

Poverty Threshold Alternatives / Choices

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1 2 5 Y E A R S

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This paper builds on research since 2009 JSM: *Choices*

- Threshold and Assumptions/Choices/Alternatives
 - ▶ Concepts
 - ▶ Basic needs
 - ▶ Multipliers
 - ▶ Distribution
 - ▶ Reference unit
 - ▶ Updating
 - ▶ Use of equivalence scales

- JSM 2009 restricted to 2007 thresholds

- Current research
 - ▶ Trends over time
 - ▶ Underlying reasons for movements
 - Prices
 - Impact of 2007 CE questionnaire and processing changes

National Academy of Sciences Recommendations

- 2.1-2.4 A poverty threshold with which to initiate a new series of official U.S. poverty statistics should be derived from Consumer Expenditure Survey [CE] data for a reference family of four persons (two adults and two children).
 - ▶ Basic bundle
 - ▶ Percentage of median expenditures
 - ▶ Multiplier for other needs
 - ▶ Updating
 - ▶ Real growth in consumption

- 3.1 Adjustments

The NAS recommended a Procedure.

Concepts Used to Define Thresholds

■ Spending

- ▶ How much does it cost, or does one need to spend, to meet basic needs?

But ... for some needs, such as housing, spending does not equal consumption (e.g., subsidized, own)

■ Consumption

- ▶ How much does it cost, or what is the consumption value, to meet basic needs?

Thresholds Defined in Terms of...

Food, Clothing, Shelter, and Utilities FCSU

- Spending
 - ▶ Official poverty threshold
 - ▶ FCSU without principal payments
 - ▶ FCSU with principal payments
- *Alternative:* Spending and Consumption
 - ▶ Expenditures with adjusted for select consumption (e.g., rental equivalence for owner-occupants, market value of subsidized and rent-control housing)

Caution....

- For a more complete consumption based threshold, would also need data on ...
 - ▶ Rent controlled or government subsidized housing
 - ▶ School breakfast, school lunch, WIC, energy assistance, elder coupons
 - ▶ Medical consumption not financed out-of-pocket
 - ▶ Goods and services received as gifts (“net” value of gifts)
- *And* values would be added to resources for consistency

Threshold Equations

Have used in the past

$$\frac{(1.15 * P_L * Median) + (1.25 * P_H * Median)}{2}$$

➤ Used the midpoints of the percentages and multipliers

Recent proposal

$$1.20 * 33rd \text{ percentile}$$

Three-parameter Equivalence Scale

▶ **one and two adults**

$$[\text{adults}]^{0.5}$$

▶ **single parents**

$$[\text{adults} + 0.8 * 1\text{st child} + (0.5 * \text{children} - 1)]^{0.7}$$

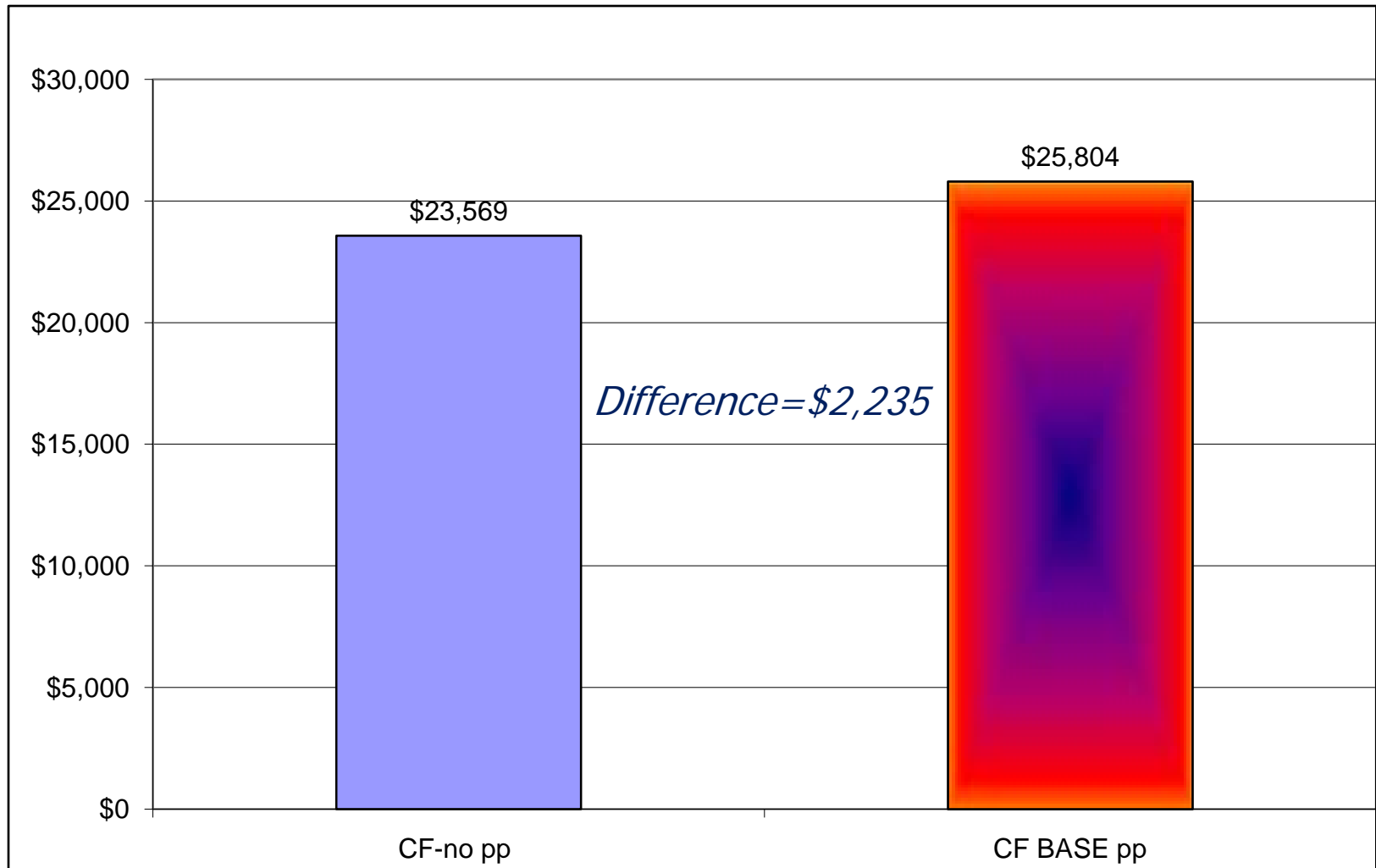
▶ **all other families**

$$[\text{adults} + 0.5 * \text{children}]^{0.7}$$

Basic Threshold and Alternatives

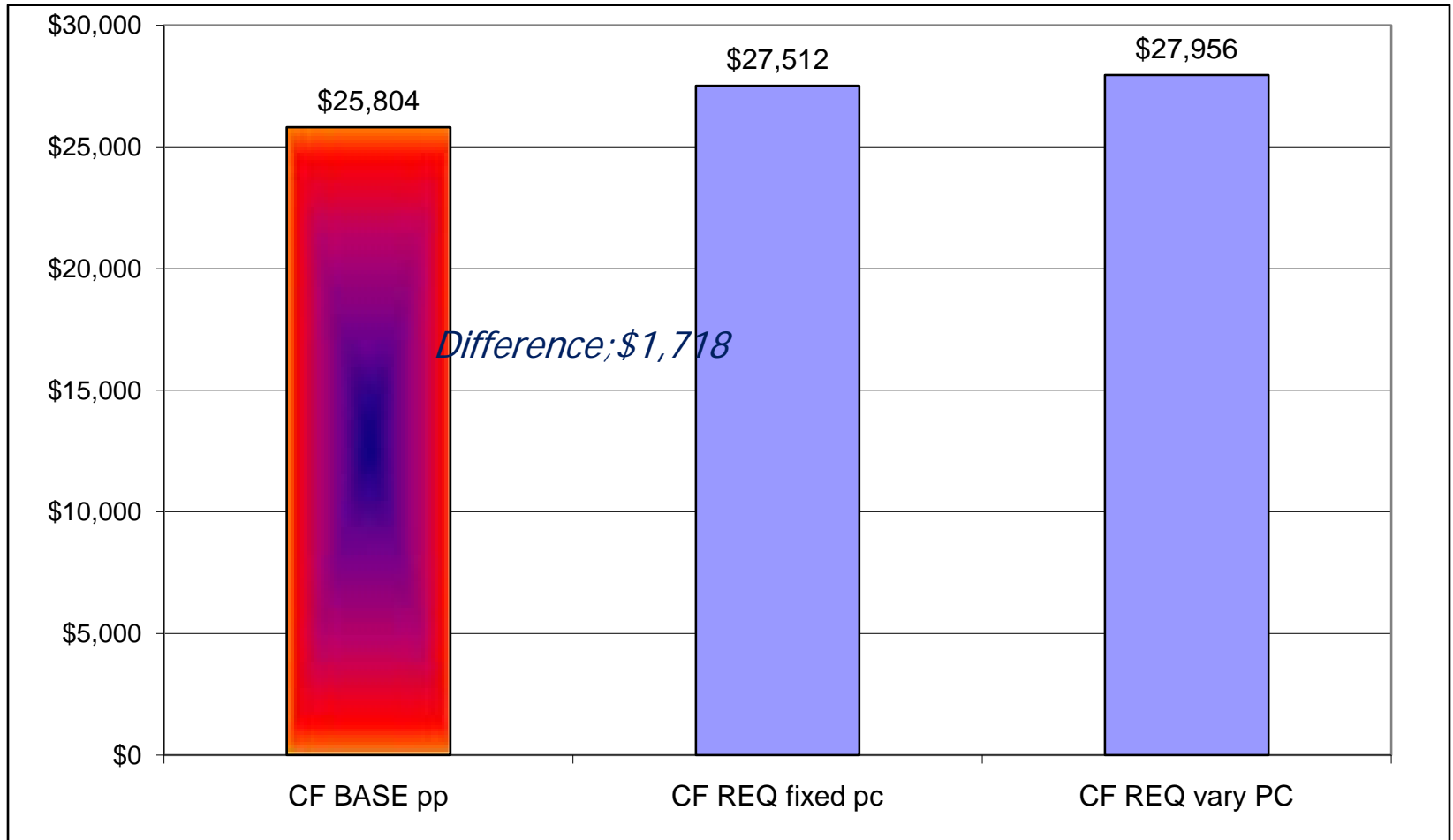
- Basic
 - ▶ Median FCSU expenditures
 - With principal payments
 - ▶ Percentages of median
 - 0.78 and 0.83
 - ▶ Multipliers
 - 1.15 and 1.25
- Alternatives
 - ▶ Without principal payments
 - ▶ Consumption - owners' shelter
 - ▶ Quarterly data independence
 - ▶ Census family versus Consumer unit
 - ▶ Median versus 33rd percentile
 - ▶ Annual versus quarterly price adjustment
 - ▶ Housing payment status

