

# **Comparing Supplemental Poverty Measure Thresholds and Family Budgets: Understanding Income to Poverty Ratios**

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## **Introduction**

In the fall of 2009, the Office of Management and Budget's Chief Statistician formed an Interagency Technical Working Group (ITWG) on Developing a Supplemental Poverty Measure. That group included representatives from the U.S. Census Bureau, Bureau of Labor Statistics (BLS), Economics and Statistics Administration, Council of Economic Advisers, U.S. Department of Health and Human Services, and Office of Management and Budget. The ITWG was charged with developing a set of initial starting points to permit the Census Bureau, in cooperation with the Bureau of Labor Statistics (BLS), to produce a Supplemental Poverty Measure (SPM). This supplemental measure provides additional information not available in the current official poverty measure.

The ITWG issued a series of suggestions to the Census Bureau and BLS on how to develop a new Supplemental Poverty Measure (see Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure, 2010). These

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suggestions drew on the recommendations of a 1995 National Academy of Sciences report<sup>1</sup> and the extensive research on poverty measurement conducted over the past 15 years, at the Census Bureau and elsewhere. Some of their suggestions included the development of a new set of poverty thresholds representing current expenses that families face and that adjust regularly for changes in those levels of spending, using family size adjustments that are reasonable, and taking into account important changes in family situations, including increasing cohabitation among unmarried couples. They also suggested that the SPM thresholds should be adjusted for geographic differences in spending for housing across the nation, as there are significant variations across geographic areas. A chief motivation for the new measure is to reflect the effects of key government policies that alter the discretionary income available to families and, hence, their poverty status. These include such policies as payroll and income taxes and in-kind public benefit programs such as the food stamp program/SNAP benefits that help families meet their basic needs that are not a part of the official measure. The SPM takes account of variation in expenses such as transportation costs for getting to work and the cost of child care for working families resulting from increased labor force participation of mothers, and medical costs that depend on differences in health status and insurance coverage.

## Motivation

The Census Bureau published estimates of the SPM in November 2011, November 2012 and November 2013. The reports compared income-to-poverty-threshold ratios using the official and the supplemental measure. There was considerable interest in the large difference shown in the number of people with incomes between 100 and 200 percent of the poverty

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<sup>1</sup> In 1995, the National Academy of Sciences (NAS) Panel on Poverty and Family Assistance released a report (Citro and Michael, 1995) that evaluated the current method of poverty measurement in the United States and recommended changing the definitions of both the poverty thresholds and the family resources that are compared with those thresholds to determine poverty status. One of the goals of the NAS panel was to produce a measure of poverty that, unlike the official poverty measure, explicitly accounted for government spending on tax credits and in-kind benefits aimed at alleviating the hardship of low-income families.

threshold between the two measures. As families with income at this level using the official measure are often characterized as ‘struggling’ or ‘low income’, many believed the SPM revealed a much larger percentage of families ‘struggling’ to get by. While about 19 percent of people had money income between 100 and 200 percent of the official poverty thresholds, 32 percent of people had SPM resources in this category.

Over the last decade many analysts have been using 200 percent of the official poverty line as a measure of low income or income inadequacy. For example, a report released in January 2013 by the Working Poor Families Project (WFPP) defines low-income as those with incomes below 200 percent of the official poverty threshold. Peter Edelman used this definition to describe the near-poor in his 2012 book, *So Rich, So Poor Why it's So Hard to End Poverty in America*. This usage is based, in part, on comparisons of the official poverty measure with standard budgets (“basic needs budgets,” “family budgets,” or the Self-Sufficiency Standard) that estimate the cost of a basic, “no-frills” standard of living. In the October 2008 report by the Economic Policy Institute, *What We Need to Get By*, the authors Jared Bernstein and James Lin conclude, “In the United States, about 30 percent of people live in families with incomes below family budgets, about the same as those below twice the poverty threshold.”<sup>2</sup> A report released by Diana Pearce of the University of Washington Center for Women’s Welfare, *How Much is Enough in Your County: The Self-Sufficiency Standard for Arizona* 2012 found that the Self-Sufficiency Standard for a family with one adult, one preschooler, and one school-age child ranged from 202 percent of the federal poverty level in La Paz County to 268 percent of the federal poverty level in Maricopa County.<sup>3</sup> The National Center for Children in Poverty notes in its publication, *Basic Facts About Low-income Children*,

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<sup>2</sup> Jared Bernstein and James Lin, “What We Need to Get By,” EPI Briefing Paper #224, October 29, 2008, p. 5.

<sup>3</sup> Diana M. Pearce, “How Much is Enough in Your County? The Self-Sufficiency Standard for Arizona 2012,” May 2012, Prepared for the Women’s Foundation of Southern Arizona, p 11.

2010 that “research suggests that, on average, families need an income equal to about two times the federal poverty level to meet their most basic needs.”<sup>4</sup>

As a consequence of this interpretation for the official measure, many readers interpreted the increase in the percentage of people between 100 and 200 percent of the SPM thresholds as a surge in the number of “low-income”, “near-poor”, or “struggling” families. While some work attempted to understand what elements of the SPM explained the differences in the two measures that resulted in this increase (Short and Smeeding, 2012), it was difficult to characterize the economic condition of families and individuals whose SPM resources were at this level. Is money income below 200 percent of the official threshold analogous to SPM resources below 200 percent of the SPM thresholds?

This paper aims at following previous comparisons between the official measure and budget standards to gain insight into the relationship between the SPM and a budget-based standard. Specifically we address the question; should the population below 200 percent of the SPM threshold be equated to the population below 200 percent of the official threshold and therefore below the family-budget needs standard? To do this we examine in detail the construction of a particular budget standard and compare that to the construction of the SPM. In this process, we characterize a specific percentage of the SPM thresholds as being at a level of ‘low income’.

## **Budget Standards and Poverty Lines**

In their 1995 report, the NAS expert panel reviewed many approaches to measuring poverty. One approach they examined was the use of expert budgets (Citro and Michael 1995, p 32, 122). They noted that there are a variety of budget standards ranging from those that

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<sup>4</sup> Sophia Addy and Vanessa R. Wight, Basic Facts About Low Income Children, 2010 Children Under Age 18, National Center for Children in Poverty, Mailman School of Public Health, Columbia University, February 2012, p. 3

identify and price a detailed list of items and those that only specify a few item types and then employ a multiplier expressing that most families spend, for example, a percentage of their income on food, to arrive at a poverty line.

The NAS panel recommended using expenditures to price needed goods and avoided specificity in listing needs to determine thresholds. In doing so, they noted differences between various expert budgets and the use of expenditures on broad groups of commodities. They noted that budget standards are prescriptive, specified in an ex ante determination of need and, given a particular time and place, absolute in nature. On the other hand, using expenditures to set a level of need is descriptive, that is, rather than prescribing a particular set of items, it describes what is being spent ex post. As such, the specification of need is determined relative to the observed spending of a reference family type. These deliberations about various approaches to poverty measurement led to the recommendation of the NAS panel that underlie the construction of the SPM.

In its recommendations, the NAS panel chose a single method of measuring the level of poverty in the U.S. However, they did not intend to preclude the construction and use of budget standards, or other approaches, generally. Indeed, measuring the well-being of individuals and families is best achieved by employing many measures as each sheds light on this important status. Considering different measures shows that each approach answers a different set of questions and there are many questions about wellbeing that should be asked and answered.

