

## **The Supplemental Poverty Measure in the Survey of Income and Program Participation (SIPP): 2004**

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

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In 1995, the National Academy of Sciences Panel on Poverty and Family Assistance (NAS) released a report recommending revising the current official poverty measure. Their revised measure, though still somewhat narrowly defined, broadened the scope of the poverty measure to include non-cash benefits and spending on such items as medical expenses and work-related expenses including child care and taxes -- items not explicitly included in the current measure. In 2010, an interagency working group headed by the Office of Management and Budget (OMB) urged the Census Bureau to estimate a Supplemental Poverty Measure (SPM) along with the current official poverty measure. Following this, the Census Bureau released its first two reports on the SPM that compared the new measure to the official measure (Short, 2011 and 2012). Both of these measures were estimated using data from the Annual Social and Economic Supplement to the Current Population Survey (CPS).

In its 1995 report, the NAS Panel recommended using the Survey of Income and Program Participation (SIPP) to measure poverty rather than the CPS. *Recommendation 5.1* states that the SIPP should become the basis of official U.S. income and poverty statistics because it collects most of the information required to estimate the recommended poverty measure (Citro and Michael, 1995). This paper highlights the differences in using the CPS and SIPP to estimate poverty. Measures of poverty from the SIPP are compared to those previously calculated using CPS data. Besides exploring alternative poverty measures with the SIPP, this exercise provides insight into how well we are measuring income and poverty in the CPS. In addition, we illustrate the importance of the SIPP to our understanding of measurement issues in general. Differences in sample design and data collection, however small, can have a significant effect on measurement outcomes. As is shown here, comparing measures of poverty from the CPS and the SIPP, more than one measurement tool is important to form a real understanding of economic and social phenomena.

Short (2003) described the challenge of measuring poverty in the CPS relative to measuring it in the SIPP where most of the elements in an alternative poverty measure described by the NAS panel are collected. Questions in the SIPP that collect items such as medical out-of-pocket (MOOP) expenditures, child care expenses, and child support paid, were used as a starting point for including new questions in the CPS in 2010 for the SPM, but were not available for the 2004 CPS estimates presented here. The focus of the 2003 study was on the different design and collection methods of each element of an experimental poverty measure and shows that there are important effects on our poverty

estimates. This paper updates that work, using the concepts of the SPM with more recent SIPP data.

Earlier work (Short et al., 1998) employed SIPP data for alternative poverty measurement. This research shed light on estimates of resources based on the CPS and the inherent limitations in the use of those data for such a complex measure. Updating this work will be part of the research effort for the SPM. Other lines of research will include working to incorporate an SPM using the American Community Survey (ACS). While more restricted in the available information than the CPS, these data allow estimates for smaller areas of geography than other data sets. The goal in the ACS work is to prepare a limited but nationally consistent SPM for smaller localities.

## **Data**

This paper uses several surveys to construct alternative poverty measures. The Consumer Expenditure Survey quarterly interview data for 2000-2004 are used to construct alternative SPM poverty thresholds. This procedure is not covered in detail in this paper (instead see Garner and Gudrais, 2011)<sup>1</sup>. Second, to measure family income or, as more broadly defined, family resources, the analysis uses the CPS for March 2005 (the source for the 2004 official measure of poverty) and the 2004 Panel of the SIPP, with relevant information from selected topical modules.

The CPS and the SIPP are the primary data sources we use. The CPS, sponsored jointly by the Census Bureau and the U.S. Bureau of Labor Statistics, is the country's primary source of labor force statistics for the entire population. The data in this report are from the 2005 CPS. The CPS uses two sets of questions, the basic CPS and a set of supplemental questions. Most of the data from the CPS supplement were collected in March (with some data collected in February and April), and the data were controlled to independent population estimates for March 2005. The population represented (the population universe) is the civilian noninstitutionalized population living in the United States. Members of the Armed Forces living off post or with their families on post are included if at least one civilian adult lives in the household. For further information about the source and accuracy of the estimates, go to [www.census.gov/hhes/www/p60\\_229sa.pdf](http://www.census.gov/hhes/www/p60_229sa.pdf) and <http://www.census.gov/sipp/source.html>.

Once a year, the CPS measures official poverty as the percentage of people whose annual family money income falls below their official poverty threshold, but does not address how poverty varies across shorter or longer time periods or how an individual's poverty status changes over time – topics that can be examined with the SIPP. The SIPP is a longitudinal, multi-panel survey that is sponsored and conducted by the U.S. Census Bureau. It was created for two specific purposes: to capture detailed data on income and program participation and to provide longitudinal estimates for the same individuals, families, and households over time. Core data collection covers demographic characteristics, general income sources and amounts, program eligibility and participation, cash assistance, and non-cash benefits. Additionally, topical modules provide in-depth data on other topics at specific points in time. The data in this report are from the first four waves of the 2004 panel. The SIPP interviews a representative sample of U.S. households every 4 months – a wave covers that period of time. The population

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<sup>1</sup> Estimates of 2004 SPM thresholds used in this study for the SIPP are based on CE public use data files provided by Charles Hokayem, U.S. Census Bureau. The CPS estimates use experimental poverty thresholds calculated at the Bureau of Labor Statistics.

represented (the population universe) is the civilian noninstitutionalized population of the United States.

