Supplemental Poverty Measure Thresholds and Noncash Benefits

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(co-authored with Marisa Gudrais)

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Disclaimer

This presentation reports the results of research and analysis undertaken by researchers within the Bureau of Labor Statistics (BLS).

Any views expressed are those of the authors and not necessarily those of the BLS.
ITWG Guidelines for SPM Thresholds

ITWG stated ...

“so far as possible with available data, the calculation of FCSU should include any in-kind benefits that are counted on the resource side for food, shelter, clothing and utilities. This is necessary for consistency of the threshold and resource definitions.” (March 2010)

\[ FCSU = \text{sum (food, clothing, shelter, utilities)} \text{ at micro-level} \]

\[
\text{SPM \text{ Threshold} = FCSU + \text{little bit more}}
\]

<table>
<thead>
<tr>
<th>Supplemental Nutrition Assistance Program (SNAP)</th>
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<tr>
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<tr>
<td>Low-Income Home Energy Assistance (LIHEAP)</td>
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This Research

■ Purpose
  ▶ To produce SPM thresholds, testing different approaches, that include the value of in-kind benefits

■ Contribution
  ▶ Improved SPM that is *consistently defined in terms of thresholds and resources*
  ▶ Improved SPM thresholds that reflect values of commodities and services “purchased by/made available to” consumer units with resources

❖ NOTE: Thus far, SPM thresholds used by the Census Bureau for the regular publication of SPM poverty statistics DO NOT account for in-kind transfers or noncash benefits.
Outline of Presentation

- Underlying assumption
- Challenges with CE data
- What needed
- Imputation of in-kind benefits

Results

- Aggregates
- Participation
- Annual average benefits
- 2012 SPM Thresholds without and with benefits

Recommendations
Underlying Assumption

- **Resources to meet “needs”**
  - Thresholds represent “needs”

  - “Needs” defined as:
    - Food
    - Clothing
    - Shelter
    - Utilities
    - + “a little bit more” for personal care, non-work related transportation, etc.

  - For resources: cash + value of in-kind benefits for FCSU
  - For thresholds: out-of-pocket FCSU expenditures + value of FCSU in-kind benefits
    - = Value of need (what is “purchased” based on resources available)
Problem: Thresholds and Resources Inconsistently Defined

Thresholds

Expenditures for FCSU (including SNAP)

Resources: Official

Housing & Energy Subsidies
Other Food Subsidies
With SNAP In-Kind Benefits
Cash income
Solution: Thresholds and Resources Consistently Defined

Thresholds

Expenditures for FCSU (including SNAP)

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Thresholds

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

Resources

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

Proposed
Challenge: Data in the U.S. Consumer Expenditure Interview Survey

- Limited data on Rental Assistance Programs
  - Indicator variables for rented living quarters
    - Is this house a public housing project, that is, it is owned by a local housing authority or other local public agency? (CE variable: pub_hous)
    - Are your housing costs lower because the Federal, State, or local government is paying part of the cost? (CE variable: govtcost)
  - Total rent payments for each of last 3 months (do not include direct payments by local, state, or federal agencies)
  - Expenditures for utilities

- No data on programs but data on potential participants
  - National School Lunch Program (NSLP)
  - Supplemental Nutrition Program for Women, Infants, and Children (WIC)
  - Low income Home Energy Assistance (LIHEAP)

- SNAP implicitly included in reported food expenditures
## Expenditures, In-Kind Benefits, and Resources

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Threshold Estimation/Reference

- Add in-kind benefits to FCSU at CU level for 2 children, “FCSU+”
  - NSLP
  - WIC
  - LIHEAP
  - Rental subsidies
  - *Note: food stamp benefits implicitly already in food expenditures*

- Apply 3-parameter equivalence scale to convert to 2 adults with 2 children

- Convert all quarterly expenditures to annual $2012

- Rank $FCSU+$ to identify 33rd percentile represented by 30th to 36th percentile range

- Produce means of $FCSU+$ and $SU$ by housing status
Housing Status Thresholds

- **Housing Status Groups, \( j \)**
  - Owners with mortgages
  - Owners without mortgages
  - Renters

