

# Moving to a Supplemental Poverty Measure (SPM): Research on Thresholds for 2008

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**Thesia I. Garner**

Senior Research Economist

Division of Price and Index Number Research

Office of Prices and Living Conditions

Southern Economics Association Annual Meeting, Atlanta, GA

November 20, 2010 *(edited December 6, 2010)*



BUREAU OF LABOR STATISTICS  
U.S. DEPARTMENT OF LABOR

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# What this is and what this is not...

- Ongoing research on SPM poverty thresholds and related statistics conducted in the Division of Price and Index Number Research, Bureau of Labor Statistics (BLS)
- Views expressed in this presentation, including those related to statistical, methodological, technical, or operational issues are mine alone and do not reflect the official policy or policies of the BLS or other agencies
- None of what you will see represents production-level thresholds or production-level statistics
- Standard errors have not been produced for the means, distributions, or thresholds; thus, results are presented relative to other results rather than in statistical terms

**This is RESEARCH**

# Outline

- Introduce the Supplemental Poverty Measure (**SPM**) as outlined in the Interagency Technical Working Group (ITWG) document released in March 2010
- Review National Academy of Sciences Panel (**NAS**) recommendations for a new poverty measure (Citro and Michael, 1995)
- **Research SPM** thresholds
  - ▶ Subsidies
  - ▶ Housing needs
- Underlying goal: To bridge our knowledge of the SPM as related to the NAS poverty measure with regard to thresholds

# Measuring Poverty in the U.S.

## ■ Current Official Poverty Measure

- ▶ First adopted in 1965
- ▶ Now under Office of Management and Budget (OMB) Statistical Policy Directive No. 14.
- ▶ Poverty thresholds updated each year by change in Consumer Price Index (CPI)
- ▶ Compares before-tax money income to thresholds
- ▶ Uses Current Population Survey (CPS ASEC)

## ■ Does not account for

- ▶ Provision of near-money benefits
- ▶ Necessary expenses (taxes, health care, work)
- ▶ Higher standards and levels of living since 1965
- ▶ Geographic price differences among regions

# Supplemental Poverty Measure (SPM)

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- Observations from the Interagency Technical Working Group (ITWG) - March 2, 2010
- Will not replace the official poverty measure
- Will not be used for resource allocation or program eligibility
- Census Bureau and BLS responsible for improving and updating the measure
  - ▶ Consumer Expenditure Survey
  - ▶ Current Population Survey
- President's 2011 Budget provides funding to develop a new SPM
- September 2011 Report with detailed estimates
- Based on NAS panel on measuring poverty 1995 recommendations

# Differences in NAS and SPM Thresholds-1

	<b>NAS</b>	<b>SPM</b>
<b>Purpose</b>	Replace official	Supplement official
<b>Reference sample</b>	Families with 2 adults and 2 children	All "families" with 2 children (specifically including co-habitators, foster children, etc.)
<b>FCSU value units</b>	No equivalence scale needed	3-parameter equivalence scale
<b>Data time period</b>	Most recent 3 years of CE data	Most recent 5 years of CE data
<b>In-kind benefits</b>	Food stamps implicitly included in food expenditures	Include in-kind benefits for consistency with resources
<b>Point in FCSU (including in-kind) distribution</b>	78% to 83% of median FCSU	Range around 33 <sup>rd</sup> percentile of FCSU <sub>aeq</sub>

# Differences in NAS and SPM Thresholds-2

	<b>NAS</b>	<b>SPM</b>
<b>Shelter</b>	Mortgage principal payments excluded implicitly	Mortgage principal payments included explicitly
<b>Housing needs</b>	Assumed to be accounted for in shelter+utilities for all	Accounted for in separate thresholds for owners with mortgages, owners without mortgages, and renters accounted
<b>Other Needs</b>	Range of multipliers: 1.15 to 1.25	Multiplier is 1.2
<b>Other Family Thresholds</b>	2-parameter equivalence scale	3-parameter equivalence scale
<b>Geographic a Adjustment of Thresholds</b>	Index based HUD Fair Market Rents & applied to housing portion of thresholds	Index based on American Community Survey & applied to housing portion of thresholds

# Conceptual and Data Issues

## ■ Data Issues

### ▶ Subsidies

- Food stamps in CE
- Impute values –reflected in resources

### ▶ Mortgage Principal Payments in Shelter

- Excluded based on CE-publication definition
- Included based on outflows definition of spending needs

### ▶ Number of Years of CE Data

- 3 most recent
- 5 most recent

### ▶ Distribution of needs based on spending below the median but above those in extreme needs

- 78% to 83% of median
- Around 33rd percentile (30th-36th)