### **The Family Unit**

Poverty measurement in the United States is a family level concept. How “family” is defined has broadened over time. The SPM unit used for this report varies between the SIPP and the CPS based on available information. In the SIPP, the SPM unit includes individuals related by marriage, blood, or adoption, as well as cohabitators, unrelated children under the age of 18, foster children between the ages of 15 and 22, and unmarried parents of children in the family unit. It is set in the last month of wave two, spanning May to August of 2004. That is, family level calculations included in the tax model are computed across the individuals found in each SPM grouping in the relationship topical module in the second wave of the 2004 panel. Any individuals formed into the SPM unit as of wave two are included in the income calculations for SPM resources for the months during which they resided with that unit. The CPS estimates do not include unrelated household members in the calculations. The estimates presented here using CPS data are based on the composition of the family as of March of the interview year – meaning poverty measured during 2004 is based on family composition in 2005.

### **The Alternative Family Income or Resource Definition**

Under the current official poverty measure, a family is defined as poor if their total pre-tax money income is below their poverty threshold (dollar amount that varies with family size and composition). Rather than looking solely at pre-tax money income, the SPM takes account of cash income, noncash transfers, and necessary expenses. Under the SPM, family resources or “discretionary income” is income that is available to meet a family’s basic needs (food, clothing, shelter, utilities plus a little bit more) after including benefits such as SNAP or housing subsidies that help families meet those needs, and after subtracting necessary expenditures such as taxes, work-related expenses, and MOOP. In other words, SPM family resources are the sum of money income and the value of near-money benefits after subtracting necessary expenses. The next sections of this paper describe the components of family resources used to create alternative poverty measures in the CPS and the SIPP. This exercise illustrates some of the important differences between the two surveys and sheds light on problems encountered and needed measurement research. This process reveals not only the steps taken to measure poverty in the SIPP, but where we are lacking when we calculate alternative poverty measures in the CPS.

### **Gross Money Income from All Public and Private Sources**

The calculation of the SPM starts with current money income as defined and measured in the CPS and used to calculate official poverty statistics. This is cash income received on a regular basis and includes earnings, cash transfers, and property income. It includes money income received during the previous calendar year by the family residing together as of March of the current year. It is before-tax income that was regularly received, and as a result does not include gifts, lump sum inheritances, or insurance payments.

Because the SIPP is a longitudinal survey income information is collected over time in a series of interviews that span a multi-year period. While advantageous in important ways, this method of data collection also introduces some difficult statistical problems, such as sample attrition bias. It is, however, generally believed that there are better income data in the SIPP, particularly for lower income families (see Roemer, 2000, for a detailed

comparison of cash income between the SIPP and the CPS). Three-times-a-year interviews that collect income on a monthly basis gives respondents more opportunity to recall and report income that is received in relatively small amounts for short periods of time. More information on items other than income that are needed for the SPM is collected in the SIPP (e.g., participation in more programs and income received from more sources) than in the CPS. The topical modules in the SIPP collect information on the multiple dimensions of alternative poverty measures, such as work-related expenses and child care.

These data were used in 2004 to impute values to the CPS estimates shown here, because the CPS did not collect that information then. For all income types, annual amounts are reported as received in the previous calendar year. These data are collected in March of each year, near the date when income taxes are due, under the assumption that annual income amounts are available to individual respondents at that time. In the SIPP there is also information about one-time receipts, and lump sum amounts received. As in the CPS, non-means-tested cash transfers such as Social Security benefits and means-tested cash transfers such as Temporary Assistance to Needy Families (TANF) benefits are included in this definition.

### **Adding the Value of In-kind Government Subsidies**

Constructing alternative measures of poverty starts with gross cash money income and to this we add various in-kind transfer payments. Following the recommendations of the NAS and the ITWG, these are non-medical in-kind transfers Health care needs are represented by medical out-of-pocket expenses (MOOP) and are treated as a 'necessary expense' subtracted from income. The noncash benefits considered are primarily from the large federal programs that are means-tested and aimed at helping poor families meet their needs for food, clothing, shelter and utilities. These include the Supplemental Nutrition Assistance Program (SNAP) or the Food Stamp Program; the school lunch and breakfast programs; Supplementary Nutrition Program for Women, Infants, and Children (WIC); housing subsidy programs; and the Low-Income Home Energy Assistance Program (LIHEAP). In this section of the paper, each program is considered in turn and the SIPP and the CPS are compared in terms of data collection methods and resulting benefit estimates.

