

Supplemental Poverty Measure (SPM): Threshold Issues

Thesia I. Garner and Marisa Gudrais

Division of Price and Index Number Research
Office of Prices and Living Conditions

Brookings/Census Bureau Meetings on Improved Poverty
Measurement, Washington, D.C.

November 7, 2011 (revised 11-18-11, May 23, 2012)



www.bls.gov

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 ours 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



This is RESEARCH

Outline

■ Poverty Thresholds

- ▶ Concepts and methods
- ▶ Supplemental Poverty Measure (*SPM*) as outlined in the Interagency Technical Working Group (ITWG) document released in March 2010
- ▶ Results: 2009, 2010, and 2005-2010

■ Compare SPM and NAS Thresholds

- ▶ Time series for 2005 through 2010
- ▶ Explore why SPM and NAS thresholds move differently

■ Issues for Discussion

U.S. Poverty Thresholds

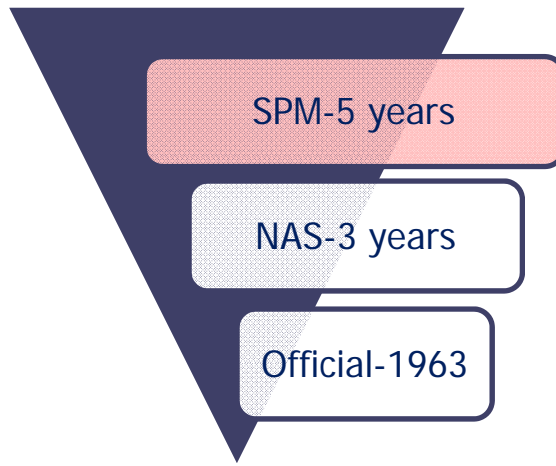
- Annual expenditures amount below which a “family” is considered poor
- Which expenditures?
- For whom?

SPM Thresholds

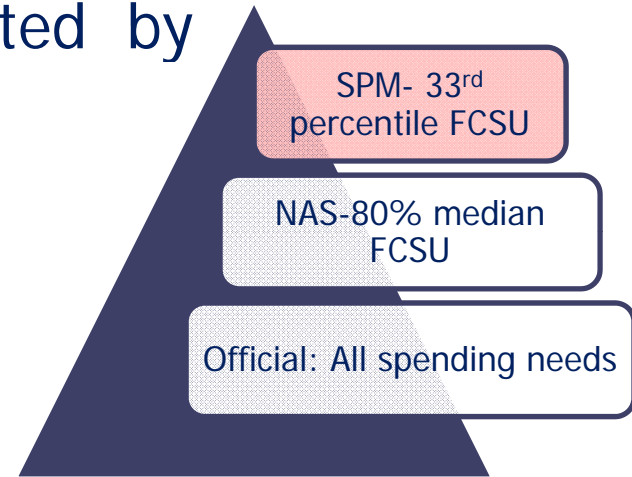
- FCSU = expenditures + *proxy for in-kind benefits*
 - Food (includes value of food stamps or SNAP benefits)
 - Clothing
 - Shelter (including obligated mortgage payments; not home equity loans)
 - Utilities (based on what billed including for telephone)
- Determined based on expenditures among a population that is not poor, but is somewhat below the median: 33rd percentile of FCSU expenditures
- Estimation sample - all consumer units with 2 children
- 5 years of CE data adjusted to threshold-year dollars for stability and move more slowly from year to year
- Account for spending needs by housing status
- Geographic adjustment