2007 FCSU Thresholds: Basic Assumptions

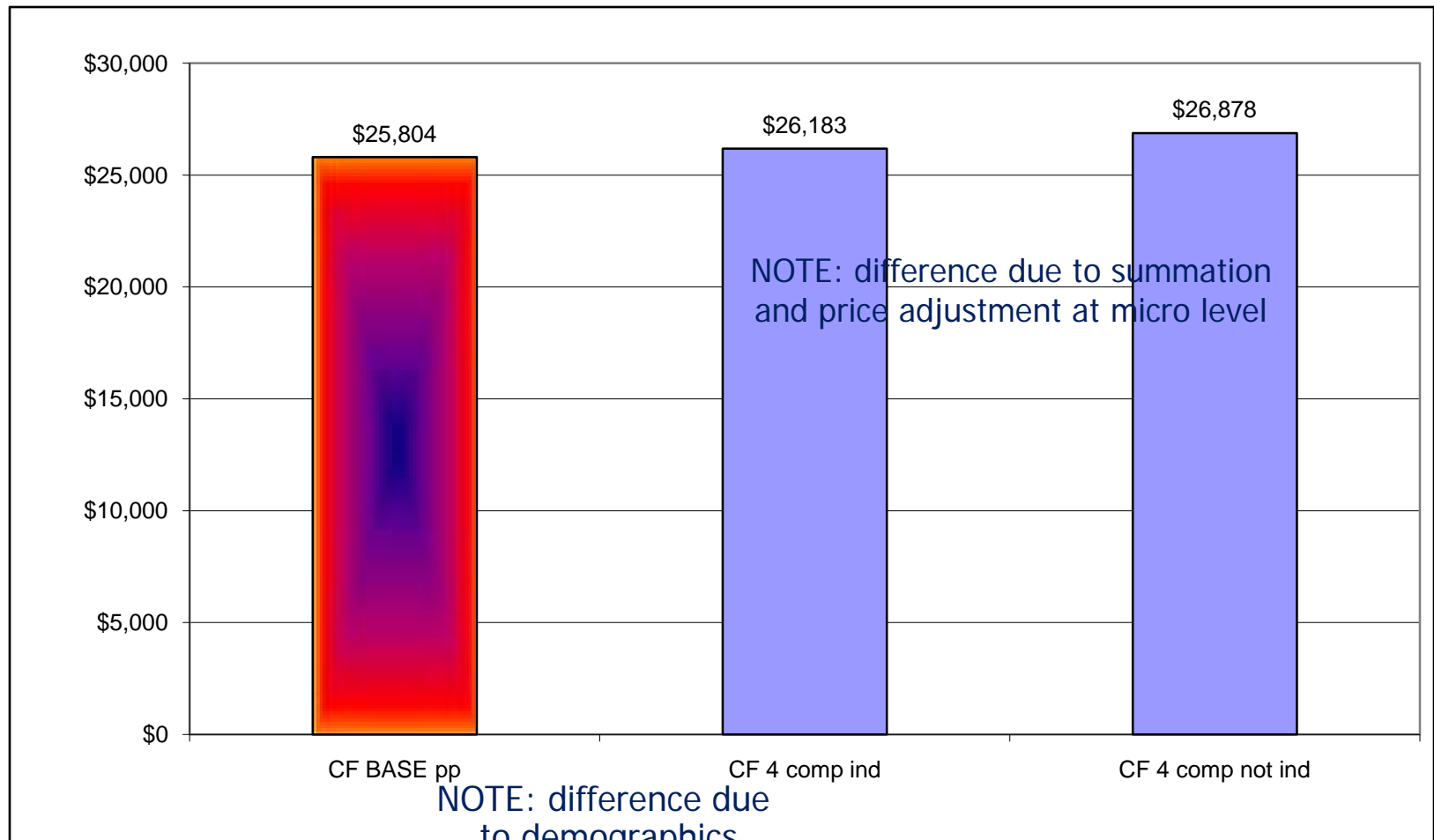


“CF” refers to Census family composed of 2 adults and 2 children

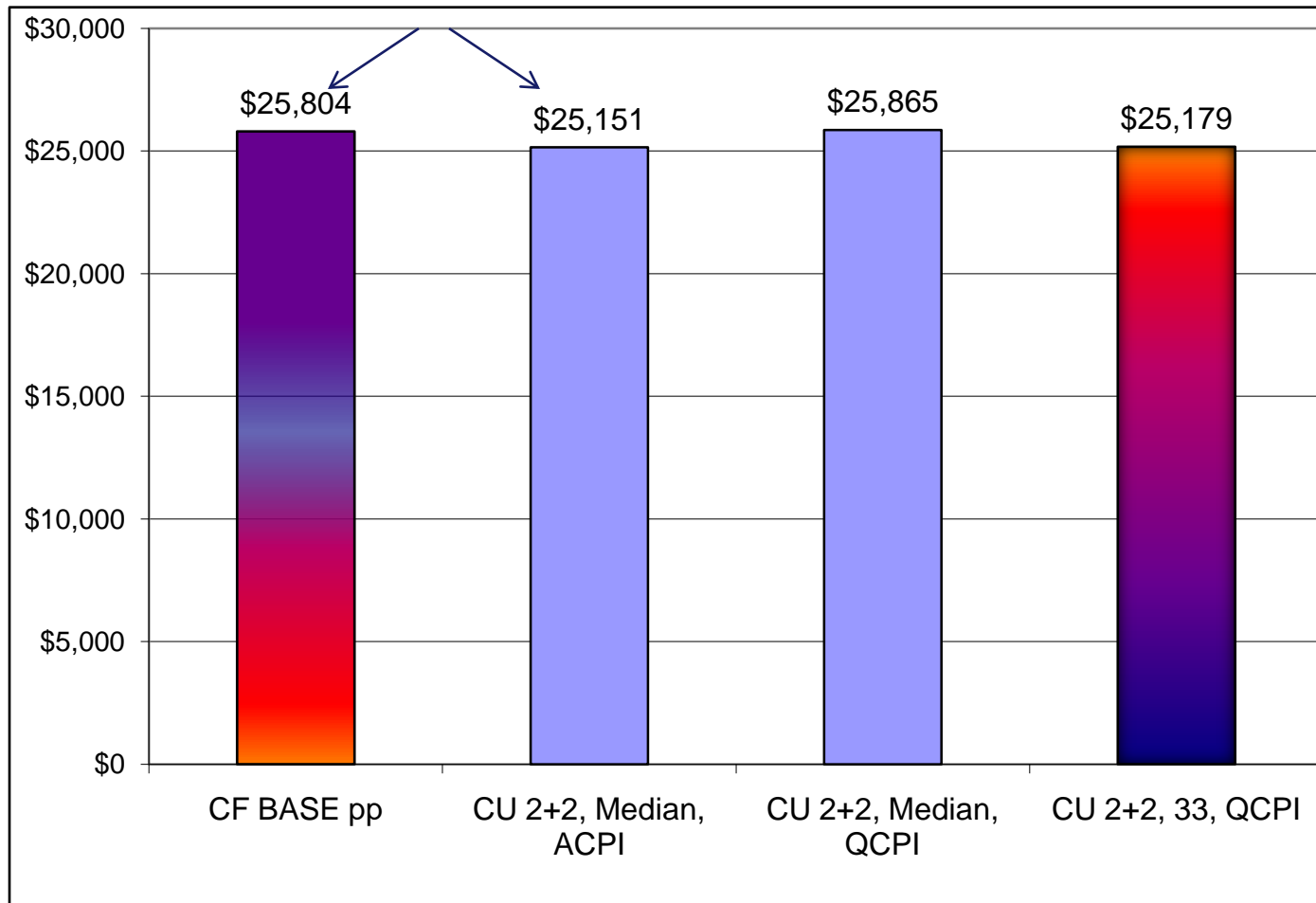
2007 FCSU Thresholds: Spending vs. Consumption



