POOR BY ANY MEASURE: HOW DOES CUTTING SOCIAL SECURITY BENEFITS IMPACT THE INCIDENCE OF ELDERLY POVERTY

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Abstract

Social Security is facing a long-term financing shortfall, and if no action is taken, the program would be able to pay only about 75 percent of scheduled benefits after 2033. Using the *Current Population Survey*, this project explores how cutting Social Security benefits will impact poverty incidence, and in turn, the geographic distribution of poverty, among the elderly under both the official poverty measure and the Supplementary Poverty Measure (SPM). Our estimates show that about 15 percent of elderly individuals aged 62 and older are poor under the SPM, an increase of 64 percent over the official rate. If Social Security benefits are cut by 25 percent, the fraction in poverty would be 16 percent under the official measure and 27 percent under the SPM, assuming no behavioral changes. Our projection shows that poverty rates among the elderly will increase in 2033 under the two poverty measures if benefits were reduced. We also find that these two poverty measures differ considerably in who is designated as poor, and the subtraction of medical out-of-pocket expenses is the major driver of this difference. Further, state differences in the cost-of-living, the take-up of social benefits, and out-of-pocket medical spending result in some reshuffling of state rankings when moving from the official measure to the SPM, and the distribution of poverty across states under the SPM has a higher mean and bigger dispersion than under the official measure. Since the allocation of federal funds to states and localities is largely based on their poverty rates, a considerable redistribution of resources across states may occur when benefits are scheduled to be cut and if the SPM is instituted as the new official poverty measure.

Introduction

The 2013 Trustees Report confirms that Social Security is facing a long-term financing shortfall and shows that the trust fund will be exhausted in 2033 (U.S. Social Security Administration, 2013). After these reserves are exhausted, the system will collect only enough revenue to pay 75 percent of currently legislated benefits. Using the *Current Population Survey* (CPS), this project quantifies how such a cut in Social Security benefits would impact the incidence of poverty and, in turn, the geographic distribution of poverty among the elderly under both the official poverty measure and the Supplementary Poverty Measure (SPM).

Few measures of economic well-being receive greater attention and scrutiny than poverty; it is used to gauge not only economic well-being, but to measure progress over time, and to evaluate the effectiveness of social insurance and welfare programs. Eligibility for some means-tested transfer programs is determined based on the poverty thresholds, and formula-based federal grants use counts of the poor as the basis for distributing federal assistance to state and local governments.

The official poverty measure, largely unchanged since the 1960s, has been widely criticized.[1] The SPM is the culmination of a substantial effort to devise a more accurate measure of privation.[2] The adjustments made to create the SPM include accounting for medical out-of-pocket expenses (MOOP) and homeownership, both of which disproportionately affect the measured poverty rates of the elderly. Indeed, the poverty rate for the elderly under the SPM is almost double the rate under the official poverty measure (Short 2010; Deparle, Gebeloff, and Tavernise 2011; Meyer and Sullivan 2012). Since the SPM adjustments disproportionately affect the elderly, an across-the-board cut in Social Security benefits is likely to increase poverty among beneficiaries by more under the SPM than under the official measure.

Cutting Social Security benefits will also impact the measured geographic distribution of poverty among the elderly. Substantial variation in poverty rates among states has been well

[1] The main criticisms include a narrow definition of resources that fails to reflect appropriately the resources at a family's disposal, an odd adjustment for family size, and a biased adjustment for price changes (Ruggles 1990; Eberstadt 2008).

[2] The U.S. Census Bureau has led a twenty year process to revise the poverty measure involving hundreds of papers, dozens of official U.S. Census Bureau publications, and two NAS reports (Citro and Michael 1995; Iceland 2005). Legislation was introduced in Congress to revise the poverty rate along NAS lines in the Measuring Poverty Act of 2008 (H.R. 6941). The SPM was published by the U.S. Census Bureau for the first time in the fall of 2011 (Short 2011) and is designed to complement, not replace, the current official measure. It will be published alongside the official rate, funding permitting.

documented, ranging from 21.3 percent in New Mexico to only 7.9 percent in New Hampshire (U.S. Census Bureau, CPS 2012-2013). The effect of Social Security on poverty incidence also varies across states. The two largest adjustments made by the SPM – the exclusion of MOOP from income and the creation of new poverty thresholds based on homeownership, mortgage status, and local cost of living – exhibit considerable geographic variation (Collins 2011; U.S. Census Bureau 2012), and these adjustments may substantially impact the geographic variation in elderly poverty rates.[3]

Using the March 2011-2013 CPS, this paper first compares changes in poverty rates for elderly individuals aged 62 and older, who are at or beyond the early entitlement age (EEA) for Social Security retirement benefits, at the current benefit level and after the projected cut to 75 percent of scheduled benefits, under both the official measure and the SPM. In addition to poverty rates, the study examines the impact on the distribution of income more broadly. The paper also projects the poverty rate among the elderly in 2033, when benefits are scheduled to be cut, under the two poverty measures. Further, the study explores whether moving to the SPM from the official measure changes the geographic distribution of poverty across the country and measures the effectiveness of the Social Security program in mitigating these geographic differences, which again are measured at the current benefit level and with a 25 percent benefit cut.

While the existing literature suggests that the behavioral response to a policy change may be substantial (Neumark and Powers 2004), this paper does not take into account other changes that would occur were Social Security benefits reduced. If Social Security were cut, most elderly individuals likely would have saved somewhat more and worked somewhat longer. However, because Social Security is the largest source of retirement income for a majority of retirees, cutting Social Security benefits by 25 percent could nevertheless increase elderly poverty. Although this exercise is ceteris paribus in nature, the results of the study are important to evaluate the economic well-being of the elderly. The study also informs policy makers about

[3] According to Collins (2011) 24 to 30 percent of low income households under 65 (those below 250 percent of the federal poverty line) in eleven states spent more than 10 (5 percent if below 200 percent of the federal poverty line) percent of their income on MOOP, while in seven states over 35 percent of low income households were classified as having high medical out of pocket expenses. According to Census, in 2012 the homeownership rate ranged from 45 percent in Washington D.C. to 75.8 percent in West Virginia.

any potential changes in the flow of federal anti-poverty dollars to state and local governments, should the SPM be instituted as the new official poverty measure.[4]

Our estimates show that, at the current benefit level, about 9 percent of elderly individuals[5] are poor under the official measure, and the rate increases to 15 percent under the SPM. If Social Security benefits were cut by 25 percent today, the fraction in poverty would be 16 percent under the official measure and 27 percent under the SPM. The projection of 2033 poverty rates among the elderly shows that they will rise: at the projected cut to 75 percent of scheduled benefits, assuming no behavioral changes, 20 percent and 30 percent of individuals 62 and older would be in poverty under the official measure and the SPM, respectively.

We also find that who is designated as poor differs considerably under the two poverty measures: about 83 percent of the poor elderly individuals under the official measure are also designated as poor under the SPM, but only 53 percent of SPM poor are poor under the official measure. We decompose the differences between the SPM and official poverty and find that the subtraction of medical out-of-pocket expenses from SPM income makes the biggest difference between the official measure and the SPM for the elderly. This finding is consistent with the literature on the population as a whole.

When examining the geographic distribution of poverty under the two measures, we find that poverty rates for elderly individuals increase for all states under the SPM compared to the official measure, with an average increase of 57 percent, but the increase differs considerably by state. Due to the considerable differences across states in terms of both levels and fractions of the elderly population's income from Social Security, the impact of cutting benefits varies by states and by poverty measure. A close investigation of the SPM's components reveals that the threshold adjustment – for cost of living and housing status – has the largest effect on poverty rankings across states. Further, the poverty distribution by state is more dispersed under the SPM compared to the official measure. If the allocation of federal grants to states is tied to this new measure of poverty, then considerable redistribution of resources across states may occur.

