) has his or her benefit increased if the deceased insured person earned credits for delaying retirement past the FRA.

²⁰ This section draws heavily on Short (2013).

²¹ For a detailed discussion of the SPM and official unit measures, see Provencher (2011).

²² Money income in the CPS consists of (1) earnings; (2) unemployment compensation; (3) workers’ compensation; (4) Social Security benefits; (5) Supplemental Security Income payments; (6) public assistance (Temporary Assistance for Needy Families and general 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.

²³ For a critique of the resource-based SPM, see Meyer and Sullivan (2012). Those authors favor a consumption-based poverty measure. Wimer and Manfield (2015) suggest that the failure of the SPM resource measure to include an annuity value of assets causes a substantial overstatement of the poverty of the aged.

²⁴ Some of these are large. For example, fiscal year 2011 federal outlays for the Supplemental Nutrition Assistance Program (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 programs are designed to assist the low-income population. Federal outlays for

Supplemental Security Income and Temporary Assistance for Needy Families were about \$56 billion and \$17 billion; both of these *cash* benefit programs are also designed to assist the low-income population.

²⁵ More than 80 percent of people are members of SPM units with work expenses. For those units, such expenses can be substantial; unit work expenses on average amount to 15 percent of SPM poverty thresholds.

²⁶ More than 95 percent of people are members of SPM units with MOOP expenses. For those units, MOOP expenses can be large; unit MOOP expenses on average amount to 21 percent of SPM poverty thresholds. In addition, there is great dispersion around this average; a minority of units have very high MOOP expenses relative to their poverty thresholds.

²⁷ For families of three or more persons, the multiplier is 3. However, for families of two persons, 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 with no children. See Fisher (1992).

²⁸ In 2012, food expenditures accounted for about 30 percent of the bundle of necessary expenditures that form the basis of the SPM thresholds.

²⁹ In determining SPM thresholds for 2012, the expenditure needs of units that have owners with mortgages are estimated to be 20 percent larger than those of units that have owners without mortgages.

³⁰ For 2012, the geographic-adjustment factors used in the SPM ranged from 0.80 for the lowest-cost area to 1.56 for the highest-cost area.

³¹ See Citro and Michael (1995). Our following discussion of the properties of the SPM threshold includes some discussion of equivalence scales.

³² To be more precise, “expenditures around the 33rd percentile” is the average of expenditures within the 30th–36th percentile portion of the expenditure distribution. For a discussion of the choice of the 33rd percentile, see Citro and Michael (1995) and the Interagency Technical Working Group on Developing a Supplemental Poverty Measure (2010).

³³ For a discussion of the choice of this multiplier, see Citro and Michael (1995) and the Interagency Technical Working Group on Developing a Supplemental Poverty Measure (2010).

³⁴ In this article, the terms “adults” and “children” are used in two slightly different ways.

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

In all other parts of the article, the term “children” signifies persons younger than age 18 and the term “adults” denotes persons aged 18 or older. The term “nonaged adults” denotes persons aged 18–64.

³⁵ The 2013 CPS/Annual Social and Economic Supplement is a household sample survey of the U.S. civilian noninstitutionalized population; it also includes military personnel who live in a household with at least one civilian adult. The number of interviewed households was about 75,000. Approximately 8,000 households were not interviewed because there were no available participants.

³⁶ These are weighted match rates.

³⁷ Many of these 14 percent fail to report their Social Security income to CPS interviewers. In addition, for some persons, their Social Security income may be reported by another member of their CPS family unit or may be reported incorrectly as Supplemental Security Income payments.

³⁸ Some of these persons may incorrectly report their Supplemental Security Income or another family member’s Social Security income as their Social Security income.

³⁹ For the four small TOB groups (child-in-care spouses, child-in-care widow(er)s, disabled widow(er)s, and disabled adult children), the corresponding figures range from 12 percent to 17 percent.

⁴⁰ For the large TOB groups, average sample weights range from 1,730–1,841. For the other four TOB groups, average sample weights range from 1,381–1,781.

⁴¹ Short (2013) examines official and SPM poverty using the 2013 CPS. She presents sampling error measures for estimates of population counts, poverty counts, poverty rates, and so forth for various population subgroups. The Short sampling error measures for a population subgroup should provide approximations of these sampling error measures for a population subgroup of similar size in our study.

⁴² For official-measure deep poverty, before-tax cash income is the resource measure.

⁴³ For the total population, the SPM deep poverty rate is 5.2 percent.

⁴⁴ Nondiscretionary expenses (mainly MOOP expenses) cause three of these average SPM welfare ratios to be negative.

⁴⁵ This terminology is somewhat different from that ordinarily used in the poverty literature, in which movements into and out of poverty are attributable to changes in a unit’s financial resources.

⁴⁶ Men account for almost 60 percent of disabled adult children but less than 6 percent of the child-in-care spouses, child-in-care widow(er)s, and disabled widow(er)s.

⁴⁷ Divorced spouse beneficiaries are persons who receive aged spouse benefits as divorced spouses. Their CPS marital status is sometimes other than divorced.

⁴⁸ Our converted retired workers include only those who converted at the FRA. Some disabled workers convert prior to the FRA. About 7 percent of disabled workers who converted in 2010 were early converters (Stephens and Thomas 2011).

⁴⁹ For match beneficiaries, we used MBR information to determine conversion status. We had no satisfactory way to determine conversion status for nonmatch beneficiaries.