Poverty Threshold

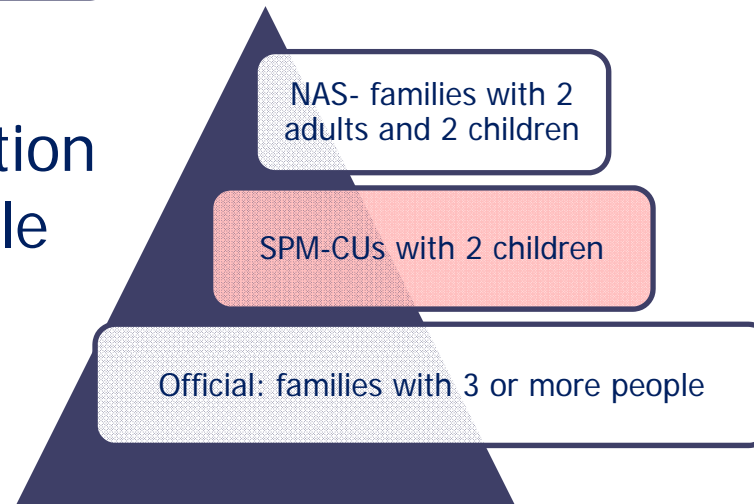
Standards of living



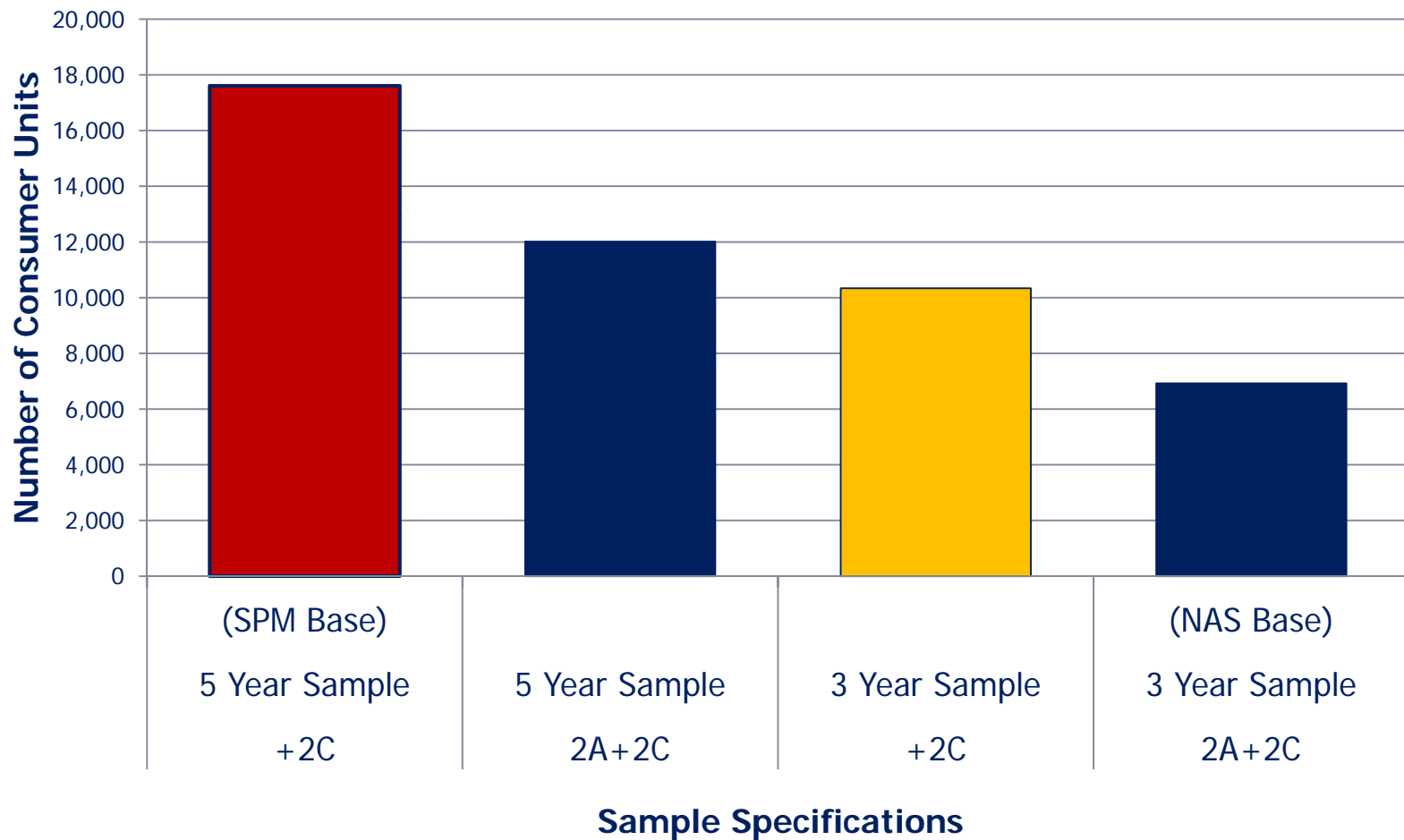
Represented by



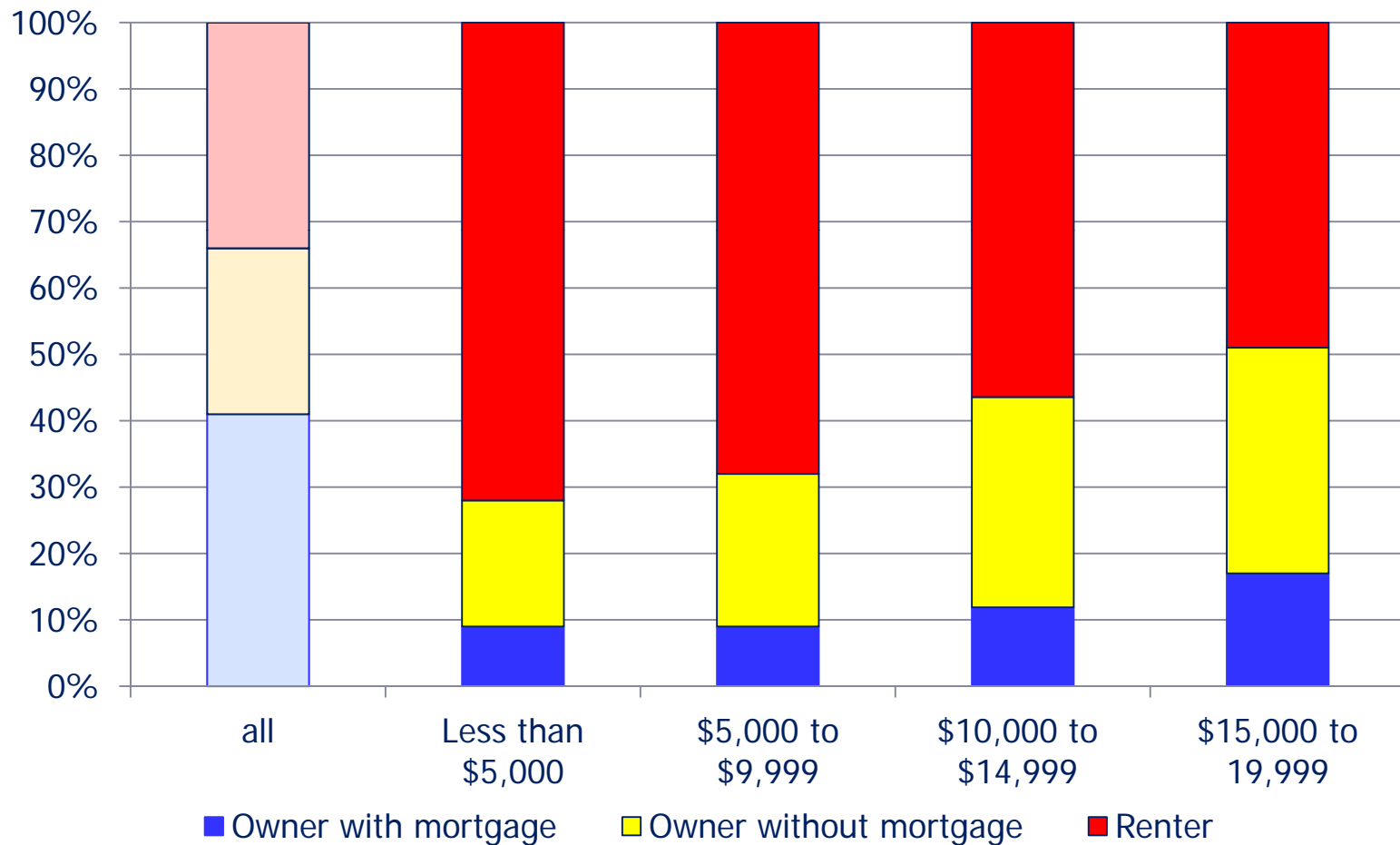
Estimation sample



Threshold Sample Sizes: Pooled Data for 2010



Differing Shelter Needs by CE Before Tax Money Income: 2010

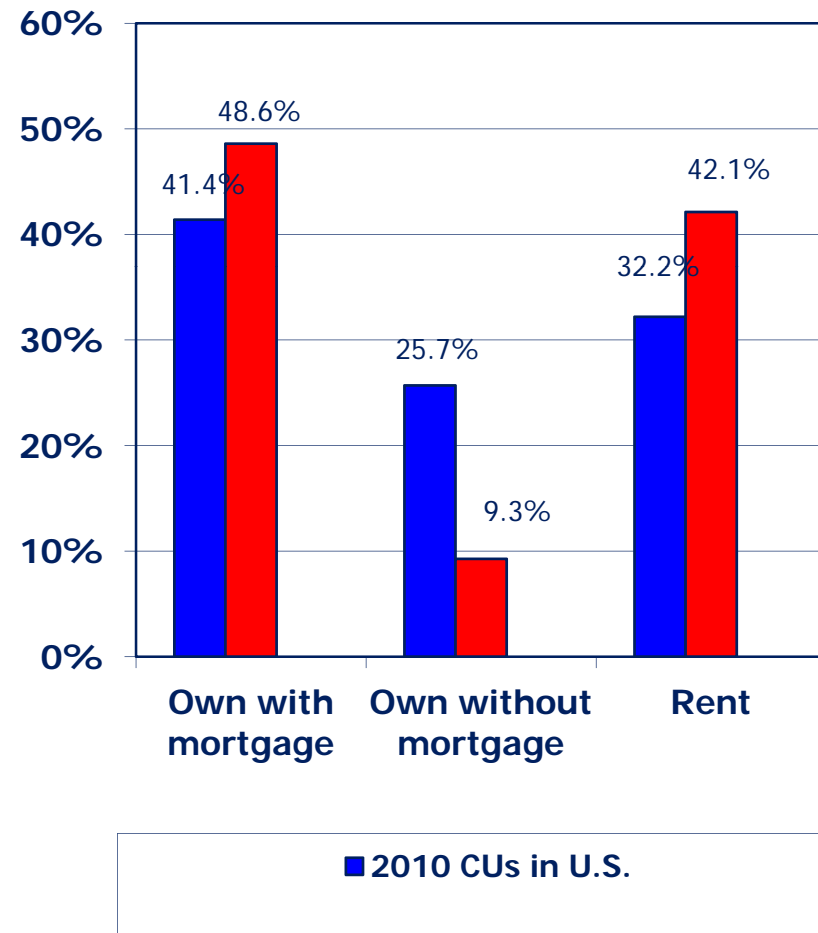