This paper proceeds as follows. Section 2 describes the official poverty measure and the new Supplemental Poverty Measure and discusses the effectiveness of Social Security program in reducing elderly poverty rates. This section also reviews the existing literature. Section 3

[4] Further work can explore what would happen assuming a non-zero behavioral elasticity.
[5] For this analysis, elderly individuals are those 62 and older to correspond with the age of first Social Security eligibility.

starts with a description of the data and sample construction; it then discusses how cutting Social Security benefits impacts the poverty incidence among the elderly under both the official poverty measure and SPM. Section 4 projects the elderly poverty rate under the two poverty measures for 2033 when benefits are projected to be cut. Section 5 examines whether the geographic distribution of elderly poverty has changed under the SPM, and how cutting Social Security benefits would impact the face of poverty across the country. Section 6 concludes.

Background

The Official Poverty Measure. Few measures of economic well-being receive greater attention and scrutiny than the official poverty measure. It has been used to evaluate the evolution of the well-being of the population and to determine eligibility and benefits for means-tested transfer programs, including Supplemental Nutrition Assistance Program (SNAP) and Affordable Care Act (ACA) subsidies. Official poverty in the United States is determined by comparing the pre-tax money income of a family or a single individual to poverty thresholds that vary by family size and composition. If a family's total income is less than its threshold, then that family and every individual in it is considered in poverty. The poverty threshold was established in 1960s using a method devised by Mollie Orshansky (1963), which is based on the cost of a basic food plan for families of different sizes and compositions. These thresholds are adjusted over time using the Consumer Price Index for urban consumers (CPI-U), but they do not vary geographically. The official poverty definition uses money income before taxes and does not include capital gains and non-cash benefits, such as public housing, Medicaid, and benefits from Supplemental Nutrition Assistant Program. The time period used to define the official poverty measure is one year, and the resource sharing unit is the family or those related by blood or marriage.

One of the most commonly criticized features of the official measure is that it defines resources as pre-tax money income, failing to reflect appropriately the resources at a family's disposal, and this weakness is particularly salient for an analysis of the elderly (Meyer and Sullivan 2007). The effect of the decline in income on the elderly after retirement may be cushioned by the large percentage of non-taxable income, such as Social Security and

Supplemental Security Income, and the elderly are also more likely to receive Medicaid and face less stringent eligibility requirements for the SNAP.[6]

Moreover, the official poverty thresholds do not take into account the fact that individuals can be income poor but have accumulated wealth they can use to support general consumption. This is again most relevant to the aged. The most valuable asset most Americans have is the house. During the period from 2000 to 2004, 83 percent of households 65 and over owned a home (Meyer and Sullivan 2007), with an average value of $253,000.[7] For the elderly, the flows of services, most notably imputed rent for the large number of elderly individuals who own their homes outright, from durables can often be large relative to their current income.

Critics of the official measure also argue that the official thresholds are based on a very narrow measure of necessary expenditures, which does not capture the true financial burdens, such as medical or work related expenses that households are facing.

Another feature of the official poverty measure that has been criticized is the equivalence scale. As discussed by Meyer and Sullivan (2012), the poverty threshold varies by family size, and these thresholds reflect some economies of scale in food, but not other goods. In addition, the scale implicit in the official poverty thresholds does not exhibit diminishing economies of scale for additional individuals over the whole range of family size (Ruggles 1990). Further, current estimates from the *Consumer Expenditure Survey* suggest that food expenditures account for only about one-seventh, rather than one-third, of the typical consumer's after-tax money income, suggesting that the multiplier should be adjusted because food prices have on average grown more slowly than CPI since the official poverty measure was developed.

The Supplemental Poverty Measure. Since publication of the first official U.S. poverty estimates in 1964, there has been continuing debate about the best approach to measure income and poverty in the United States. A potentially more useful tool to measure economic well-being in the United States is the Supplemental Poverty Measure. The SPM was first released by the U.S. Census Bureau in November 2011. The SPM's technical design is largely based on the recommendations of a 1995 National Academy of Sciences report (Citro and Michael, 1995) and

[6] Social Security benefits are not taxed unless a household's modified adjusted gross income is more than the base amount: $25,000 for single and $32,000 for married filing jointly.
[7] Average home value net of housing debt is 210,000. *Survey of Consumer Finances* (2010).

follow-up workshop (Iceland, 2005), and the SPM attempts a more comprehensive appraisal of both a household's available resources and expenses.

First and perhaps most important, the official poverty measure and the SPM measure resources differently. SPM resources include not only the value of cash income from all sources, but also tax credits, and the value of in-kind benefits that are available to buy the basic bundle of goods. In-kind benefits include nutritional assistance, subsidized housing, and home energy assistance. Certain expenditures are subtracted from available resources in the SPM resource calculation. These include tax liabilities (income taxes, Social Security payroll taxes), payments for child support, child care and other work expenses, and out-of-pocket medical expenses (MOOP). Medical expenditures are subtracted because they are considered non-discretionary income and poverty aims to measure the ability of a family to use their resources to meet basic needs such as food, shelter and clothing. By subtracting medical expenditures, the SPM deliberately takes into account the effect of health status on poverty (Caswell and Short, 2011).

According to Meyer and Sullivan (2012), an important advantage of such a resource measure is that conceptually it more closely approximates resources available for consumption than does pre-tax money income. And by including tax credits and in-kind transfers, the SPM is devised to gauge the effectiveness of anti-poverty efforts. Since a large percentage of the income of the elderly comes from non-taxable income and in-kind transfers, and the elderly have, on average, higher MOOP, the adjustment in how resources are measured is expected to disproportionately affect the measured poverty rates of the elderly.

The thresholds used in the new measure are derived from *Consumer Expenditure Survey* expenditure data on basic necessities (food, shelter, clothing and utilities). Separate thresholds are calculated for three different housing status groups: renters, homeowners with a mortgage, and homeowners without a mortgage (those in public housing are included in this last group). These separate thresholds are a much more transparent adjustment for differences in costs across families of different sizes and composition and implicitly account for the different resource availability across families. Since the elderly are more likely to own their homes without a mortgage, this adjustment will also significantly impact the measured poverty among the elderly.

The SPM resource sharing unit differs from that used by the official measure as well. The SPM resource sharing unit includes not only all those related by blood or marriage and their co-resident dependents but also cohabiters and their children. And unlike the scale adjustment in

the official measure, the three-parameter equivalence scale of SPM exhibits diminishing marginal cost with each additional adult equivalent. Finally, the SPM makes an additional adjustment to the poverty thresholds to reflect geographic variation in the cost of living.

The SPM is designed to assess the effectiveness of poverty alleviation programs, but the new thresholds are not intended to assess eligibility of government assistance.

Social Security and Elderly Poverty. One of the most striking trends in elderly well-being in the twentieth century was the dramatic decline in their income poverty rates. The official poverty rate of those 65 years old and older was 35 percent in 1960 – more than twice than that of the non-elderly (ages 18-64) – and fell to 10 percent by 1995, below that for the non-elderly, and has been stable at that level since then. The rapid growth in Social Security benefits in the post-World War II period is often cited as a major factor in elderly poverty reduction.