#### SNAP or Food stamps

The value of SNAP benefits vary by household size, income, and maximum levels (which may vary by geographic location). Food stamp benefits are by far the easiest non-cash program to value. The information is collected somewhat differently in the two surveys. In the CPS, respondents report if they ever received food stamps in the previous calendar year and if so their value. In the SIPP, respondents report receipt of SNAP benefits in each of the previous four months and report a monthly amount. We expect to find more spells of short duration, and therefore, smaller average annual amounts, captured in the SIPP than in the CPS.<sup>2</sup> In the CPS calculation, the method adds an annual figure to family income. In the SIPP, the calculation is more complex. Since family membership may change across the calendar year and this variation is captured in the SIPP, food stamp amounts are summed across family members in each month, and then family amounts are summed across months for each person. The resulting calendar year annual amounts are added to each person's family cash income.

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<sup>2</sup> Another reason may be the more precise assignment of coverage units in the SIPP compared with the CPS.

Table 1 shows the percentage of all families receiving food stamp benefits and the percentage of all poor families receiving benefits in both surveys. The ‘percent poor’ refers to families classified as poor using the current official poverty thresholds compared to pretax money income in each survey. A general pattern that is observed is that the SIPP captures more recipients but lower mean amounts than the CPS. This is a typical result, since the sub-annual reporting in SIPP allows for greater recall of short spells of receipt that yield lower annual amounts. Also note that SIPP indicates a higher percentage of the ‘official’ poor receiving SNAP benefits than is measured with the CPS. Finally, the aggregate amounts in the SIPP show that, for SNAP benefits, the more frequent reporting of reciprocity results in higher aggregate amounts for all families than is measured in the CPS. Further, as with most of the information on income, both cash and non-cash, used in these calculations, there is generally evidence of significant underreporting of transfer receipt in both surveys when compared with administrative data. Aggregate amounts reported in the SIPP of \$20.8 billion and in the CPS of \$14.7 billion are significantly lower than the \$24.6 billion total SNAP benefits reported in the 2008 Green Book.

### Housing Subsidies

Including the value of housing subsidies in cash income is a more complex task than including the value of food stamps. In the CPS, respondents are asked only to report their current status as of the interview date concerning whether or not they live in public housing or receive help from the government with rent. There is no further information collected that helps to determine a dollar amount to add to family income. Furthermore, since we know only current status we must make assumptions about the duration of receipt of subsidies. In this case we assume the subsidy was received for all 12 months in the previous calendar year. The amounts used in this calculation are based on 2004 Fair Market Rents (FMRs) for states by metropolitan area or nonmetropolitan status. The subsidy amount is calculated by subtracting 30 percent of family income from the appropriate average FMR. The appropriate FMR is chosen depending upon the composition of the family and the size of the unit they are, therefore, eligible to rent.

In the SIPP more information is available. The reference person reports current status every four months, so it is possible to capture spells of subsidy receipt that are less than a year. It also allows capture of more spells. There is additional information in the SIPP that is not available in the CPS. Respondents are asked to report the monthly rent paid, and whether it includes utilities. While at some point this information may be used to calculate more precise subsidy amounts in the SIPP, the value of housing subsidies presented here are based on FMRs applied in the same way as in the CPS calculations.<sup>3</sup> However, these calculations are made on a monthly basis. In each month of the calendar year, individuals are grouped into households designated as receiving a subsidy or not. For each individual a housing subsidy value is assigned based on the composition of the family in each month. These amounts are then summed over the 12 months of 2004 and added to income. Given the information available and assumptions made about calendar year coverage, we expect that the CPS will produce larger subsidy amounts for fewer people than the SIPP. Table 1 shows 3.4 percent of families receive housing subsidies in the CPS and 5.9 percent in the SIPP. Also, again note that the SIPP captures a higher percentage of the poor participating in programs than we find in the CPS, 26.9 versus 14.2 percent.

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<sup>3</sup> See Stern (2001) for a discussion of methods to value housing subsidies. A different method is used for SPM estimates after 2010 that employs administrative data from HUD.

### School Lunch and Breakfast Programs

In the case of school lunches there is a large difference between the two surveys with respect to how information is collected. In the CPS the reference person is asked how many children ‘usually’ ate a complete lunch, and if it was a free or reduced priced school lunch. Since we have no further information, we assume that the children received the lunches every day during the last school year. Then we multiply the number of children by a dollar amount per lunch. That figure is then multiplied by the number of days in the typical school year.

SIPP collects information on participation in the school lunch program every four months. In 2004 the SIPP questionnaire asked about how many children ‘usually’ ate a school lunch and whether they were regular, free, or reduced price lunches. Clearly the number of children who ‘usually’ ate a school lunch in the last 4 months may differ from the number of children who ‘usually’ ate lunch in the previous year. For both the CPS and the SIPP we apply amounts on the cost per lunch from the Department of Agriculture Food and Nutrition Service that administers the school lunch program.

The difference in data collection methods yields different estimates of this subsidy from the two surveys. As might be expected, we estimate more children receiving free and reduced price lunches in the SIPP. This is so because children who may not have ‘usually’ received a lunch in the previous year may be reported in the SIPP as ‘usually’ getting a school lunch in the previous four months. On the other hand, the average value of school lunches for a given year received per child is lower, since less than full-year participation is captured in the SIPP and these smaller amounts are included in the mean. The general pattern suggests that the valuation procedure in the CPS is probably assigning too high a subsidy to too few families.