Source: Published CE data for 2010, BLS web page, November 2011

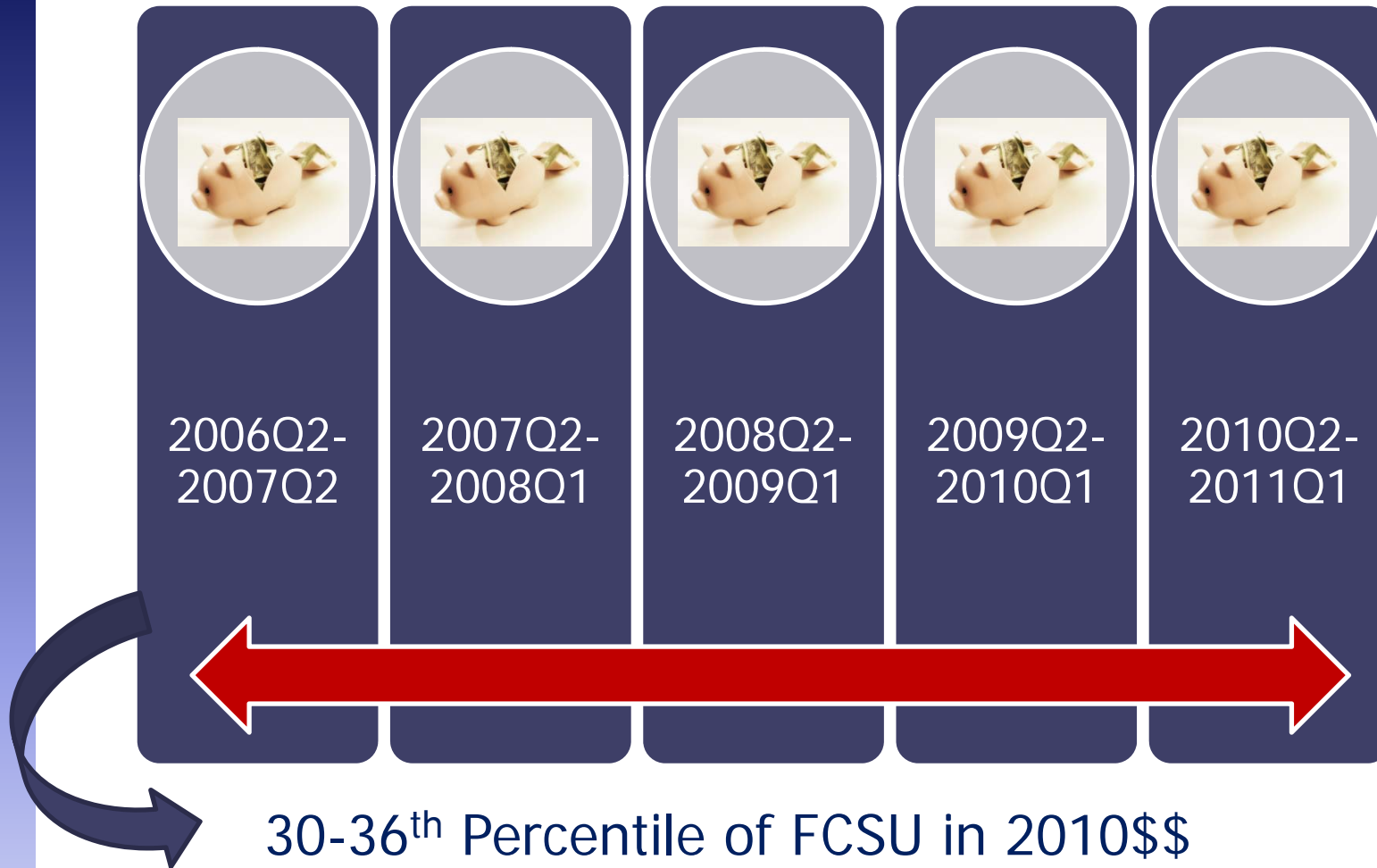


Accounting for Housing in SPM Thresholds:2010

- NAS Panel acknowledged the differing spending but similar consumption needs of owners and renters
- “An alternative [to a consumption-based measure] would be to develop separate thresholds for owners with low or no housing costs and other owners and renters (Citro and Michael 1995, p. 345).