2007 FCSU Thresholds: Independent Quarters vs. 4 Complete Quarters



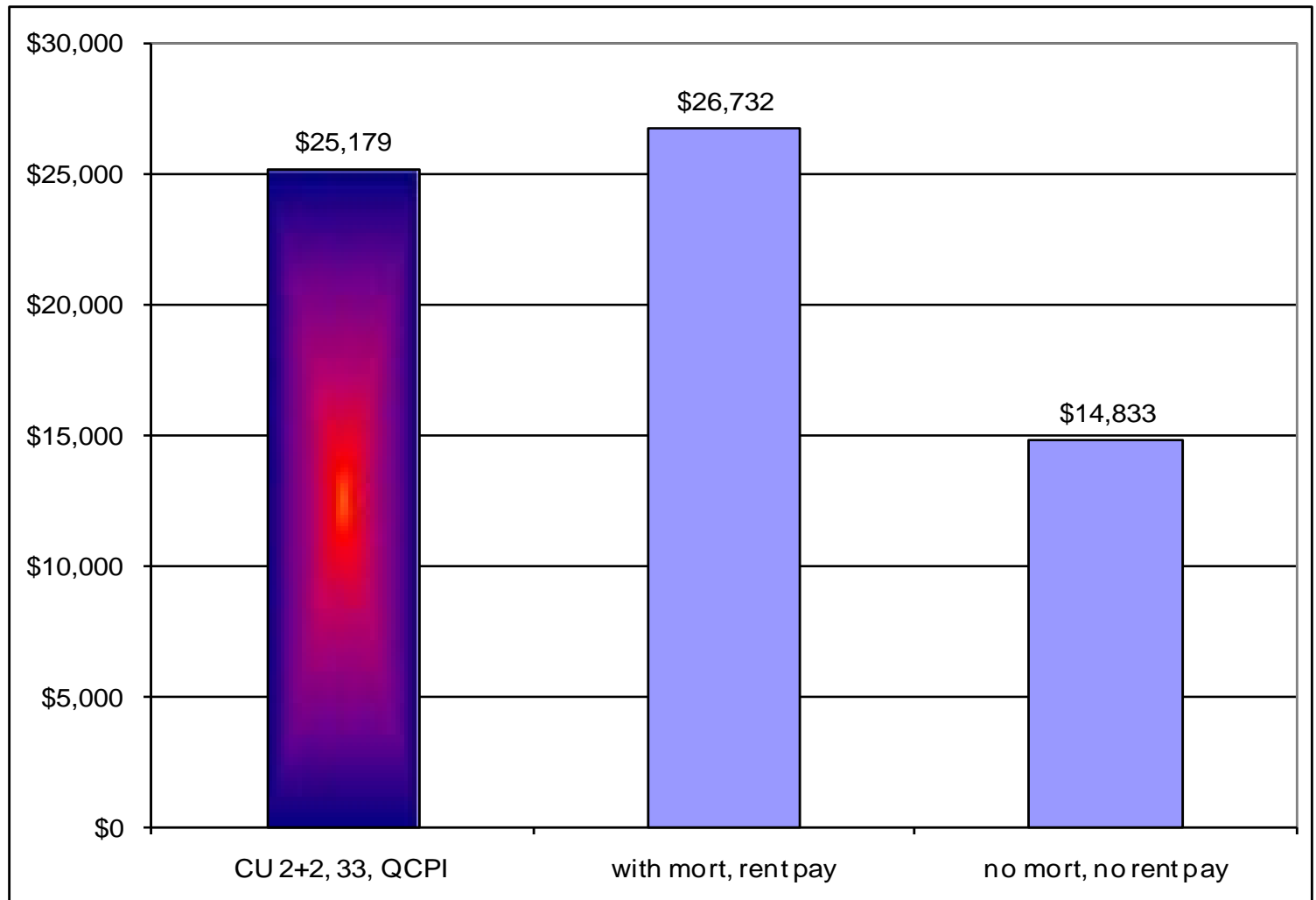
2007 Thresholds: Census Families vs. Consumer Units and Price Adjustment



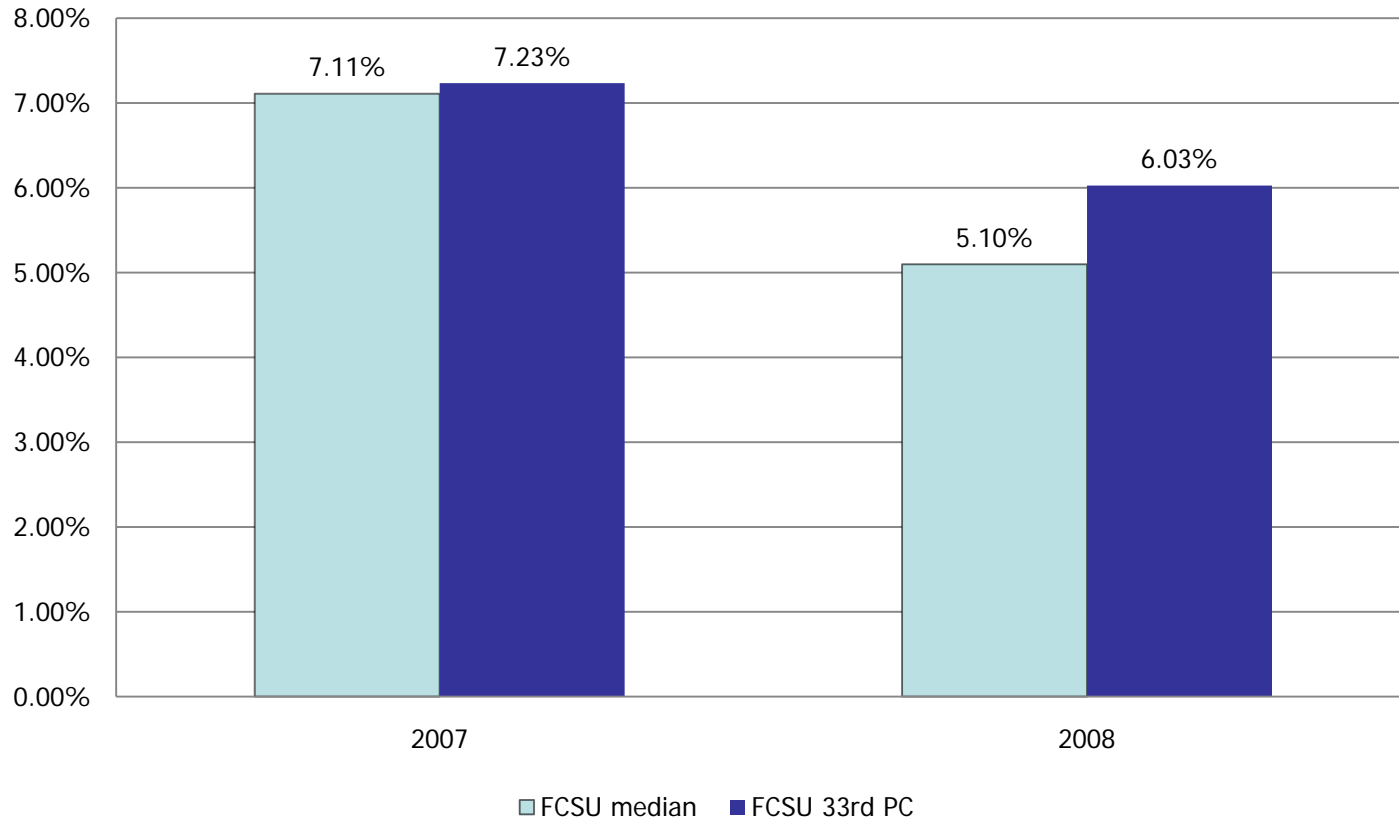
Difference: Census Family vs CU

Difference: Median vs 33rd percentile

2007 Thresholds for Consumer Units by Housing Payment Status



Percentage Increase in FCSU Expenditures (with principal payments, quarterly price adjusted) from Previous Year

