

Supplemental Poverty Measurement Thresholds: Research at the BLS

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Experimental Poverty Measures

Since 1995, the Bureau of Labor Statistics (BLS) has been conducting research on the development of new expenditure-based poverty thresholds. This research has been conducted within the Division of Price and Index Number Research at the BLS as part of a joint BLS-U.S. Census Bureau research project.

The purpose of this web page is to provide access to recently produced expenditure-based poverty thresholds and to papers and presentations related to these. Much of the research represented was conducted by BLS in cooperation with U.S. Census Bureau staff and other academic researchers. The thresholds developed and described in the research papers and conference presentations are not produced using standard BLS production procedures.

Background

The official poverty measure of the United States was first developed in the early 1960s and adopted as "official" in 1969. The official poverty threshold was determined to be the dollar value of a minimum adequate diet times three. The multiplier of three was used because 1955 Food Consumption Survey data showed that food expenditures accounted for one-third of after-tax income for the average family with children. An annual threshold of about \$3,100 for a family with two adults and two children was set as the standard of needs for 1963, and has been fixed in inflation-adjusted terms since then. The U.S. Census Bureau is responsible for publishing official annual poverty thresholds, rates, and other statistics. The [most recent official poverty statistics](#) will be released by the U.S. Census Bureau on September 16, 2014.

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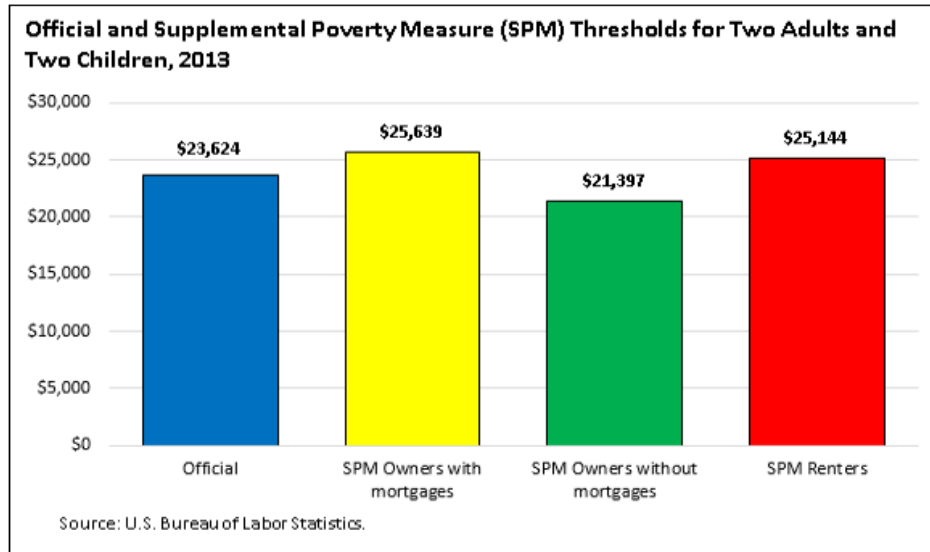
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2013 Supplemental Poverty Measure Thresholds

The U.S. Bureau of Labor Statistics (BLS) released the 2013 Supplemental Poverty Measure (SPM) thresholds on September 16, 2014. The SPM is not intended to replace the official poverty measure, but rather to provide other perspectives for examining poverty, and is expected to be improved over time. A time series of SPM thresholds and details regarding their derivation are available at <http://www.bls.gov/pir/spmhome.htm>.

As seen in the chart below, the 2013 SPM thresholds are \$25,639 for owners with mortgages, \$25,144 for renters, and \$21,397 for owners without mortgages, as compared to the official poverty threshold of \$23,624. SPM thresholds for owners with mortgages are statistically significantly different from those for owners without mortgages at the 0.01 level; the same result holds when thresholds for renters and those for owners without mortgages are compared. SPM thresholds for owners with mortgages and those for renters are not statistically different from one another.

The second chart includes SPM thresholds from the previous year for comparison. Based on statistical tests, the 2013 SPM thresholds are higher than those for 2012 for renters, but lower for owners. These differences are not statistically significant.