- ITWG guideline
- Results for 2010 published CE and pooled SPM estimation sample using FCSU distribution



Pooled Data Converted to 2010 Threshold Year \$\$



Pooled Data Converted to 2010 Threshold Year \$\$: Moving from 2009 to 2010



Pooled 30-36th Percentile Samples: 2009 vs. 2010

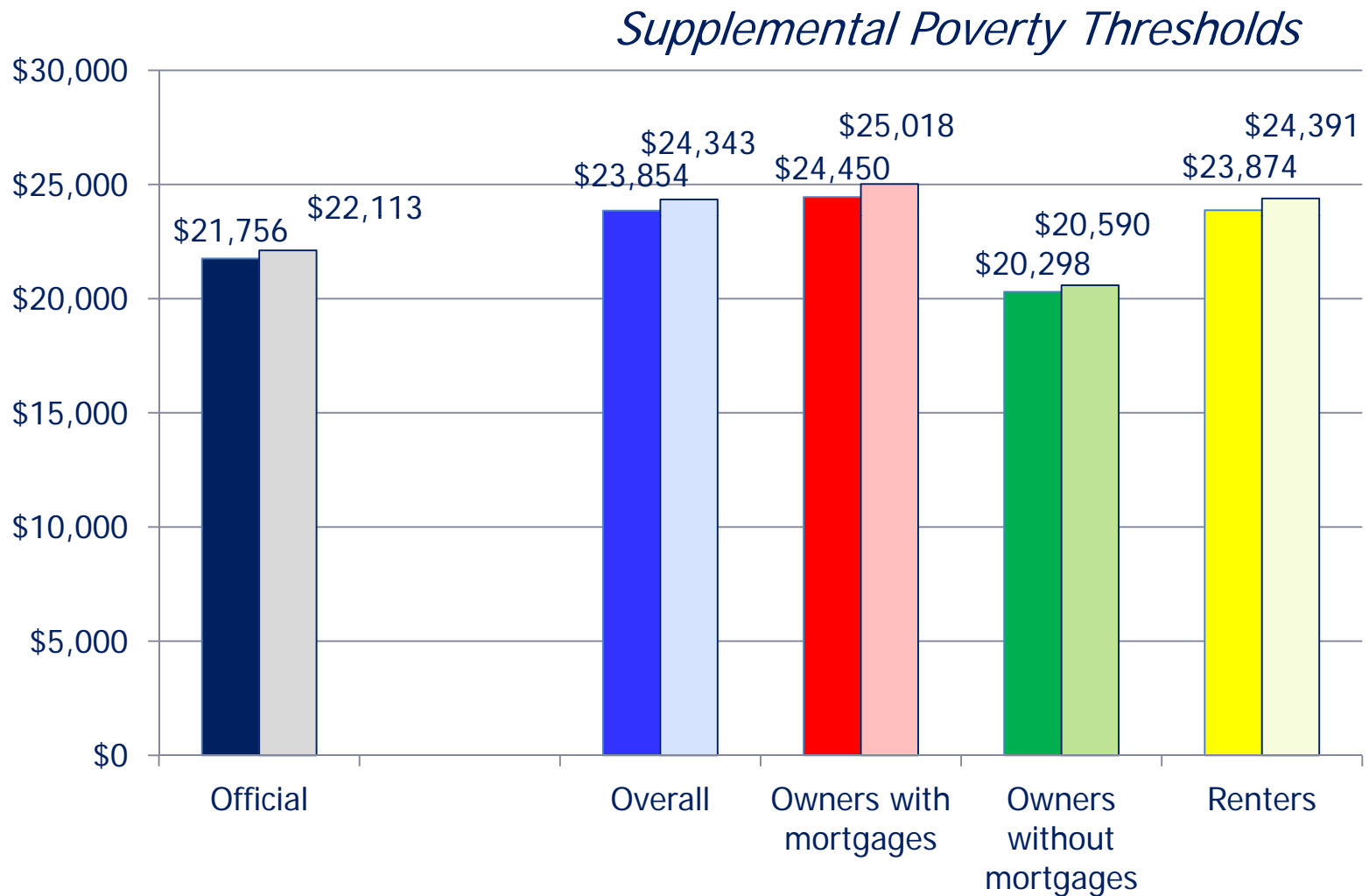
■ 2009 (2005Q2-2010Q1)