## ■ Conceptual Issues

### ▶ Reference Family

- Two adults with two children
- All units with two children

### ▶ Equivalence Scale

- Two-parameter
- Three-parameter

### ▶ Accounting for housing

- In average
- Separately based on spending needs
  - Owners with mortgages
  - Owners without mortgages
  - Renters



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# FCSU in SPM Thresholds

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- Spending by reference samples for:
  - ▶ Food
  - ▶ Clothing
  - ▶ Shelter
  - ▶ Utilities
- Proxies for goods and services counted in resources (i.e., federal in-kind benefits)
- Spending + proxy values = FCSU

# Basic SPM Equation

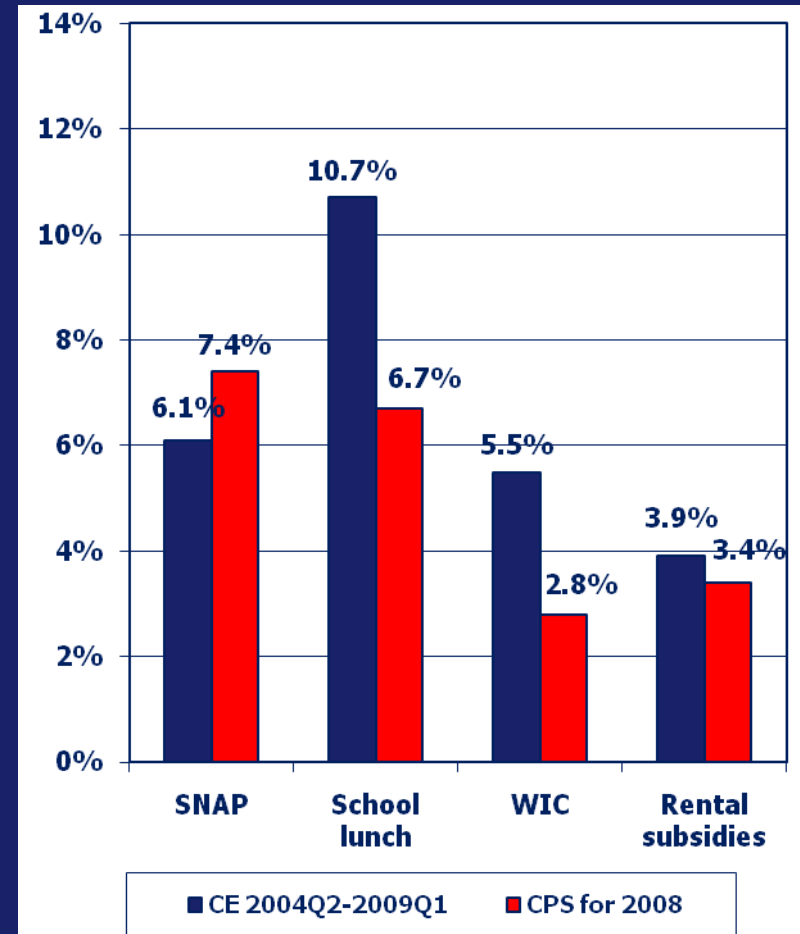
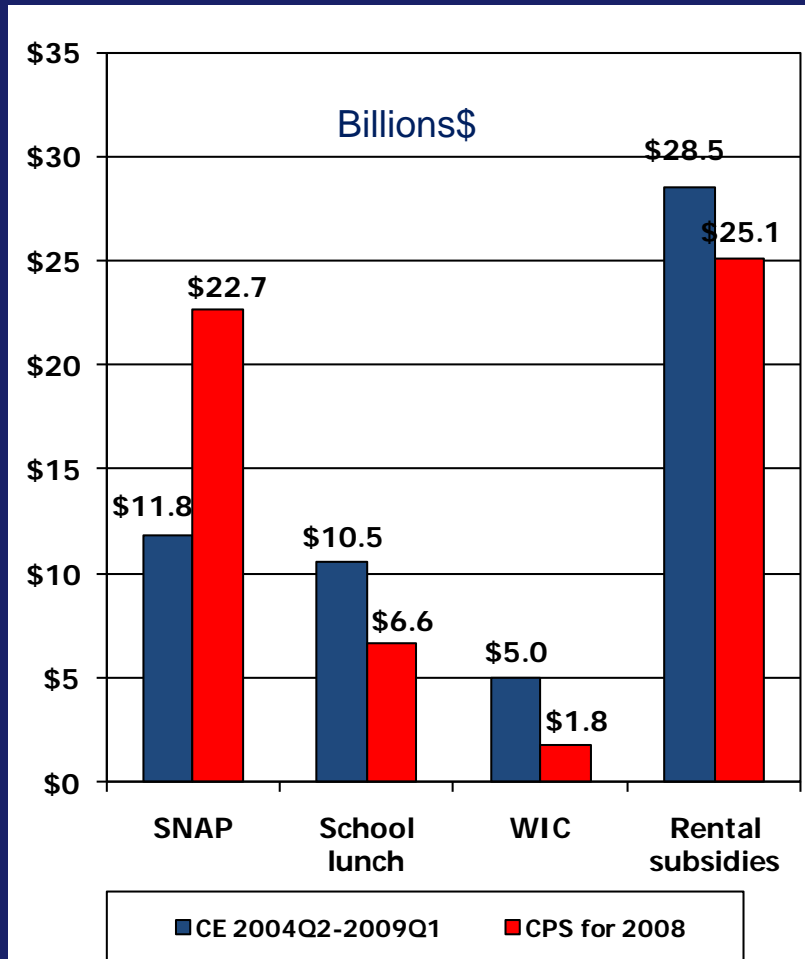
- Rank  $FCSU_{aeq}$  from lowest to highest, using person-created weights
- Restrict estimation sample to values within the 30<sup>th</sup> to 36<sup>th</sup> percentiles to approximate 33<sup>rd</sup> percentile

