

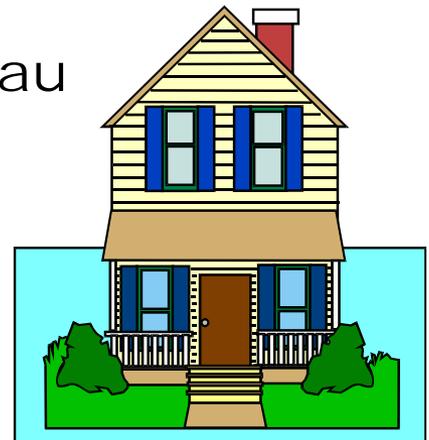
# Incorporating the Value of Owner-Occupied Housing in Poverty Measurement

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*November 2004*



*are our opinions and not those of the BLS or Census Bureau*

# Why Account for Owner Occupied Shelter in Poverty Measurement?



- To address consumption needs of all consistently in thresholds
  - can use spending for most basic commodities (e.g., as food, clothing, utilities); can also use for renters but not for owner-occupiers since spending on this shelter does not equal consumption
- To value resources available to meet consumption needs
  - owner-occupiers potentially have additional resources to meet basic needs other than shelter

*Goal: To treat shelter consistently in thresholds and resources*

# How Differences in Housing Tenure and Valuation Could Affect Measurement

## Question: How to treat owners' and renters' "needs" consistently

- Assume needs of both the same (consumption)
- Assume needs of both differ (spending)
  
- *Example:* 10-90 mix of families with the same shelter consumption and same resources, but distribution by housing tenure differs:
  - 10% Renters
  - 90% Owners with no mortgage expenses
  
- Valuing the flow of shelter services from owner-occupied housing
  - Thresholds: owners and renters consumption "needs" valued
  - Resources of owner-occupants counted (e.g., net imputed rent or return to home equity)
  
- Spending for owner-occupied
  - Thresholds: would reflect much lower spending since more in population have low shelter costs due to more owners without mortgages in sample
  - Resources: no adjustment

# Potential Problem with Spending Based Thresholds

| Separate thresholds         |          | Threshold based on Experience of | Threshold | Resources | Poor? |
|-----------------------------|----------|----------------------------------|-----------|-----------|-------|
|                             |          | Owner                            | \$7,000   | \$10,000  | No    |
| Renter                      | \$11,000 | \$10,000                         | Yes       |           |       |
| Owner with renter threshold | \$11,000 | \$10,000                         | Yes       |           |       |
| Renter with owner threshold | \$7,000  | \$10,000                         | No        |           |       |

*Issue: mix of housing tenure and whose needs represented in reference level*

# Capture Implicit Rent from Owner-occupied Shelter



## **Consistent with International Standards and Recommendations**

- United Nations in national account statistics (1968, 1977, 1993)
- World Bank (2000)
- Canberra Group (2001)
- International Conference of Labour Statisticians (2003)

# Approaches to Value Owner-occupied Shelter



- Value of Owner-occupied Shelter Services
  - Rental equivalence (market-value approach)
    - Assign a value to the flow of services from an owner occupied dwelling
  - User cost of capital (capital-market approach)
    - Transform asset value of the dwelling into flows of annual costs to the owner of the dwelling
- Spending on Shelter
  - Official publication definition (e.g., NAS spending)
  - Out of pocket or payments (outlays)

# Rental Equivalence

- Thresholds using valued from either:
  - Imputed rents using hedonic regression, or
  - Reported rental equivalence (e.g., *If someone were to rent your home today, how much do you think it would rent for monthly, unfurnished and without utilities?*)

- Resources

$$Y_H = (R - C) + \Delta V$$

$Y_H$  = after tax net implicit income

$R$  = implicit rent

$C$  = operating costs net of tax preferences (i.e., property taxes and mortgage interest would be included in  $C$  net of tax savings due to their deductibility)

$V$  = house market value

# User Cost of Capital: Thresholds

- Simple: asset completely financed, mortgage lasts forever with interest rate  $i_r$ , no taxes or inflation (i.e., in the long-run it is assumed that user cost=rent)

$$R = i_r V$$

- Unit depreciates, requires maintenance, etc.

$$R = [i + \tau_p + \beta + m + \delta - \pi]V$$

$R$  = rent or annual user costs of housing consumption with a housing market value of  $V$

