Proposed Changes to the Supplemental Poverty Measure

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Poverty: The History of a Measure

An Interagency Technical Working Group on Developing a Supplemental Poverty Measure is formed by Commerce Under Secretary Rebecca Blank and Office of Management and Budget Chief Statistician Katherine Wallman and charged with developing a set of initial starting points to permit the U.S. Census Bureau, in cooperation with the Bureau of Labor Statistics, to produce a Supplemental Poverty Measure. December 2009.

The Office of Management and Budget (OMB) convenes a new interagency technical working group to provide advice on challenges and opportunities brought before it by the Census Bureau and BLS concerning data sources, estimation, survey production, and processing activities for development, implementation, publication, and improvement of the SPM. January 2016.

The Panel on Poverty and Family Assistance publishes a report proposing a new approach for measuring poverty.


2020CENSUS.GOV
Guidance from the 2009/2010 SPM Interagency Technical Working Group

According to the ITWG suggestions, SPM should be seen as a research measure, improving with changes in data, methodology and research

In evaluation of changes, priority should be placed on:
• consistency between threshold and resource definitions,
• data availability,
• simplicity in estimation,
• stability of the measure over time, and
• ease in explaining methodology.
Guidance from ITWG Charter

CHARTER: “Prior to the initial publication of SPM estimates based on changes from the then current SPM, the BLS/Census SPM Development and Implementation Team shall publish a technical report available from the Census Bureau’s Poverty landing page discussing the need for, and implementation of, such changes.”

Subcommittee on Guidance for Priorities, Schedule of Revisions, and Implementation of Major Changes convened in April 2017. Reported to the ITWG at the June 2017 quarterly meeting.
Criteria for Making Decisions about Changes

From NAS panel:

Consistent
Statistically defensible
Broadly acceptable
Understandable
Operationally feasible

Others suggested from 2017 ITWG Subcommittee:

Impact of change (how much a change matters)
Portability/replicability in other surveys
Public support for change
Guidance from Subcommittee on Guidance for Priorities, Schedule of Revisions, and Implementation of Major Changes – June 2017

When?
• Not every year; wait until 2021 for the next major changes

How?
• Prior to major changes, present papers, etc., widely for vetting purposes

What considerations should be given for accepting a change?
• Consistency
• Sample size
• Assumptions/data quality/availability

Timeline shared at March 2018 FCSM Roundtable
Timeline for SPM Changes

2018

February 2018 – September 2021
Working papers and conference presentations discussing potential changes to the measure

2019

Spring 2019 Expert Meeting

2020

Spring 2020 Expert Meeting

September 2020 ITWG decides on changes

September 2021 Release of SPM report using new methodology

2021

September 2020 – September 2021
Research showing the impact of the changes on 2019 SPM rates - including research file.
Selected Working Papers/Presentations

- Moving to the Median and Expanding the Estimation Sample
- Adjustments to SPM Thresholds: Focus on In-Kind Benefits, Prices and Expenditure Definitions
- Controlling for Prices before Estimating SPM Thresholds
- Supplemental Poverty Measure: Alternative Geographic Adjustments
- Incorporating Health Care/Insurance in Poverty Measures
- Accounting for the Impact of Medicaid on Child Poverty

https://www.census.gov/topics/income-poverty/supplemental-poverty-measure/library/working-papers/topics/potential-changes.html#
Conference Presentations/Roundtables

- Agriculture and Applied Economics Association (AAEA) Annual 2019 Meeting
- Southern Regional Science Association 2019 Conference
- Southern Economics Association (SEA) – 2019
- Roundtable discussions of potential changes to the SPM held at 2019 SGE and APPAM conferences.
- 2020 American Economic Association
- SGE 2020 – Cancelled
- May 2019 and May 2020 Expert Meetings at Brookings
SPM Changes for September 2021

Resources:
Move from national average value for WIC benefits to state-varying values