$$= (FCSU_{aeq})_{33^{rd}} * 1.2 * 3^{0.7}$$

# Subsidies

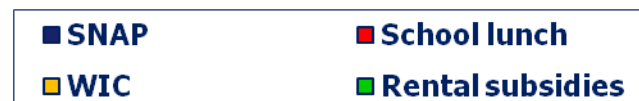
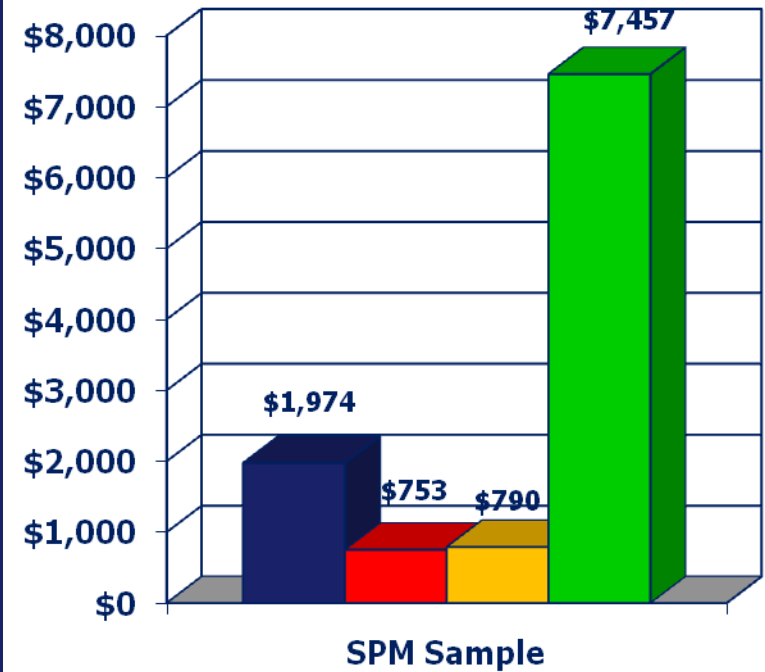
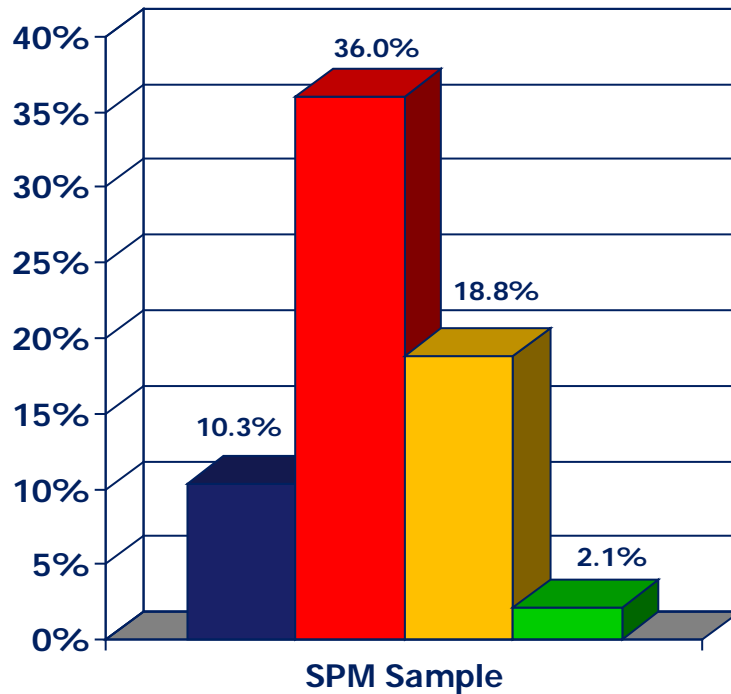
- **Food Stamps/SNAP**
  - ▶ Use CE reported values
  - ▶ Collected in 2<sup>nd</sup> and 5<sup>th</sup> interviews and carried over
- **School Lunch (free and reduced price)**
  - ▶ Receipt imputed using USDA eligibility guidelines
  - ▶ USDA reported averages
- **Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)**
  - ▶ Receipt imputed using USDA eligibility guidelines
  - ▶ USDA reported averages
- **Rental Subsidies**
  - ▶ Use CE reported rental assistance or living in public housing
  - ▶ Use CE reported rent paid
  - ▶ Impute subsidy value using HUD Fair Market Rents by tract and number of bedrooms