Nothing is collected in the CPS for school breakfasts so no income is assigned. In the SIPP respondents report the number of breakfasts eaten by the children per week, similar to the report of school lunches. Calculating a value for this subsidy in the same way as was done for the school lunch program adds approximately \$3 billion to income of families in the SIPP. (Note this exceeds the reported federal cost as reported above.)

### Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

There are questions on receipt of WIC in the CPS but it was not valued in the 2004 estimates. In the SIPP, participation in this program is reported every month. The total value of the transfer is calculated using program information obtained from the Department of Agriculture. The aggregate amount was about \$3 billion in 2004. The difference from this value and total federal cost is likely a combination of overhead and administrative costs in the program figure and under-reporting of receipt in the SIPP.

### Low-Income Home Energy Assistance Program (LIHEAP)

Here is another major difference in data collection schemes in the 2004 estimates. The CPS asked if, since October 1 of the previous year, the reference person received help with heating costs and, if yes, the amount received<sup>4</sup>. In the SIPP, with interviews every four months all year round, information on help with both heating and cooling are collected, both whether or not help was received and the dollar amount received. This difference in data collection leads us to expect more recipients and higher average benefits reported in the SIPP. This pattern has been observed using earlier panels, such as

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<sup>4</sup> This was changed in the 2010 CPS to collect information on year-round receipt of energy assistance.

the 1991 and 1992 SIPP panels. However, in the 1996 panel, questions about amounts were changed. If the respondent reported that the subsidy was paid directly to the utility company, then no amount was collected. This change would require a valuation procedure for energy assistance in an alternative poverty measure using the SIPP. The estimates shown are the reported amounts and, thus, on average are lower than expected.

### **Subtracting Necessary Expenses**

The items described above represent all of the additions to income or family resources that are made to calculate the SPM. The next step is to subtract items that must be paid before determining how much is available to purchase basic necessities. The NAS panel and the ITWG recognized that families must first pay taxes and expenses required to work and to maintain health. They further suggested that any amount of child support paid should be deducted from income since it is included as income by the receiving family. In Census Bureau income statistics using the CPS this is not done because the amount of child support paid by one household is not collected, while the amount received by another household is collected and added into income. Thus, child support transfers are doubly counted in our household income statistics.<sup>5</sup>

It is important to note that, while all of the items included in income are collected in the SIPP on a monthly or 4-month basis, none of the items that will be subtracted from income as necessary expenses are collected this often. All of these items are collected in topical modules, supplementary questions usually asked only once per year or less often. In the 2005 CPS no information on necessary expenses was collected. All of these items, in current calculations of alternative poverty measures, are either assigned or modeled, as will be shown below. Thus the relationship of estimates of these items between the SIPP and the CPS is different from the estimates of noncash benefits described above.

### Subtraction of Taxes Paid

The panel recommended that the calculation of family resources for poverty measurement should subtract federal, state, and local income taxes, and Social Security payroll taxes (FICA) before assessing the ability of a family to obtain basic necessities such as food, clothing, and shelter. Taking account of tax liability also allows us to account for receipt of an earned income tax credit (EITC). The EITC is available to low-income working taxpayers. The CPS does not collect information on taxes paid but relies on a tax calculator to simulate taxes paid. These simulations include federal and state income taxes, and social security taxes. These simulations are based on a tax calculator and statistical matches to the American Housing Survey and the Statistics of Income data files.

For this paper we use the CPS tax calculator and simulate taxes using income information in the SIPP. The first step in applying the CPS tax calculator to SIPP is to create a SIPP calendar year file. The creation of the calendar year file requires adding all monthly income sources into a calendar year total, and creating new family and household variables that represent a person's situation at the end of the calendar year. It is for this unit that taxes are computed. Individuals who left the sample before December 2004, or entered after the survey began, are not included in these calculations. Tax liabilities are calculated for tax units and these added to create family level taxes.<sup>6</sup> Summary statistics

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<sup>5</sup> In 2010 questions were added to the CPS about child support paid and these amounts are subtracted from income in the SPM.

<sup>6</sup> See Sisson and Short, 2001 for more details.

comparing taxes paid in the CPS and SIPP models are shown in table 1. The estimates are similar for families in both surveys though there are a higher percentage of families with federal income tax liabilities (before credits) in the SIPP, with the mean value lower for all families and higher for poor families in the SIPP. The EITC estimates and Social Security payroll taxes (FICA) show more recipients in the SIPP but lower mean amounts, likely reflecting the higher reporting of short spells of earnings in the SIPP relative to the CPS.

#### Expenses Related to Work Including Child Care

Typically, in order for a family to purchase a basic set of needed goods, some members of the family must work. Earning a wage may entail incurring expenses, such as travel to work and purchase of uniforms or tools. For work-related expenses (other than child care) the NAS panel recommended subtracting a fixed amount, \$750 for 52-week work-year per earner 18 years of age or older (or about \$14.42 per week worked) in 1992. Their calculation was based on 1987 SIPP data that collected information on work expenses in a set of supplementary questions. Then they calculated 85% of median weekly expenses - \$14.42 per week worked for anyone over 18 in the family in 1992. Total expenses were obtained by multiplying this fixed amount by the number of weeks respondents reported working in the year. The panel argued that, since many families make other sacrifices, move near work, work opposing shifts, to minimize work expenses, reported expenses wouldn't reflect these costs and thus it would be better to use a fixed dollar amount. Following their recommendation, this method is used in the calculations of poverty rates later on, for both the CPS and the SIPP, even though the SIPP offers an alternative.