Other countries have employed a variety of measures to better understand family well-being and to improve measures in current usage. For example, Peter Saunders (1999) examined the differences between low-cost budget standard estimates for households in Sydney in 1997 and the Henderson poverty line, a measure used in Australia at that time. Saunders addressed some of the differences in the two approaches, noting that budgets are transparent and flexible (can be constructed at various levels of well-being, such as low cost or modest but adequate), can be calculated for individuals and added up to a household threshold or developed for one

family type and extended to others using an equivalence scale. According to Saunders, the *raison d'être* for a budget standard is the *normative* specification of need. In contrast, examining expenditures as a measure of need incorporates actual behavior, choices, substitutions, and importantly, constraints that households or families are facing.

According to Saunders, a poverty measure has two important purposes: (1) to measure the prevalence of poverty over time and across groups, and (2) to measure the adequacy of benefit programs and other policies aimed at addressing deficiencies. In his study, comparing the two measures underscored the importance of having a measure based on current standards, circumstances, values and conditions and showed the problems inherent in the use of outdated measures. In this regard, he noted that ease of updating and adjusting to changes over time and place are important elements of any measure.

Canada is another example where several measures are available. Canada has three measures of poverty. These are (1) a set of low-income cutoffs, (2) a relative income poverty measure, and (3) a market basket measure or budget standard. These three measures differ in their level of complexity, degree of international comparability, cost to produce and maintain, method of construction, and timeliness of updating. Zhang (2010) compared the three measures from 1976 to 2006 and examined how each measure changed over time. While the three measures tracked a similar pattern generally following business cycles, each measure shed light on identifying those individuals who were vulnerable at different time periods and each measure missed different vulnerabilities. Understanding the different approaches taken by each measure and examining how each measure changed over time and across business cycles shed light on the understanding of poverty and well-being in a way that no single measure could do.

While ideally one single measure could capture all aspects of well-being accurately over long periods of time, it is not likely. Economic well-being is multidimensional and extremely complex, changes rapidly over time, varies widely by place, and is defined relative to current norms and values. Comparing the SPM to other types of measures improves our understanding

of its usefulness, the scope of its ability to identify vulnerable families, and its weaknesses in doing so. Further, the cost and maintenance of measures in a period of few resources for statistical measurement is an important consideration in choosing a measure.

In this spirit, this paper contributes to the literature by examining two different approaches to measuring poverty in an effort to understand the SPM by comparing it to another measure, in this case a family budget standard. This exercise illustrates how examining two different approaches to measuring a similar concept can help us appreciate the advantages and disadvantages of each.

## **The SPM and the Economic Policy Institute (EPI) Budget Standards**

Following the suggestions of the ITWG, the SPM thresholds are based on out-of-pocket spending on food, clothing, shelter, and utilities (FCSU). Five years of Consumer Expenditure Survey (CE) data for consumer units with exactly two children (regardless of relationship to the family) are used to create the estimation sample. Unmarried partners and those who share expenses with others in the household are included in the consumer unit. The average of the FCSU expenditures defining the 30<sup>th</sup> and 36<sup>th</sup> percentile of this distribution is multiplied by 1.2 to account for additional basic needs, such as non-work-related transportation, not considered specifically elsewhere. To account for differences in housing expenditures, the shelter and utilities portion of the base threshold is replaced by what consumer units with different housing statuses spend on shelter and utilities. The three housing status groups are: owners with mortgages, owners without mortgages, and renters (for details see Garner and Gudrais, 2012).

The three-parameter scale allows for a different adjustment for families of different sizes and numbers of children (see below for description). The American Community Survey (ACS) data adjust the FCSU thresholds for differences in housing prices across geographic areas. For each state, a median is estimated for all non-metro areas (48), for each MSA with a population above the CPS ASEC limit (264), and for a combination of all other metro areas

within a state (46). The adjustment factors are only applied to the housing portion of the SPM thresholds (see Renwick, 2011).

The ITWG suggested that the “family unit”, assumed to share income or resources, include all related individuals who live at the same address, any co-resident unrelated children who are cared for by the family (such as foster children<sup>5</sup>), and any cohabitators and their children. This definition corresponds broadly with the unit of data collection (the consumer unit) employed by the CE to calculate SPM thresholds. They are referred to as *SPM Resource Units* and include units that add a cohabitor, an unrelated individual under 15, foster child aged 15 to 21, or an unmarried parent of a child into the family.

The SPM treats some nondiscretionary expenditures on the income side, rather than in the threshold. The ITWG suggested that SPM resources should be defined as the value of money income from all sources, plus the value of near-money benefits that are available to buy the basic bundle of goods, minus necessary expenses for critical goods and services not included in the thresholds. Necessary expenses subtracted from income include income taxes, payroll taxes, childcare and other work-related expenses, child support payments to another household, and contributions toward the cost of medical care and health insurance premiums, or medical out-of-pocket costs (MOOP).

For this comparison, we use a specific set of family budgets published by the Economic Policy Institute (EPI) as an example of a family budget calculation.<sup>6,7</sup> The 2008 EPI Family Budgets consist of seven individual components: rent, food, transportation, child care, health

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<sup>5</sup> Foster children up to the age of 22 are included in the new unit.

<sup>6</sup> Other budgets are available. Dr. Diana Pearce at the University of Washington’s School of Social Work has developed the Self-Sufficiency Standard for 37 states. Dr. Any Glasmeier at the Massachusetts Institute of Technology publishes a “living wage calculator” that provides more up-to-date estimates of the cost of living in different communities. (<http://livingwage.mit.edu/>) Glasmeier’s calculator was modeled after the EPI family budgets and most recently updated in June 2012. Estimates for food, housing and other necessities in the most recent version of the calculator use 2010 estimates or data. (Unfortunately, the data for all geographic areas is not available from the living wage website). Richard Bavier(2009) developed legislatively-based poverty thresholds for 2006 using needs standards implicit in government assistance programs.

<sup>7</sup> These Basic Family Budgets were last published in 2008 for 2007 and are available on the EPI website (<http://www.epi.org/resources/budget/>).



care, taxes, and other items of necessity. These components are valued according to accepted standards or guidelines for each broad component. Since there are no EPI budgets after 2007 and the first SPM thresholds were developed for 2009, we update all seven components of the EPI basic family budgets to 2011 levels in order to compare them to 2011 SPM thresholds.<sup>8</sup> We examine how each component is measured in the two measures to improve our understanding of each.

(1) Food

The BLS uses data from the CE to estimate food expenditures as part of the cost of the bundle of food, clothing, shelter and utilities in the SPM thresholds.<sup>9</sup> They do not estimate food costs separately or prescribe a level of spending as adequate or nutritionally sufficient. On the other hand, the EPI family budgets estimate the cost of food using the United States Department of Agriculture (USDA) estimates of the Cost of Food at Home.<sup>10</sup> Each month USDA estimates the cost of four different food plans: Thrifty, Low-Cost, Moderate-Cost, and Liberal . Each food plan represents a nutritious diet at a different cost. The Thrifty Food Plan is the basis for SNAP (Supplemental Nutrition Assistance Program) allotments. The EPI family budgets used the low-cost food plan.

For this study, we update the EPI family budgets using the cost of the low-cost food plan for June 2011. The USDA monthly cost estimates differ by age and gender so this analysis uses the ages and gender of each family member to construct a food plan cost for each family.<sup>11</sup> We apply the USDA

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<sup>8</sup> On July 3, 2013, EPI released updated budgets for 2013. Since income data for 2013 will not be available until late 2014, this analysis uses the 2007 budgets as updated to 2011 by the authors.

