Developing Poverty Thresholds

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Key in Development

- Determine threshold

- Calculate resources

Goal: Consistently measure thresholds and resources
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

Procedure
This paper... builds on NAS Workshop 2004

- Threshold
  - Concepts and measures
  - Definitions
  - Adjustments

- Data

- Results
  - Time series: 1993-2003
  - Relationship to other series

- Conclusions
Concept Underlying Threshold?

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

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

- **Consumption**
  - What people think about

  - For housing in particular, spending does not equal consumption (e.g., subsidized, own)
    - Treat 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

- Spending
  - CE-publication expenditures (NAS and Census): FCSUM-CE
  - Out-of-pocket (OOP) expenditures: FCSUM-OOP

- Spending and Consumption
  - Expenditures adjusted for select consumption/needs (e.g., shelter): FCSUM-R
FCSUM-CE (Publication Definition) Threshold

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

- For homeowners, non-vacation shelter expenditures that include
  - Mortgage interest payments (no principal repayments)
  - Prepayment penalties
  - Property taxes
  - Maintenance, repairs, insurance and other related expenditures
FCSUM-OOP (Out-of-Pocket Spending) Threshold

- Same as for “CE” expenditures with the addition of ...
  - Repayments of mortgage principal for homeowners
FCSUM-R (Shelter Consumption) Threshold

- Out-of-pocket spending on
  - Food
  - Clothing
  - Utilities (includes telephone)
  - Medical care

- Food as pay
- Rent as pay
- Rent of renters
- Rental equivalence of owners
- 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 values would be added to resources for consistency
Computing the Thresholds

- Use three years of quarterly CE data (update to most recent year)

- 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

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

➤ 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**
  
  \[ [\text{adults} + 0.8\times1\text{st child} + (0.5\times\text{children}-1)]^{0.7} \]

- **all other families**
  
  \[ [\text{adults} + 0.5\times\text{children}]^{0.7} \]
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
- Each threshold, 3 years of data
  - 1993: 1990 Q2 – 1993 Q1
  - 2003: 2000 Q2 - 2003 Q1
- Assumed quarters are independent
Experimental Thresholds

![Graph showing experimental thresholds from 1993 to 2003 for different categories: official, FCSUM-CE, FCSUM-OOP, and FCSUM-R. The thresholds increase over time.]
Experimental Thresholds

Survey change
Average Annual CPS Household Income, CE Expenditures, and Thresholds

Sources: CPS and CE websites, author’s calculations
Reference Family Annualized Spending in the 30th-35th Percentile for FCSUM-CE
Reference Family Annualized Spending/Owner Consumption in the 30th-35th Percentile for FCSUM-R

CE publication expenditures adjusted with shelter consumption
CPI-U for All and for Selected Expenditure Categories
Threshold Shares and CPI-U Relative Importances: 2003

FCSUM-R Threshold

CPI-U

Food    Clothing    Shelter    Utilities    Medical    Other

16%    25%    7%    13%    5%    34%

15%    30%    4%    6%    7%    15%
Summary and Conclusions

- Spending- and consumption-based thresholds
- More research
  - Equivalence scales
  - Data collection
    - Medical care
    - Consumption-based measures
  - Updates to reflect whose experience?
    - “Average” urban consumer
    - Reference family

- These thresholds, unlike official, reflect current basic consumption needs – levels and patterns
Contact

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