Social Security benefits are the backbone of most people's retirement income. Almost 90 percent of people 65 and older receive some of their family income from Social Security.[8] Households 65 and older in the bottom third of income distribution depend almost entirely on Social Security, with their Social Security benefits accounting for 88 percent of their total non-earned income. Elderly individuals in the middle third of the income distribution currently receive 71 percent of their non-earned income from Social Security, 19 percent from employer-provided pensions, and 6 percent from private saving. Even those at the high end depend on Social Security for more than one-third of their income. [9]

Using the variation in the generosity of the Social Security program across birth cohorts over the 1885-1930 period, Engelhardt and Gruber (2004) assess the causal role of the Social Security program in reducing poverty rates. They find that the growth in Social Security benefits can indeed explain the entire decline in poverty among the elderly over this period. A recent study by the Center on Budget and Policy Priorities also shows that in 2008, nearly half of all elderly people – 45.2 percent – had incomes below the poverty line before receipt of Social Security benefits. When Social Security benefits were included in their incomes, only 9.7 percent remained poor. About 13.2 million elderly Americans are lifted out of poverty by Social Security. A similar conclusion was reached by the Congressional Research Service: if Social

[8] Ruffing and. Van de Water
[9] Authors' calculation using the Current Population Survey (2011).

Security benefits did not exist, an estimated 44 percent of the elderly would be poor today, assuming no behavioral changes such as saving more or working longer. Therefore, reductions in Social Security benefits could significantly increase poverty among the elderly.

Literature to Date. Several studies assess the differences between the official poverty measure and the SPM (see Short 2010; Meyer and Sullivan 2012; Gould and Cooper 2013; for example). These studies find that while the poverty rate falls for children under the SPM, compared to the official measure, poverty increases modestly under the SPM for individuals aged 18 to 64 and is nearly double the official rate for the elderly. Further, the poverty rate among people age 80 and older increases more dramatically than that of people 65-79 under the SPM. Researchers also find that as MOOP is particularly important for the elderly, subtracting MOOP raises the poverty rate most for this group.

Another strand of literature focuses on possible effects of Social Security reform on elderly poverty. For instance, CRS estimates show that under the current benefit level, the elderly poverty rate is projected to fall to about 5 percent by 2042; but if benefits are reduced by 25 percent the elderly poverty rate will be 11 percent by 2042.

This study also connects to literature on economic geography. Besides its use in measuring the status and size of the low-income population over time, the poverty rate is also widely used to compare the relative economic standing of different areas of the country, including regions, states, cities, and counties. Ziliak (2010) finds that state poverty rankings are fairly robust under the National Academy of Sciences (NAS)-type measures compared to the official rate for the adult population. Gould and Cooper (2013) conclude that under the SPM, states with large minority populations tend to have the highest levels of elderly poverty rates.

This paper builds on earlier works, with a special focus on how cutting Social Security benefits impacts both the incidence of poverty and the geographic distribution of poverty among the elderly under the two poverty measures. More importantly, we project the poverty rate among the elderly in 2033, the year in which exhaustion of the Social Security trust fund is projected, under these two poverty measures.

Measuring Elderly Poverty: Official Measure *vs*. the SPM

Data and Sample. The data come from the *Current Population Survey Annual Social and Economic Supplement* (CPS-ASEC). The advantage of these data is that they include detailed income information, MOOP, and household SPM thresholds. To estimate poverty rates for individuals aged 62 and older, we pool the three most recent March CPS, 2011-2013. This provides an estimation of poverty rates for 2010-2012. Our sample includes 69,532 individuals aged 62 and older.

Poor under Different Measures. A comparison of poverty rates among elderly individuals under both the official measure and the SPM is summarized in Figure 1. Compared to 2010-2012 official poverty rates, SPM estimates indicate a rate for individuals ages 62 and older that is 5.8 percentage points higher (9.0 percent vs. 14.8 percent), an increase of more than 60 percent. We also find that the younger elderly (people who are ages 62 through 74) are less likely than the older elderly (age 75+) to fall below poverty under both measures. The official poverty rate for elderly individuals would increase dramatically from 9.0 percent to 16.3 percent were Social Security benefits cut to 75 percent of the current level. The same tendency is observed for SPM poverty rates, and about 34 percent of elderly individuals ages 75 and older would be poor if their Social Security benefits were reduced to 75 percent of the current level.

In addition to poverty rates, the study also examines the impact on the distribution of income more broadly to include the share of the elderly with incomes that fall below 50 percent of each threshold; fall between 50 percent and 100 percent; fall between 100 and 130 percent; and fall 130 to 200 percent of the poverty line. The results are summarized in Table 1. We find that moving from the official measure to the SPM makes a substantial difference at the bottom of the income distribution for elderly individuals: the deep poverty rate (less than half of the poverty line) nearly doubles, from 2.77 percent to 4.69 percent. The gap between the official measure and SPM keeps relatively constant but narrows as we move up the income distribution: about 6.4 percent of individuals ages 62 and older are between 100 percent and 130 percent of the official measure, compared to about 10.4 percent under the SPM (an increase of 62 percent); 23 percent of people 62+ are between 130-200 percent of the official measure compared to 31 percent under the SPM (an increase of 34 percent).

Who is added and removed from poverty under the SPM. An essential feature of any poverty measure is that the threshold should identify the most disadvantaged. Our estimates

also show that the difference between measured poverty under the official measure and under the SPM diminishes when moving higher up the income distribution. It is crucial to examine those added to and dropped from the poverty rolls by the SPM, compared with the official measure. Our approach is essentially similar to Short (2011) and Meyer and Sullivan (2012) but focuses on elderly individuals.

Table 2 summarizes mean characteristics for elderly individuals who are poor in 2010-2012 under the official measure and the SPM, as well as the overlap and difference between the two groups. This table reveals some sharp differences in who is designated as poor. Compared to those deemed poor under the official measure, those who are poor under the SPM are less likely to be female, minorities, and to receive public assistance, but they are more likely to be married, to have private health insurance and own a home, to have higher education and to reside in a bigger family. Notably, the SPM poor have much higher out-of-pocket medical expenditures than do the poor under the official measure. We also find that 83 percent of poor elderly under the official measure are also designated poor under the SPM, but only 53 percent of the SPM poor are deemed poor under the official measure.

A close examination of elderly individuals classified as poor only by the official measure reveals several interesting aspects. They seem more disadvantaged by many dimensions; they are (statistically significantly) more likely to be minorities, are less educated, less likely to be married, less likely to own a home and much more likely to rent, more likely to receive public assistance (76 percent), and less likely to have private health insurance (15 percent). Further, out-of-pocket medical expenditures for those who are poor under only the official measure are much lower compared to other groups. On the other hand, those elderly individuals who are poor under the SPM and not the official measure have much higher out-of-pocket medical expenditures, with an average of $10,797 per year – about 8 times higher than the official-measure-poor-only group; 53 percent of the SPM-only group have private health insurance, close to 75 percent own a house, and 31 percent have a mortgage. The comparison clearly shows that, for elderly individuals, differences in public assistance, out-of-pocket medical expenditures, home ownership and mortgage status largely drive the differences between the poverty statuses under the two poverty measures.

To further examine which factors contribute to the difference of measured poverty for Social Security beneficiaries under two poverty measures, we conduct a decomposition analysis. Tables 3 summarizes the decomposition results, which isolate the effects of the components of the change from one measure to the other. This method allows us to determine the separate effect of changes in the resource sharing unit, the resource measure (including pre-tax to after-tax income, adding non-cash benefits to income, and subtracting MOOP from income) and moving from a single threshold to one that varies by housing tenure and accounts for geographic variations. This approach is in the spirit of that used by Meyer and Sullivan (2012) in the context of comparing the official measure and the SPM.[10]

In Table 3, we report the effect of different methodological steps in going from the official measure to the SPM. These changes are measured in terms of how they alter poverty rates among elderly individuals. Moving from left to right across columns, we show how each methodological step impacts the measured poverty rate. Since the results will be sensitive to the order of adjustments, we illustrate, by moving down the rows from top to bottom, how different combinations of adjustments alter poverty rates. Each row represents a different starting point for calculating the poverty rate, and each column represents how adding the factor in that column impacts the poverty rate. For example, the first line of Table 3 indicates that moving to the SPM resource sharing unit decreases the poverty rate among individuals aged 62 and older by a negligible 0.32 percentage points. [11] The effect of subtracting taxes is also small, changing the poverty rate from 8.71 percent to 8.77 percent. Not surprisingly, adding non-cash benefits reduces poverty rates by about 1.5 percentage points, about 20 percent lower than the official measure at the baseline. And moving from the single threshold of the official measure to one that varies by housing tenure and accounts for geographic variations increases the poverty rate by about a percentage point. The largest change in poverty rates comes from subtracting MOOP, which increases the official rate by 66 percent.