- ▶ More CUs from 2005-2006 than later years
- ▶ While FCSU real expenditures constant, real before tax money income decreased

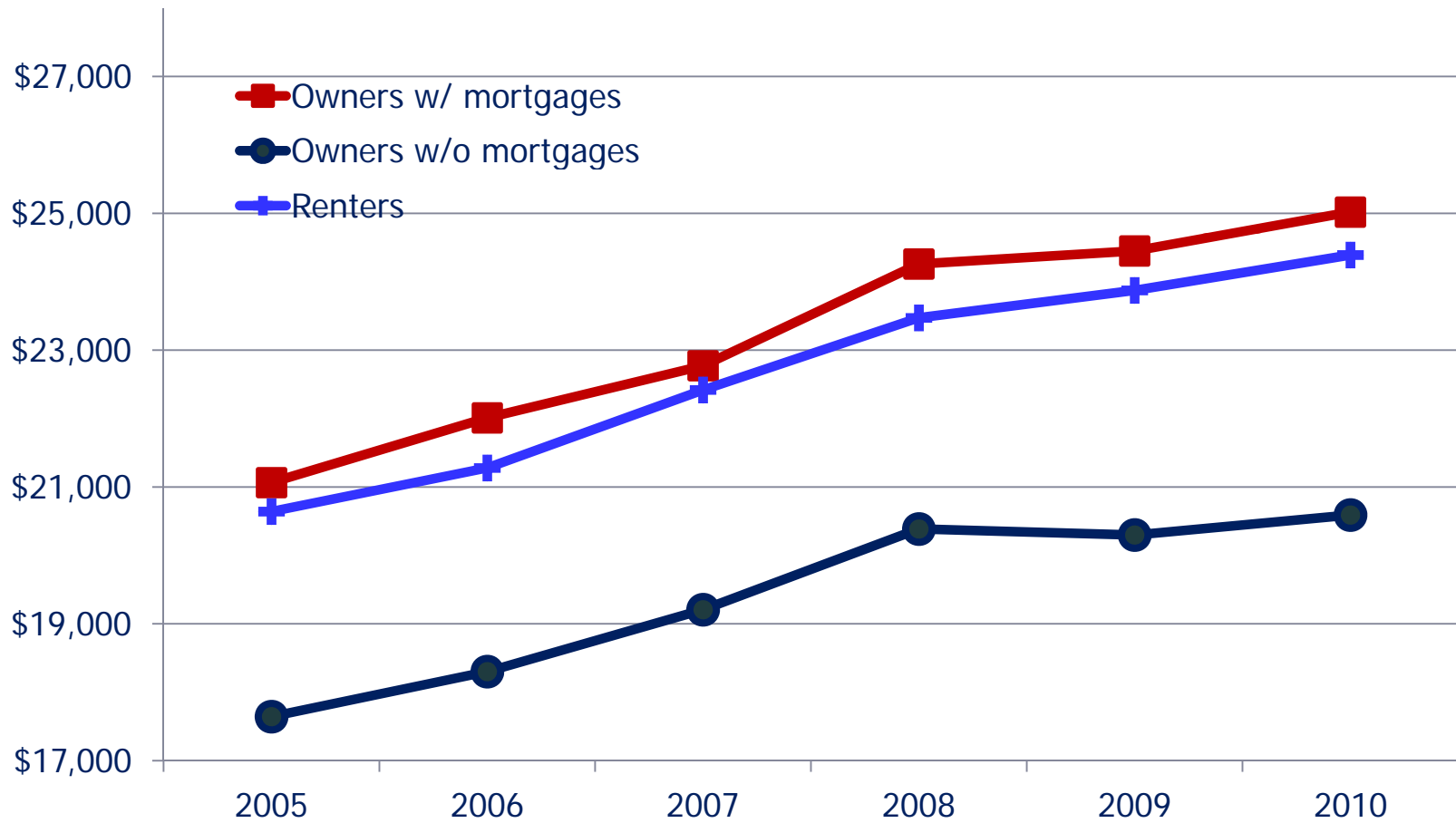
■ 2010 (2006Q2-2011Q1)

- ▶ More CUs from 2006-2007, 2009 than other years
- ▶ While FCSU real expenditures constant, real before tax money income lowest in 2008 and 2009; almost back to 2006 level by 2010

2 Adults+2 Children SPM Thresholds: 2009 and 2010



2 Adults + 2 Children SPM Tenure Group Thresholds Over Time



Threshold Years
(using 5 years of pooled data for each)