In the 2004 panel of SIPP, a topical module collects information to calculate work-related expenses. Each person in the SIPP reports their own expenditures on work-related items in a given week. For each person we then sum the number of hours reported worked by the number of weeks worked in each month. The number of weeks worked is multiplied by the weekly work-related expenses, and these are summed over the calendar year for each person. These amounts are then summed across family members as of December of 2004.

Due to assumptions made in the CPS calculations, more people are assigned work-related expenses than actually report them in the SIPP. The average CPS amounts, representing 85 percent of the median in the SIPP, are considerably lower than the mean of reported amounts in SIPP. The SIPP average is almost four times that of the CPS values. Thus, the imputation recommended by the NAS panel, while covering a larger percentage of workers, is a conservative estimate of the amount that people report spending to go to work. Table 1 shows the NAS type calculations of work expenses for the SIPP and the CPS. Also shown are the reported amounts for the SIPP for comparison.

#### Child care expenses

Another important part of work-related expenses is paying someone to care for children while parents work. These expenses have become important for families where both parents work and for single parents who work. To account for child care expenses while parents worked in the CPS, we subtracted an amount modeled using data from the SIPP



1992 panel topical module on child care expenses. The CPS included a question about whether or not families paid for childcare for 1999 and later years but no amount spent.<sup>7</sup>

For the SIPP calculation we show estimates based on reported spending in the child care topical module. The 2004 panel of SIPP included an expanded module of questions on child care in wave 4 of the panel and an abbreviated set of questions in wave 3. Estimates from both modules are shown in table 1. The amount paid for any type of child care, while parents are at work or attending school, are summed over all children. Weekly reported costs are then multiplied by the number of weeks worked by the parent or guardian. The table shows results for both surveys. The CPS amounts spent are modeled using SIPP data, though a lower percentage report paying for childcare in the CPS than in either of the SIPP modules and average assigned amounts in the CPS are lower overall than those reported in the SIPP.

#### Subtraction of Medical Out-of-Pocket Expenditures (MOOP)

Other necessary expenses that we will account for in this poverty measure are those required to maintain the health of family members. While many individuals and families have health insurance that covers most of the very large expenses, there are the costs of health insurance premiums and other small fees that the typical family pays out of pocket. Further, there are some who are not covered by medical insurance. Expenditures on health care have increased and become a more significant portion of a family's budgets and spending for health care should be accounted for as an important expense.

For this necessary expense we model MOOP expenses for the CPS estimates using CE data. This is a two-step procedure, first estimating the probability of incurring MOOP expenses for families of various characteristics such as age, race, income, and insurance coverage status, and then models amounts spent. This calculation is incorporated in an alternative measure that subtracts MOOP from income (referred to later as the MSI alternative measure).<sup>8</sup> In the SIPP there is a topical module on utilization of health care that reports out-of-pocket health care expenses. In this module adults report their own spending for their health care needs and spending for children. In both cases, Medicare Part B premiums are calculated and included in MOOP to offset reported Social Security benefits that are recorded as gross amounts. Table 1 shows that the MOOP model assigns expenses to a slightly higher percentage of families than report expenses in the SIPP. This is true even for poor families. However, the amounts assigned by the model are lower than those reported in the SIPP on average for those same poor families.

#### Child support paid

In the 2004 panel of the SIPP, respondents reported this information in supplementary questions. A topical module on child support is very comprehensive but not asked every year. There are also very brief summary questions included in wave 3. These questions attempt only to ascertain the amounts paid. The data shown here are from those brief questions. Even so the amounts presented do seem to be substantial and have been included in the CPS since 2010.

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<sup>7</sup> In 2010 questions were added to the CPS to collect information on amounts spent for childcare while parents worked. At the time the CPS figures were calculated the most recent available data were from the 1992 panel of SIPP.

<sup>8</sup> In 2010 questions were added to the CPS to collect MOOP expenses.

### How It All Adds Up

This paper described in some detail all of the calculations performed in two surveys to arrive at a measure of family resources similar to that used in the SPM. The estimates shown for the SIPP are closer to the SPM than the CPS estimates shown here. The CPS estimates follow methods described in Short (2001) and represent the measure referred to as the MSI measure (MOOP subtracted from Income measure). Important differences between the two include thresholds that were calculated in a different manner from the SPM thresholds and different units of analysis. The CPS estimates use the family and the SIPP estimates use the expanded unit that includes cohabitators and unrelated children.