Thresholds:
(1) Move base thresholds from around the 33rd percentile to a percentage of the median. Plan is to select percentage to keep overall SPM rates comparable to the current methodology.
(2) Expand the estimation sample (for the thresholds) from all consumer units with exactly two children to all consumer units with children but ask the NAS panel to continue to look into this issue.
(3) Lag the CE data for the thresholds by one year.
(4) Add imputed in-kind benefits to the thresholds
(5) Move telephone expenditures out of utilities which means they will not be geographically adjusted
(6) Add home internet to the thresholds - but not as utilities.
(7) Use a composite Food/Clothing/Shelter/Utilities consumer price index as opposed to the All Items, All Urban index in adjusting CE data to current year dollars.
Using State-Varying WIC Values

- Currently, the value of WIC in the SPM is estimated using the average national benefit amount. The proposed change would allow the benefit amount to vary by state.
- For 2018, national average monthly WIC benefit value was $40.96, while states ranged from $26.52 (Texas) to $55.87 (Hawaii)
- Will be more consistent with threshold imputations
- Would allow for analysis of future state-level changes in WIC generosity
- Very small impact on poverty rates

### Table: Characteristic Comparison

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>2018 SPM-Using National WIC Values</th>
<th>2018 SPM-Using State-Varying WIC Values</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Est.</td>
<td>MOE</td>
<td>Est.</td>
</tr>
<tr>
<td>All People</td>
<td>12.77</td>
<td>0.27</td>
<td>12.78</td>
</tr>
<tr>
<td>WIC Recipients</td>
<td>24.78</td>
<td>2.11</td>
<td>25.05</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12.12</td>
<td>0.30</td>
<td>12.13</td>
</tr>
<tr>
<td>Female</td>
<td>13.40</td>
<td>0.27</td>
<td>13.41</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 18 years</td>
<td>13.68</td>
<td>0.52</td>
<td>13.71</td>
</tr>
<tr>
<td>18 to 64 years</td>
<td>12.21</td>
<td>0.28</td>
<td>12.22</td>
</tr>
<tr>
<td>65 years and older</td>
<td>13.59</td>
<td>0.47</td>
<td>13.59</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>12.23</td>
<td>0.62</td>
<td>12.23</td>
</tr>
<tr>
<td>Midwest</td>
<td>9.20</td>
<td>0.51</td>
<td>9.22</td>
</tr>
<tr>
<td>South</td>
<td>13.92</td>
<td>0.49</td>
<td>13.94</td>
</tr>
<tr>
<td>West</td>
<td>14.43</td>
<td>0.56</td>
<td>14.43</td>
</tr>
</tbody>
</table>

* An asterisk following an estimate indicates difference is statistically different from zero at the 90 percent confidence level.
Z Rounds to zero.

Changes to be Implemented in Production of SPM Thresholds for Reference Unit Composed of 2 Adults with 2 Children (2A+2C)

<table>
<thead>
<tr>
<th>Change – Statistical (access)</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convert micro-level CU quarterly FCSU to threshold year dollars using composite FCSU CPI-U</td>
<td>More reflective of threshold component price changes</td>
</tr>
<tr>
<td>Add in-kind benefits to OOP FCSU</td>
<td>Consistency in measurement with resources</td>
</tr>
<tr>
<td>Lag FCSU by 1 year</td>
<td>CPS ASC data not available in time to produce in-kind benefits for thresholds for most recent year</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change – Conceptual</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand sample to include CUs with any child (not just those with exactly 2 children)</td>
<td>Represents larger share of the population but with focus on children as a primary beneficiary of poverty programs</td>
</tr>
<tr>
<td>Telephone service separate (not in housing utilities)</td>
<td>Increased cell service expenditures as share of total; impacts (S+U) share of thresholds adjusted for differences in median rents across geographies</td>
</tr>
<tr>
<td>Add internet</td>
<td>Increased means of communication in addition to telephone</td>
</tr>
<tr>
<td>Percentage of median</td>
<td>Expectation of greater stability around the median and less constrained spending</td>
</tr>
</tbody>
</table>
### Considered but not Voted to Change