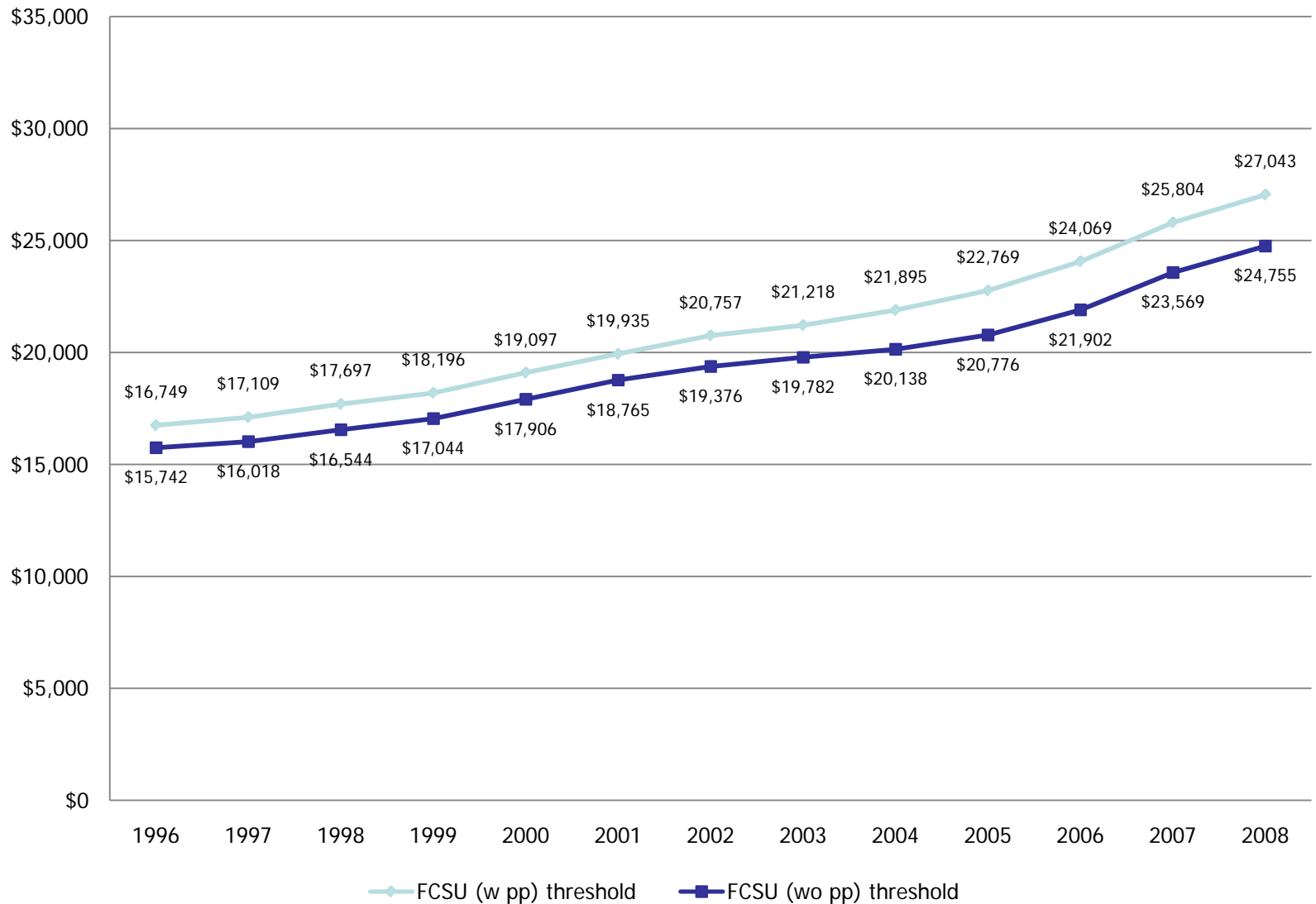


*NOTE: changes at the median less sensitive than changes
at the 33rd percentile*

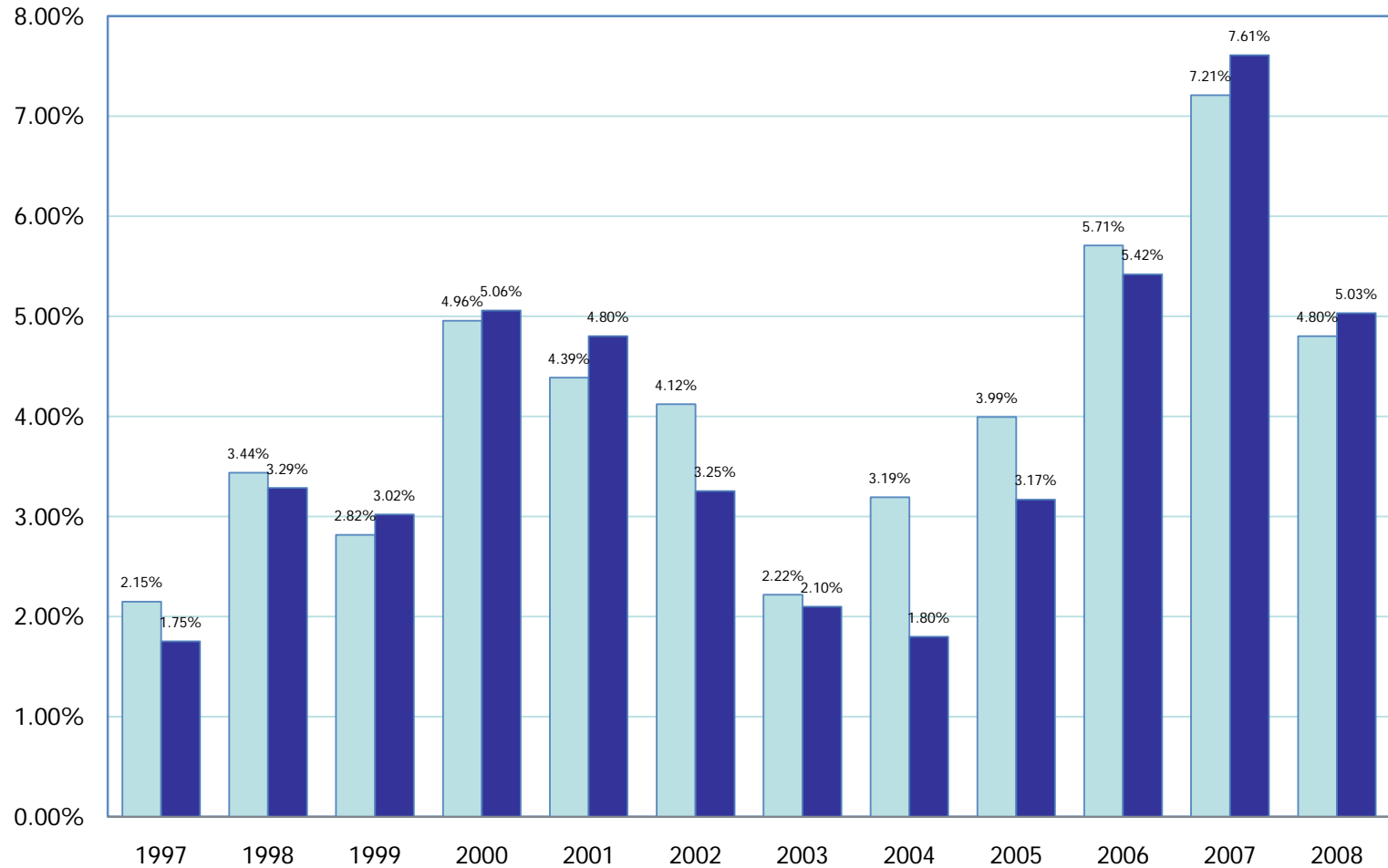
Trends Over Time

- Trends 1996-2008
- Changes related to
 - ▶ Prices
 - ▶ Overall Spending
 - ▶ Income
- Changes related to CE questionnaire design and processing

CE Interview-Based FCSU Thresholds Using Medians with and without Principal Payments