<sup>9</sup> The share of the BLS SPM threshold that represents food expenditures is reported by BLS at [http://www.bls.gov/pir/spm/spm\\_shares\\_200511.xls](http://www.bls.gov/pir/spm/spm_shares_200511.xls).

<sup>10</sup> For an in-depth discussion of the rationale for using the low-cost food plan (and the rationale for other choices made by EPI in constructing their budgets) see Jared Bernstein, Chauna Brocht and Maggie Spade-Aguilar, "How Much is Enough? Basic Family Budgets for Working Families", Economic Policy Institute, Washington, D.C., 2000.

<sup>11</sup> <http://www.cnpp.usda.gov/Publications/FoodPlans/2011/CostofFoodJun2011.pdf>

recommended family size adjustments to the total cost for each family to reflect economies/diseconomies of scale. See discussion of equivalence scales below.

## (2) Shelter and Utilities

As part of the SPM threshold calculation, the BLS uses reported expenditures on housing by tenure status to construct the housing portion of the SPM thresholds. The SPM defines separate thresholds for renters, homeowners with mortgages, and homeowners without mortgages. Not surprisingly, this results in considerably lower thresholds for those homeowners who own their home free and clear representing the lower costs they face relative to renters or owners with mortgages.

The EPI family budgets estimate the amount of money needed for housing and utilities as the amount required to rent a certain size of home, assuming that everyone is a renter. EPI rent calculations use the U.S. Department of Housing and Urban Development (HUD) data on Fair Market Rents (FMRs). FMRs are rent estimates for “privately owned, decent, and safe rental housing of a modest (nonluxury) nature with suitable amenities.” Furthermore, FMRs are gross rent estimates, and thus include the costs of shelter rent plus utilities such as water, gas, and electricity.<sup>12</sup>

Market rents are a good approximation of the value of dwelling services for most rental housing. However, some households do not pay a market price for the accommodation. These include households living in subsidized rental or rent-controlled units, and households living in owner-occupied dwellings. Garner and Short (2010) examined the treatment of homeowners as renters on the threshold side of a poverty measure and noted that it is consistent to then add net rental income from the owned home for these groups. The SPM approximates this net flow of services of home ownership by lowering their threshold and in doing so captures the fact that homeowners who have no mortgage spend less for housing than those who do have mortgages or renters. This difference in measurement suggests that using the EPI budget as a threshold would result in higher poverty rates for that group of homeowners that own their home free and clear without a mortgage compared to poverty estimates using SPM thresholds.

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<sup>12</sup> For most areas, the FMR represents the 40th percentile of county-level rental market prices—the price at which 40% of rental housing falls below and 60% of rental housing lies above.

### (3) Transportation

The SPM subtracts work-related transportation costs from resources and includes transportation not related to work in the multiplier of the threshold calculation. There is no geographic adjustment of either of these transportation expenses. For work-related expenses the SPM uses information from the Survey of Income and Program Participation (SIPP) to calculate median weekly expenses. Commuting costs are calculated by multiplying reported miles to work by the Internal Revenue Service (IRS) cost-per-mile rate.<sup>13</sup> The number of weeks worked, reported in the CPS ASEC, is multiplied by the 85% of median weekly work-related expenses for each person to arrive at annual work-related expenses.

The EPI budgets have a single transportation category that includes both work-related and other transportation. The EPI family budgets estimate transportation costs as the average number of miles driven by Metropolitan Statistical Area (MSA) size using data from the National Personal Transportation Survey times the IRS cost-per-mile rate. For this analysis, we updated the IRS cost-per-mile rate to the 2011 rate but did not change the average number of miles driven. EPI used data from the National Personal Transportation Survey to estimate the percent of transportation costs attributable to social and recreational purposes, work trips and other non-work-related transportation. In order to exclude transportation costs for social or recreational purposes, the budget amount for single parent families was set at 69 percent of total transportation costs. In two-parent families, only transportation costs for work trips (28 percent of the total) was included for the second adult. We use these same assumptions in this analysis, providing 69 percent of total transportation costs for families with a single adult and adding only work-related transportation costs for additional adult workers. Work-related transportation is assigned only for the weeks in which the adults in the unit reported working.

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<sup>13</sup> The IRS cost-per-mile rate includes depreciation, maintenance and repairs, gasoline, oil, insurance, and vehicle registration fees.

(4) Health care

The SPM subtracts out-of-pocket expenditures on health care from income before comparing available resources to the SPM thresholds. The EPI included the cost of health care in the budget. However, the important difference between the two approaches is not due to subtracting from resources vs. adding to the thresholds but rather different conceptual approaches to this component. The SPM subtracts *actual* out-of-pocket spending on health care as reported in the Current Population Survey Annual Social and Economic Supplement (CPS ASEC). The EPI budgets use a normative concept, adding to the budgets the amount families “should, on average” spend out-of-pocket on health care. To illustrate this difference, consider the case of an uninsured family. The SPM will subtract this family’s actual expenditures from their resources even if these actual expenditures are very small because resource constraints forced the family to forgo necessary medical treatment. The EPI family budgets add to the family’s budget the average amount expected to be spent to purchase a group health insurance plan and the other out-of-pocket expenses associated with families with group health insurance plans.

EPI used a combination of data from the Medical Expenditure Panel Survey (MEPS) and a Consumer Union study to estimate the health care component of their family budgets. The amount for premiums was a weighted average of the cost for employer-sponsored health insurance, public insurance and private insurance with the weights determined by the percent of low-income families of each type (married vs. single parents) with each type of coverage. Average employee contributions for family coverage were allowed to vary by state. Other out-of-pocket costs were estimated using data from a Consumer Union study.<sup>14</sup>

We update the EPI family budget health care component using data from the Medical Expenditure Panel Study (MEPS).<sup>15</sup> First, we estimate out-of-pocket expenditures on health

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<sup>14</sup> Gail Shearer, “Hidden from View: The Growing Burden of Health Care Costs,” Washington, DC:, Consumers Union, 1998.

<sup>15</sup> [http://meps.ahrq.gov/mepsweb/data\\_stats/quick\\_tables.jsp](http://meps.ahrq.gov/mepsweb/data_stats/quick_tables.jsp)

insurance using average outlays from MEPS data by family size, insurance status and employer type. For families with employer provided health insurance the average employee contribution for that family size (one-person, two-person, three-plus persons) and employer type (private vs. government) is assigned to the family. We do not assign any premium amount to nonelderly families in which all members reported public health insurance coverage. We assign the average total group health insurance premium amount for each family size to families with individuals reporting direct purchase insurance or without health insurance.<sup>16</sup> As is also done in the SPM calculation of MOOP, we assign the Part B premium associated with their income level to persons reporting Medicare coverage but we assign no Part B premium to persons reporting both Medicare and Medicaid coverage, assuming that the Medicaid coverage includes the Part B premium. Lacking any data on average supplemental Medicare insurance plans (Medigap plans), we do not assign premium amounts for this item. Second, we assign amounts for other medical out-of-pocket expenditures, again using data from MEPS. The out-of-pocket amounts are per capita mean amounts that vary by age, health status and insurance status. For the nonelderly, amounts vary by public/private insurance and by health status (Excellent/Very Good/Good vs. Fair/Poor health). For the elderly there are three different insurance categories (Medicare, Medicare and Private, Medicare and Public) and the same two health categories.<sup>17</sup>

(5) Child care and other work-related expenses

The SPM subtracts child care and other work-related expenses from the resource measures. The child care expenditures are those reported on the CPS ASEC, and as such, represent spending subject to budget constraints and reductions due to receipt of child care subsidies or the availability of free or reduced cost care from relatives or friends. Like health care, the EPI budgets use a normative concept for child care, assigning the amount families should be spending for decent child care when no parent is available to care for the children.

