Estimating the Supplemental Poverty Measure from the 2014 Panel of the Survey of Income and Program Participation

FCSM
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The Supplemental Poverty Measure

- For 2016, the Census Bureau estimated that 12.7% of the population was in poverty using the Official Poverty Measure (OPM).

- The Supplemental Poverty Measure (SPM) calculates a 2016 poverty rate of 14.0%.

<table>
<thead>
<tr>
<th>Official Poverty Measure (OPM)</th>
<th>Supplemental Poverty Measure (SPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement Units</strong></td>
<td><strong>Resource units (add coresident children, and unmarried partners)</strong></td>
</tr>
<tr>
<td>• Families (related by birth, marriage, or adoption)</td>
<td>• Unrelated Individuals</td>
</tr>
<tr>
<td>• Unrelated Individuals</td>
<td>• Unrelated Individuals</td>
</tr>
<tr>
<td><strong>Poverty Threshold</strong></td>
<td><strong>Based on expenditures of food, clothing, shelter, and utilities (FCSU)</strong></td>
</tr>
<tr>
<td>Three times the cost of a minimum food diet in 1963</td>
<td></td>
</tr>
<tr>
<td><strong>Threshold Adjustments</strong></td>
<td><strong>Family size and composition</strong></td>
</tr>
<tr>
<td>• Family size and composition</td>
<td>• Housing tenure</td>
</tr>
<tr>
<td>• Age of householder</td>
<td>• Geographic adjustments for housing costs</td>
</tr>
<tr>
<td><strong>Updating Thresholds</strong></td>
<td><strong>Consumer Price Index</strong></td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>5-year moving average of CE on FCSU</td>
</tr>
<tr>
<td><strong>Resource Measure</strong></td>
<td><strong>Adds value of noncash FCSU benefits</strong></td>
</tr>
<tr>
<td>Gross before-tax cash income</td>
<td><strong>Post tax</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Minus work expenses, medical expenses, and child support paid</strong></td>
</tr>
</tbody>
</table>
Implementing NAS & SPM Measures Across Surveys

Since the first estimates were released for 2009, the SPM has been calculated from CPS ASEC.

- Working to develop SPM measure in American Community Survey (ACS)
  - Renwick 2015; Renwick et al., 2012

- The 1995 NAS Panel on Poverty & Family Assistance recommended using data from the Survey of Income and Program Participation (SIPP)
  - Short 2014; Short & Giefer 2013; Iceland 2012; Short 2009; Short 2003
Calculating 2013 SPM Rates in the SIPP

The 2014 SIPP Panel is a longitudinal household survey which runs 4 years and provides nationally representative data, most of which is reported at a monthly level. There are several advantages using the SIPP:

▪ The SIPP collects detailed earnings data
▪ 2014 Panel can capture SPM resource units on a monthly basis which is unique among Census surveys
▪ Collects data on all components of the SPM resource definition
▪ Allows for the measurement of poverty dynamics
SPM Resource Units

We reassign families to monthly SPM Resource Units

- Combine unmarried partner families
- Combine foster children with foster parents
- Add unrelated children to the primary resource unit

9.7% of people are assigned to new SPM Resource Units at any point over the year
SPM Thresholds

Vary by

- Family Composition
- Housing Tenure
- Geography

Like the CPS ASEC, annual base thresholds are provided from BLS

- Currently just divide by 12

Housing Tenure

- Reported monthly
- Mortgage status based on residency in December

Geography

- Match to ACS consistent with CPS ASEC
Income

While many income sources are reported, high variability in time period and reporting unit

- Monthly
- Person
- Annual
- Family
- Household

When possible, attempt to tie income, benefits, expenditures, and taxes back to source.