- **SPM Threshold, \( j \)**

\[
= (1.2*FCSU^+_A) - SU_A + SU_j
\]

\( FCSU^+_A, SU_A, SU_j \) are means within 30\(^{th}\) to 36\(^{th}\) percentile range of \( FCSU^+_A \) for reference CUs.
Imputation Approaches

- **CE Based**
  - Program eligibility + published stats on program participation
  - HUD Fair Market Rents (FMR)

- **CPS Probability**
  - ASEC public use data to impute probability of program participation
  - HUD Fair Market Rents (FMR)

- **CPS Binary**
  - ASEC public use data to impute 0, 1 program participation
  - HUD Fair Market Rents (FMR)

- **CPS Binary + CE imputed rents**
  - ASEC public use data to impute 0, 1 program participation
  - Imputed rents using internal CE data: 2-stage rent model

- Regression-based program participation, except CE based
- Benefit values assigned to participants based on administrative data excluding CE-based imputed rents
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Imputations: Survey Data

- U.S. Consumer Expenditure Survey Interview
  - Consumer unit (CU) level data
  - CU and member characteristics
  - Quarterly data collected 2008Q2 – 2013Q1
  - Rents for unsubsidized, non-rent controlled units + rental unit characteristics

  - Household level data
  - Household and member characteristics
  - Same years as in CE: collected 2009-2013 refers to 2008-2012
  - NSLP, WIC, and LIHEAP reported program participation
Imputations: Benefits Data

- **NSLP: U.S. Department of Agriculture for 2008-2012**
  - Average per school lunch payment rates
    - Over 48 contiguous states
    - Rates for schools in which less than 60% of lunches served were free or reduced priced
  - Different values
    - Free
    - Reduced
    - Student paid full price for lunch (but also subsidized by USDA)

- **WIC: U.S. Department of Agriculture for 2008-2012**
  - Average national monthly values per person

- **LIHEAP: U.S. Department of Health and Human Services for 2009**
  - Average annual benefit levels per household per state adjusted by CPI
  - Benefits
    - Heating
    - Cooling (not all states offer this benefit)

- **Subsidized rents (including utilities): U.S. Department of Housing and Urban Development 2008-2012 Fair Market Rents (FMRs)**
  - Matched to CE by Census tract and number of bedrooms
## CE-Imputed In-Kind Benefits Compared to Other Data: Aggregates

<table>
<thead>
<tr>
<th>Data Source</th>
<th>NSLP</th>
<th>WIC</th>
<th>LI HEAP</th>
<th>Rent Subsidies</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE data to support 2012 SPM Thresholds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE Based</td>
<td>8.0</td>
<td>3.6</td>
<td>1.4</td>
<td>35.1</td>
</tr>
<tr>
<td>CPS Probabilities</td>
<td>10.2</td>
<td>7.1</td>
<td>1.0</td>
<td>35.1</td>
</tr>
<tr>
<td>CPS Binary+FMR</td>
<td>10.2</td>
<td>3.4</td>
<td>1.0</td>
<td>35.1</td>
</tr>
<tr>
<td>CPS Binary+CE Imputed Rent</td>
<td>10.2</td>
<td>3.4</td>
<td>1.0</td>
<td>47.0</td>
</tr>
<tr>
<td>CPS 2012</td>
<td>10.7</td>
<td>3.1</td>
<td>1.6</td>
<td>40.4</td>
</tr>
<tr>
<td>USDA FY2012</td>
<td></td>
<td>4.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USDA FY2013</td>
<td>10.8</td>
<td>4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USDA 9 months 2012</td>
<td></td>
<td></td>
<td></td>
<td>$43.3</td>
</tr>
<tr>
<td>HUD+USDA 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HHS 2010 in 2012$</td>
<td></td>
<td></td>
<td></td>
<td>$2.9</td>
</tr>
<tr>
<td>Heating</td>
<td></td>
<td></td>
<td></td>
<td>$0.3</td>
</tr>
<tr>
<td>Cooling</td>
<td></td>
<td></td>
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<td></td>
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### CE-Imputed In-Kind Benefits Compared to Other Data: CU/HH Participation