Moving from top to bottom, we can assess various combinations of methodological steps to determine whether the order of adjustment makes a difference. The message is very clear that while no other change has more than a 2 percentage point effect, most of the increase in the

[10] Meyer and Sullivan (2012) also consider the consumption poverty measure, which we do not discuss here.
[11] The thresholds used here are the thresholds for the official poverty measure that vary by household composition and size. Because variables such as medical expenditures are only available for the SPM resource sharing unit, the official poverty measure thresholds are applied to the SPM resource units and poverty is calculated accordingly. As mentioned, the change of the resource sharing unit changes poverty by only 0.32 percentage points.

poverty rate of elderly individuals comes from subtracting MOOP from income, regardless of the combination and the order of adjustment.

The analysis conducted in this section shows there are striking differences between the official poor and the SPM poor for the elderly population. We find consistent evidence, as suggested by other studies (eg. Meyer and Sullivan, 2013, Bridges and Gesumaria, 2013), that the SPM is adding to poverty those who appear to be better off than those it is removing from the poverty rolls. And the SPM adjustment that has the largest impact is the MOOP adjustment, which more than doubles the official rate.

While MOOP is particularly important for the elderly and large medical expenses may drain their resources, the literature also documents a strong correlation between income and medical expenses.[12] Since our results show that MOOP has such a large impact on elderly poverty, further discussion is warranted on the validity of subtracting MOOP from income when assessing the economic well-being of the population.

Projecting the Elderly Poverty Rate in 2033

To understand how cutting benefits impacts the economic well-being of the elderly, we project the 2033 poverty rate among the elderly under the two poverty measures; this is the year that Social Security would only be able to pay 75 percent of legislated benefits if no changes are made. The forecasting strategy first involves estimating how individual characteristics predict poverty status – under each poverty measure – among current elderly individuals, under the following two scenarios: current benefit levels and benefits being cut to 75 percent of their current levels. The forecast then applies the estimated coefficients to predict the future poverty status of the cohort of potential beneficiaries in the 2030s. This forecasting method, widely used in demographic research, relies on the assumption that different cohorts share the same earnings trajectory and a constant relationship of demographics to income as they age, but the method also accounts for foreseeable demographic and socioeconomic shifts between the present elderly cohorts and those who will be elderly when benefits cuts are forecast.

Ideally, the forecasting would be based on longitudinal data as it would allow us to observe the same individual over time and explore the relationship between his characteristics at 40 and his poverty status at retirement. However, since crucial pieces of information needed to

[12] See Komisar (2013), Castner and Mabli (2010), and Banerjee (2012) for more information on this relationship.

construct the SPM thresholds are available only in cross-sectional data like the CPS, our first step is to construct quasi-longitudinal data by putting individuals into cells using the CPS. We focus on three groups of individuals in the CPS: individuals currently 62 or older; individuals ages 37 to 60 in the mid-1980s (who are 62 and above around 2010); and individuals ages 37 to 60 around 2010 (who will be 62 and above in 2033). Specifically, our first wave of data sampling individuals ages 37 to 60 comes from the 1986, 1987, and 1988 CPS, and the second wave samples individuals ages 62 and older using the 2011, 2012, and 2013 CPS. We also sample individuals who are 37 to 60 in 2011-2013 CPS, whose characteristics will be used to predict the poverty status of the potential beneficiaries in 2033.

We define cells by a range of demographic characteristics including five 5-year age groups, gender, race, educational attainment, central city residence, and four regions of the country.[13] There are 384 cells for each of the three groups.[14]

As the first step, we estimate the poverty status of current elderly individuals under both measures, at current Social Security benefit levels and at the projected cut to 75 percent of scheduled benefits. We then aggregate individual poverty information into each cell to calculate each cell's average poverty rate. Table 4 presents the poverty status of individuals 62 and above under the official measure and the SPM using 2010-2012 waves of the CPS, as well as the cell characteristics of these individuals.

We regress the cell poverty rates of individuals ages 62 and above that we estimated based on 2011-2013 CPS on cell characteristics of individuals 37 to 60 in 1986-1988 data, then apply the estimated coefficients to individuals ages 37 to 60 in 2010-2012 (from the 2011-2013 CPS) to predict their poverty status in 2033.

We model the probability of being below the poverty as follows:

$$P_{ct} = \beta X_{cj} + \varepsilon_{cj}$$

where P_{ct} is share of individuals below poverty in cell *c* at time *t*. X_{cj} denotes the average demographic and socioeconomic characteristics suggested by the literature of cell *c* at time *j* (*j=t-21)* that may predict the poverty status at time *t*. Since the analysis is limited by the cross-sectional nature of the CPS data, we include demographic and socioeconomic characteristics that

[13] The age groups for older individuals are 62-66, 67-71, 72-76, and 77+. The age groups for younger individuals are 37-41, 42-46, 47-51, and 52-60. The last age group is larger because the CPS groups individuals 80-84 together into one age group. The race is defined as white and non-white. Education is defined as three groups: less than high school, high school completion, and more than high school.

[14] While most of cells have more than 20 individuals, six cells have fewer than 20 individuals.

are suggested by the literature as impacting individuals' poverty status, including characteristics we used to construct our cells, such as age, race, gender, education, and region; we also include marital status, indicators for whether an individual is receiving public assistance, is a homeowner, or has a professional occupation,[15] whether they have private health insurance, their income quintile, CPI-adjusted average cell wage for working individuals,[16] and pension coverage at their current job.[17] Since the cells vary greatly in size, the regression is weighted by number of individuals in each cell to give an accurate representation of the national poverty rate.[18]

The regression results are summarized in Table 5. Not surprisingly, those who are minorities with lower educational attainment are more likely to be in poverty under the official measure in their older age, as are older individuals, those receiving government assistance, non-homeowners, and those living in the South. The same factors are important in the predictions of poverty rates after the benefit cut.