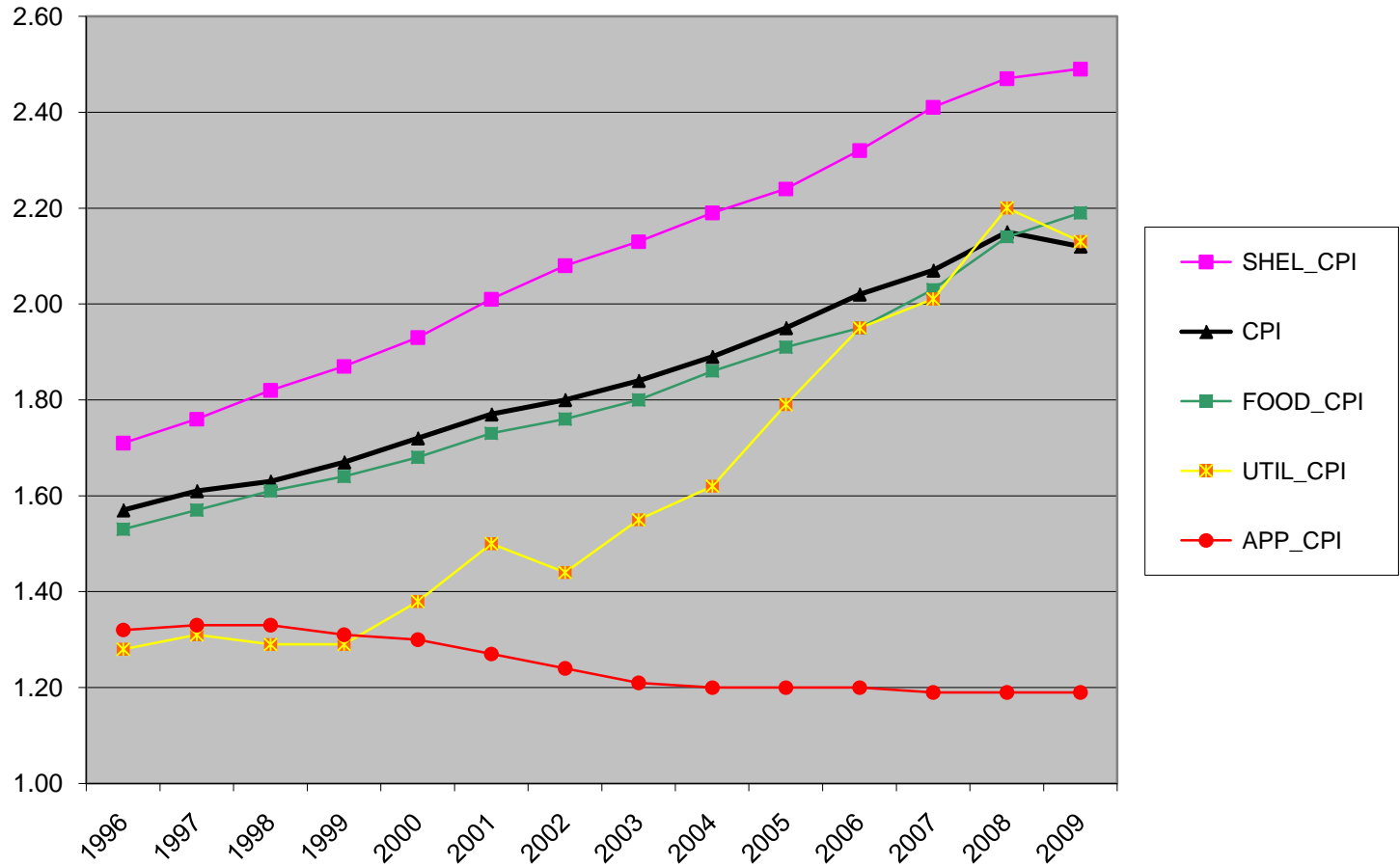
Percentage Changes in FCSU Median Expenditures from Previous Years



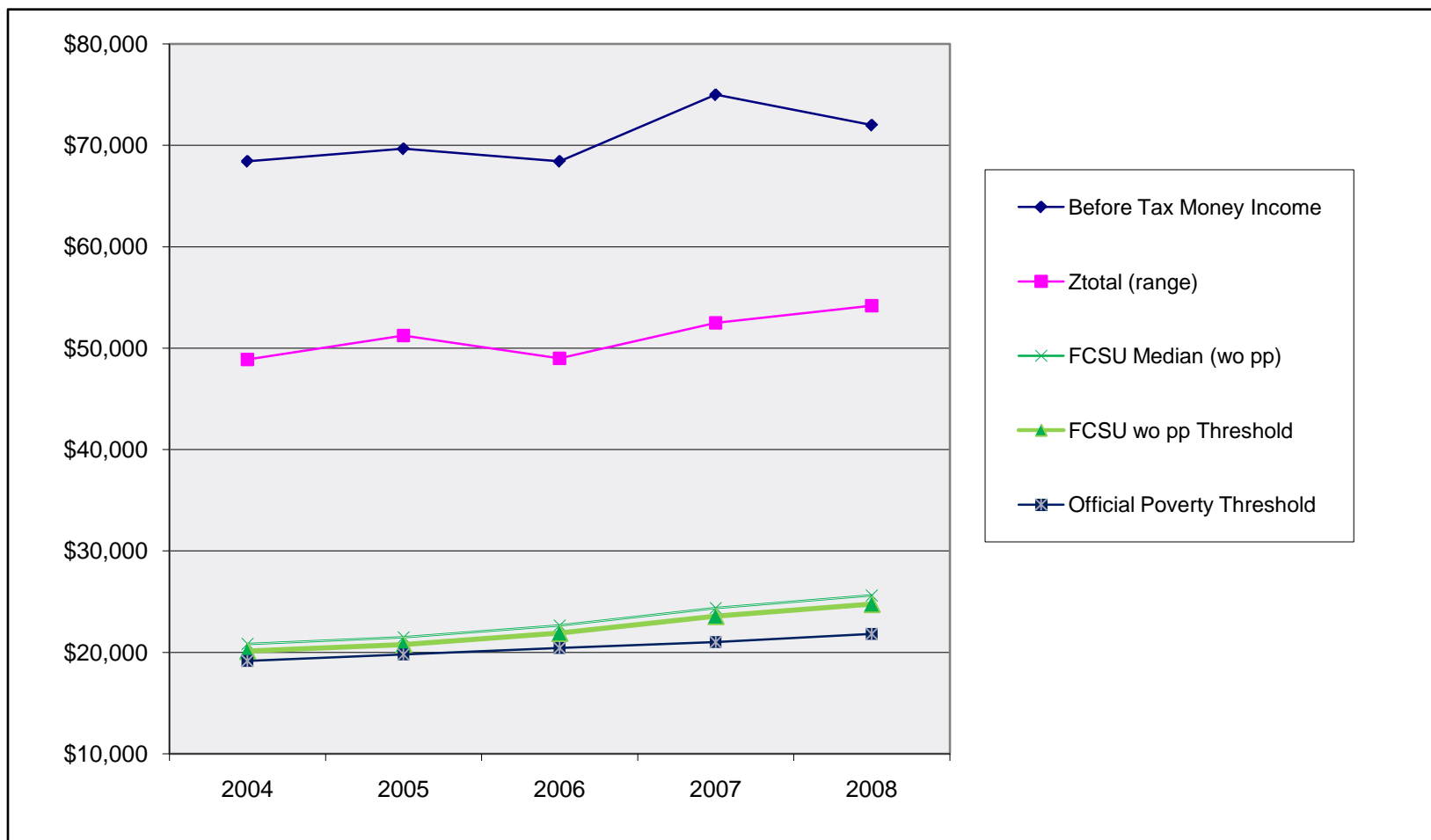
■ % increase in FCSU median expenditures with principal payments

■ % increase FCSU median expenditures without principal payments

Annual* CPIs



Census Family Mean Income, Expenditures, and FCSU (without principal payments) Thresholds within the 47th to 53rd Range of the FCSU Expenditure Distribution



Changes in CE Interview Questionnaire in 2007Q2: Affect on Thresholds

- Mortgage edits in processing
- Change in question wording for food away from home expenditures

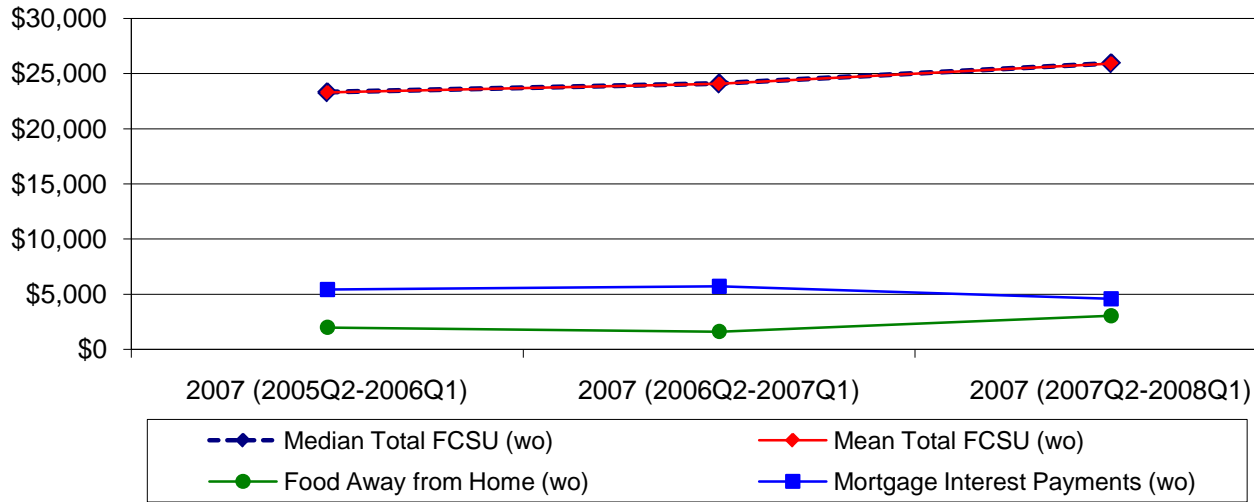
2007 Improvements to Mortgage Edits

- Prior to 2007Q2
 - ▶ Before 2006, Field Representatives (FRs) could not report a mortgage as an “interest only” mortgage
 - ▶ In 2006, FRs given the ability to report mortgage as “interest only”, but the information not used in processing
- Beginning with 2007Q2
 - ▶ Questionnaire revised to better collect interest only mortgages
 - ▶ Mortgage edit processing began utilizing “interest only” designation