ITWG Guidelines to Establish a Supplemental Poverty Measure Threshold (2010)

- Sets annual expenditure amount below which one is considered poor
- Based on Consumer Expenditure Survey Interview (CE) data
- Produced by Bureau of Labor Statistics (BLS)

- Production of the SPM
 - ▶ Basic bundle
 - ▶ Pool 5 years of CE data
 - ▶ CE data with expenditures in threshold year dollars
 - ▶ Estimation *sample* and reference *units*
 - ▶ Point in expenditure distribution
 - ▶ Account for spending needs by housing tenure
 - ▶ Update to reflect real growth in consumption
 - ▶ Adjustments
 - Consumer unit size
 - Differences in cost of living across geographic areas



Which Goods and Services? Food, Clothing, Shelter, Utilities (FCSU)



+ multiplier for other basic goods and services

Consumer Expenditure Survey

Interview

- 5 waves of personal interviews
- 3 month recall
- Mainly large or recurring expenditures
- Globals for food
- 95% of all

Diary

- 2 one-week household paper diaries
- Contemporaneous recall
- Mainly small, frequently purchased items
- All expenditures

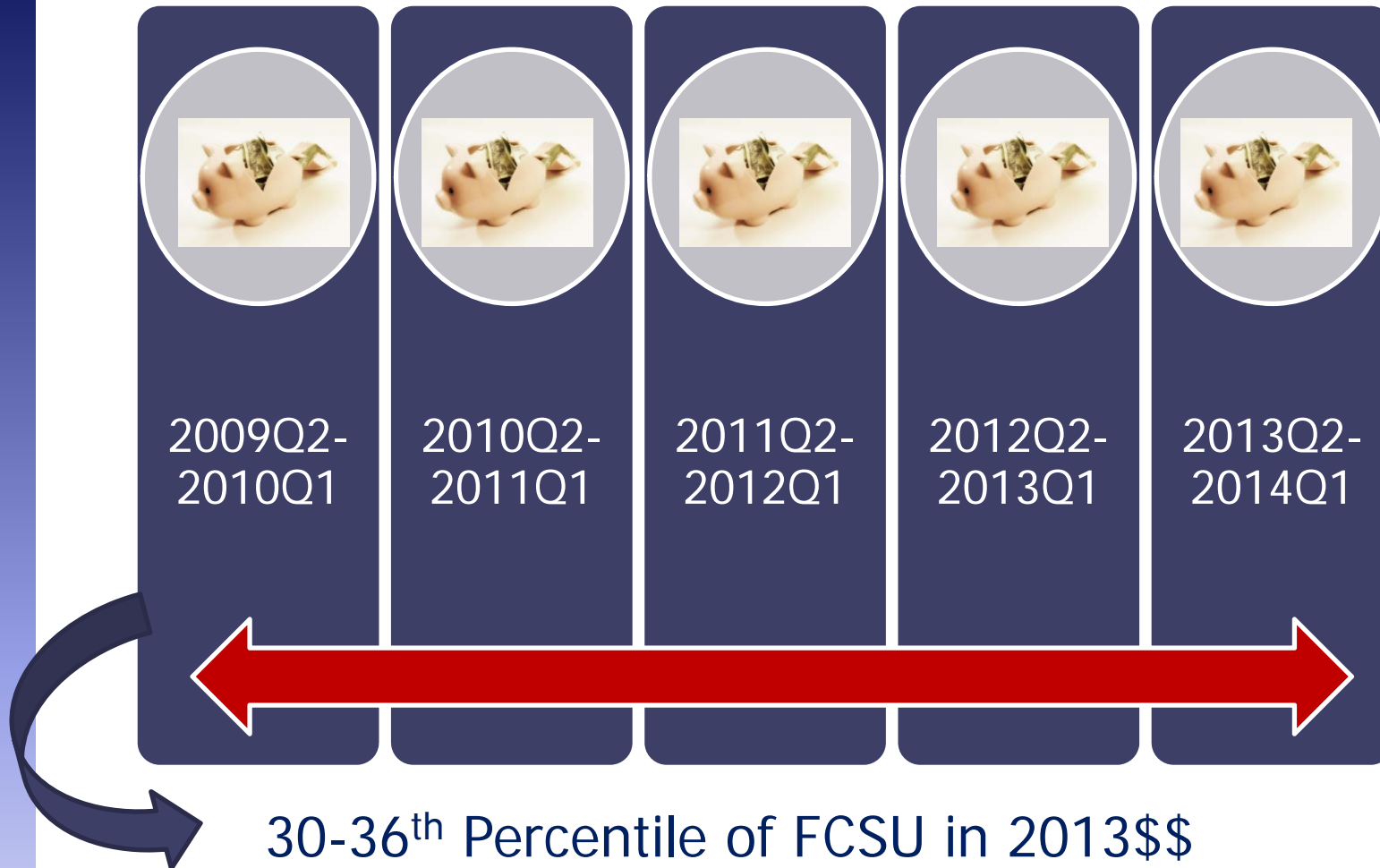
Consumer Expenditure Survey
Published Estimates