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<sup>16</sup> Since many families have mixed insurance status, the family size for the insurance premium estimates was calculated by adding up the number of individuals in the family with each insurance status.

<sup>17</sup> [http://meps.ahrq.gov/mepsweb/data\\_stats/MEPSnetHC.jsp](http://meps.ahrq.gov/mepsweb/data_stats/MEPSnetHC.jsp)

The EPI budgets estimated child care costs using the state market surveys that were recommended/mandated by the Family Support Act of 1988(P.L. 100-485). For states where these surveys were not available they used the Children Defense Fund (CDF) report, *Child Care Challenges* (Adams and Schulman 1998).

Since the state market surveys are not available for all states and the CDF no longer produces the *Child Care Challenges* report, for this exercise we update child care estimates using data from a 2012 report by Child Care Aware of America (formerly NACCRRA), *Parents and the High Cost of Child Care*.<sup>18</sup> These estimates are provided at the state level for the cost of care for infants, 4-year-old children, and school age children in child care centers and family child care. We use a weighted average of the estimates for child care centers and family child care taking the weights (40 percent and 60 percent respectively) from the data reported in the Census Bureau report, *Who's Minding the Kids?* We average the estimates for four-year old care and infant care and divide all annual estimates by 50 to give us two weekly estimates of the cost of care for each state – one for preschoolers and one for school age children. We use responses to CPS ASEC questions on the number of weeks worked in the past calendar year to assign child care expenditures for the number of weeks worked by the parent with the fewest number of weeks worked. For school age children, we divide this estimate in half, assuming that school age children are cared for in school for half of the time the parent is working. The updated EPI estimates use “average” child care expenditures without regard to child care subsidies or the availability of free or reduced cost care from relatives or friends.<sup>19</sup>

In addition to child care and work-related transportation, the SPM includes the cost of uniforms and tools in work-related expenses using data from the SIPP. The EPI family budgets did not include an estimate of these other work-related expenses.

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<sup>18</sup> [www.naccrra.org/sites/default/files/default\\_site\\_pages/2012/cost\\_report\\_2012\\_final\\_081012\\_0.pdf](http://www.naccrra.org/sites/default/files/default_site_pages/2012/cost_report_2012_final_081012_0.pdf)

<sup>19</sup> To test the sensitivity of these estimates to these assumptions, we estimated the percent of people with resources below an EPI family budget that only added child care costs for families who reported paying for child care in the CPS ASEC. The results were a slightly lower poverty rate (28.2 percent vs. 30.0 percent).

(6) Miscellaneous

The SPM thresholds include a 20 percent multiplier for miscellaneous items while the family budgets add 24 percent for clothing and miscellaneous items. The EPI budgets include clothing in the miscellaneous category while the SPM thresholds include clothing as a distinct item in the threshold. The SPM includes transportation that is not work-related in the miscellaneous category while the EPI family budgets include this transportation in the transportation component.

(7) Taxes

The SPM subtracts taxes (and adds tax credits) to the resource measure using the Census Bureau's tax CPS ASEC tax calculator. The EPI family budgets, as presented in 2008, calculated the tax liabilities and credits for families at the budget thresholds and added these amounts to the budgets. For this exercise, we will use the same CPS ASEC tax calculator to compare after tax resources to the EPI family budget amount for the other six components.

(8) Other differences between budgets and SPM thresholds

In addition to differences in the calculation of individual components of the thresholds, there are important differences between the two approaches in the geographic adjustments for differences in the cost of living, the equivalence scales used to translate thresholds for two adult/two child families to thresholds for other family sizes and configurations, and the unit of analysis.

a. Geography

The EPI Family Budget Calculator provides estimates of costs by state, city, metropolitan or rural area. The 521 distinct urban areas represented in the 2008 EPI Family Budgets include two classifications: *Metropolitan Statistical Areas (MSAs)* and *HUD Fair Market Rent Areas (HMFAs)*. Housing, transportation, health care and child care vary by geographical area in the EPI family budgets. The rent portion is based on HUD FMRs. The transportation portion relies on the average total miles driven by MSA size from the National Personal Transportation Survey. Health insurance premiums for employer-provided health insurance and child care costs also varied by state of residence in the original EPI family budgets. In this exercise, child

care costs were updated at the state level while national average premium rates were used for health insurance estimates.

The geographic adjustments to the SPM thresholds only cover housing expenses. They are based on five-year ACS estimates of median gross rents for two-bedroom apartments with complete kitchen and plumbing facilities. Separate medians were estimated for each of the 309 MSAs large enough to be identified on the public use version of the CPS ASEC file. Only the housing portion of the SPM thresholds are adjusted for geographic cost differences. Renwick (2009) compared geographic adjustment differences between FMRs and the ACS adjustments used for the SPM. A priori it is difficult to predict how these different approaches will affect outcomes.

b. Equivalence scales

Equivalence scales adjust thresholds according to assumptions about differences in need across individuals of different ages and across families of differing sizes depending upon economies of scale assumptions. The SPM thresholds adjust the thresholds for other family sizes using a three-parameter equivalence scale<sup>20</sup>

The family budgets adjust each element of the budget using explicit assumptions about the economies of scale in the consumption of each item. For example, the USDA cost of food at home builds a monthly food budget for each resource unit by adding up the specific food requirements of each member. These food requirements vary by gender and age. After the total food budget is calculated, economies of scale are taken into account by increasing the total for families with less than four persons and decreasing the total for larger families<sup>21</sup>

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<sup>20</sup> The three-parameter scale is calculated in the following way: for one and two adults, the scale =  $(\text{adults})^{0.5}$ ; for single parents, the scale =  $(\text{adults} + 0.8 * \text{first child} + 0.5 * \text{other children})^{0.7}$  and for all other families, the scale =  $(\text{adults} + 0.5 * \text{children})^{0.7}$ .

<sup>21</sup> Specifically, USDA recommends the following adjustments: 1-person – add 20 percent; 2-person – add 10 percent; 3-person – add 5 percent; 4-person – no adjustment; 5- or 6-person – subtract 5 percent; 7- (or more) person – subtract 10 percent.  
(<http://www.cnpp.usda.gov/Publications/FoodPlans/2011/CostofFoodJun2011.pdf>)



Equivalence scales for the shelter portion depend on HUD estimates of the fair market rent for units with different numbers of bedrooms and the Census Bureau algorithm for assigning each household an “ideal” number of bedrooms.<sup>22</sup> For the health component of the budget, the EPI family budgets assume great economies of scale for health insurance premiums, assigning the same dollar amount to all families with three or more members. On the other hand, the EPI family budgets assume no economies of scale for other medical out-of-pocket spending, assigning a per person amount to each individual.

c. Unit of Analysis and Universe

The SPM uses a unit of analysis that includes all family members as well as cohabitators and their relatives and foster children. We use the SPM resource unit for all estimates and refer to them as ‘families’ throughout. The original EPI family budgets were constructed for only six specific family types: single parent and married couple families with one, two or three children. Of the approximately 122.7 million SPM resource units in the 2012 CPS ASEC, about 28 million (22.7 percent) fit into one of these six types. Therefore, in this analysis we have extended the EPI family budgets to include the entire CPS ASEC sample universe: the resident civilian noninstitutionalized population.