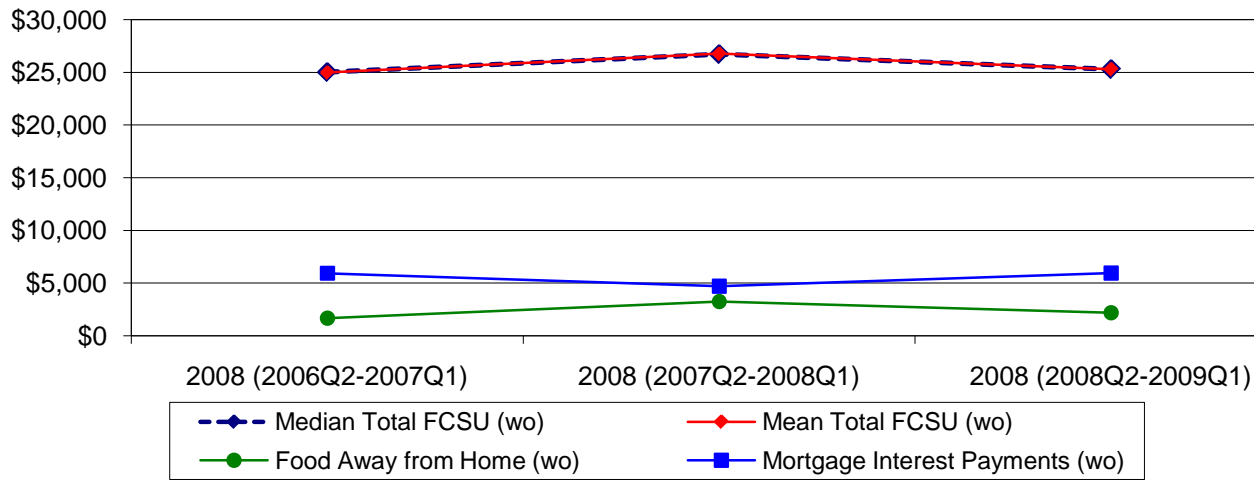
2007 Improvements to Food Away From Home Data Collection

- Prior to 2007Q2
 - ▶ CE Interview survey collected usual *monthly* expenditures for food away from home
 - ▶ Cognitive testing indicated collecting usual weekly amount results in more accurate data
- Beginning with 2007Q2
 - ▶ Questionnaire revised to collect usual *weekly* expenditures for food away from home
 - ▶ Interview data for food away for 2007 more comparable with the Diary data for 2007 as compared to past years

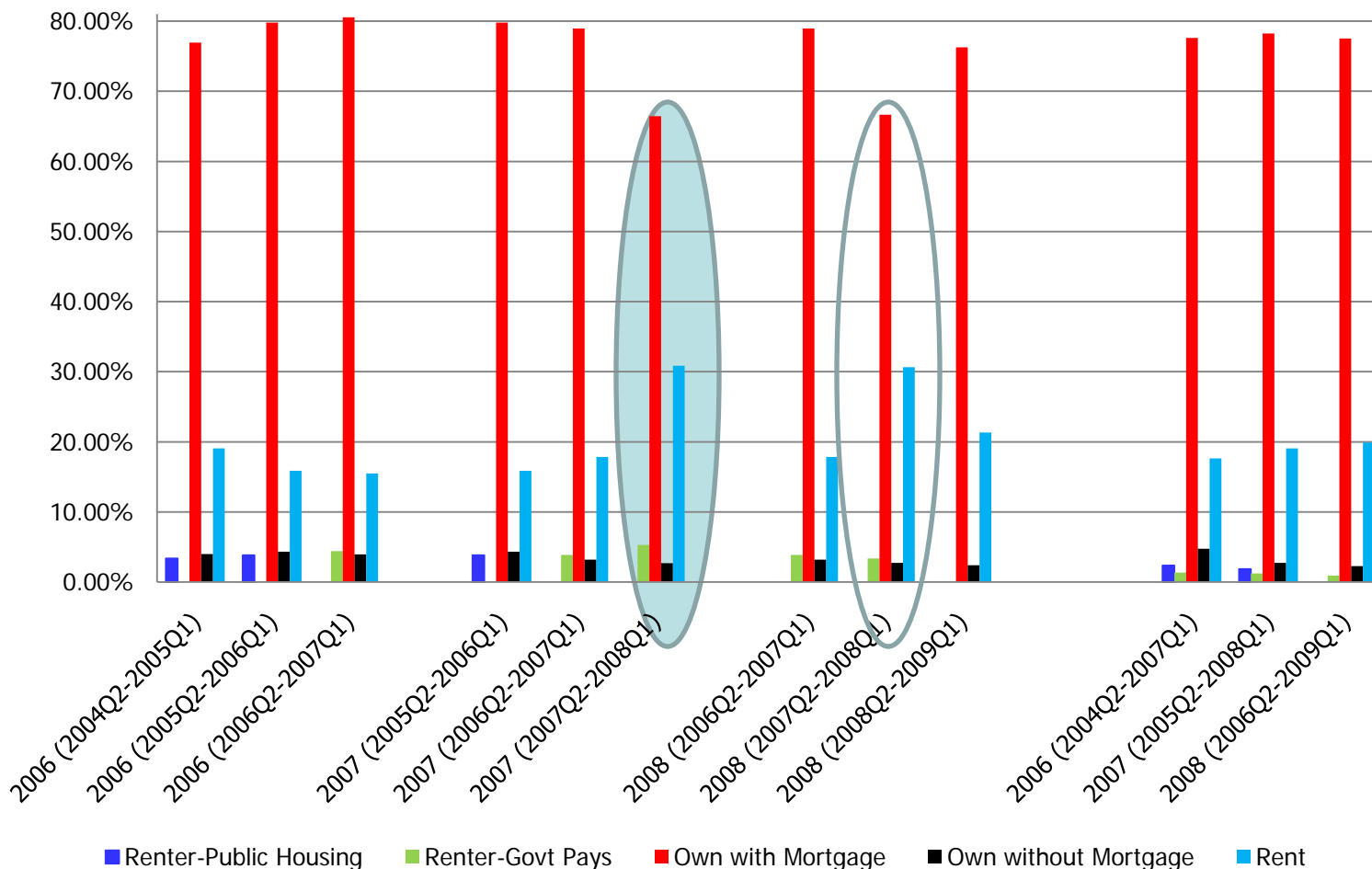
Census Family Median FCSU Expenditures (without principal payments) and in 47th to 53rd Percentiles of FCSU Expenditure Distribution (in 2007 dollars using 2008 qtr 1)



Reference Family Median FCSU Expenditures (without principal payments) and Mean of Expenditures in 47th to 53rd Percentiles of FCSU Expenditure Distribution (in 2008 dollars using 2009 qtr 1)