Based on these regression estimates, we estimate that in 2033, 12 percent of individuals ages 62 and above will be in poverty under the official measure if they were to receive Social Security benefits at the current benefit level (Table 6). If benefits were cut to 75 percent of current levels, 20 percent of individuals 62 and above are projected to be in poverty in 2033 under the official poverty measure.[19] We also estimate the poverty rate under the SPM, both for Social Security benefits paid at current levels and at the 25 percent cut. The regression results are described in Table 5. While the broad conclusion is largely similar to estimates under the official measure, there are notable differences. First, estimates for the SPM exhibit significant

[15] This includes medical professionals, teachers, and most other non-manufacturing, non-service jobs.
[16] This accounts for the difference between the wage index and CPI over the projection period. The average Social Security benefit has been growing faster relative to the poverty threshold. From 1986-2011, CPI grew 104 percent, while the Social Security average wage index grew 148 percent. Between 2011 and 2033, CPI is projected to grow 78 percent while the wage index is projected to grow 141 percent.
[17] Aaronson and Mazumdar (2008) suggest that income at age 40 is a more permanent marker for relative status.
[18] The cell characteristics of individuals 37 to 60 in 1984-1986 and individuals age 37 to 60 in 2009-2011 are summarized in appendix table 1.
[19] CRS found lower projected poverty rate in their model. Several factors account for this difference. Poverty thresholds grow with CPI-U while scheduled Social Security benefits grow with wages, between 1986 and 2011, CPI increased by 104%, while the average wage index increased by 148%. From 2006-2042, the period considered by CRS, CPI is projected to increase by 157% while the average wage index increases by 281%. Over our projection period (2011-2033), CPI is projected to increase 78% while the average wage index increases 142%. This longer time period with a larger gap between CPI growth and wage growth drives CRS's estimates of elderly poverty downward. Additionally, the baseline of their projection looks at those who will be 65 or older in 2042 in 2006, when the adult poverty rate was 11 percent, compared with 13.7 percent in 2011. To the extent that the current income and poverty of individuals influences the projected poverty rates, today's baseline will generate higher projected poverty rates.

geographic differences. Compared to living in the East, individuals living in the Midwest are less likely to be below the poverty line under the SPM, but more likely to be in poverty if they live in the West; this pattern is likely due to several adjustments made by the SPM that account for considerable geographic variation, including subtracting MOOP from income and using new thresholds that account for the cost of living.[20] A strong positive age gradient is also revealed. We also find that while elderly individuals who receive government assistance are more likely to be in poverty, the magnitude of this coefficient is smaller compared to the one in the estimation for the official measure. This finding is not surprising since the SPM includes in-kind transfers in the income calculation. Further, being a homeowner still predicts a lower probability of being in poverty in old age under the SPM, but the magnitude of this factor is bigger; this is likely due to separate thresholds used for different housing status. In predicting poverty under the SPM and a projected benefit cut, living in the South is associated with an increase in poverty, and having a professional job decreases the likelihood of poverty in old age.

Based on these estimates, 16.4 percent of individuals 62 and older are projected to be in poverty under the SPM in 2033 if benefits continue to be paid at their current levels. If the projected 25 percent cut in benefits occurs, 30.3 percent of individuals 62 and older are projected to be in poverty.

Social Security's new Full Retirement Age (FRA) is not fully implemented for the 2010-2012 cohort that is used to predict poverty in retirement in the 2030s. To the extent that people do not respond to the increasing FRA by working longer and claiming Social Security later, this trend would further decrease expected benefit amounts and increase the poverty rates above the predicted levels.

Does the SPM Change the Face of Poverty Across the Country?

To investigate how the geographic distribution of poverty is likely to change under the SPM, and to assess its implications for Social Security's success in reducing the geographic variation in privation, we estimate poverty rates by state using 2011-2013 CPS under the official measure and the SPM.

[20] There is substantial variation the geographic distribution of medical expenditures. In 2004, per capita medical expenditures ranged from $4,000 in Utah to $6,700 in Massachusetts. (Congressional Budget Office 2008) For more information see, for example Fisher, Bynum, and Skinner (2009) and Baicker and Chandra (2009).

This part of the analysis builds on the work of Ziliak (2010), who finds that state poverty rankings are fairly robust under alternative poverty measure for all adults. Ziliak's work, however, relies on imputed MOOP. Even good imputations rarely capture the dispersion of medical expenses. Rather than relying on imputation, it is more straightforward and likely more accurate to measure such spending directly using the CPS. Furthermore, the work of Ziliak ignores the adjustment in the SPM that reflects geographic variation in the cost of living.

To insure that we have sufficient observations in each state in our age group of interest, we again pool three waves (2011-2013) of the CPS. Table 7 presents the actual estimated poverty rates of elderly individuals aged 62 and older for each state under both measures, as well as the subsequent rankings of states based on different measures.

Overall, poverty rates for elderly individuals are higher for all states under the SPM compared to the official measure, with an average increase of 57.1 percent, but the increase differs by state. For instance, the poverty rate more than doubles in Hawaii, New Hampshire, and California, but the increase is only about 16 percent in West Virginia, and around 17 percent in South Carolina and 21 percent in North Dakota.

On average, the subsequent rankings of states change by 9 places, suggesting some reshuffling of states.[21] For instance, New Hampshire's poverty ranking worsens under the SPM – the state rises from 45th place to 20th;– Hawaii's rises from 26th to 7th, and California goes from 18th to 2rd. In contrast, West Virginia's ranking declines from 6th to 29th, and North Dakota's ranking goes from 27th to 44th. Interestingly, Washington, D.C. remains the poorest under both measures and Louisiana moves from second poorest to fourth poorest. Mississippi, however, moves from 3rd to 12th. States in the South are worse off than states in other regions under both measures, but they improve somewhat under the SPM, likely due to the South's lower cost of living.

To better understand the effectiveness of the Social Security programs in mitigating geographic differences, we also examine the geographic distribution of poverty if Social Security benefits were cut by 25 percent under the official measure and under the SPM. We find that overall state poverty rankings are stable on average if benefits are reduced by 25 percent

[21] A higher ranking indicates a higher poverty rate.

compared to current benefit levels under both poverty measures.[22] But the aggregate pattern masks the more complicated patterns by states.

Under the official measure, states such as California, Hawaii, and Massachusetts experience substantial increases in their poverty rankings when benefits are cut, suggesting that their elderly populations are more reliant on Social Security income; these states are also states with a high cost of living. On the other hand, we observe a considerable decline in poverty rankings in states like Virginia and Colorado, indicating that income sources other than Social Security play an important role in retirement income for elderly individuals in these states.

In most states, cutting benefits has a consistent effect on the direction of a state's movement in the rankings under both the official measure and the SPM, suggesting that the strength of the relationship between Social Security and state poverty is consistent across the two measures of poverty. It is interesting to observe, however, that states in which poverty rankings change considerably under the official measure following the hypothetical Social Security benefits cut, are not necessarily the states that get reshuffled significantly under the SPM when benefits are cut. For instance, Massachusetts, which moved up 9 spots in the rankings under the official measure if benefits are cut, does not move under the SPM. Alabama's poverty ranking worsens under the SPM, increasing from 38th to 22nd under reduced benefits, whereas it worsens by only 10 places under the official poverty measure. These differences suggest the important role of differential income distribution by state when evaluating the effectiveness of Social Security.[23]

In addition to examining poverty rates and state rankings, we also examine whether moving from the official measure to the SPM changes the distribution of poverty across the country. We first conduct a Kolmogorov-Smirnov equality-of-distributions test and find that the distribution of poverty across the country is statistically significantly different under the SPM compared to the official measure. We further test whether the dispersion of the distribution has changed by a Levene test, which assesses the equality of variances. We find that the poverty

[22] The benefit cut moves states on average 4.7 ranking positions under the official measure and 3.7 under the SPM.
[23] Our findings are in the line with those of Ziliak (2010). A close look at results of Ziliak show that on average, states move 10.4 spots in the rankings when comparing FCSU-2 Threshold to the official measure for those 65 and older using a three year moving average in 2008. We find an average movement of 8.9 ranking positions when moving between the SPM and the official poverty measure using 2010-2012 average state level poverty rates for those 62 and older.

distribution of Social Security beneficiaries, by state, becomes more dispersed under the SPM compared to the official one.[24]

The heterogeneity across states may reflect possible state differences in take-up and in the generosity of social benefits, out-of-pocket medical spending, home ownership rates and cost of living. To further investigate the extent to which each adjustment changes the geographic distribution of poverty among the elderly population, we again use the decomposition methodology by reporting the effect on state poverty rankings of different methodological steps in going from the official measure to the SPM. The results are summarized in Table 8. The component of the SPM that has the largest effect on poverty rates by state is the SPM geographic cost of living and housing status threshold adjustment. Medical expenditures have the second largest effect, which is consistent with the literature on substantial geographic disparity in medical spending. We also find that including non-cash benefits in the income calculation also changes state poverty ranking considerably.