# Subsidies: "Participation" and Average Levels

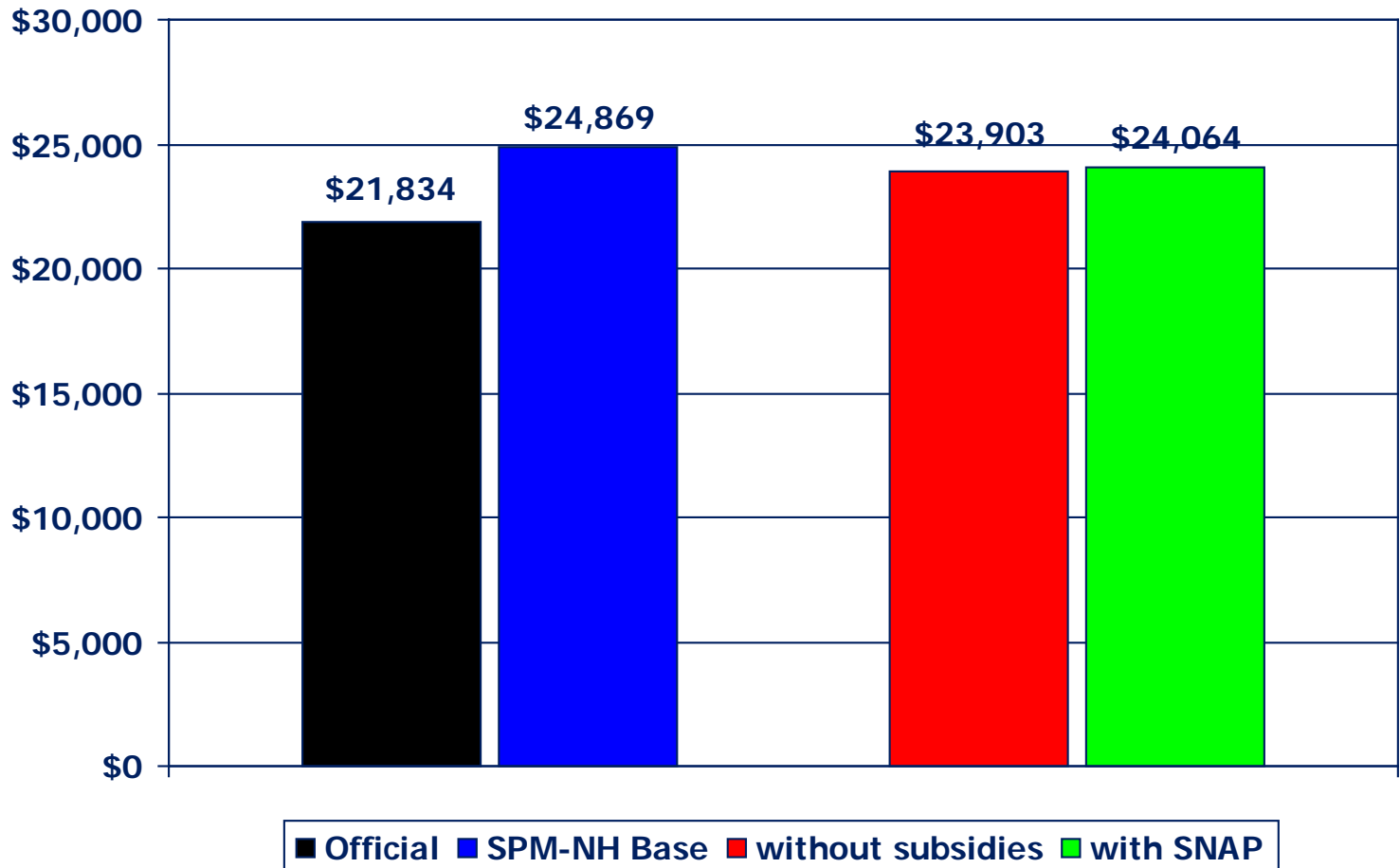


CPS results for all but rental subsidies from Short, AAPAM, 2010. Rental subsidies from Renwick, forthcoming, 2010.

# Subsidies: "Participation" and Average Levels



# Subsidies: 2008 Thresholds 2A+2C

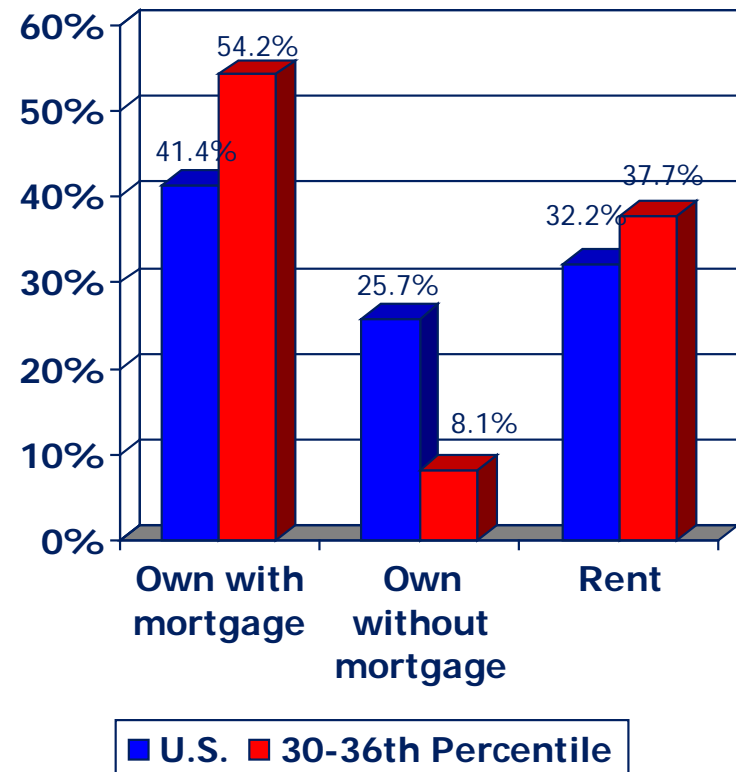


CU with 2 children, 5 years of data, 30-36<sup>th</sup> percentile range of FCSU

# Accounting for Housing

- Owners without mortgages have lower shelter expense needs; not to account for this may overstate their poverty
- NAS Panel appears to have assumed that few of these would be in the lower end of the income distribution
- Over time, research revealed that “significant number” of low-income families own their homes without a mortgage
- Recommendation: produce separate thresholds