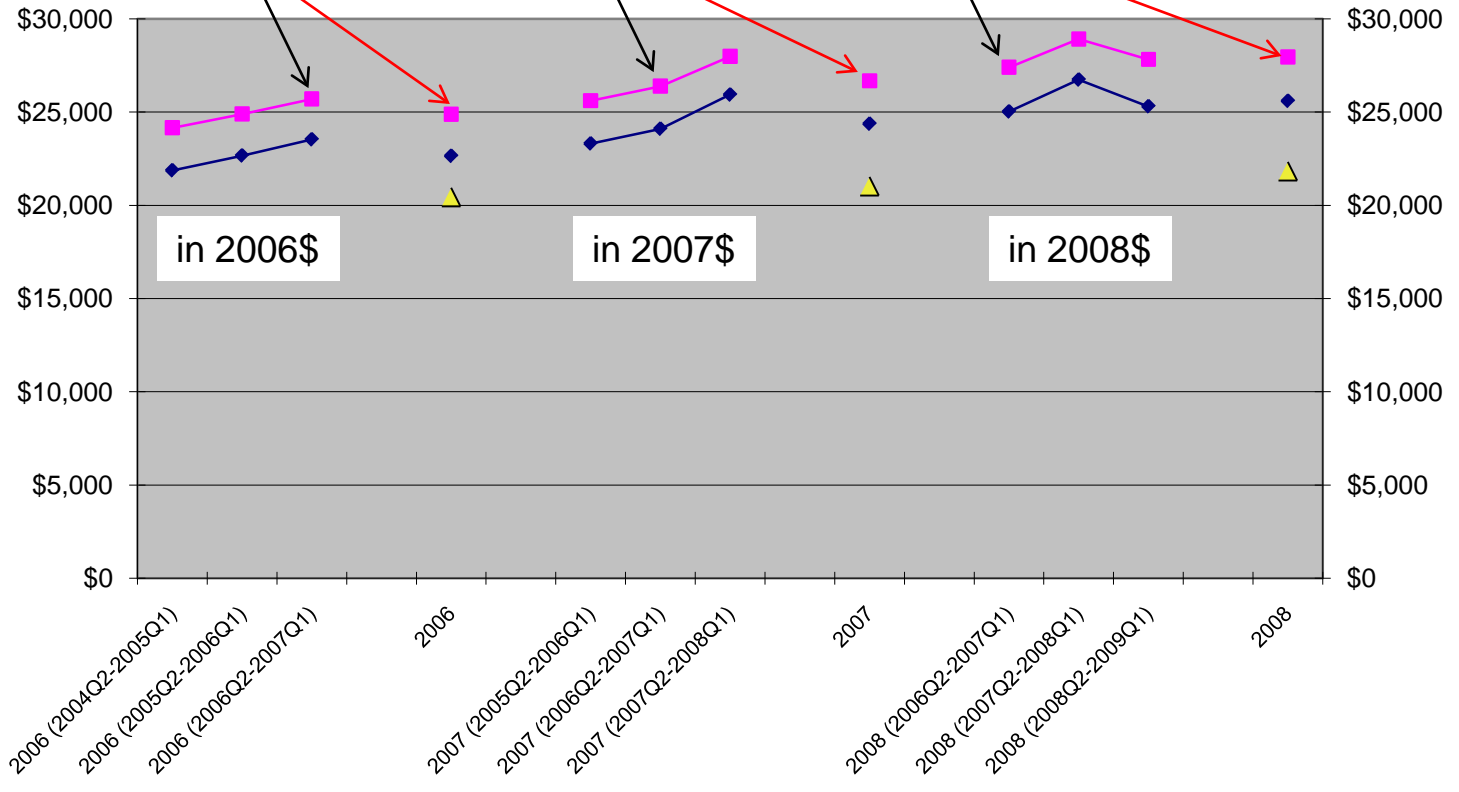


Distribution of Census Reference Families within the 47th to 53rd FCSU Expenditure Distribution (without Principal Payments) by Threshold Year



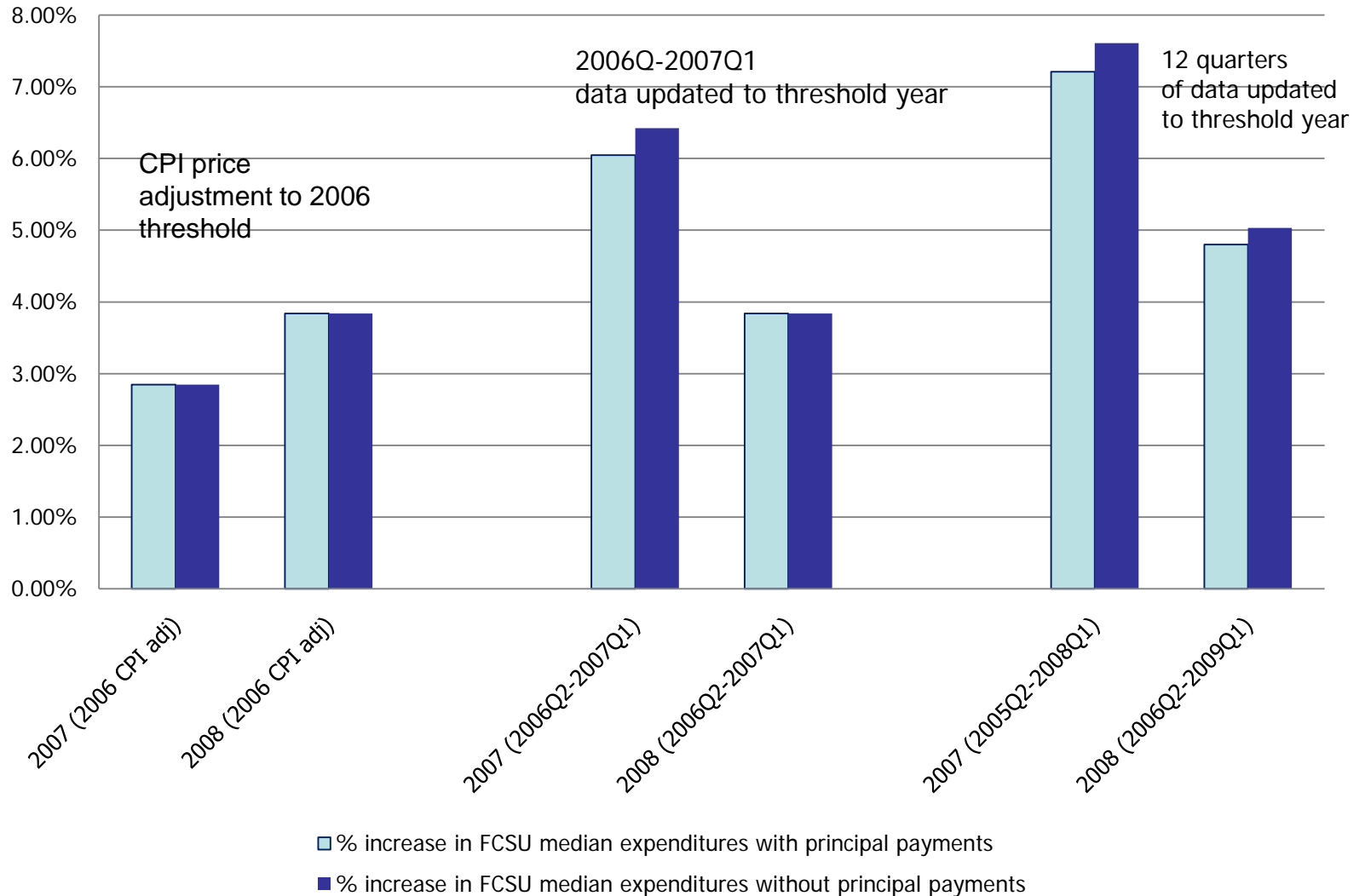
NOTE: in the 2007Q2-2008Q1 period reference families had different characteristics than in other periods: fewer owners with mortgages and more non-subsidized renters

Reference Family FCSU Median Expenditures (with and without out principal payments) and Official Poverty Thresholds



NOTE: microdata adjusted by CPI

Changes in FCSU Median Expenditures from Previous Years Using Different Updating



Note: expenditures were on the rise during the 2006 period even before Changes in CE design and processing.

Summary and Conclusions

- Endogenous choices that affect thresholds
- Exogenous factors affecting thresholds
- What can be done

Choices and Impact on Thresholds

■ Higher

- ▶ With mortgage principal payments
- ▶ Consumption
- ▶ Median
- ▶ Annual updating of quarterly data
- ▶ Census family
- ▶ Quarterly CE data not independent
- ▶ Owners with mortgages and rents with payments

■ Lower

- ▶ Without mortgage principal payments
- ▶ Spending
- ▶ 33rd percentile
- ▶ Quarterly updating of quarterly data
- ▶ Consumer unit
- ▶ Quarterly CE data independent
- ▶ Owners without mortgages

Exogenous Factors

- Underlying spending patterns
- Underlying prices
- CE questionnaire design and processing
- *RESULT: using 3 years of data smoothes impact of exogenous factors*