Within Year Statistical Differences: SPM Thresholds

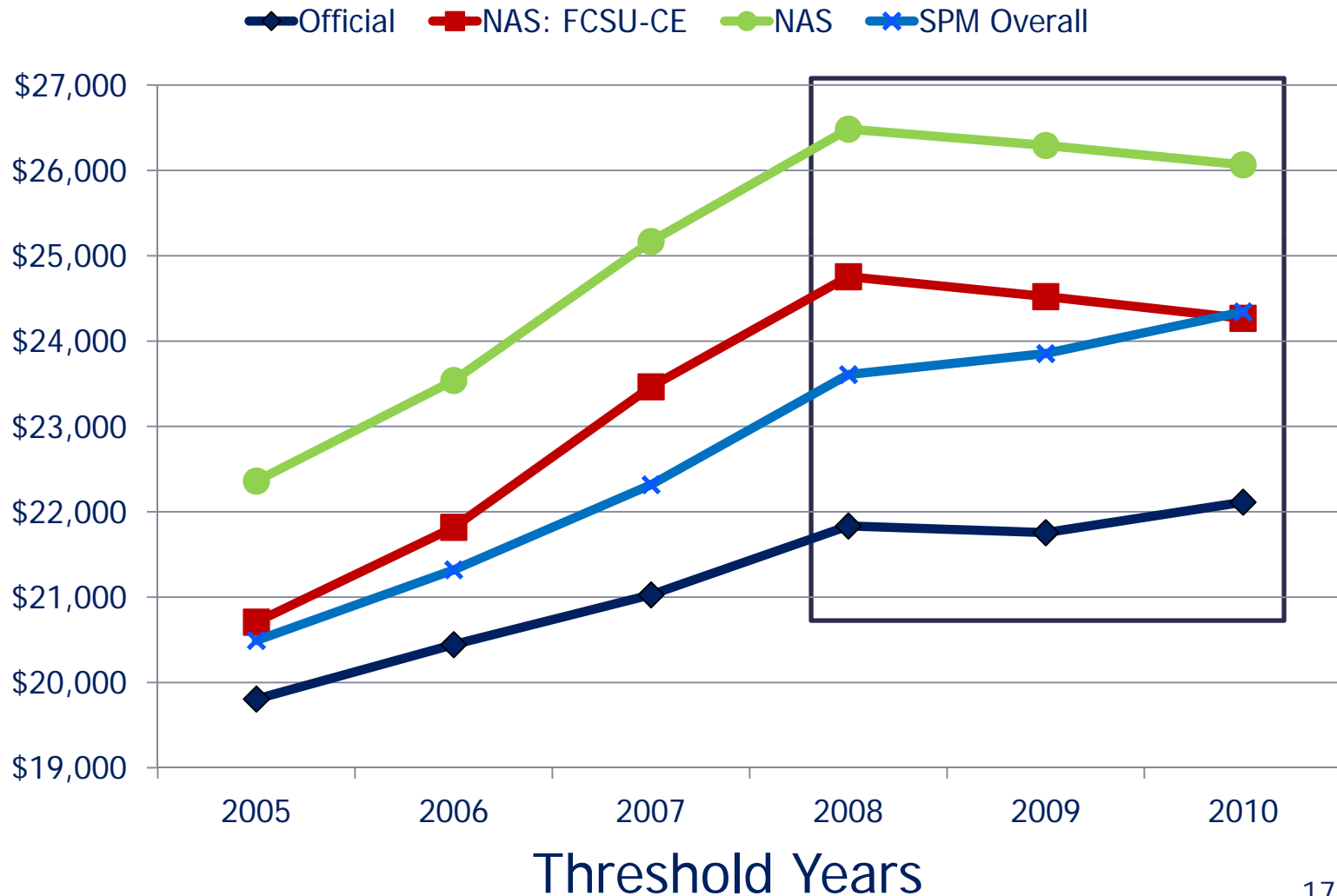
Threshold Year	Owner w/ mortgage & Renter	Owner w/ mortgage & w/o mortgage	Renter & Owner w/o mortgage
2005	1.41	11.23	9.34
2006	2.36	10.90	8.06
2007	1.17	10.34	8.25
2008	2.16	9.06	7.25
2009	1.37	10.04	7.43
2010	1.26	9.44	7.46

Concepts and Methods: SPM and NAS Thresholds

- **Concept:** Sets the annual expenditure amount below which one is considered poor

- **Basic parts of the SPM are same as NAS...**
 - ▶ CE data with expenditures in threshold year dollars
 - ▶ Estimation sample
 - ▶ Basic bundle – food, clothing, shelter, utilities (FCSU)
 - ▶ Point in *FCSU expenditure distribution* below the median
 - ▶ Multiplier for other needs
 - ▶ Updating to reflect real growth in consumption
 - ▶ Adjustments
 - Economic unit size (equivalence scale)
 - Differences in cost of living across geographic areas
 - ▶ Updating over time
 - ▶ Basic thresholds produced at BLS

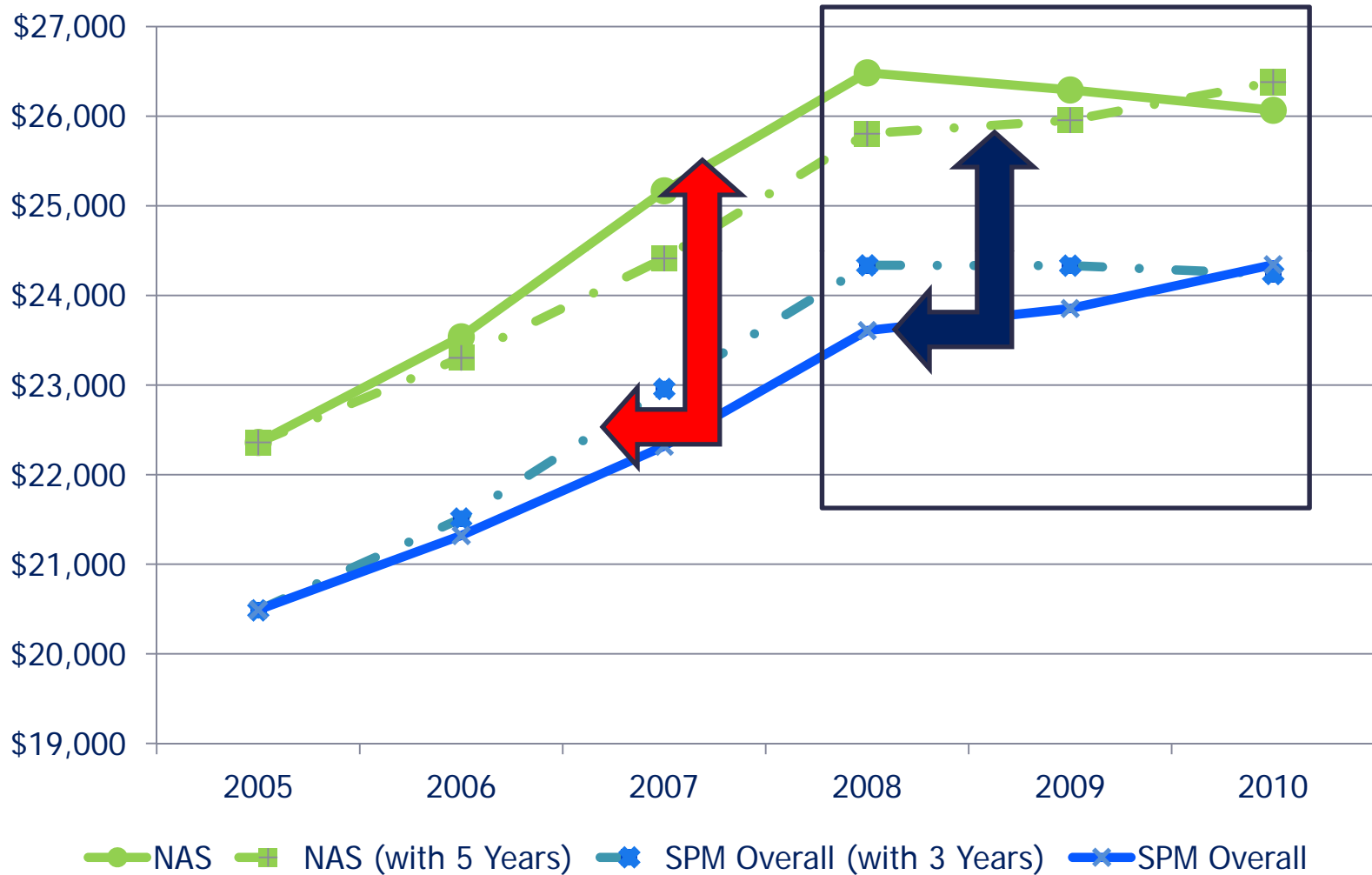
2 Adults+2 Children Thresholds Over Time