Table 1 shows calculations in the aggregate by income source or expenditure categories, for all families or SPM units. It is clear that we are subtracting more than we are adding to family income to move from an official measure of poverty to an alternative one. This is particularly true for taxes – where aggregate amounts are lower in the SIPP than in the CPS. Medical out-of-pocket expenses also are quite large regardless of the method applied and are larger in SIPP than the CPS. In-kind transfers, on the other hand, are very small when viewed across all families relative to subtractions, but often greater in the SIPP, as we have shown for food stamps.

More interesting to this comparison of poverty measures is to examine what happens to family incomes or resources of those people who are classified as poor. The additions and subtractions for those who are classified as poor using the official measure show a more balanced picture, with additions exceeding subtractions. The major subtraction for the poor is for MOOP. Additions to income are not statistically different between the two surveys, but CPS subtracts more work-related expenses and SIPP subtracts more taxes. The SIPP includes WIC and school breakfast subsidies that are not available from the CPS.

### Poverty Rates: 2004

To determine poverty status, the comprehensive measure of family resources is compared to SPM thresholds for the SIPP estimates and to experimental poverty thresholds for the CPS estimates. The official thresholds were originally developed by Mollie Orshansky in the 1960s and updated to 2004 by changes in the Consumer Price Index. These thresholds are used to calculate official poverty statistics.

The CPS measure is the experimental measure that is closest to the SPM, the MSI (MOOP subtracted from income). The experimental poverty thresholds used are shown below. The thresholds were calculated using quarterly data from the CE on spending for food, clothing, shelter, and utilities. The CPS measure uses median expenditures for two-adult and two-child families estimated with 3 years of CE data and the SIPP SPM thresholds use expenditures at the 33<sup>rd</sup> percentile for consumer units with two children and 5 years of CE data. Both are adjusted for other family sizes using a three-parameter equivalence scale. Values for this reference family are:

<b>Poverty thresholds used in these calculations for two-adult two-child family: 2004</b>	
Official	\$19,157
SPM Homeowners with mortgages	\$20,181
SPM Homeowners without mortgages	\$16,973
SPM Renters	\$20,061
NAS Threshold used in CPS calculations	\$19,984

The measures in table 2 show the percent of people in SPM units with before tax cash income below official poverty thresholds. Note that a smaller percentage is classified as official poor in the SIPP than in the CPS. As seen in all previous such calculations, the SIPP appears to collect income information more comprehensively than the CPS and thus finds fewer families with incomes below the official poverty line, 10.8 percent compared with 12.7 percent poor in 2004 (see Anderson, 2011). The experimental poverty measure shown is either the SPM using SIPP or the MSI using the CPS. The resulting poverty rates using all of the above described calculations are also lower in the SIPP, 11.3 percent, than in the CPS, 13.4 percent.

The poverty rates shown in the lower section of table 2 are meant to illustrate the effect of the various additions and subtractions in the two surveys, though none are intended to stand as a measure of poverty per se. All are compared to the SPM/MSI thresholds and make one change at a time in the definition of income. All of these poverty rates are lower in the SIPP.

#### Summary and further work

This paper has described in some detail the challenge of changing and moving the measurement of poverty in the CPS to measuring poverty in the SIPP. Considerable detail was presented on the different design and collection methods of each element of a poverty measure. These differences have important effects on the estimation of alternative poverty measures. We have also described differences in measurement methods, and this is an area where more work needs to be done. All of estimates for the SIPP describe the survey in its present format. It is important, however, to consider the effects of the redesign of the SIPP on the calculation of poverty statistics.

#### New Panels of the SIPP

Comparing poverty measures in the SIPP with the official measure and a similarly constructed experimental measure using the CPS yields several conclusions. Alternative measures of poverty appear to be more accurate in the SIPP than in the CPS, due to improved income data and direct information on the necessary expenses that affect these measures. Even without the change in the design of the sample, this exercise yields a more informed view of what we are measuring in the CPS. We are able to say something about the nature of any biases of the estimates in the CPS, due to the analysis of SIPP. Of course, many of the important elements of the revised poverty measure, such as child care and other work expenses, are based directly on information from the SIPP. Further analysis of SIPP may take advantage of the longitudinal nature of the survey and add insights into how families of varying types experience poverty over time. Implementing the SPM and the official measure together can tell us if a different measure tells us something new about the persistence of poverty. Other extended measures of well-being, such as ownership of durables and difficulty in meeting expenses, could add further insights into accurately measuring how families and individuals get along.

#### The SIPP Redesign

Beginning in 2014, a redesigned SIPP will be fielded. The biggest change associated with the redesign is moving from interviewing sample members every 4 months in the SIPP to interviewing respondents every 12 months in the 2014 SIPP panel. The panel nature of the SIPP will remain with the new design, meaning the same sample members will be followed over-time. Tables 3a and 3b highlight the primary differences between the current SIPP and the re-engineered SIPP in relation to the SPM: the addition of in-kind

government subsidies are covered in Table 3a and the subtraction of necessary expenses are covered in Table 3b. Using SNAP as an example, the first element in Table 3a, shows that SIPP respondents are asked about monthly SNAP receipt once every 4 months, while 2014 SIPP panel respondents will be asked about monthly SNAP receipt once every 12 months. The core section of SIPP contains the questions used to determine the addition of in-kind income to SPM resources. The collection of SNAP, housing subsidies, and WIC will remain at the monthly level in the Re-SIPP. While asked the same way, the collection of school meals will change from usually during the past 4 months in the SIPP to usually during the past 12 months in the Re-SIPP. Similarly, the collection of LIHEAP will change from ever during the past 4 months to ever during the past 12 months. The questions used to determine expenses to account for in available SPM resources are collected in topical modules in the SIPP. Because the same topical modules are not administered each wave, the timing of when the questions are asked is similar between the current SIPP and the 2014 SIPP panel. In some cases, though, there has been a change in the time-frame asked about.