CE Data for SPM Thresholds

Interview

- 2-4 waves of personal interviews
- 3 month recall
- Mainly large or recurring expenditures
- Globals for food
- 95% of all

Pooled FCSU Data Converted to 2013 Threshold Year \$\$



SPM Estimation Sample

- Estimation sample: consumer units (CUs) with 2 children



SPM Reference Unit

- Estimation sample: consumer units (CUs) with **2 children**
- Reference unit: CUs with **2 adults and 2 children**



At the CU Level, Expenditures for CUs with 2C converted to CUs 2A+2C



3-parameter equivalence scale

Equivalence Scale Adjustment

- Why make adjustment?
 - ▶ Needs of adults and children
 - ▶ Economies of scale of FCSU within reference units

- 3-Parameter Equivalence Scale
 - ▶ Adults only scale
 $= \text{adults}^{0.5}$

 - ▶ Single parents scale
 $= (\text{adults} + 0.8 * \text{first child} + 0.5 * \text{other children})^{0.7}$

 - ▶ All other CUs scale
 $= (\text{adults} + 0.5 * \text{children})^{0.7}$

Where in FCSU Expenditure Distribution?

- Rank $FCSU_{2+2}$ from lowest to highest and identify 33rd percentile in distribution
- Use 30-36th percentile range to approximate 33rd percentile
- Calculate mean of this range (in 1992, 78% to 83% of median as determined by NAS Panel)
- Threshold = SPM = $(1.2 * FCSU_{33per.})$?
 - No, need additional adjustment

Housing Tenure Adjustment

- Since NAS Panel report was issued in 1995, it has become clear that a significant number of low-income families own a home without a mortgage and therefore have quite low shelter expense requirements (see ITWG document, March 2010)
- Not taking this into account may overstate their poverty rates
- Suggests the need to adjust SPM thresholds for housing status, distinguishing renters, owners with a mortgage, and owners without a mortgage
- There would be **THREE** thresholds, NOT a single threshold for all

Operational Definition: Shelter and Utilities

- Shelter for primary residence
 - ▶ For renters
 - Rents
 - Maintenance and repairs
 - Tenants insurance
 - ▶ For owners without mortgages
 - Property taxes
 - Home insurance
 - Maintenance and repairs
 - ▶ For owners with mortgages
 - Same as for owners without mortgages plus
 - Mortgage interest
 - Principal repayments
- Utilities for primary residence
 - ▶ Energy: natural gas, electricity, fuel oil, and other fuels
 - ▶ Telephone
 - ▶ Water and other public services