Tie income taxes and FICA taxes to month earned. Distribute tax credits and annual expenses evenly across months. Then aggregate up at SPM Resource Unit each month as well as thresholds and sum across months for each respondent to get annual poverty rates.
Cash Income

Person-Level, Reported Monthly (can vary month-to-month):

- Employment/Business Earnings
- Retirement Income
- SSI
- TANF
- Workers Comp
- Unemployment
- Disability
- Survivors Income
- Child Support (Received)
- Foster Care Payments
- Alimony

Person-Level, Reported Annually:

- Lump Sum Payments
- Rental/Real Estate Income
- Dividends
- Annuities/Trusts
- Interest Income
- Owned Business Income
- “Other” Income
## In Kind Benefits

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Reporting Level</th>
<th>Frequency</th>
<th>Amount Reported?</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIC</td>
<td>Family</td>
<td>Monthly</td>
<td>No</td>
</tr>
<tr>
<td>SNAP</td>
<td>Family</td>
<td>Monthly</td>
<td>Yes</td>
</tr>
<tr>
<td>Housing subsidies</td>
<td>Household</td>
<td>Monthly</td>
<td>No</td>
</tr>
<tr>
<td>School Lunch/Breakfast</td>
<td>Family</td>
<td>Annual</td>
<td>No</td>
</tr>
<tr>
<td>LIHEAP</td>
<td>Person</td>
<td>Annual</td>
<td>No</td>
</tr>
</tbody>
</table>
## Necessary Expenses

<table>
<thead>
<tr>
<th>Expense</th>
<th>Reporting Level</th>
<th>Frequency</th>
<th>Amount Reported?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuting</td>
<td>Person</td>
<td>Monthly</td>
<td>No-flat deduction</td>
</tr>
<tr>
<td>Child care</td>
<td>Family</td>
<td>Annual</td>
<td>Based on December Amount</td>
</tr>
<tr>
<td>Child support paid</td>
<td>Person</td>
<td>Annual</td>
<td>Yes</td>
</tr>
<tr>
<td>Medical expenses</td>
<td>Person/Family</td>
<td>Annual</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Taxes

**Filing Status:** Person Level, Reported Annually

- Filed or plan to file
- Filing status
- If they claimed child tax filers as dependents
- Receipt of EITC

Use TAXSIM to estimates federal and state taxes as well as any credits received. Calculate FICA separately.

#### 2013

**IRS SOI Returns**
- 147.4 million

**SIPP**
- 142.3 million

<table>
<thead>
<tr>
<th>Filing Status</th>
<th>Married-Present</th>
<th>Married-Absent</th>
<th>Widowed</th>
<th>Divorced</th>
<th>Separated</th>
<th>Never Married</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>3%</td>
<td>0%</td>
<td>3%</td>
<td>8%</td>
<td>1%</td>
<td>20%</td>
<td>68,099,275</td>
</tr>
<tr>
<td>Married-Jointly</td>
<td>52%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>105,741,079</td>
</tr>
<tr>
<td>Married-Separately</td>
<td>2%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>4,909,664</td>
</tr>
<tr>
<td>Head of Household</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
<td>0%</td>
<td>3%</td>
<td>16,441,589</td>
</tr>
</tbody>
</table>
2013 SPM in the SIPP

Incrementally:

- **2013 OPM estimates** in the SIPP are 16.2%
- Using **SPM Units** with (recalculated) **OPM Income and OPM Threshold**
  - Poverty declines to 14.5%
- Using **SPM Units** with (recalculated) **OPM Income** and **SPM Thresholds**
  - 64% of individuals are assigned higher annual thresholds
  - Poverty rate of 15.3%
- **2013 SPM estimates** in the SIPP are 15.6%
  - SPM rates are 0.6 percentage points **lower** than the OPM rate
2013 OPM/SPM by Survey

- The SPM is 0.6 percentage points lower than the OPM rate in the SIPP, while in the CPS ASEC the SPM rate is 1.1 percentage points higher than OPM.
- Both CPS ASEC and SIPP have higher OPM than SPM rates for children.
- Difference between OPM and SPM for adults aged 18-64 not statistically different in SIPP.
- Disparities in 65+ population highlight need for additional examination.
Prevalence and Conditional Means of SPM Components, 2013