CE Weighted Sample:  
2004Q2-2009Q1





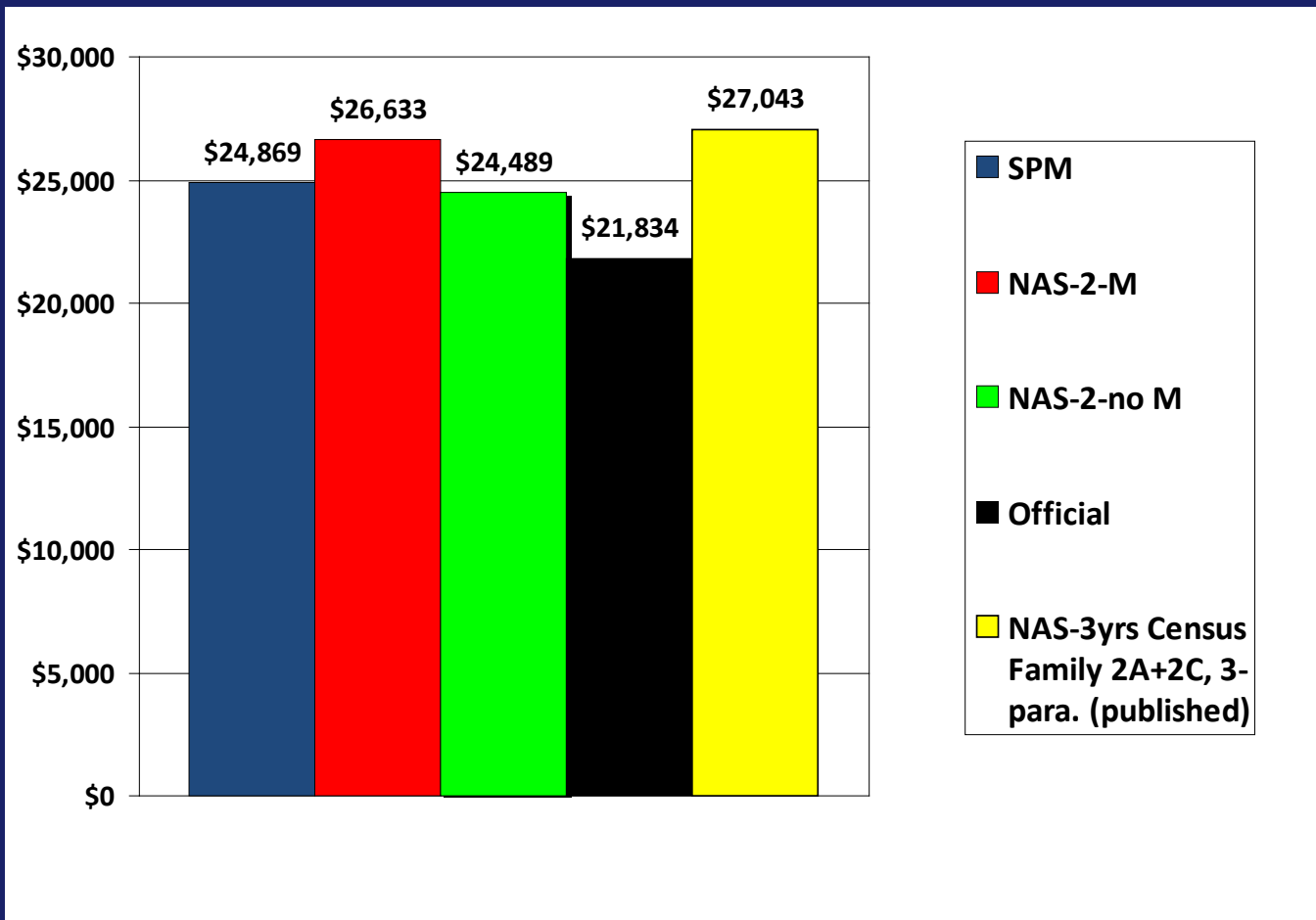
# ITWGW Accounting for Housing Needs in the SPM

- Within the 30<sup>th</sup> to 36<sup>th</sup> percentile of FCSU adult equivalent spending, weighted by persons
- One approach to start
- Threshold equations:

$$SPM_i = (FCSU_{aeq_{all}} - (S + U)_{aeq_{all}} + (S + U)_{aeq_i}) * 1.2 * 3^{0.7}$$

- *i* housing groups:
  - Owners with mortgages
  - Owners without mortgages
  - Renters
- *all* is the full reference sample