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Extra Information



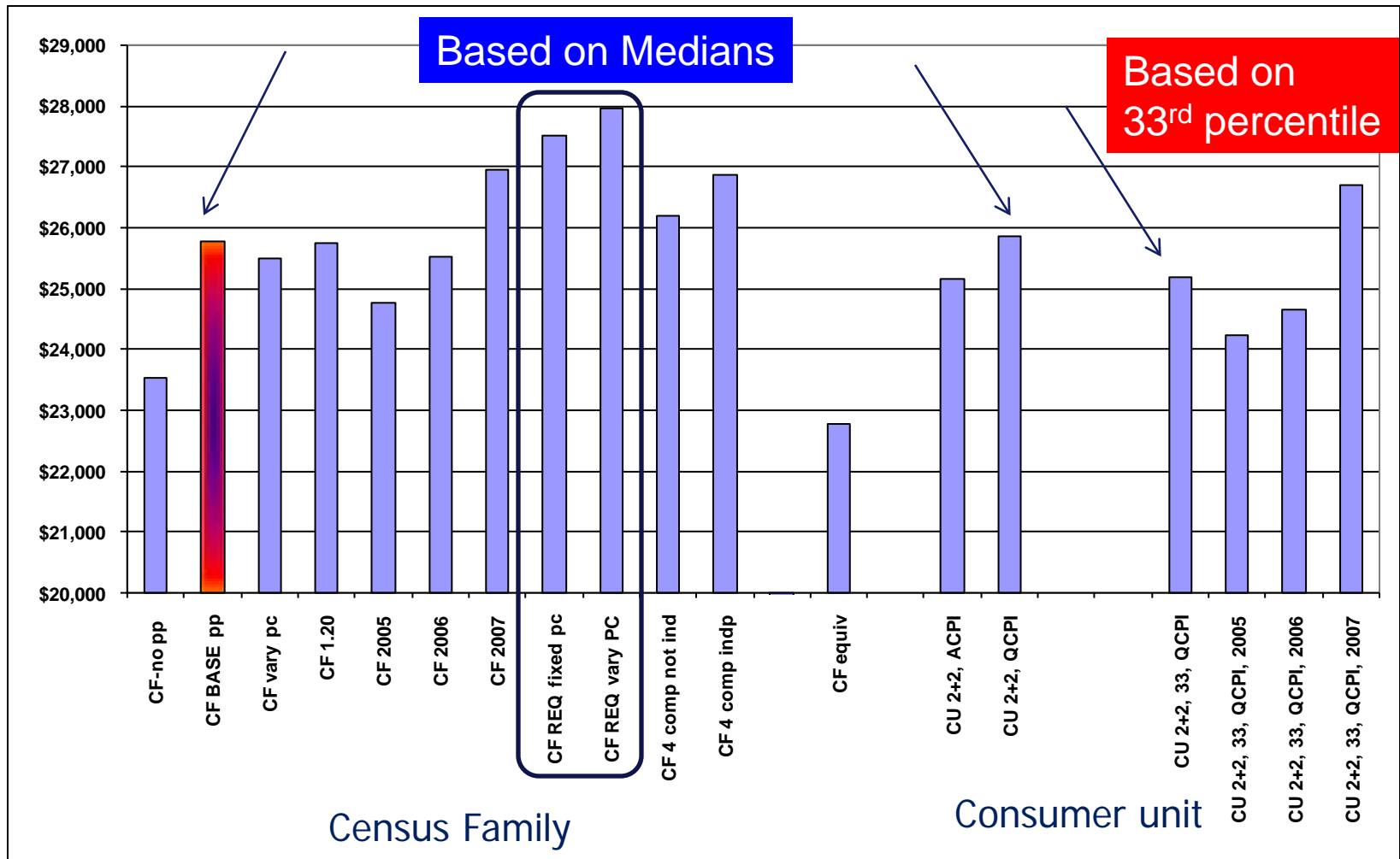
FCSU Threshold: Out-of-pocket Spending

- ▶ Food (includes Food Stamps value)
- ▶ Clothing
- ▶ Utilities (includes telephone)
- ▶ For renters, shelter expenditures
- ▶ For homeowners, non-vacation shelter expenditures that include
 - Mortgage interest payments
 - Mortgage principal repayments (“pp”)
 - Prepayment penalties
 - Property taxes
 - Maintenance, repairs, insurance and other related expenditures

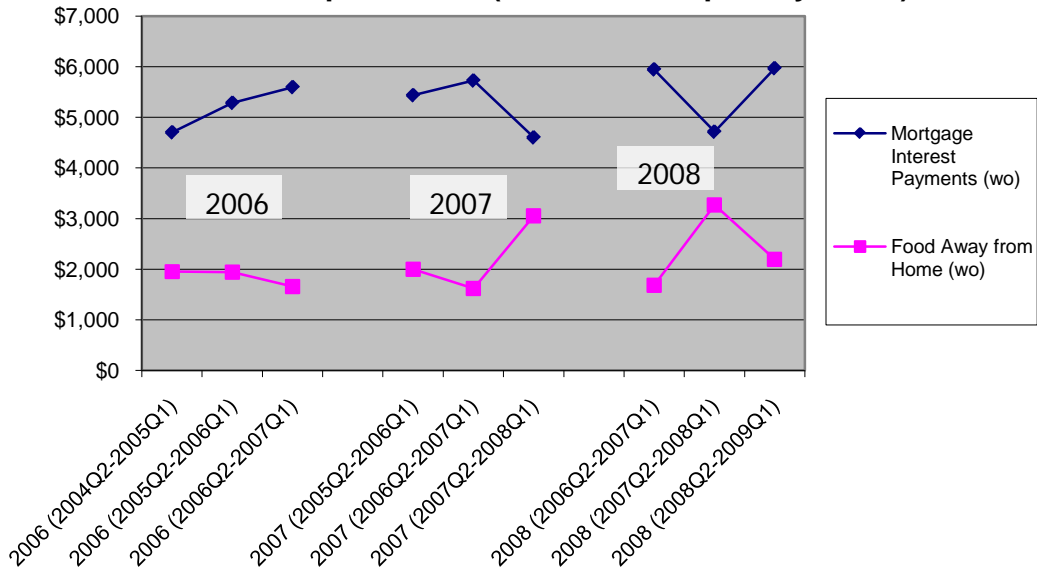
FCSU Threshold Accounting for Consumption

- Out-of-pocket spending on
 - Food
 - Clothing
 - Utilities (includes telephone)
 - Rent of renters
- Food as pay
- Rent as pay
- Rental equivalence of owners

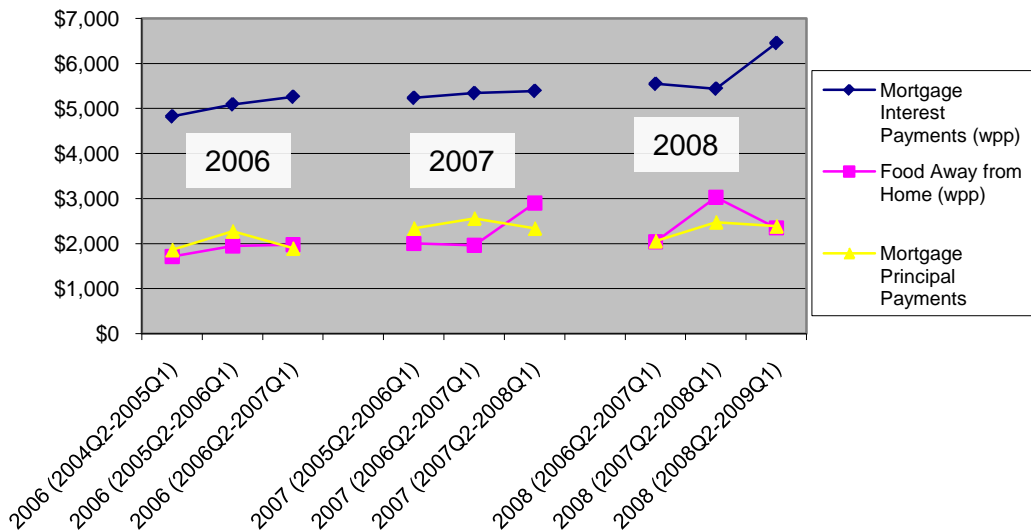
2007 FCSU Thresholds Based on Alternative Assumptions



Average Food Away from Home and Mortgage Interest Payment Expenditures in the 47 to 53 Percentile Range of FCSU Expenditures (without Principal Payments)



Average Food Away from Home, Mortgage Interest and Principal Payment Expenditures in the 47th to 53 Percentiles of FCSU Expenditures (with mortgage Principal Payments)



**Weighted Percentage Distributions of Reference Families in the 47th to 53rd Percentile Distributions of FCSU
Expenditures by threshold Year (without principal payments) by Demographic Characteristics**

Data collection
period

	Welfare	Food Stamps	Renter-Public Housing	Renter-Govt Pays	Own with Mortgage	Own without Mortgage	Own Other	Rent	Other Tenure
2006 (2004Q2- 2005Q1)	0.00%	0.00%	3.34%	0.00%	76.94%	4.00%	0.00%	19.06%	0.00%
2006 (2005Q2- 2006Q1)	0.00%	0.00%	3.83%	0.00%	79.80%	4.34%	0.00%	15.86%	0.00%
2006 (2006Q2- 2007Q1)	0.00%	0.00%	0.00%	4.41%	80.56%	3.94%	0.00%	15.50%	0.00%
2007 (2005Q2- 2006Q1)	0.00%	0.00%	3.83%	0.00%	79.80%	4.34%	0.00%	15.86%	0.00%
2007 (2006Q2- 2007Q1)	0.53%	2.34%	0.00%	3.85%	78.96%	3.19%	0.00%	17.86%	0.00%
2007 (2007Q2- 2008Q1)	0.63%	0.63%	0.00%	5.28%	66.45%	2.70%	0.00%	30.85%	0.00%
2008 (2006Q2- 2007Q1)	0.00%	0.00%	0.00%	3.85%	78.96%	3.19%	0.00%	17.86%	0.00%
2008 (2007Q2- 2008Q1)	0.00%	0.00%	0.00%	3.37%	66.63%	2.72%	0.00%	30.65%	0.00%
2008 (2008Q2- 2009Q1)	0.00%	0.00%	0.00%	0.00%	76.27%	2.41%	0.00%	21.31%	0.00%
2006 (2004Q2- 2007Q1)	0.00%	0.00%	2.33%	1.33%	77.62%	4.74%	0.00%	17.64%	0.00%
2007 (2005Q2- 2008Q1)	0.87%	2.50%	1.85%	1.24%	78.24%	2.71%	0.00%	19.05%	0.00%
2008 (2006Q2- 2009Q1)	0.00%	0.00%	0.00%	0.92%	77.51%	2.26%	0.00%	19.90%	0.33%