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<tr>
<td>CE data to support 2012 SPM Thresholds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE Based</td>
<td>14.3%</td>
<td>6.4%</td>
<td>20.4%</td>
<td>4.2%</td>
</tr>
<tr>
<td>CPS Probabilities</td>
<td>27.6%</td>
<td>44.6%</td>
<td>79.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td>CPS Binary+FMR</td>
<td>19.0%</td>
<td>2.8%</td>
<td>2.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td>CPS Binary+CE Imputed Rent</td>
<td>19.0%</td>
<td>2.8%</td>
<td>2.2%</td>
<td>4.5%</td>
</tr>
<tr>
<td>CPS 2012</td>
<td>17.5%</td>
<td>2.8%</td>
<td>3.3%</td>
<td>4.0%</td>
</tr>
<tr>
<td>HHS 2010 in 2012$</td>
<td></td>
<td></td>
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<tr>
<td>Heating</td>
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<td></td>
<td>6.3%</td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td></td>
<td></td>
<td>0.8%</td>
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### CE-Imputed In-Kind Benefits Compared to Other Data:
Annual Average Benefit per CU/HH

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<tr>
<td>CE Based</td>
<td>$460</td>
<td>$465</td>
<td>$54</td>
<td>$6,926</td>
</tr>
<tr>
<td>CPS Probabilities</td>
<td>$303</td>
<td>$130</td>
<td>$10</td>
<td>$6,926</td>
</tr>
<tr>
<td>CPS Binary+FMR</td>
<td>$441</td>
<td>$1006</td>
<td>$367</td>
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<td>$441</td>
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<td>$8,591</td>
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<tr>
<td>CPS 2012</td>
<td>$478</td>
<td>$861</td>
<td>$383</td>
<td>$7,875</td>
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<td></td>
<td></td>
<td>$391</td>
<td></td>
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<tr>
<td>Cooling</td>
<td></td>
<td></td>
<td>$293</td>
<td></td>
</tr>
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</table>
2012 SPM Thresholds with and without In-Kind Imputed Benefits: 2A+2C

Owners with mortgages

- SNAP Only: $25,784
- CE Based: $26,810
- CPS Probit: $26,765
- CPS Binary + FMR: $26,795

Owners without mortgages

- SNAP Only: $21,400
- CE Based: $21,881
- CPS Probit: $21,852
- CPS Binary + FMR: $21,934
- CPS Binary + Two Stage Rent Imputation: $21,949

Renters

- SNAP Only: $26,289
- CE Based: $26,482
- CPS Probit: $26,402
- CPS Binary + FMR: $26,442
- CPS Binary + Two Stage Rent Imputation: $26,795
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<td>Voucher paper or EBT for commodities to CU (&amp; cash value voucher for fruits and veggies to CU)</td>
<td>&lt; full value yes, as food expenditure for WIC fruits and veggies</td>
<td>OOP+imputed benefit</td>
<td>imputed benefit (w/$cash voucher)</td>
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<tr>
<td>LI HEAP</td>
<td>Direct payment to vendor (&amp; check to CU to pay for “utilities” included in rent)</td>
<td>&lt; full value Yes, as expenditures for LI HEAP utilities</td>
<td>OOP+imputed benefit</td>
<td>imputed benefit (w/$check)</td>
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Recommendations

1. Include in-kind benefits values in SPM thresholds
   - Consistency in threshold and resource definitions
   - Improved SPM thresholds that reflect values of commodities and services “purchased by/made available to” consumer units with SPM resources

2. Use simplest method to reflect participation and valuations, but which?
   - Administrative totals?
   - CPS ASEC aggregates, participation, averages?

3. Continue research on in-kind benefit programs and data availability
   - WIC and LIHEAP cash value components
   - CE imputed rents vs. FMRs
   - Explore possibility of 2 renter thresholds (with and without subsidies)
Contact Information

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garner.thesia@bls.gov
Extra Slide
2012 Thresholds Based on Full Estimation Sample vs. Restricted by Benefit Non-participation: 2A+2C

- **SNAP Only**
- **CPS Binary + FMR**
- **CPS Binary + Two Stage Rent Imputation**
- **Sample restricted: Drops all CUs with Free/Reduced Lunch, WIC, LIHEAP, and Rent Subsidies**

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