These findings provide interesting policy insights. Since the SPM takes into account government benefits, if government benefits were well-targeted, we would expect that measuring poverty rates using the SPM would reduce the geographic dispersion in poverty. In fact, our analysis shows that the effect of adjustment on non-cash benefits on the geographic dispersion is negligible (the Levene's test is insignificant). The adjustment that makes the most significant difference in both state poverty rankings and in the geographic dispersion is the threshold adjustment, which to a certain degree reshuffles states and increases poverty dispersion across states. Further, assuming no behavioral responses, we find that the impact of cutting Social Security benefits varies by states and by different poverty measures. These findings have important policy implications: since the allocation of federal funds to states and localities is largely based on poverty rates, considerable redistribution of resources across states may occur if benefits are cut and should the SPM be instituted as the new official poverty measure.

Conclusion

Policy makers considering changes to the Social Security program must consider the economic realities confronting elderly Americans. A growing body of research has identified

[24] A Levene test and a variance ratio test confirm that there is greater dispersion in poverty under the SPM. The state average SPM is 13.5 with a standard deviation of 3.2. The state average official poverty rate is 8.8 with a standard deviation of 2.2.

serious conceptual and empirical problems with the official poverty measure, and the SPM has emerged as a potentially useful tool to measure the economic well-being of Americans. Our findings show that the poverty rate of Social Security beneficiaries under the SPM is nearly double the official rate. The projection shows that poverty rates among the elderly under either of the two poverty measures will increase in 2033 when benefits are scheduled to be cut. Our findings again emphasize the importance of Social Security to the economic well-being of the elderly. We also find that the two poverty measures differ considerably in who is designated as poor, and the subtraction of medical out of pocket expenses is the major driver of this difference. While MOOP is particularly important for the elderly, the literature also documents a strong correlation between income and medical expenses. Further discussion is warranted on the validity of subtracting MOOP from income when assessing the economic well-being of the elderly population.

Our findings also show that state differences in cost-of-living, the take-up of social benefits, and out-of-pocket medical spending reshuffle the state rankings when moving from the official measure to the SPM. Further, assuming no behavioral responses, we find that the impact of cutting Social Security benefits varies by states and by different poverty measures. As poverty is already a complicated enough problem that it merits different measures, these findings further suggest that effective policy interventions should take into account cross-state differences when targeting poverty relief for the elderly.

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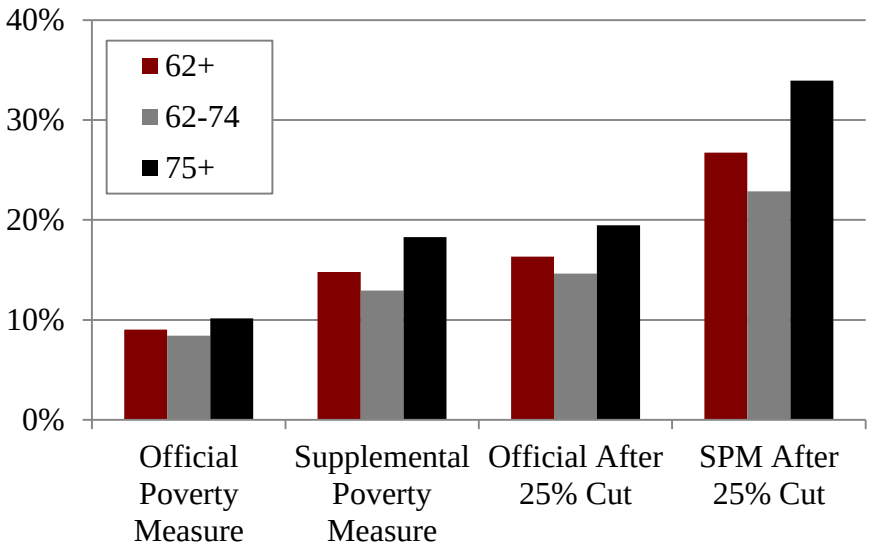
Figure 1. *Poverty Rates Among Individuals 62+*



Source: Authors' calculations from *Current Population Survey* (2011-2013)

Table 1. *Depth of Poverty for Individuals 62+*

Individuals 62+	Official poor	SPM poor	Official poor after benefit cut	SPM poor after benefit cut
<50% of poverty cutoff	2.77%	4.69%	5.31%	9.84%
50-100% of poverty cutoff	6.26	10.12	11.01	16.91
100-130% of poverty cutoff	6.39	10.38	8.14	10.18
130-200% of poverty cutoff	22.90	30.60	24.53	27.25

Source: Authors' calculations from *Current Population Survey* (2011-2013)

Table 2. Characteristics of the Poor: All 62+

62+		Poor by traditional measure	Poor under SPM	Poor by both measures	Poor under official measure only	Poor under SPM only
Age	Mean	72.22	72.96	72.28	71.91	73.68
	Std. dev.	(7.61)	(7.51)	(7.63)	(7.45)	(7.3)
% female	Mean	64 %	61 %	64 %	68 %	58 %
	Std. dev.	(.48)	(.49)	(.48)	(.47)	(.49)
% Black	Mean	18 %	14 %	17 %	22 %	11 %
	Std. dev.	(.38)	(.35)	(.38)	(.41)	(.31)
% Hispanic	Mean	16 %	14 %	16 %	16 %	12 %
	Std. dev.	(.36)	(.35)	(.36)	(.36)	(.33)
% not finishing high school	Mean	37 %	30 %	35 %	46 %	26 %
	Std. dev.	(.48)	(.46)	(.48)	(.5)	(.44)
% married	Mean	29 %	43 %	33 %	11 %	55 %
	Std. dev.	(.46)	(.5)	(.47)	(.32)	(.5)
Number of people in SPM resource sharing unit	Mean	1.85	1.97	1.87	1.74	2.08
	Std. dev.	(1.36)	(1.25)	(1.35)	(1.43)	(1.14)
Income for SPM resource sharing unit	Mean	8,255	8,547	6,414	18,133	10,806
	Std. dev.	(9,877)	(20,007)	(8,010)	(12,689)	(27,321)
MOOP	Mean	2,415	6,591	2,619	1,322	10,797
	Std. dev.	(4,403)	(21,010)	(4,692)	(1,968)	(29,178)
% receiving public assistance	Mean	38 %	24 %	31 %	76 %	17 %
	Std. dev.	(.49)	(.43)	(.46)	(.43)	(.38)
% with private health insurance	Mean	29 %	42 %	32 %	15 %	53 %
	Std. dev.	(.45)	(.49)	(.46)	(.36)	(.5)
% home owners	Mean	65 %	71 %	68 %	48 %	74 %
	Std. dev.	(.48)	(.45)	(.47)	(.5)	(.44)
% with mortgage	Mean	18 %	25 %	20 %	7 %	31 %
	Std. dev.	(.38)	(.43)	(.4)	(.25)	(.46)
% owning home, mortgage free	Mean	47 %	46 %	48 %	41 %	43 %
	Std. dev.	(.5)	(.5)	(.5)	(.49)	(.5)
% renting	Mean	35 %	29 %	32 %	52 %	26 %
	Std. dev.	(.48)	(.45)	(.47)	(.5)	(.44)
Observations		6,746	10,629	5,622	1,124	5,007

Source: Authors' calculations from Current Population Survey (2011-2013)