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<sup>22</sup> The bedroom imputation attempts to assign each household the number of bedrooms for which it would be eligible under the most common housing assistance program rules based on the composition of the primary family and related subfamilies. The head of the primary family is assigned one bedroom. One bedroom is assigned to every two children under the age of six of the same sex. If there is only one child under the age of six, the child shares a bedroom with any same sex person over six. If there is an odd number of children under the age of six (and more than one), the extra child is assigned his/her own bedroom. If there is an odd number of persons over the age of six, the extra person is assigned his/her own bedroom. Unrelated subfamilies are assigned one bedroom regardless of family size. A primary individual is assigned one bedroom while secondary individuals are assigned zero bedrooms. Source: *Valuing Housing Subsidies in a Measure of Poverty in the Survey of Income and Program Participation* Martina Shea, Mary Naifeh, and Kathleen Short, (August 1997)

## Threshold and Budget Comparisons

**Table 1a**  
**Comparison of Average Weighted Thresholds for Two Adult, Two Child SPM Resource Units**

2011	Estimate	SE	Ratio to Official	SE	Ratio to SPM	SE
Official	\$22,542	16	1.00		0.88	0.002
SPM	\$25,555	54	1.13	0.003	1.00	
Family Budget (PreTax)	\$43,584	121	1.93	0.005	1.71	0.004

Source: Current Population Survey Annual Social and Economic Supplement, 2012.

The EPI budgets are designed to prescribe a level of annual family income needed “...to meet its basic needs and achieve a safe and decent standard of living “ (Bernstein et al, 2000, p.3), or as noted earlier, to support a no-frills level of living or at a level designated as “low income.” Table 1a compares weighted average thresholds of these updated EPI budgets to the official poverty thresholds and the SPM thresholds for 2011.<sup>23</sup> The average EPI budgets were 93 percent higher than the official thresholds and 71 percent higher than the SPM thresholds. The table suggests that money income below approximately 190 percent of the official thresholds would indicate a family falling short of this level. This suggests that the use of 200 percent of the official poverty threshold as a boundary for the “low income” designation may be reasonable. Similarly, we might say that a family with resources below

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<sup>23</sup> The estimates in this paper are from the 2012 Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS). The estimates in this paper (which may be shown in text, figures, and tables) are based on responses from a sample of the population and may differ from actual values because of sampling variability or other factors. As a result, apparent differences between the estimates for two or more groups may not be statistically significant. All comparative statements have undergone statistical testing and are significant at the 90 percent confidence level unless otherwise noted. Standard errors were calculated using replicate weights. Further information about the source and accuracy of the estimates is available at <[www.census.gov/hhes/www/p60\\_243sa.pdf](http://www.census.gov/hhes/www/p60_243sa.pdf)>.

approximately 170 percent of the SPM threshold would fall in this category. However, the comparison to the SPM threshold is somewhat more complex.<sup>24</sup>

While the official threshold is designed to be compared to total income, the SPM thresholds only estimate the cost of food, clothing, shelter, utilities and miscellaneous expenditures. Therefore, a more appropriate comparison between the SPM thresholds and the EPI family budgets would be to include in the family budgets only the items included in the SPM threshold concept. To do this, we divided the transportation amount in the EPI family budgets between work-related and other transportation. Other transportation is included in the SPM's miscellaneous expenditures while work-related transportation costs are subtracted from the resource side. With this adjustment, the EPI family budgets for a two adult, two child SPM resource unit were only 16 percent higher than the SPM thresholds. The modified budget consists of four elements: food, shelter, transportation that is not work-related, and miscellaneous.

**Table 1b**

**Comparison of Average Weighted Thresholds for Two Adult, Two Child SPM Resource Units**

2011		SE	Ratio to Official	SE	Ratio to SPM	SE
SPM	\$25,555	54	1.13	0.003	1.00	
Family Budget (FCSUM only)	\$29,653	78	1.32	0.003	1.16	0.002

Source: Current Population Survey Annual Social and Economic Supplement, 2012.

Table 2 compares the SPM and EPI average amounts for individual elements for two adult, two child families. We collapse clothing costs and other transportation costs into the "other" category in order to facilitate comparison across the two measures. Food and other are higher, on average, in the EPI family budgets. The average housing component of the family budgets for two adult, two child

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<sup>24</sup> Richard Bavier (2009) found that program-based thresholds were about 25 percent greater than official poverty thresholds. Program-based thresholds are constructed by combining the needs standards underlying a range of federally-funded noncash assistance programs and include food, shelter, medical, child care and miscellaneous (apparel, telephone, furnishings, personal care, and transportation).

families was lower. While the difference in the housing component was statistically significant, it was small.

**Table 2.**  
**Comparing EPI Family Budget Elements to SPM Elements: 2011**  
**Two Adult, Two Child SPM Resource Units**

	SPM	SE	Family Budget	SE	Ratio	SE	Difference Significant Using Replicate Differences
				10.004			
Food	7,408	1	9,167	8	1.24	0.001	*
		5		60.845		0.003	
Housing	12,878	4	12,793	8	0.99		*
Other*				14.641		0.003	
*	5,274	1	7,693	6	1.46		*

\* Using replicate differences, the difference was significant.

\*\*Other includes clothing and other transportation

Source: Current Population Survey Annual Social and Economic Supplement, 2012.

The EPI budgets that include only food, clothing, shelter, utilities and miscellaneous are closer to the SPM thresholds than the full EPI budgets because of the differential treatment of the three elements referred to as non-discretionary and subtracted from resources in the SPM calculation: work-related transportation, medical out-of-pocket expenses and child care.<sup>25</sup> Table 3 examines the differences in average amounts for the other components of the EPI family budget: child care, medical out-of-pocket expenses and other work-related expenses.<sup>26</sup>

<sup>25</sup> The SPM also subtracts child support paid from resources before estimating poverty status. This element is not included in the EPI family budgets. In addition, the SPM caps work-related expenses including child care to not exceed reported earnings of the lowest earner in the family. The average amounts compared here are before the cap is applied.

<sup>26</sup> This is not quite an apples-to-apples comparison. The SPM other work-related expense includes commuting costs plus other miscellaneous expenses, such as uniforms, equipment, etc. The EPI family budget was designed to capture only commuting costs.

Examining the three items individually suggests that differences between reported child care expenditures in the CPS and values in the budgets figure importantly in the difference between the two thresholds. Very likely, this difference stems from differences in the values selected as a normatively prescribed need and reported expenses. Families who may be constrained in their ability to pay or are able to obtain childcare or commuting costs at lower expense due to employing the services of family or friends or receiving subsidies that lower the cost for them. The differences in medical out-of-pocket expenditures for some groups may stem from this same difference in approach; ex ante or expected health care costs may differ considerably from actual, realized, ex post expenditures.