Percent Reporting Across Surveys, 2013

Federal Taxes: 68% (CPS ASEC), 76% (SIPP)
SNAP: 31% (CPS ASEC), 34% (SIPP)
Housing: 4% (CPS ASEC), 18% (SIPP)
School Lunch: 5% (CPS ASEC), 7% (SIPP)
LIHEAP: 86% (CPS ASEC), 71% (SIPP)
WIC: 96% (CPS ASEC), 5% (SIPP)
Work Expenses: 86% (CPS ASEC), 71% (SIPP)
Medical Expenses: 5% (CPS ASEC), 7% (SIPP)
Child Support Paid: 5% (CPS ASEC), 7% (SIPP)

Conditional Monthly Means Across Surveys, 2013

Federal Taxes: $282 (CPS ASEC), $336 (SIPP)
SNAP: $555 (CPS ASEC), $784 (SIPP)
Housing: $48 (CPS ASEC), $118 (SIPP)
School Lunch: $36 (CPS ASEC), $36 (SIPP)
LIHEAP: $17 (CPS ASEC), $77 (SIPP)
WIC: $317 (CPS ASEC), $340 (SIPP)
Work Expenses: $483 (CPS ASEC), $449 (SIPP)
Medical Expenses: $58 (CPS ASEC), $483 (SIPP)
Child Support Paid: $58 (CPS ASEC), $483 (SIPP)
## Aggregate Value of SPM Components by Survey, 2013

<table>
<thead>
<tr>
<th>Component</th>
<th>CPS ASEC</th>
<th>SIPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refundable tax credits</td>
<td>59.08</td>
<td>69.40</td>
</tr>
<tr>
<td>LIHEAP</td>
<td>1.83</td>
<td>2.42</td>
</tr>
<tr>
<td>Housing subsidy</td>
<td>24.94</td>
<td>45.62</td>
</tr>
<tr>
<td>WIC</td>
<td>3.46</td>
<td>3.43</td>
</tr>
<tr>
<td>School breakfast</td>
<td>0.00</td>
<td>5.92</td>
</tr>
<tr>
<td>School lunch</td>
<td>11.81</td>
<td>14.03</td>
</tr>
<tr>
<td>SNAP</td>
<td>42.51</td>
<td>50.88</td>
</tr>
<tr>
<td>Federal taxes before credits</td>
<td>-1,226.75</td>
<td>-2,063.99</td>
</tr>
<tr>
<td>FICA</td>
<td>-533.81</td>
<td>-602.40</td>
</tr>
<tr>
<td>Work and childcare expenses</td>
<td>-325.93</td>
<td>-334.74</td>
</tr>
<tr>
<td>Medical expenses</td>
<td>-570.64</td>
<td>-608.62</td>
</tr>
<tr>
<td>Child support paid</td>
<td>-18.44</td>
<td>-35.30</td>
</tr>
</tbody>
</table>

### Notes
- CPS ASEC data is from the Current Population Survey (CPS) American Community Survey (ASEC) 2013.
- SIPP data is from the Survey of Income and Program Participation (SIPP) 2013.
- Values are in billions of dollars.
### Aggregate Value of SPM Components Among Those in Official Poverty by Survey, 2013

<table>
<thead>
<tr>
<th>Component</th>
<th>CPS ASEC</th>
<th>SIPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refundable tax credits</td>
<td>22.70</td>
<td>20.24</td>
</tr>
<tr>
<td>LIHEAP</td>
<td>1.02</td>
<td>1.10</td>
</tr>
<tr>
<td>Housing subsidy</td>
<td>17.92</td>
<td>29.98</td>
</tr>
<tr>
<td>WIC</td>
<td>1.58</td>
<td>1.76</td>
</tr>
<tr>
<td>School breakfast</td>
<td>0.00</td>
<td>2.54</td>
</tr>
<tr>
<td>School lunch</td>
<td>4.82</td>
<td>5.41</td>
</tr>
<tr>
<td>SNAP</td>
<td>27.01</td>
<td>31.01</td>
</tr>
<tr>
<td>Federal taxes before credits</td>
<td>-10.65</td>
<td>-1.31</td>
</tr>
<tr>
<td>FICA</td>
<td>-11.82</td>
<td>-9.56</td>
</tr>
<tr>
<td>Work and childcare expenses</td>
<td>-17.68</td>
<td>-17.06</td>
</tr>
<tr>
<td>Medical expenses</td>
<td>-35.82</td>
<td>-41.05</td>
</tr>
<tr>
<td>Child support paid</td>
<td>-0.86</td>
<td>-2.82</td>
</tr>
</tbody>
</table>