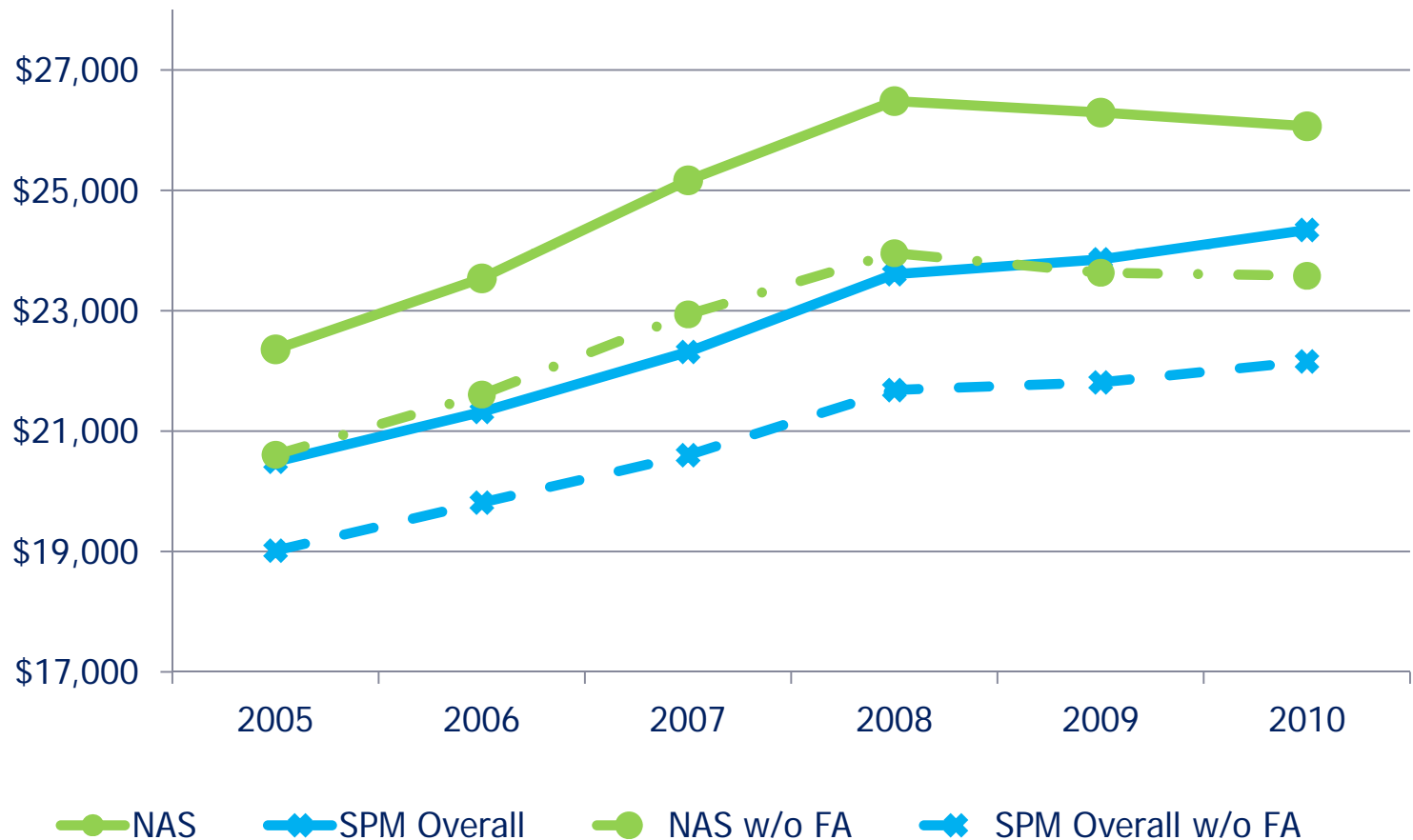
Reasons for Differences in 2A+2C NAS and SPM Thresholds

	NAS	SPM
Estimation sample	Families with 2 adults and 2 children	All consumer units (CUs including cohabiters) with 2 children (including foster children, etc.)
Point in FCSU distribution	78% to 83% of median FCSU for families with 2 adults and 2 children	Range around 33 rd (30-36 th) percentile of FCSU distribution for CUs with 2 children
Data time period	Most recent 3 years of CE data	Most recent 5 years of CE data

2 Adults+2 Children Thresholds: Impact of Number of Years of CE Data for Estimation



2 Adults+2 Children Thresholds: Impact of Improvements in 2007 CE Interview



NAS and SPM thresholds include mortgage interest and principal repayments. Dashed line thresholds do not include food away from home (FA). Conclusion: peak in 2007 NAS would have been present without CE improvements.