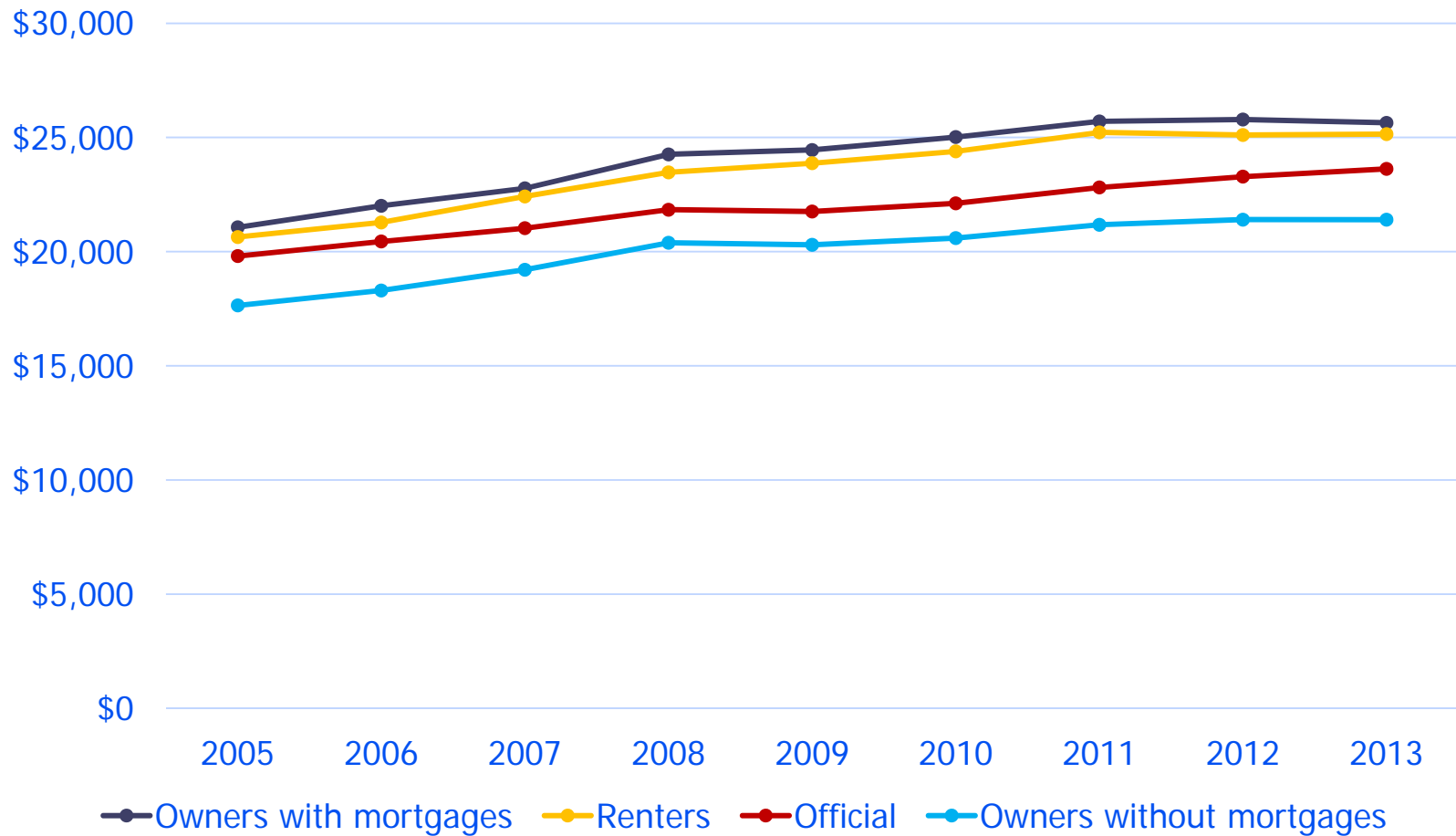
SPM Thresholds Based on FCSU for 2A+2C with Housing Adjustment

- SPM thresholds, with **multiplier**, by housing tenure h

$$= (1.2 * FCSU_{\text{"33 per."}}) - (S + U)_{FCSU \text{ "33 per."}} + (S + U)_{FCSU \text{ "33 per." for housing } h}$$

- Housing tenure h
 - ▶ Owners with mortgages
 - ▶ Renters
 - ▶ Owners without mortgages

SPM Thresholds by Housing Tenure and Official Poverty Thresholds: 2005-2013



Steps in Production of SPM

2A+2C Threshold

- FCSU for CUs with 2 children
- Equivalence scales
- *FCSU for CUs with 2 adults + 2 children*
- "33rd percentile"
- FCSU thresholds-housing tenure

- Geographic adjustment
- Equivalence scale adjustment for other CU compositions
- Compare to SPM resources
- Poverty rates

Ongoing Research: Thresholds

- Non-cash transfers in the SPM thresholds
- Accounting for medical care in thresholds

- Spending versus consumption
- Housing tenure adjustments
- Geographic adjustments to thresholds

Other Happenings of Note

- President's Budget to fund production of SPM thresholds at BLS
- Proposed CE Redesign

2015 President's Budget for the Bureau of Labor Statistics

- Supports a Supplemental Statistical Poverty Measure (\$2.5 million)
- Will enable BLS to support Census Bureau in development of supplemental statistical poverty measure
- CE Survey will
 - ▶ Develop and add questions to Interview Survey
 - ▶ Move up delivery date of CE-based SPM thresholds to early August to support Census September release data of income and poverty report
- 2015 President's Budget for the BLS
<http://www.dol.gov/budget/>



Proposed CE Redesign: Gemini Project

- To improve data quality through a verifiable reduction in measurement error
- Redesign proposal approved by BLS management: July 2013 after period of user outreach
- Much testing, e.g.,
 - ▶ Web Diary Feasibility test, May 2014
 - ▶ Individual diaries, including a web and smart phone versions
 - ▶ Proof of Concept test
- Gemini page (<http://www.bls.gov/cex/geminiproject.htm>)

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