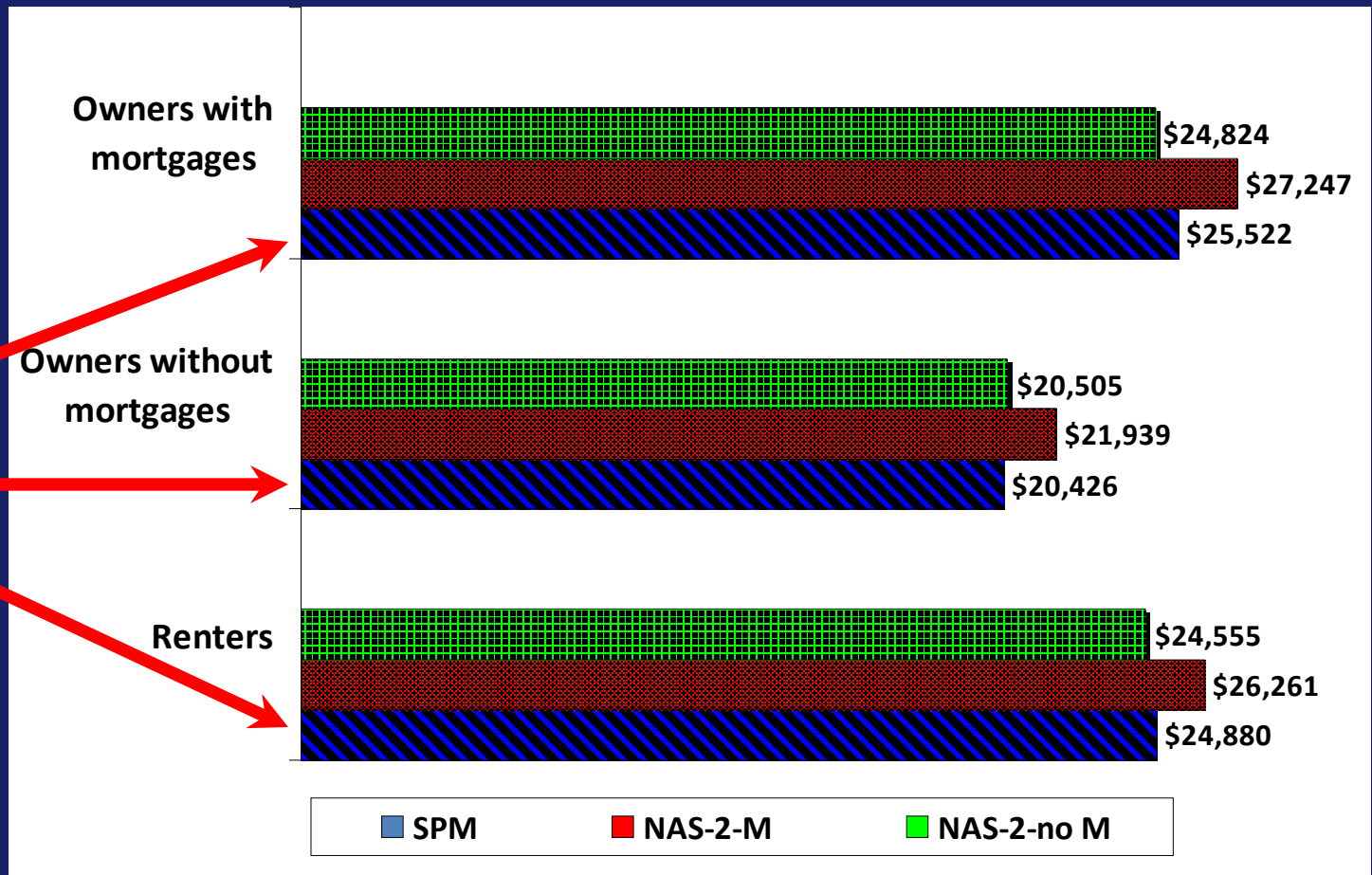
# Housing (*Shelter+Utilities*): 2008 Thresholds 2A+2C



NAS-2:-M 3yrs with mort. prin. and SNAP, (78% to 83%) median, CUs with 2A+2C, 2-para  
NAS-2-no M: 3yrs with mort. prin. and SNAP, (78% to 83%) median, CUs with 2A+2C, 2-para.