**Table 3. Comparing EPI Family Budget Elements to SPM Elements: 2011  
Two Adult, Two Child SPM Resource Units**

	SPM	SE	Family Budget	SE	Ratio	SE
Child Care	1,641	65	4,759	59	2.90	0.112
Work Expenses	2,081	11	2,432	13	1.17	0.002
MOOP	4,510	73	6,740	58	1.49	0.026

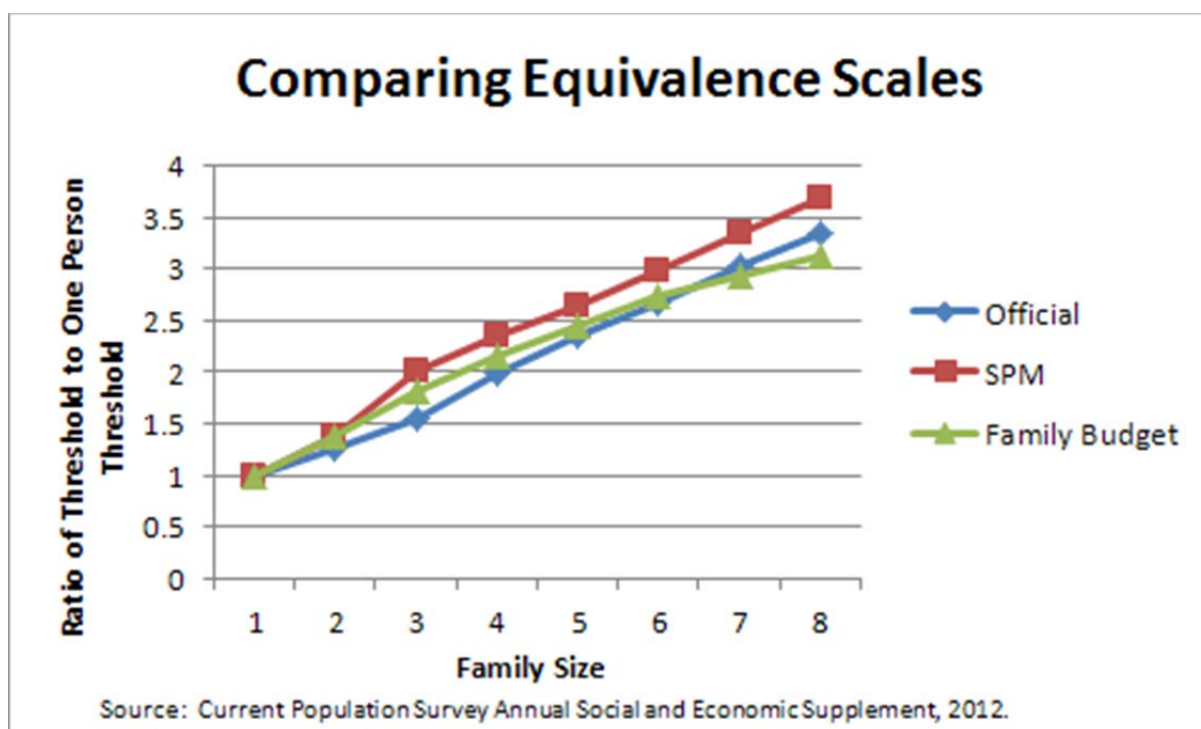
Source: Current Population Survey Annual Social and Economic Supplement, 2012.

Table 4 provides insight into differences in assumptions about economies of scale across families of different sizes. The family budgets (looking at only the FCSUM portion) assume greater economies of scale than the SPM or the official thresholds. For example, the family budget for a one-person resource unit is about 75 percent greater than the SPM threshold but the family budgets for an 8 person resource unit is only 48 percent greater. A further examination of these differences could shed light on the effect that assumptions about economies of scale may have on poverty estimates between the two measures.

**Table 4. Comparison of Average Weighted Thresholds by Family Size: 2011**

Family Size	Family Budget (FB)	SE	SPM	SE	Official	SE	Ratio FB to SPM	SE	Ratio FB to Official	SE
1	20,060	45	11,442	18	11,430	3	1.75	0.004	1.75	0.004
2	27,450	37	15,804	22	14,469	7	1.74	0.002	1.90	0.003
3	36,481	79	23,087	47	17,765	8	1.58	0.004	2.05	0.004
4	43,409	94	26,847	51	22,769	13	1.62	0.003	1.91	0.004
5	49,068	165	30,309	92	26,975	22	1.62	0.005	1.82	0.006
6	55,079	296	34,228	180	30,479	43	1.61	0.009	1.81	0.010
7	58,985	527	38,300	313	34,739	92	1.54	0.013	1.70	0.015
8	62,707	829	42,262	561	38,301	188	1.48	0.019	1.64	0.021

Source: Current Population Survey Annual Social and Economic Supplement, 2012.



## Poverty Rate Comparisons

We have examined the construction of the EPI family budgets and compared them to poverty thresholds, both official and SPM thresholds. We have shown that about 190 percent of the official threshold and 170 percent of the SPM thresholds are equivalent to the updated EPI budgets. However, previous comparisons to the official measure were based on the equivalency of outcomes, that is, using a family budget as threshold yielded a number of individuals with income below that level roughly equivalent to using 200 percent of the official threshold. This is a different kind of comparison, and given the more complicated structure of the SPM, may yield a percentage different from 170 percent.

For this comparison, we use the budgets as though they are poverty thresholds and assign them to SPM units using the 2012 CPS ASEC. The modified EPI family budget thresholds are compared to a resource measure that is identical to the SPM resource measure except that EPI estimates for work-related transportation, child care and medical out-of-pocket expenditures are substituted for the SPM estimates for these items. We use SPM estimates for taxes and child support paid for both estimates. In 2011, there were 92.7 million poor using the family budget definition of poverty, 43.0 million more than the 49.7 million using the SPM definition. The overall poverty rate using the updated modified family budget thresholds was 30.0 percent, about 13.9 percentage points higher than the 16.1 percent SPM rate.

The difference between the family budget poverty rate and the percent of the population below 140 percent of the SPM threshold was not statistically significant. The percent of the population below 200 percent of the SPM thresholds (48.1 percent) was 60 percent higher than the percent of the population below the family budget threshold (30.0 percent). This suggests that families with resources below approximately 140 percent of the SPM threshold, rather than 200 percent, may be characterized as not able to meet their basic needs and achieve a safe and decent standard of living, or as families with 'low income'.

Table 5

**Comparison of number of people in poverty and poverty rates: 2011****Family Budget vs Official**

	<b>Family Budget</b>	<b>se</b>	<b>Official</b>	<b>se</b>	<b>sig</b>	<b>DIFF</b>	<b>se</b>
Number in Poverty	92,735	599	46,618	468	*	46,117	565
Poverty Rate	30.0	0.2	15.1	0.2	*	14.9	0.2

**Family Budget vs SPM**

	<b>Family Budget</b>	<b>se</b>	<b>SPM</b>	<b>se</b>	<b>sig</b>	<b>DIFF</b>	<b>se</b>
Number in Poverty	92,735	599	49,695	550	*	43,040	488
Poverty Rate	30.0	0.2	16.1	0.2	*	13.9	0.2

**Family Budget vs 140% of SPM**

	<b>Family Budget</b>	<b>se</b>	<b>140% of SPM</b>	<b>se</b>	<b>sig</b>	<b>DIFF</b>	<b>se</b>
Number in Poverty	92,735	599	92,227	692	*	508	441
Poverty Rate	30.0	0.2	29.9	0.2		0.2	0.1

**Family Budget vs 200% of SPM**

	<b>Family Budget</b>	<b>se</b>	<b>200% of SPM</b>	<b>se</b>	<b>sig</b>	<b>DIFF</b>	<b>se</b>
Number in Poverty	92,735	599	148,582	744	*	-55,847	563
Poverty Rate	30.0	0.2	48.1	0.2	*	-18.1	0.2

Source: Current Population Survey Annual Social and Economic Supplement, 2012.

Table 6 compares the number and percent of people below 140 percent of the SPM thresholds to the number and percent of people below the Family Budget thresholds for all people and for a variety of subgroups. While the differences in overall poverty rates are not statistically different, this table shows the groups for which the two measures diverge significantly.