Table 3. *Components of the Supplemental Poverty Measure: Individuals 62+*

Household definition	Official	SPM adjustments made to baseline resources					
Baseline resources	Pre-tax income	Pre-tax income	Subtract taxes	Add non-cash benefits	Childcare and work expenses	MOOP	Housing and geographic threshold adjustment
Pre-tax income	9.03 %	8.71 %	8.77 %	7.21 %	8.96 %	14.44 %	9.79 %
After-tax income			8.77	7.27	9.00	14.65	9.91
Pre-tax income + non-cash benefits		7.21	7.27	7.21	7.44	12.78	8.07
Pre-tax income - work and childcare expenses		8.96	9.00	7.44	8.96	14.80	10.09
Pre-tax income - MOOP		14.44	14.65	12.78	14.80	14.44	15.75
Pre-tax income with housing and Geo threshold		9.79	9.91	8.07	10.09	15.75	9.79
After-tax income + non-cash benefits			7.27	7.27	7.49	13.00	8.19
After-tax income - work and child care expenses			9.00	7.49	9.00	15.06	10.28
After-tax income - MOOP			14.65	13.00	15.06	14.65	16.11
After-tax income with housing and Geo threshold			9.91	8.19	10.28	15.75	9.91
Pre-tax income + non-cash benefits - childcare and work expenses		7.44	7.49	7.44	7.44	13.13	8.36
Pre-tax income + non-cash benefits - childcare and work expenses - MOOP		13.13	13.37	13.13	13.13	13.13	14.41
After-tax income + non-cash benefits - childcare and work expenses			7.49	7.49	7.49	13.37	8.54
After-tax income + non-cash benefits - childcare and work expenses - MOOP			13.37	13.37	13.37	13.37	14.80

Note: The first column shows the poverty rate for households defined under the traditional poverty measure and compared to the official poverty measure thresholds. The table then compares various definitions of incomes to the traditional poverty measure cutoffs, using the supplemental poverty measure definition of a household. Housing and geographic threshold adjustment refers to use of the SPM poverty cutoffs.

Source: Authors' calculations from *Current Population Survey* (2011-2013)

Table 4. *Characteristics of Individuals 62+, 2010-2012*

	Mean	Standard deviation
SPM poverty	14.9 %	35.6 %
Official poverty	9.2	28.9
Female	55.3	49.7
White	85.5	35.2
62-66	31.3	46.4
67-71	23.0	42.1
72-76	16.5	37.1
77+	29.2	45.4
Less than high school	16.9	37.4
High school	34.6	47.6
More than high school	48.6	50.0
Northeast	18.9	39.1
Midwest	22.1	41.5
South	37.0	48.3
West	22.0	41.4
Central city	23.2	42.2

Source: Authors' calculations from *Current Population Survey* (2011-2013)

Table 5. *Regression Results*

	Official Measure	SPM	Official After 25% Cut	SPM After 25% Cut
Receives Government Assistance	0.227***	0.135**	0.187***	0.066
	(0.049)	(0.056)	(0.065)	(0.067)
Single	0.123**	0.039	0.124	0.110
	(0.060)	(0.068)	(0.080)	(0.082)
Working Last Year	0.025	0.015	0.055	-0.009
	(0.057)	(0.065)	(0.077)	(0.078)
Home Ownership	-0.113***	-0.158***	-0.177***	-0.227***
	(0.032)	(0.036)	(0.042)	(0.043)
Professional Job	-0.080	-0.050	-0.024	-0.138**
	(0.049)	(0.056)	(0.065)	(0.067)
Has Private Health Insurance	-0.011	-0.031	0.096	0.065
	(0.050)	(0.057)	(0.067)	(0.068)
Income Quintile 1	-0.072	0.019	-0.051	-0.036
	(0.059)	(0.067)	(0.079)	(0.080)
Income Quintile 2	-0.158***	-0.095	-0.203**	-0.131
	(0.060)	(0.069)	(0.081)	(0.083)
Income Quintile 4	-0.035	-0.003	-0.094	-0.152*
	(0.062)	(0.071)	(0.083)	(0.085)
Income Quintile 5	-0.055	-0.039	-0.122	-0.206*
	(0.090)	(0.103)	(0.121)	(0.124)
Cell Average Wage ($1999)	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Has Pension Plan at Work	-0.043	0.025	-0.106	0.003
	(0.053)	(0.060)	(0.071)	(0.072)
Age Group 2	-0.010**	-0.000	-0.001	0.035***
	(0.005)	(0.005)	(0.006)	(0.006)
Age Group 3	-0.001	0.025***	0.015**	0.074***
	(0.006)	(0.006)	(0.007)	(0.008)
Age Group 4	0.016**	0.067***	0.047***	0.133***
	(0.007)	(0.008)	(0.010)	(0.010)
Female	0.019	0.008	0.022	0.021
	(0.014)	(0.016)	(0.019)	(0.019)
White	-0.024***	-0.020**	-0.068***	-0.040***
	(0.008)	(0.009)	(0.011)	(0.011)
High School	-0.040***	-0.052***	-0.106***	-0.105***
	(0.009)	(0.011)	(0.013)	(0.013)
More than High School	-0.039**	-0.060***	-0.147***	-0.144***
	(0.019)	(0.021)	(0.025)	(0.026)
Midwest	-0.003	-0.028***	-0.011	-0.020**
	(0.006)	(0.006)	(0.008)	(0.008)
South	0.022***	0.010	0.030***	0.024***
	(0.005)	(0.006)	(0.007)	(0.007)
West	-0.004	0.015**	0.007	0.026***
	(0.006)	(0.007)	(0.008)	(0.009)
Central City	0.004	0.013*	0.004	0.005
	(0.006)	(0.007)	(0.008)	(0.009)
Constant	0.279***	0.353***	0.466***	0.547***
	(0.050)	(0.057)	(0.067)	(0.068)
Observations	384	384	384	384
R-squared	0.827	0.834	0.883	0.907

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: Authors' calculations from *Current Population Survey* (1986-1988 and 2011-2013)

Table 6. *Projected Poverty by Measure*

	Mean
Official poverty	11.9%
after 25% Cut	20.4
Supplemental poverty	16.4
after 25% Cut	30.3

Source: Authors' calculations from *Current Population Survey* (1986-1988 and 2011-2013)

