The Role of Housing in Poverty Thresholds: 1993-2003

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Key in Development of a Poverty Measure

- Determine threshold
  ➢ Calculate resources

- Goal: Consistently measure thresholds and resources

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.*
This paper... builds on NAS Workshop 2004

- Threshold
  - Concept and measure
  - Definitions
  - Adjustments

- Data

- Results
  - Time series: 1993-2003
  - Relationship to other economic data
  - Price adjustment and number of years of data for estimation

- Conclusions
Concept Underlying Threshold?

- Input (e.g., housing)
- Costs of inputs (dollars)
Costs Measures Used to Define Thresholds

- **Spending**
  - Official poverty threshold
  - NAS threshold, basically

- **Consumption**
  - What people think about

  - For housing in particular, spending does not equal consumption (e.g., subsidized housing, owned housing)
    - Treat the shelter consumption needs of owners and renters consistently – services valued as rent

Costs of inputs
Thresholds Defined in Terms of...

Food, Clothing, Shelter, Utilities, Medicare Care
FCSUM

*using U.S. Consumer Expenditure Survey data*

- **Spending**
  - Out-of-pocket (OOP) expenditures: FCSUM-OOP

- **Spending and Consumption**
  - Expenditures adjusted for select consumption/needs (e.g., housing): FCSUM-R
FCSUM-OOP (Out-of-Pocket Spending) Threshold

- Out-of-pocket spending on
  - Food
  - Clothing
  - Utilities (includes telephone)
  - Medical care
  - For renters, shelter expenditures

- For *homeowners*, non-vacation shelter expenditures that include
  - Principal repayments
  - Mortgage interest payments
  - Prepayment penalties
  - Property taxes
  - Maintenance, repairs, insurance and other related expenditures
FCSUM-R (Shelter Consumption) Threshold

- **Out-of-pocket spending**
  - Food
  - Clothing
  - Utilities (includes telephone)
  - Medical care
  - Rent of renters

- **Value of consumption**
  - Food as pay
  - Rent as pay
  - Rental equivalence of owners

- **Expected spending**
  - Adjustment for the medically uninsured using CE data
Caution....

- For a consumption based threshold, would also need
  - Rent controlled or government subsidized housing
  - School breakfast, school lunch, WIC, energy assistance
  - Medical consumption not financed out-of-pocket
  - Goods and services received as gifts (“net” value of gifts)

- And implicit values of these would be added to resources for consistency
Computing the Thresholds

- Use three years of quarterly CE data (update to most recent year using CPI-U All Items)

- Determine median expenditures for bundle for reference “family” (2 adults with 2 children)

- Apply three-parameter equivalence scale to food, clothing, shelter, and utilities part and medical spending equivalence scales to medical part

- Update over time using change in median expenditures of bundle
Equations for Thresholds

\[
\left(1 - s_{\text{medical}}\right) \frac{(1.15 \times P_L \times M) + (1.25 \times P_H \times M)}{2} + \\
\left(s_{\text{medical}}\right) \frac{(P_L \times M) + (P_H \times M)}{2}
\]

- Used the midpoints of the percentages and multipliers
Three-Parameter Equivalence Scale Applied to \((1-s_{\text{medical}})\) Part

- **one and two adults**
  \[\text{[adults]}^{0.7}\]

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

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

- Number of family members
- Ages of family members
  - < 65 years of age
  - >= 65 years of age
- Health insurance status of family members
  - No insurance
  - One private policy
  - One person covered by public insurance and no private coverage
Data

- U.S. Consumer Expenditure Interview Survey
- Amount of data/time period
  - 3 years of data
  - Threshold year minus one (t-1)
    - e.g., for 1993 threshold, t=1993 so last year of data used in calculation of threshold would be primarily for 1992

- 1993 Threshold
  - Collection quarters: 1990 Q2 - 1993 Q1
- 2003 Threshold
  - Collection quarters: 2000 Q2 - 2003 Q1

- Assume quarters are independent
Experimental Thresholds

- Official
- FCSUM-OOP
- FCSUM-R
Experimental Thresholds

Survey change  Market?

[Graph showing threshold levels from 1993 to 2003, with data points at $14,000, $16,000, $18,000, $20,000, $22,000, $24,000, and $26,000]
Average Annual CPS Household income, CE Expenditures, and Thresholds

Sources: CPS and CE websites, author’s calculations
Reference Family Annualized Spending in the 30\textsuperscript{th}-35\textsuperscript{th} Percentile for FCSUM-OOP
Reference Family Annualized Spending/Owner Consumption in the 30th-35th Percentile for FCSUM-R
CPI-U for All Items and Selected Categories

![CPI-U Graph]

- **CPI_U**
- **FOOD_CPI**
- **APP_CPI**
- **UTIL_CPI**
- **SHEL_CPI**
- **MED_CPI**
Threshold Shares and CPI-U Relative Importances: 2003

FCSUM-OOP Threshold

CPI-U
Threshold Shares and CPI-U Relative Importances: 2003

FCSUM-R Threshold

- Food: 34%
- Clothing: 5%
- Shelter: 25%
- Utilities: 16%
- Medical: 7%
- Other: 13%

CPI-U

- Food: 30%
- Clothing: 7%
- Shelter: 38%
- Utilities: 6%
- Medical: 4%
- Other: 15%
Price Adjustment and Years of Data

- Which CPI-U?
  - CPI-U All Items to update sum of FCSUM
  - CPI-U for each item (i.e., food, clothing, shelter, utilities, medical care)

- Which years of data?
  - 3 years, t-1
  - 2 years, t-1
  - 2 years, t
Price Adjustment and Years of Data: Threshold 2004

Reference Families
n=8,280
n=5,576
n=5,410
Conclusions

- Thresholds that account for
  - Medical care expenditures
  - Shelter consumption

- Trends

- Updates to reflect
  - Whose experience?
    - “Average” urban consumer
    - Reference family
  - Which goods and services?
  - Time period

- More research
  - Equivalence scales
  - Data collection
    - Medical care
    - Consumption-based measures
Contact

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Food Shares as a Percentage of Total Using 2003 CE Data

Source: CE data 2003 Q1-2004Q1
Food Share Multipliers Using 2003 CE Data

Source: CE data 2003 Q1-2004Q1
Poverty Thresholds Based on Food Share and Thrifty Food Plan for 2003

Source: CE data 2003 Q1-2004Q1