The five groups with the highest percentage difference in the number of people in poverty and for whom the SPM rates are below those using the budgets were the uninsured, owners without a mortgage, people living outside a metropolitan statistical area, people living in resource units with single reference persons, and full-time year-round workers. Other important groups with higher rates using budgets were children, Blacks, and Hispanics. In general, these groups could be characterized as having reported spending for basic necessities below amounts reflected in the budgets as sufficient. For example, budgets may have assigned larger dollar amounts as needed for child care than families



**Table 6. Comparing 2011 Poverty Rates: Updated EPI Family Budget to 140 % of SPM by Selected Demographic Characteristics**

	Universe	Family Budget				140% of SPM				Family Budget Minus SPM Estimates							
	total	Number	SE	Percent	SE	Number	SE	Percent	SE	Number Difference	SE	p d	Percent Difference	SE	Ratio	SE	
All People	308,827	92,735	599	30	0.2	92,227	692	29.9	0.2	*	508	441	0.2	0.1	*	1.01	0.00
Sex																	
Male	151,175	43,174	327	28.6	0.2	42,946	358	28.4	0.2	*	228	241	0.2	0.2	*	1.01	0.01
Female	157,653	49,561	343	31.4	0.2	49,282	389	31.3	0.2	*	279	240	0.2	0.2	*	1.01	0.00
Age																	
Under 18	74,108	27,783	247	37.5	0.3	26,204	267	35.4	0.4	*	1,579	180 *	2.1	0.2	*	1.06	0.01
18 to 64	193,213	53,489	401	27.7	0.2	53,462	447	27.7	0.2	*	28	272	0.0	0.1	*	1	0.01
65 and older	41,507	11,463	172	27.6	0.4	12,562	196	30.3	0.5	*	-1,099	120 *	-2.7	0.3	*	0.91	0.01
Type of Unit																	
Married Couple	186,235	36,713	539	19.7	0.3	39,231	551	21.1	0.3	*	-2,518	339 *	-1.4	0.2	*	0.94	0.01
Male hhldr	32,307	13,040	243	40.4	0.6	11,727	217	36.3	0.5	*	1,314	121 *	4.1	0.4	*	1.11	0.01
Female hhldr	63,347	34,381	400	54.3	0.5	31,888	400	50.3	0.5	*	2,492	198 *	3.9	0.3	*	1.08	0.01
New SPM unit	26,939	8,601	253	31.9	0.7	9,381	278	34.8	0.8	*	-780	149 *	-2.9	0.5	*	0.92	0.02
Race and Hispanic Origin																	
White	241,586	64,882	541	26.9	0.2	65,023	560	26.9	0.2	*	-141	390	-0.1	0.2	*	1	0.01
Black	39,696	18,526	276	46.7	0.7	17,880	284	45	0.7	*	646	190 *	1.6	0.5	*	1.04	0.01
Asian	16,094	4,846	156	30.1	0.9	4,980	154	30.9	0.9	*	-134	105	-0.8	0.7	*	0.97	0.02
Other	11,452	4,481	137	39.1	1.1	4,345	142	37.9	1.2	*	136	83	1.2	0.7	*	1.03	0.02
Not Hispanic	256,469	65,307	526	25.5	0.2	65,496	600	25.5	0.2	*	-189	385	-0.1	0.2	*	1	0.01
Hispanic	52,358	27,428	309	52.4	0.6	26,731	325	51.1	0.6	*	697	197 *	1.3	0.4	*	1.03	0.01
Nativity																	
Native Born	268,851	74,732	508	27.8	0.2	74,178	603	27.6	0.2	*	554	382	0.2	0.1	*	1.01	0.01
Foreign Born	39,976	18,003	280	45	0.5	18,050	282	45.2	0.6	*	-46	153	-0.1	0.4	*	1	0.01
Naturalized Citizen	17,934	6,089	142	34	0.7	6,277	141	35	0.6	*	-188	84 *	-1.1	0.5	*	0.97	0.01
Not a Citizen	22,042	11,914	245	54.1	0.7	11,773	243	53.4	0.8	*	142	111	0.6	0.5	*	1.01	0.01
Region																	
Northeast	55,035	15,959	271	29	0.5	15,694	268	28.5	0.5	*	265	189	0.5	0.3	*	1.02	0.01
Midwest	66,115	16,256	289	24.6	0.4	16,575	318	25.1	0.5	*	-319	213	-0.5	0.3	*	0.98	0.01
South	115,068	35,215	449	30.6	0.4	34,298	488	29.8	0.4	*	917	300 *	0.8	0.3	*	1.03	0.01
West	72,610	25,306	340	34.9	0.5	25,661	359	35.3	0.5	*	-355	212 *	-0.5	0.3	*	0.99	0.01
Residence																	
Inside principal city	100,302	38,115	575	38	0.4	37,877	621	37.8	0.5	*	238	248	0.2	0.2	*	1.01	0.01
Outside principal city	161,153	40,834	638	25.3	0.3	41,997	645	26.1	0.3	*	-1,163	327 *	-0.7	0.2	*	0.97	0.01
Outside MSA	47,372	13,786	562	29.1	0.6	12,354	503	26.1	0.6	*	1,433	183 *	3.0	0.4	*	1.12	0.01
Tenure																	
Owner with mortgage	136,699	20,602	368	15.1	0.3	23,759	414	17.4	0.3	*	-3,157	244 *	-2.3	0.2	*	0.87	0.01
Owner without a mortgage	73,418	20,866	367	28.4	0.4	17,460	324	23.8	0.4	*	3,407	200 *	4.6	0.3	*	1.2	0.01
Renter	98,710	51,267	538	51.9	0.4	51,009	546	51.7	0.4	*	258	275	0.3	0.3	*	1.01	0.01
Health Insurance Coverage																	
Not insured	48,613	29,570	331	60.8	0.5	24,663	315	50.7	0.5	*	4,907	197 *	10.1	0.4	*	1.2	0.01
With private insurance	197,323	28,565	409	14.5	0.2	31,951	415	16.2	0.2	*	-3,385	260 *	-1.7	0.1	*	0.89	0.01
With public, no private	62,891	34,600	337	55	0.4	35,614	384	56.6	0.4	*	-1,014	227 *	-1.6	0.4	*	0.97	0.01
Work Experience																	
Full time year round	97,443	14,400	187	14.8	0.2	13,172	186	13.5	0.2	*	1,229	150 *	1.3	0.2	*	1.09	0.01
Less than full time year round	46,720	15,654	208	33.5	0.4	15,289	207	32.7	0.4	*	365	117 *	0.8	0.3	*	1.02	0.01
Did not work	49,049	23,435	264	47.8	0.4	25,001	281	51	0.4	*	-1,566	114 *	-3.2	0.2	*	0.94	0.00
Disability Status																	
With a disability	14,968	6,597	139	44.1	0.7	6,954	153	46.5	0.7	*	-357	70 *	-2.4	0.5	*	0.95	0.01
With no disability	177,309	46,770	380	26.4	0.2	46,334	406	26.1	0.2	*	436	252 *	0.3	0.1	*	1.01	0.01

Source: Current Population Survey Annual Social and Economic Supplement, 2012.

reported actually spending. Owners without mortgages were assigned lower expenditures in the SPM thresholds than amounts allocated as needed in budgets where they were treated as paying rents. People with no health insurance spent less out-of-pocket for health care than the ex ante expected amount.