⁵⁰ Married beneficiaries constitute a smaller percentage of converters than of nonconverters, and married persons tend to have lower poverty rates than nonmarried persons.

⁵¹ On average, converters receive somewhat higher Social Security benefits than disabled workers do. In addition, married beneficiaries constitute a larger percentage of converters than of disabled workers.

⁵² For example, we compute the effect on the SPM poverty rate of adding Supplemental Nutrition Assistance Program (SNAP) benefits to the SPM resource measure for disabled workers in the following way:

1. We subtract the value of each SPM unit's SNAP benefits from its SPM resource measure.
2. For each unit, we then compare that modified resource measure to the unit's SPM threshold to determine the modified poverty status of its members.
3. We then calculate the percentage of disabled workers whose modified poverty status is poor; that is, we calculate the modified poverty rate. For this case, the modified poverty rate is 26.3 percent.
4. Finally, we compare the modified poverty rate with the SPM poverty rate. For disabled workers, the SPM poverty rate is 23.4 percent.

The inclusion of SNAP benefits in the resource measure reduces the poverty rate by 2.9 percentage points (23.4 minus 26.3).

⁵³ These program benefit amounts usually incorporate behavioral and interprogram effects.

⁵⁴ For housing subsidies, the NSLP, and WIC, the CPS collects information on reciprocity but not on amounts received. In estimating the amounts of those benefits, the Census Bureau uses information from other government agencies. The sources of the dollar values for the various in-kind benefits, taxes, and other nondiscretionary expense items given on the CPS data file are discussed in Appendix E. For more details, see Short (2013) and references cited therein.

⁵⁵ The CPS does not collect information on taxes and refundable tax credits. The Census Bureau applies a tax-calculating computer program to the CPS to simulate taxes and tax credits. See Appendix E.

⁵⁶ Other government cash transfers included as resources by both the SPM and the official poverty measure are (1) unemployment insurance, (2) workers' compensation,

and (3) Temporary Assistance for Needy Families and general assistance.

⁵⁷ These amounts represent state income taxes after credits. Some amounts are negative.

⁵⁸ The CPS does not collect information on work expenses. The Census Bureau uses information from another household survey to estimate work expenses. See Appendix E.

⁵⁹ Respondents reported their premium and nonpremium MOOP expenses in the 2013 CPS.

⁶⁰ The interaction effect is not the same as the interprogram effect discussed earlier.

⁶¹ With no geographic adjustment, basic thresholds for two-adult/two-child units are \$25,784 for owners with mortgages; \$21,400 for owners without mortgages; and \$25,105 for renters. With no geographic adjustment and no housing-status adjustment, the threshold for the two-adult/two-child unit would be $1.2 \times \$20,799$, or \$24,959: \$25,784, \$21,400, and \$25,105 are 103 percent, 86 percent, and 101 percent of \$24,959. See BLS (2013).

⁶² Preliminary thresholds are multiplied by geographic-adjustment factors to obtain final thresholds. Those factors depend on housing-status group and on area rent. The inclusion of housing-status group in the calculation of geographic-adjustment factors can have small effects on the poverty rates for TOB groups. We include such effects as part of the effects of the geographic-adjustment factors and not as part of the effects of the housing-status adjustment.

⁶³ 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 expenditures (shelter plus utilities) 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.

This calculation of adjustment factors can also be stated in algebraic form:

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

Rent-index values range from about 0.61 to 2.10. For units that have owners with mortgages, owners without mortgages, and renters, the shares of expenses for housing in the thresholds are .504, .402, and .491, respectively (BLS 2013).

⁶⁴ Renwick (2011) made those comparisons for an earlier year.

⁶⁵ Derived from the BLS (2013).

⁶⁶ The three-parameter scale values are calculated as follows:

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

2. SPM unit with one adult and one or more children (mostly single-parent units)—
unadjusted-scale value = $[1 + 0.8 + 0.5(\text{number of children} - 1)]^{0.7}$
3. All other SPM units—
unadjusted-scale value = $[\text{number of adults} + 0.5(\text{number of children})]^{0.7}$

In calculating equivalence-scale values, all persons aged 18 or older and nondependent persons aged 15–17 are counted as adults; all persons younger than age 15 and dependent persons 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 require 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.

⁶⁷ We incorporate the official-measure 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 measure–scale value to the SPM-scale value, where unit type is defined by unit size, number of children, and whether the unit head is aged 65 or older. We next multiply each unit's SPM threshold by the ratio of scale values to obtain modified thresholds.

⁶⁸ The net interaction effect equals the combined threshold effect *minus* the sum of the four individual threshold effects. For retired workers, disabled workers, aged spouses, and aged widow(er), the interaction effects are 0.3, 0.1, 0.9, and 0.9 percentage points, respectively.

⁶⁹ Note that here, we compare the official-measure poverty rate with the poverty rate that results when we change a specified feature of the official measure. In all of our previous estimates of poverty effects, we compare the SPM poverty rate with the poverty rate that results when we change a specified feature of the SPM. For the case of unit definition, the approach used here is considerably easier to implement than our usual approach.

⁷⁰ Only 1–3 percent of retired workers, aged spouses, and aged widow(er)s end up in new units.

⁷¹ For the remaining disabled workers whose unit changes, their SPM unit and their official unit are of the same size but differ in membership.

⁷² We used representative payee codes to identify some beneficiaries who reside in institutions. We excluded these beneficiaries from the CWS numbers; they represent about 1 percent of all adult beneficiaries.

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