<table>
<thead>
<tr>
<th>Change – Conceptual</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base thresholds on 3 versus <strong>5 years of CE data</strong></td>
<td>Reduce impact of short-run recession or growth over years to carry over in following year thresholds</td>
</tr>
<tr>
<td>Expand estimation sample to all CUs versus those with <em>children</em></td>
<td>Thresholds are for all so all CU expenditures should be counted</td>
</tr>
<tr>
<td>Anchor thresholds and update by change in prices or overall spending versus re-estimating threshold so updating by rolling 5-year movement in estimation sample median FCSU</td>
<td>Prices or changes in overall spending more reflective of value of threshold based on FCSU</td>
</tr>
</tbody>
</table>
Price Indexes to Adjust Quarterly FCSU Expenditures into Threshold Year $: Monthly CPI-U All Items vs CPI-U-FCSU

Adjust quarterly FCSU by “composite FCSU-CPI-U”

\[
FCSU_{i,2016} = \left( \frac{FCSU_{CPI,FCSU_{2016}}}{FCSU_{CPI,FCSU_{q,oryr}}} \right) \times FCSU_{i,yr}
\]

CPI-U-FCSU increasing faster than CPI-U All Items (since 201510)

FCSU smoother than All Items throughout period

In-kind Benefits Included in FCSU, Lag by One Year Due to CPS Data Access for All but Rental Subsidies

\[
FCSU_{i,a} = (F_{i,a} + C_{i,a} + S_{i,a} + U_{i,a}) \times 4 + WIC_{i,a} + NSLP_{i,a} + LIHEAP_{i,a} + (RS_{i,a}) \times 4
\]

Thresholds
- Housing & Energy Subsidies
- Other Food Subsidies
- FCSU Expenditures (including SNAP)

Resources
- Housing & Energy Subsidies
- Other Food Subsidies
- With SNAP In-Kind Benefits
- Cash income

Consistent
- Not Consistent
Expanding the Sample to Consumer Units with Any Number of Children from those with Exactly Two Children

<table>
<thead>
<tr>
<th>Conceptual</th>
<th>CU's with exactly 2 children</th>
<th>CU's with 1+ children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Estimation Sample</td>
<td>n = 14,668 (11.4%)</td>
<td>n = 40,623 (31.4%)</td>
</tr>
<tr>
<td>(% of U.S. weighted sample of CUs based on 5 years of data)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Of *all people* living in the U.S. (person weighted population):
19.1% in CUs with 2 children; 51.6% in CUs with any children; 48.4% in CUs with no children

Of *all CUs* living in the U.S. (CU weighted population):
13.4% have exactly 1 child; 11.4% have exactly 2 children; 6.6% have more than 2 children; 68.6% have no children

Of *CUs with children* (CU weighted population):
42.7% have exactly 1 child; 36.3% have exactly 2 children; 21% have more than 2 children

Move Telephone out of Housing Utilities and Add Internet

**Published:** \[ SPM_{p,j,T} = 1.2 \times FCSU_{p,T} - SU(t)_{p,T} + SU(t)_{p,j,T} \]

**Alternative (t):** \[ SPM_{p,j,T} = 1.2 \times FCSU_{p,T} - SU_{p,T} + SU_{p,j,T} \]

**Alternative (t_i):** \[ SPM_{p,j,T} = 1.2 \times FCSU_{p,T} - SU_{p,T} + SU_{p,j,T} \]

\( P = "33^{rd}" \) percentile represented by the average within the 30-36 percentile range of FCSU for published;
\( ="50^{th}" \) percentile represented by the average within the 47-53 percentile range of FCSU for proposed
\( j = \) housing group: owners with mortgages, owners without mortgages, renters with paid rent
\( T = \) threshold year
Change Base of Thresholds:
Move to a Percentage of the Median

- Back to NAS Panel (1995) recommendation
- Less likely to reflect constrained spending (unlike at lower end of FCSU distribution)
- Expected to be more stable than around the “33rd” percentile (empirical question)
- If in future, if health insurance added to represent health care needs, out-of-pocket spending likely to be a better proxy of “need” as opposed to position lower in FCSU distribution (could still imputed value of health insurance or account for health care needs in another way)
Impact of Combined Changes* on Underlying CE Samples and 2A+2C Thresholds: 2016

<table>
<thead>
<tr>
<th>Estimation Sample, unweighted observations (percentage of all CU observations for the U.S., weighted and unweighted approx. same)</th>
<th>CU's with exactly 2 children</th>
<th>CU's with 1+ children</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 14,668 (11.3%)</td>
<td>n = 40,623 (31.3%)</td>
<td></td>
</tr>
</tbody>
</table>