Table 7. *Poverty Rate by State 2010-2012: Individuals 62+*

State	Official poverty measure	Rank	SPM	Rank	Official poor after 25% cut	Rank	SPM poor after 25% cut	Rank
Alabama	8.3 %	25	11.0 %	38	18.4 %	15	25.6 %	22
Alaska	8.9	21	15.4	15	17.9	18	24.7	25
Arizona	10.3	11	14.3	22	17.3	20	24.9	23
Arkansas	11.3	7	15.0	16	23.2	3	28.0	14
California	9.2	18	20.6	2	19.2	12	33.1	1
Colorado	8.1	29	14.4	18	13.6	44	24.3	28
Connecticut	6.9	42	13.1	28	12.5	49	23.9	31
Delaware	7.1	39	12.7	31	15.2	30	23.6	32
District of Columbia	15.8	1	23.9	1	21.8	4	32.4	2
Florida	10.1	14	17.6	5	17.8	19	29.4	8
Georgia	10.2	13	16.5	8	20.6	9	28.8	10
Hawaii	8.3	26	16.8	7	18.7	13	30.2	5
Idaho	7.2	37	12.5	32	13.9	41	23.3	34
Illinois	8.6	22	13.9	25	15.8	26	26.3	20
Indiana	8.3	24	13.5	26	15.5	28	24.4	27
Iowa	5.6	50	8.0	51	13.2	45	20.4	47
Kansas	6.8	44	8.7	50	13.2	46	19.5	50
Kentucky	9.6	17	12.8	30	19.7	11	25.9	21
Louisiana	14.4	2	17.7	4	24.6	1	29.5	7
Maine	8.2	28	11.1	37	14.5	33	21.1	44
Maryland	7.8	32	15.8	11	15.5	27	26.6	18
Massachusetts	7.6	34	15.5	13	16.1	25	28.0	13
Michigan	7.6	33	10.8	40	14.2	37	22.5	38
Minnesota	7.6	35	12.0	34	14.1	38	24.3	29
Mississippi	12.7	3	15.8	12	24.5	2	29.0	9
Missouri	7.1	40	9.8	45	14.6	32	21.9	43
Montana	7.9	31	10.7	41	15.3	29	22.1	42
Nebraska	6.4	46	9.6	48	11.8	50	19.3	51
Nevada	10.0	16	18.1	3	18.2	17	30.5	4
New Hampshire	6.7	45	14.3	20	13.8	42	24.5	26
New Jersey	7.1	38	15.4	14	14.0	40	27.6	15
New Mexico	10.4	10	13.3	27	18.3	16	24.8	24
New York	11.4	5	17.4	6	21.5	5	29.8	6
North Carolina	10.3	12	14.3	19	18.5	14	28.4	12
North Dakota	8.2	27	10.0	44	14.6	31	20.1	48
Ohio	8.0	30	10.9	39	14.4	35	22.4	41
Oklahoma	9.1	19	12.5	33	17.0	22	22.7	37
Oregon	5.8	49	9.7	47	13.7	43	22.4	40
Pennsylvania	9.1	20	14.3	21	16.6	24	26.3	19
Rhode Island	8.5	23	14.1	24	17.2	21	26.8	16
South Carolina	12.7	4	14.8	17	21.1	7	26.6	17
South Dakota	7.5	36	9.3	49	13.0	47	19.6	49

Table 7. *Poverty Rate by State 2010-2012: Individuals 62+* (cont'd)

State	Official poverty measure	Rank	SPM	Rank	Official poor after 25% cut	Rank	SPM poor after 25% cut	Rank
Tennessee	11.2 %	8	15.9 %	10	20.3 %	10	31.9 %	3
Texas	11.0	9	16.2	9	20.6	8	28.8	11
Utah	7.0	41	11.4	36	14.4	34	23.4	33
Vermont	6.8	43	10.8	43	14.1	39	20.7	45
Virginia	10.0	15	12.7	23	16.9	23	24.1	30
Washington	6.3	47	11.2	35	14.4	36	23.0	36
West Virginia	11.3	6	11.1	29	21.3	6	23.0	35
Wisconsin	5.3	51	10.8	46	11.8	51	22.5	39
Wyoming	6.0	48	12.0	42	13.0	48	20.6	46

Source: Authors' calculations from *Current Population Survey* (2011-2013)

Table 8. *Decomposition of Poverty Measure by State: Individuals 62+*

State	Official measure	SPM household definition					
		Pre-tax income	Subtract taxes	Add non-cash benefits	Childcare and work expenses	MOOP	SPM threshold adjustment
Alabama	19	18	18	13	18	18	34
Alaska	22	25	25	24	25	35	14
Arizona	5	5	5	5	6	12	6
Arkansas	8	8	7	8	9	4	24
California	16	16	17	19	16	19	3
Colorado	26	26	26	21	26	26	25
Connecticut	40	41	42	49	41	52	28
Delaware	38	36	35	30	38	44	29
District of Columbia	1	1	1	4	1	5	1
Florida	13	14	14	14	13	14	5
Georgia	12	12	13	10	12	7	17
Hawaii	34	32	33	43	34	47	7
Idaho	42	42	43	38	44	27	48
Illinois	24	24	24	26	23	24	19
Indiana	27	28	27	25	29	25	30
Iowa	51	51	52	51	51	49	52
Kansas	45	46	46	34	43	50	49
Kentucky	23	23	23	16	22	13	31
Louisiana	2	2	2	1	2	1	4
Maine	32	31	31	33	31	37	35
Maryland	30	27	30	29	30	36	12
Massachusetts	28	29	29	50	27	20	8
Michigan	36	34	36	28	32	40	33
Minnesota	37	38	38	34	36	33	32
Mississippi	4	3	4	2	4	2	16
Missouri	41	43	41	32	42	42	45
Montana	31	33	32	31	33	28	42
Nebraska	49	48	48	44	48	46	47
Nevada	15	15	15	18	15	21	10
New Hampshire	50	49	49	47	49	48	27
New Jersey	39	39	39	41	39	45	21
New Mexico	9	10	11	7	10	11	20
New York	7	7	8	20	7	15	2
North Carolina	14	13	12	11	14	10	26
North Dakota	33	37	37	39	37	34	51
Ohio	29	30	28	27	28	31	36
Oklahoma	21	21	22	15	20	17	38
Oregon	48	50	50	46	50	41	43
Pennsylvania	18	19	19	23	21	16	23
Rhode Island	25	22	21	36	24	23	13
South Carolina	3	4	3	3	3	3	9
South Dakota	35	35	34	37	35	32	44
Tennessee	11	11	10	12	8	8	22
Texas	6	6	6	6	5	6	11

Table 8. *Decomposition of Poverty Measure by State: Individuals 62+* (cont'd)

State	Official measure	SPM household definition					
		Pre-tax income	Subtract taxes	Add non-cash benefits	Childcare and work expenses	MOOP	SPM threshold adjustment
Utah	43	40	40	40	40	39	39
Vermont	44	45	47	42	46	51	41
Virginia	17	17	16	17	17	30	18
Washington	47	44	44	48	45	43	37
West Virginia	10	9	9	9	11	9	40
Wisconsin	52	52	51	52	52	38	46
Wyoming	46	47	45	45	47	29	50
Average absolute rank change		**0.98**	**1.10**	**3.82**	**1.04**	**4.94**	**8.80**
Levene's test P-Value		**0.995**	**0.980**	**0.884**	**0.930**	**0.512**	**0.041**

Note: The Levene's test P-Value tests the equality of variance of poverty rates across states under the official measure and the measure in the corresponding column.

Source: Authors' calculations from *Current Population Survey* (2011-2013)

APPENDIX

Table A1. *Cell Characteristics*

	37-60, 1985-1987		37-60, 2010-2012	
	Mean	Standard deviation	Mean	Standard deviation
SPM poverty			0.132	0.339
Official poverty	0.089	0.285	0.111	0.314
Receive federal assistance	0.081	0.274	0.126	0.332
Single	0.063	0.242	0.140	0.347
Female	0.515	0.500	0.511	0.500
White	0.865	0.342	0.800	0.400
Working	0.620	0.485	0.651	0.477
Homeowner	0.778	0.416	0.739	0.439
Professional	0.160	0.367	0.208	0.406
Has private health insurance	0.698	0.459	0.713	0.452
Covered by pension plan at work	0.414	0.493	0.380	0.485
Cell average wage (1999 dollars)	35,822	27,853	41,718	50,719
37-41	0.280	0.449	0.199	0.399
42-46	0.219	0.414	0.205	0.404
47-51	0.185	0.388	0.225	0.417
52-60	0.316	0.465	0.371	0.483
Less than high school	0.213	0.409	0.105	0.307
High school	0.401	0.490	0.300	0.458
More than high school	0.387	0.487	0.594	0.491
Northeast	0.216	0.411	0.185	0.388
Midwest	0.240	0.427	0.216	0.411
South	0.344	0.475	0.370	0.483
West	0.201	0.401	0.229	0.420
Central city	0.237	0.426	0.254	0.435

Source: Authors' calculations from *Current Population Survey* (1986-1988 and 2011-2013)