Summary

- Accounting for housing tenure impacts threshold levels
- SPM thresholds continue to increase in contrast to NAS thresholds
- Differences in SPM and NAS appear to be driven by years of data used in estimation

Issues for Discussion

- Accounting for shelter “needs”
 - ▶ Regression based approach
 - ▶ Rental equivalence
- Time period underlying thresholds
- Role of in-kind subsidies
 - ▶ To represent spending needs
 - ▶ To represent higher levels of living
- Implications for resources

Contact Information

Thesia I. Garner
Senior Research Economist

Division of Price and Index Number
Research/Office of Prices and Living Conditions
<http://stats.bls.gov/pir/spmhome.htm>

202-691-6576
garner.thesia@bls.gov



www.bls.gov

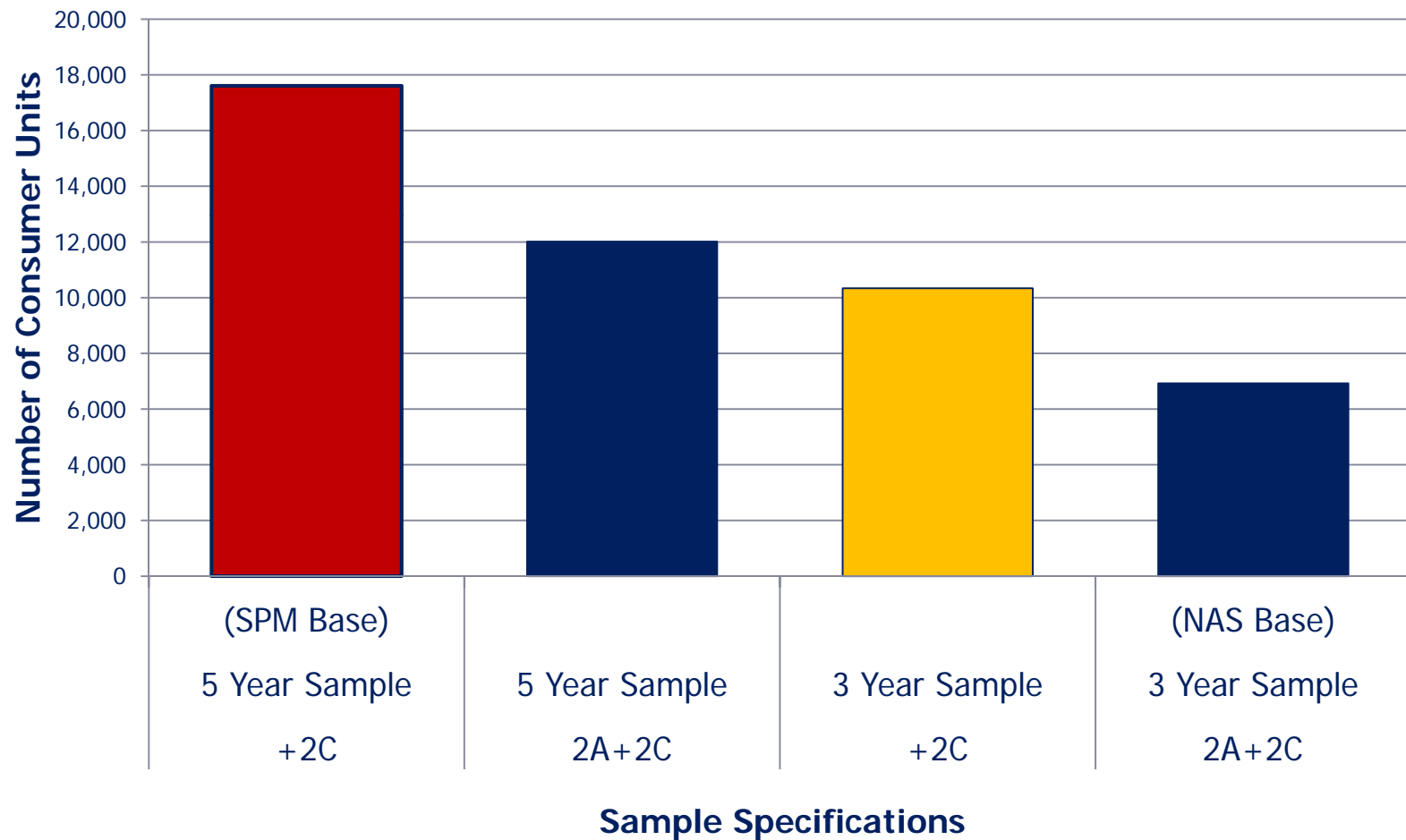
ITWG Accounting for Housing Needs in the SPM

- Within the 30th to 36th percentile of FCSU adult equivalent spending converted to represent CUs with 2 adults and 2 children
- One approach, among several, to start
- Threshold equation:

$$SPM_i = 1.2 * FCSU_A - (S + U)_A + (S + U)_i$$

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

Threshold Sample Sizes: Pooled Data for 2010



2010 SPM and NAS Thresholds: 2A+2C vs. CUs with 2 Children Sample