- Of all people living in the US (weighted population): 19.1% in CUs with exactly 2 children; 51.6% in CUs with any children; 48.4% in CUs with no children
- Of CUs with children (weighted CUs): 36.3% have exactly 2 children; 42.7% have exactly 1 child

**Thresholds**

<table>
<thead>
<tr>
<th>Owners with mortgages</th>
<th>Renters</th>
<th>Owners without mortgages</th>
</tr>
</thead>
<tbody>
<tr>
<td>$26,336</td>
<td>$26,104</td>
<td>$22,298</td>
</tr>
<tr>
<td>$27,329</td>
<td>$27,059</td>
<td>$22,907</td>
</tr>
</tbody>
</table>

**Housing Shares (S+(U))**

<table>
<thead>
<tr>
<th>Owners with mortgages</th>
<th>Renters</th>
<th>Owners with mortgages</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.2%</td>
<td>43.6%</td>
<td>41.1%</td>
</tr>
<tr>
<td>49.7%</td>
<td>43.1%</td>
<td>41.1%</td>
</tr>
<tr>
<td>32.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

-Published base on 2C, 5 years of data, data not lagged by 1 year, no in-kind (except for SNAP), telephone in U, no internet;

*Thresholds with changes based on 33rd percentile rather than a percent of median since percentage selection can be set to obtain the same thresholds (assume relationship between FCSU at "33rd" and "50th" percentiles)

How to Select the Percentage of the Median

- Based on FCSU relationship to to “33rd”?  
- Public opinion (e.g., Gallup Poll)?  
- Relative (e.g., 0.5*median equivalent FCSU)?
Select % of Median to Offset Impact of Changes to Equate to Published: Example with 2016 Thresholds

\[ SPM_{j,2016} = 1.2 \times FCSU_{33,2016} - SU_{33,2016} + SU_{33,j,2016} \]

<table>
<thead>
<tr>
<th>% of “median”</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ SPM_{j,2016} = 1.2 \times 79.6% \times FCSU_{50,2016} - 79.6% \times SU_{50,2016} + 79.6% \times SU_{50,j,2016} ]</td>
</tr>
</tbody>
</table>

Set thresholds to published for 2016 to reduce impact of changes

<table>
<thead>
<tr>
<th>$26,336</th>
<th>$26,337</th>
<th>$27,336</th>
<th>$26,104</th>
<th>$26,038</th>
<th>$27,261</th>
<th>$22,298</th>
<th>$22,095</th>
<th>$22,915</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner with mortgage</td>
<td>Renter</td>
<td>Owner without mortgage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

79.6% of “median” FCSU and SU within “median” range to result in thresholds that are approximately equal to published thresholds
NAS Panel

FY2020 Budget includes pass back to support a CNSTAT panel on evaluating and improving the SPM – $2 million

– *The Census Bureau will fund a research study by the National Academies of Sciences, Engineering, and Medicine to evaluate and improve the supplemental poverty measure.*

• CNSTAT will convene a panel (approximately 12 people)

• 24 month duration – starting end of 2020?

• Five 1.5 day meetings – including an initial public meeting to prioritize issues and concerns

• Final report at the end of 24 months
Changes we are NOT considering for 2021 but could be on the agenda for the NAS panel:

Resources
- Capping medical out of pocket (MOOP) expenses
- Correcting survey data for underreporting
- Commuting cost variation

Thresholds
- Moving to a health-inclusive poverty measure
- Changes to the geographic adjustments of the thresholds
- Expanding to all consumer units
- Restrict to 3 years of CE data rather than 5 years
- Use of 12 months of CU data rather than multiplying quarterly by 4
- Use payments-based cost index as opposed to CPI to adjust FCSU
- Geographic adjustment of housing (S+U) expenditure data prior to threshold creation
- Replace out-of-pocket spending with rental equivalence for owners so only need to produce one threshold per year
- Replace 20% multiplier with spending on specific categories of goods and services (e.g. personal care and non-work related transportation)
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