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Table 1a: Noncash Benefits and Necessary Expenses of SPM Resource Units: 2004 SIPP												
n=118 m SPM units	% paid/received				Mean amount (\$)				Aggregate amount (bil\$)			
	All	s.e.†	Poor*	s.e.†	All	s.e.†	Poor*	s.e.†	All	s.e.†	Poor*	s.e.†
SNAP	9.6	0.2	46.4	0.9	1,843	30	2,251	47	20.8	0.5	13.6	0.4
School lunch	25.8	0.2	35.5	0.8	300	4	603	12	9.2	0.1	2.8	0.1
School breakfast	12.6	0.2	28.2	0.8	172	3	280	6	2.6	0.6	1.0	0.4
WIC	5.2	0.1	15.8	0.6	570	2	528	18	2.9	0.1	0.6	0.0
Housing subsidy/cap	5.9	0.1	26.9	0.9	3,233	71	4,393	98	22.6	0.7	15.4	0.7
LIHEAP	4.8	0.1	20.1	0.7	385	8	389	12	1.7	0.1	0.9	0.0
ETC	14.2	0.2	37.7	0.9	1,590	22	1,627	42	26.7	0.5	8.0	0.3
+/-												
Taxes before credits	72.2	0.3	12.5	0.6	7,843	137	1,800	215	637.6	11.8	2.9	0.4
FICA	77.4	0.2	51.4	0.9	3,680	25	772	24	335.9	2.2	5.2	0.2
Work expenses NAS	80.4	0.2	58.8	0.9	1,803	6	1,123	16	170.9	0.6	8.6	0.2
Work expenses reported	72.2	0.2	40.3	0.9	5,302	82	1,998	104	451.5	7.1	10.5	0.6
Childcare model												
Childcare w3	6.8	0.1	4.4	0.4	5,592	144	2,470	314	43.8	1.5	1.4	0.2
Childcare w4	6.6	0.1	4.0	0.3	4,422	115	2,361	379	35.2	1.1	1.2	0.2
MOOP	84.9	0.3	54.8	1.0	3,340	41	1,642	67	334.7	4.1	11.8	0.6
Child support paid	3.5	0.1	2.4	0.2	5,898	189	3,021	294	24.0	1.1	0.9	0.1

Table 1b: Noncash Benefits and Necessary Expenses of SPM Resource Units: 2004 CPS												
n=126 m families	% paid/received				Mean amount (\$)				Aggregate amount (bil\$)			
	All	s.e.†	Poor*	s.e.†	All	s.e.†	Poor*	s.e.†	All	s.e.†	Poor*	s.e.†
SNAP	6.0	0.1	26.5	0.6	1,942	28	2,232	35	14.7	0.3	10.6	0.3
School lunch	17.9	0.2	22.3	0.4	325	3	674	10	7.3	0.1	2.7	0.1
WIC												
Housing subsidy/cap	3.4	0.1	14.2	0.4	4,545	69	5,231	85	19.5	0.7	13.4	0.5
LIHEAP	2.3	0.1	8.0	0.3	283	8	280	9	0.8	0.0	0.4	0.0
ETC	12.8	0.1	30.2	0.5	1,668	15	1,925	29	26.9	0.3	10.5	0.2
+/-												
Taxes before credits	66.9	0.2	4.2	0.2	11,631	226	133	11	980.0	18.9	0.1	0.1
FICA	75.9	0.2	42.8	0.6	4,100	18	647	8	392.2	1.7	5.0	0.1
Work expenses NAS	77.8	0.2	44.2	0.6	1,376	3	752	7	134.8	0.4	6.0	0.1
Childcare model												
MOOP model	85.7	0.1	62.9	0.4	4,047	36	1,048	19	271.5	4.4	11.8	0.3
Child support paid												

\* Poverty status of SPM unit or family head based on official measure.

Source: U.S. Census Bureau, Survey of Income and Program Participation 2004 and Current Population Survey, 2005 Annual Social and Economic Supplement.

