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
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**

\[
\frac{(1.15 \times P_L \times \text{Median}) + (1.25 \times P_H \times \text{Median})}{2}
\]

- Used the midpoints of the percentages and multipliers

**Recent proposal**

1.20 \times 33\text{rd percentile}
Three-parameter Equivalence Scale

- **one and two adults**
  \[ \text{[adults]}^{0.5} \]

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

- **all other families**
  \[ \text{[adults + 0.5*children]}^{0.7} \]
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

CF-no pp: $23,569
CF BASE pp: $25,804
Difference: $2,235
2007 FCSU Thresholds: Spending vs. Consumption

CF BASE pp: $25,804
CF REQ fixed pc: $27,512
CF REQ vary PC: $27,956

Difference: $1,718
2007 FCSU Thresholds: Independent Quarters vs. 4 Complete Quarters

NOTE: difference due to summation and price adjustment at micro level

CF BASE pp $25,804

CF 4 comp ind $26,183

CF 4 comp not ind $26,878

NOTE: difference due to demographics
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

- CU 2+2, 33, QCPI: $25,179
- With mort, rent pay: $26,732
- No mort, no rent pay: $14,833
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

NOTE: historically consistent series
Percentage Changes in FCSU Median Expenditures from Previous Years

- % increase in FCSU median expenditures with principal payments
- % increase FCSU median expenditures without principal payments

Year | % Increase with Principal Payments | % Increase without Principal Payments
--- | --- | ---
1997 | 2.15% | 1.75%
1998 | 3.44% | 3.29%
1999 | 2.82% | 3.02%
2000 | 4.96% | 4.39%
2001 | 5.06% | 4.92%
2002 | 4.80% | 4.12%
2003 | 3.25% | 3.19%
2004 | 3.19% | 1.80%
2005 | 3.99% | 3.17%
2006 | 5.71% | 5.42%
2007 | 7.21% | 7.61%
2008 | 4.80% | 5.03%
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)
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

- % increase in FCSU median expenditures with principal payments
- % increase in FCSU median expenditures without principal payments

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 smooths impact of exogenous factors
Contact Information

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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

Based on Medians

Based on 33rd percentile

Census Family

Consumer unit

NOTE: from 2009 JSM
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)
<table>
<thead>
<tr>
<th>Data collection period</th>
<th>Welfare</th>
<th>Food Stamps</th>
<th>Renter-Public Housing</th>
<th>Renter-Govt Pays</th>
<th>Own with Mortgage</th>
<th>Own without Mortgage</th>
<th>Own Other</th>
<th>Rent</th>
<th>Other Tenure</th>
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<td>2006 (2004Q2-2005Q1)</td>
<td>0.00%</td>
<td>0.00%</td>
<td>3.34%</td>
<td>0.00%</td>
<td>76.94%</td>
<td>4.00%</td>
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<td>0.00%</td>
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<td>0.92%</td>
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<td>0.33%</td>
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