**Aggregate Value (in billions)**

- Refundable tax credits: CPS ASEC = 22.70, SIPP = 20.24
- LIHEAP: CPS ASEC = 1.02, SIPP = 1.10
- Housing subsidy: CPS ASEC = 17.92, SIPP = 29.98
- WIC: CPS ASEC = 1.58, SIPP = 1.76
- School breakfast: CPS ASEC = 0.00, SIPP = 2.54
- School lunch: CPS ASEC = 4.82, SIPP = 5.41
- SNAP: CPS ASEC = 27.01, SIPP = 31.01
- Federal taxes before credits: CPS ASEC = -10.65, SIPP = -1.31
- FICA: CPS ASEC = -11.82, SIPP = -9.56
- Work and childcare expenses: CPS ASEC = -17.68, SIPP = -17.06
- Medical expenses: CPS ASEC = -35.82, SIPP = -41.05
- Child support paid: CPS ASEC = -0.86, SIPP = -2.82
Change in Number of People in Poverty After Including Each Element: 2013

- Social Security:
  - CPS ASEC: -25m
  - SIPP: -30m

- Refundable tax credits:
  - CPS ASEC: -15m
  - SIPP: -20m

- SNAP:
  - CPS ASEC: 0m
  - SIPP: 0m

- SSI:
  - CPS ASEC: -10m
  - SIPP: -15m

- Housing subsidies:
  - CPS ASEC: 0m
  - SIPP: 0m

- Child support paid:
  - CPS ASEC: 0m
  - SIPP: 0m

- Federal income tax:
  - CPS ASEC: 0m
  - SIPP: 0m

- FICA:
  - CPS ASEC: 0m
  - SIPP: 0m

- Work expenses:
  - CPS ASEC: 0m
  - SIPP: 0m

- Medical expenses:
  - CPS ASEC: 0m
  - SIPP: 0m

In millions:
- Under 18 years
- 18 to 64 years
- 65 years and over

- 0.9m
- -1.1m
- -0.9m
- -3.2m
Social Security and Poverty

- For both the OPM and SPM we observe some of the largest differences in rates across the two surveys for those age 65+.

- Social Security receipt and conditional benefits amounts are higher in the SIPP than CPS ASEC, which lowers OPM and SPM rates in the SIPP, holding other things constant.
Family Composition and Poverty

- SIPP family composition is reported monthly rather than at the time of the survey.
- A CPS ASEC family that has a child in January 2014 would have child included in 2013 poverty threshold, even though they were not present any time during the year.
- For “All Ages” and “Under 18” the SPM rate is higher using the December family composition rather than the monthly composition.

![SIPP 2013 SPM Rate with Monthly Family Dynamics vs. Holding Constant from December](chart)

- | Age Group          | Continuous | December |
- |--------------------|------------|----------|
- | All Ages           | 15.6%      | 16.4%    |
- | Under 18 years     | 18.0%      | 20.3%    |
- | 18 to 64 years     | 16.3%      | 16.7%    |
- | 65 years and older | 8.5%       | 8.6%     |
Next Steps

- Further reviewing how we determine tax units, how to correct for misreporting filing or filing status
- Examine components of SPM, focusing on 65+ population using administrative earnings and Social Security receipt
- Incorporating asset and liability measure for more comprehensive well-being
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