For information on confidentiality protection, sampling error, nonsampling error, and definitions,

see [http://www.census.gov/sipp/sourceac/S&A04\\_W1toW12\(S&A-10\).pdf](http://www.census.gov/sipp/sourceac/S&A04_W1toW12(S&A-10).pdf) and [http://www.census.gov/hhes/www/income/data/incpovhth/2004/p60\\_229sa.pdf](http://www.census.gov/hhes/www/income/data/incpovhth/2004/p60_229sa.pdf)

† s.e. obtained using replicate weights (Fay's Method)

Table 2. Effect of Excluding Individual Elements on SPM/MSI Rates: 2004				
(Numbers in thousands, confidence intervals (C.I.) in thousands or percentage points as appropriate.)				
	SIPP SPM		CPS MSI	
	Est.	s.e.	Est.	s.e.
Total Population	287,441	74	290,617	58
Official Poor	10.8	0.2	12.7	0.4
SPM or MSI	11.3	0.2	13.4	0.4
EITC	12.5	0.2	15.0	0.4
SNAP	12.7	0.2	14.2	0.4
Housing subsidies	12.5	0.2	14.4	0.4
School lunch	11.9	0.2	13.7	0.4
WIC	11.4	0.2	NA	NA
LIHEAP	11.3	0.2	13.4	0.4
Child support paid	11.1	0.2	NA	NA
Federal income tax	10.9	0.2	13.2	0.4
FICA	10.2	0.2	12.3	0.4
Work expense	9.7	0.2	12.1	0.4
MOOP	8.9	0.2	11.7	0.4

-Represents or rounds to zero.

Source: U.S. Census Bureau, Survey of Income and Program Participation 2004 and Current Population Survey, 2005 Annual Social and Economic Supplement.

For information on confidentiality protection, sampling error, nonsampling error, and definitions, see [http://www.census.gov/sipp/sourceac/S&A04\\_W1toW12\(S&A-10\).pdf](http://www.census.gov/sipp/sourceac/S&A04_W1toW12(S&A-10).pdf) and [http://www.census.gov/hhes/www/income/data/incpovhlth/2004/p60\\_229sa.pdf](http://www.census.gov/hhes/www/income/data/incpovhlth/2004/p60_229sa.pdf)

† s.e. obtained using replicate weights (Fay's Method)

**Table 3a. The Addition of In-Kind Government Subsidies in the SPM: 2004 SIPP and 2014 Re-SIPP**

SPM Element	Survey	How often is the question asked?	What time frame is asked about?	Who gets asked the question?
Food Stamps/SNAP	SIPP	Once every 4 months	Monthly	Respondents 18+ and respondents 15-17 who are parents/guardians of children living in the hhld
	Re-SIPP	Once every 12 months	Monthly	Respondents 15+ (spouse/children of "screener clump" respondent excluded)
Housing Subsidies	SIPP	Once every 4 months	Monthly	Respondents 15+
	Re-SIPP	Once every 12 months	Monthly	Respondents 15+
School meals	SIPP	Once every 4 months	Usually during 4 months	Respondents in households with children 5-18
	Re-SIPP	Once every 12 months	Usually during 12 months	Respondents 15+ who are parents/guardians of children 5-18 living in the hhld
WIC	SIPP	Once every 4 months	Monthly	Female respondents 15-45 who are parents/guardians of children under 5
	Re-SIPP	Once every 12 months	Monthly	Respondents 15+ who are female OR parents/guardians of children living in the hhld
LIHEAP	SIPP	Once every 4 months	Ever during 4 months	Household respondent
	Re-SIPP	Once every 12 months	Ever during 12 months	Household respondent

**Table 3b. The Subtraction of Necessary Expenses in the SPM: 2004 SIPP and 2014 Re-SIPP**

<b>SPM Element</b>	<b>Survey</b>	<b>How often is the question asked?</b>	<b>What time frame is asked about?</b>	<b>Who gets asked the question?</b>
<b>Taxes</b>	SIPP	Once every 12 months	Annual	Respondents 15+
	Re-SIPP	Once every 12 months	Annual	Respondents 15+
<b>Child Care Expenses (while working)</b>	SIPP	Once every 12 months	Typical week in each of the prior 4 months - amt paid for all arrangements for all children	Women 15+ with child(ren) under 15 who live in the hhld
	Re-SIPP	Once every 12 months	Typical week in Dec - amt paid for all arrangements for all children OR if not working in Dec typical week when parent(s) were working	Reference parent of child(ren) under 15 who live in the hhld
<b>Commuting Expenses</b>	SIPP	Once every 12 months	Typical week in the prior 4 months	Respondents 15+ who have a job
	Re-SIPP	Once every 12 months	Daily amount for each job	Respondents 15+ who have a job
<b>Other Work Related Expenses</b>	SIPP	Once every 12 months	Annual amount for all jobs	Respondents 15+ who have a job
	Re-SIPP	Once every 12 months	Annual amount for each job	Respondents 15+ who have a job
<b>MOOP</b>	SIPP	Once every 12 months	Annual amount	Respondents 15+ (child information collected from adult)
	Re-SIPP	Once every 12 months	Annual amount	All respondents
<b>Child Support Paid</b>	SIPP	Once every 12 months	Monthly amount in each of the 4 prior months	Respondents 15+ who have children who do not live in the hhld
	Re-SIPP	Once every 12 months	Annual amount	Respondents 15+ who have a child under 21 who does not live in the hhld