For other groups, fewer individuals had income that fell below the family budget thresholds than fell below 140 percent of the SPM thresholds. This result may reflect reported spending in excess of need as specified in the budget. The groups with the largest differences in this direction were those in new SPM resource units, the elderly, owners with a mortgage, people with a disability and those who did not work. Those in new SPM units increased the number of people in their unit with whom they shared resources. Greater economies of scale inherent in the budgets would lower the amount needed relative to amounts spent. Reported MOOP expenses by the elderly or those with insurance, that exceed some average expected amount, would result in higher poverty rates for these groups. SPM thresholds for owners with mortgages that are slightly higher than those for renters would also result in higher poverty rates for the SPM compared to the budgets.

There were a number of groups for whom the differences in the percent of people with resources below the family budget thresholds and the percent of people with resources below 140 percent of the SPM thresholds were not statistically significant. These were: men and women, people aged 18 to 64, Whites, Asians, Non-hispanics and other races, renters, people living in the Northeast and the Midwest, people living inside a principal city, people who were native born, not a citizen or foreign born.

Given the importance of the differences in the treatment of child care, medical out-of-pocket expenditures, equivalence scales and housing status between the SPM and the updated family budgets, we conduct sensitivity analyses to see the impact of each individual element on the overall poverty rate using the family budgets. Table 7 shows selected results. The bottom section of the table shows differences in poverty rates that result from removing the normative aspects of the budget having to do with transportation, MOOP, and childcare and replacing those with reported expenses. While the overall impact on poverty rates is relatively small ( 6.6 percentage points), for families with children this increase is 11.9 percentage points – from 25.6 percent to 37.5 percent. For the elderly, the normative

aspects of medical expenses used in the EPI budgets reduce the poverty rate from 29.6 percent to 27.6 percent.

Not surprisingly, the impact of specific elements on specific groups is much greater. For example, the impact of the EPI child care estimates on the poverty rate for SPM resource units with child care expenses is 7.8 percentage points, increasing the poverty rate from 21.5 percent to 29.3 percent. For the uninsured, the impact of the EPI MOOP estimates increases the poverty rate from 42.7 percent to 60.8 percent. Note that the EPI MOOP estimates reduce the poverty rate for the elderly from 29.6 percent to 27.6 percent. Adjusting the EPI housing estimates to reduce the budgets for families without mortgages reduces the poverty rate from 28.4 percent to 21.9 percent. For the elderly, this adjustment reduces the poverty rate from 27.6 percent to 22.9 percent.

The middle section of the table compares the effect of different equivalence scales. Using the SPM equivalence scale to adjust the EPI family budgets reduces the poverty rate for single person families from 44.1 percent to 32.8 percent but the change in the poverty rate for 8 person families was not statistically significant. The equivalence scale has a larger impact on single mother families than the child care estimates.

**Table 7. Sensitivity Analysis**

	<b>Total</b>	<b>With child care expenses</b>	<b>Full Year Workers</b>	<b>With children</b>	<b>Single Mother Families</b>
Family Budget Poverty Rate	30.0%	29.3%	14.8%	34.3%	54.3%
Family Budget Poverty Rate with SPM Child Care	27.9%	21.5%	13.0%	30.0%	50.3%
Difference	2.2%	7.8%	1.7%	4.2%	4.0%
		<b>Uninsured</b>	<b>Full Year Workers</b>	<b>Elderly</b>	
Family Budget Poverty Rate	30.0%	60.8%	14.8%	27.6%	
Family Budget Poverty Rate with SPM MOOP	26.0%	42.7%	10.8%	29.6%	
Difference	4.1%	18.1%	3.9%	-2.0%	
		<b>One person</b>	<b>Four Person</b>	<b>Eight Person</b>	<b>Single Mother Families</b>
Family Budget Poverty Rate	30.0%	44.1%	26.2%	43.3%	54.3%
Family Budget Poverty Rate with SPM Equivalence Scale	26.5%	32.8%	24.8%	43.7%	45.4%
Difference	3.5%	11.2%	1.4%	-0.5%	8.9%
		<b>Howeowners without a mortgage</b>		<b>Elderly</b>	
Family Budget Poverty Rate	30.0%	28.4%		27.6%	
Family Budget Poverty Rate with SPM Tenure Adjustment	28.5%	21.9%		22.9%	
Difference	1.5%	6.5%		4.7%	
		<b>Children</b>	<b>Adults</b>	<b>Elderly</b>	
Family Budget Poverty Rate	30.0%	37.5%	27.7%	27.6%	
Family Budget Poverty Rate - Only Using FCSUM	23.4%	25.6%	21.3%	29.6%	
Difference	6.6%	11.9%	6.4%	-2.0%	

Source: Current Population Survey Annual Social and Economic Supplement, 2012.

## Discussion

As noted in the introduction, the Census Bureau reports on the SPM compared income-to-poverty-threshold ratios using the official and the SPM. Comparing the number of people with incomes between 100 and 200 percent of the poverty threshold to the number of people with SPM resources at this level showed big differences. While about 19 percent of people had incomes between 100 and 200 percent of the official thresholds, 31.8 percent of people had SPM resources in this category. Since some have been using 200 percent of the official poverty line as a measure of low income or income inadequacy, many readers interpreted the increase in people between 100 and 200 percent of the SPM thresholds as a surge in the number of “low-income” families. This paper examined the relationship between the SPM thresholds and a set of thresholds derived from a budget-based standard to characterize the population below 200 percent of the SPM threshold relative to the family budget needs standard. We found that a much lower percent of the SPM thresholds, 140 percent, identified a similar number of people below the threshold as did a family budget standard.

An important difference between the two approaches is the treatment of need in a normative sense as compared to using amount actually spent on necessary goods and services. In general, the SPM subtracts *actual* expenditures from resources while the family budgets add *prescribed* or *expected* expenditures to the thresholds. The large differences in the poverty rates for uninsured individuals are a result of this difference. Some of the differences between the SPM poverty rates and the EPI family budget poverty rates are driven by the fact that the EPI family budgets treat all resource units as renters while the SPM poverty thresholds are lower for owners without a mortgage. The large difference between the poverty rates for owners without a mortgage across the two approaches highlights the significance of this difference. Like health care, the SPM subtracts actual child care expenditures from resources while the EPI family budget add *expected* expenditures to the thresholds. As a result, poverty rates for children and full-time year-round workers are higher under the budget approach than using the SPM.

The calculation of poverty rates using the two constructed thresholds suggested families with resources below 200 percent of the SPM threshold should not be equated to the population below 200 percent of the official threshold or below the family-budget needs standard. Given the calculations shown here families with resources below approximately 140 percent of the SPM threshold would more appropriately be characterized as low income or as not able “...to meet its basic needs and achieve a safe and decent standard of living.” While identifying a similar percentage of individuals with resources below these lines, differences for specific subgroups are explained by differences in the construction of the two measures, most importantly, differences in a normative expression of need versus a reported expenditure for particular categories of basic goods.

Additionally, this work suggests avenues of future research. Important differences in the two measures included the cost of non-work-related transportation expenses and the differences in such costs by geographic area. Further work on geographic adjustments for the SPM thresholds should take this into consideration. Assumptions about equivalence scales explicit in the SPM thresholds and implicit in the construction of the budget standards could lead to additional investigation into the equivalence scale now used for the SPM. Finally, notable differences between values for work-related childcare costs indicate the importance of understanding the accuracy and meaning of reports of such costs in the CPS ASEC that are used in the construction of the SPM.

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