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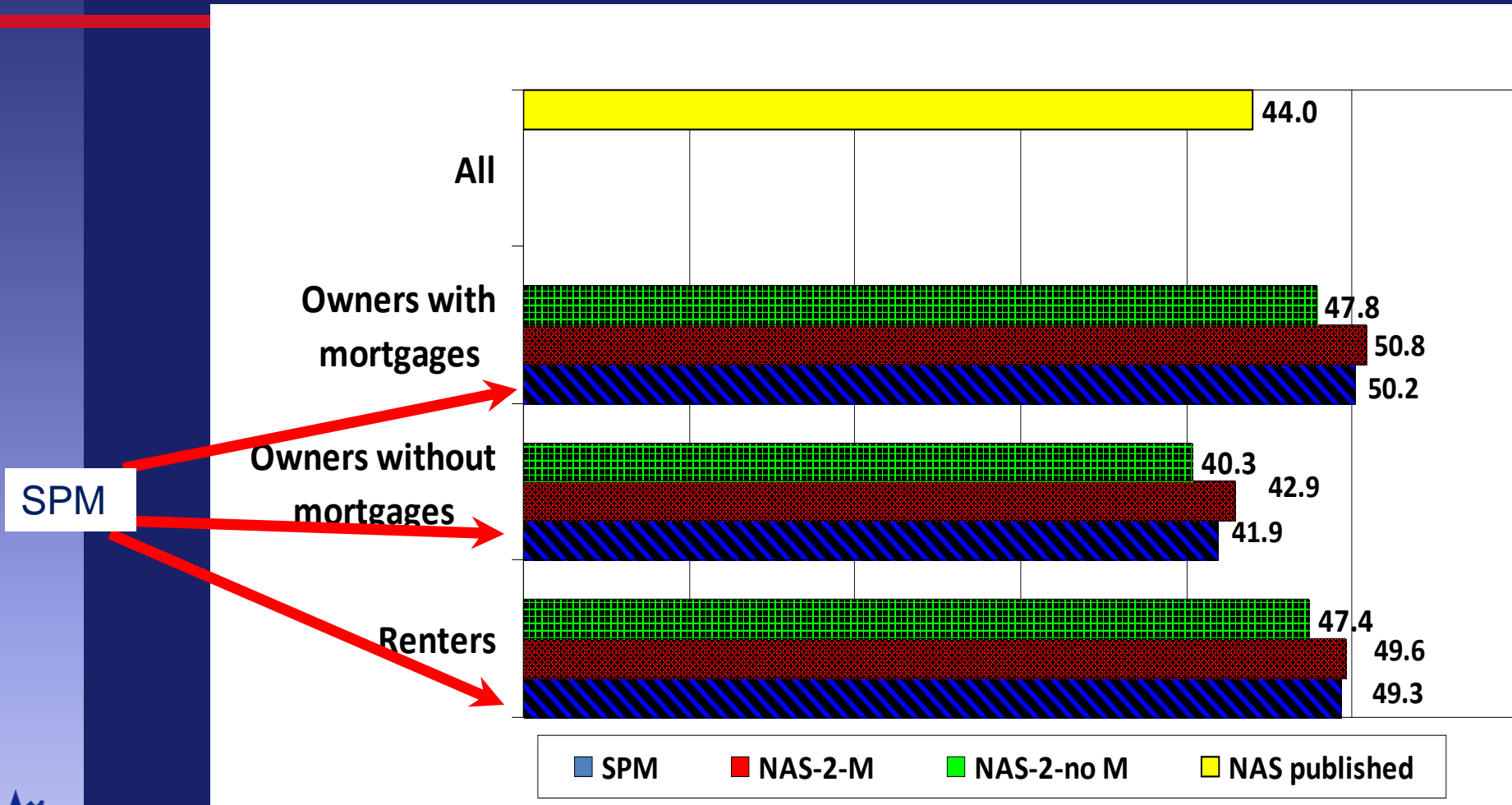
SPM



**NAS-2-M** : 3yrs with mort. prin. and SNAP, (78% to 83%) median, CUs with 2A+2C, 2-para.

**NAS-2-no M** : 3yrs without mort. prin. and SNAP, (78% to 83%) median, CUs with 2A+2C, 2-para.

# Housing % of FCSU: 2008 Thresholds 2A+2C



NAS-2-M : 3yrs with mort. prin. and SNAP, (78% to 83%) median, CUs with 2A+2C, 2-para.

NAS-2-no M : 3yrs without mort. prin. and SNAP, (78% to 83%) median, CUs with 2A+2C, 2-para.

# Summary

## ■ Subsidies

### ▶ Aggregates

- CE collected food stamps/ SNAP benefits under-valued compared to CPS
- CE estimates for school lunches, WIC, and rental subsidies, based on eligibility guidelines, over-estimated compared to CPS

### ▶ Participation rates

- CE rates for food stamps/SNAP under-reported compared to CPS
- CE estimates for school lunches, WIC, and real subsidies over-estimated compared to CPS

### ▶ NOTE: participation for school lunches and WIC reflects eligibility, not take-up

- SPM threshold greater when subsidies included vs. not

# Summary - 2

- Accounting for housing impacts threshold levels
  - ▶ Renters about the same as for all
  - ▶ Owners without mortgages lower
  - ▶ Owners with mortgages higher
- % of thresholds for housing
  - ▶ 49% vs. 44% used by NAS Panel and previous researchers

# Implications and Future

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- Impact of housing shares on
  - ▶ Geographic adjustment of thresholds
  - ▶ Cap on rental subsidy added to resources
- Future
  - ▶ Standard errors of thresholds
  - ▶ Regression-based modeling for subsidies from CPS to CE
  - ▶ Examine additional methods to account for housing

# Contact Information

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## Thesia I. Garner

Division of Price and Index Number Research  
Bureau of Labor Statistics

2 Massachusetts Ave NE, Washington, DC 20212

Phone: (202) 691-6576

*Email:* [Garner.thesia@BLS.gov](mailto:Garner.thesia@BLS.gov)