$i$  = interest rate

$\tau_p$  = property tax rate

$\beta$  = risk premium for housing investment

$m$  = maintenance and insurance costs rate

$\delta$  = depreciation costs rate

$\pi$  = owner's nominal capital gain rate (assumption here is that house prices appreciate at the overall inflation rate )

# User Cost of Capital: Resources



- Return to Home Equity Added to Resources Approximation

$$Y_H = i_r(1 - \alpha)V + \Delta V$$

$i_r$  = real rate of interest

$\alpha$  = fraction of property that is debt financed

# Official Spending or Outlays



- Thresholds
  - Spent out of pocket mortgage interest and associated shelter costs like maintenance and repairs, could include mortgage principal payments or not
- Resources
  - No adjustment

# U.S. National Academy of Sciences: Poverty Measurement



- Thresholds

- Level of spending on basic needs
  - food, clothing, shelter, utilities, other basic

- Resources

- cash income + non-cash benefits - necessary expenses

➤ Goal: Consistently measured

# NAS Treatment of Owner Occupied Shelter: Thresholds Only



- Mortgage interest payments (no principal repayments)
- Prepayment penalties
- Property taxes
- Maintenance, repairs, insurance and other related expenditures

Used this definition for “processing convenience”  
(Citro and Michael, 1995, p. 245)

# NAS Recommendations for Owned Shelter

## ■ **Thresholds**

- A preferable definition would include actual outlays for mortgage payments, taxes, insurance, and maintenance and repairs, together with an imputed amount for the estimated rental value of the home net of such outlays (p. 148).

*=imputed estimated rental value or implicit rent*

## ■ **Resources**

- The imputed rent value [added to resources] would be net of mortgage and other costs that do not exceed the amount of imputed rent; that is we do not suggest that homeowners who assume mortgage payments that exceed the rental value of their home obtain a deduction from income (p. 245)

*=net implicit operating income*

# Concept Underlying Threshold and How Valued



NAS Recommended:  
Costs of commodities



**Basic "Needs"**

NAS Used:  
Amount spent by households

# Alternative Measures Since NAS Report: Data



- Thresholds
  - U.S. Consumer Expenditure Interview Survey
- Resources
  - Current Population Survey: March Supplement
  - Imputations of additional information from American Housing Survey

# Thresholds: Market-Based Approach



*If someone were to rent your home today, how much do you think it would rent for monthly, unfurnished and without utilities?*

- Replaces owner shelter expenditures
- Challenge: data quality

# Resources: Capital-Based Approach



- Add to resources return to home equity
- Challenge: dependence on imputations

# Impact on Poverty Rates



⌘ Overall

⌘ Elderly

# Poverty Rates Using Rental Equivalence and Return to Home Equity: 1996

NAS  
recommendation

| <b>Threshold</b>           | <b>Resource</b>  | <b>Total</b> |
|----------------------------|--|--------------|
| Official poverty           | Before tax cash income (SIPP)  | 12.8         |
| Official poverty           | Before tax cash income<br>+ return to home equity  | 12.7         |
| FCSU-rental<br>equivalence | Before tax cash income<br>+ non-cash benefits<br>– necessary expenses<br>+ return to home equity | 13.6         |

Source: Short 2003

# Proportion of the Poverty Population Accounting for Owner-Occupied Housing: 1996

|                                      | <b>Official</b> | <b>Rental equivalence and home equity</b> |
|--------------------------------------|-----------------|---|
| <b>Percent of all persons</b>        | 12.8            | 13.6                                      |
| <i>Percent of poverty population</i> |                 |   |
| <b>Children (&lt;18)</b>             | 42.3            | 37.2                                      |
| <b>Adults, 18-64</b>                 | 48.5            | 53.6                                      |
| <b>Elderly, 65+</b>                  | 9.2             | 9.2                                       |

Source: Short 2003

# Poverty Rates Using Rental Equivalence and Return to Home Equity: 2000

| <b>Threshold</b>                       | <b>Resource</b>                                       | <b>Total</b> | <b>Elderly</b> |
|--|---|--------------|----------------|
| <i>Change Resources</i>                |   |              |                |
| Official poverty                       | Before tax cash income (CPS)                          | 11.3         | 10.2           |
| Official poverty                       | Before tax cash income +<br>net return to home equity | 10.3         | 6.7            |
| <i>Change Thresholds</i>               |   |              |                |
| FCSU-NAS<br>spending                   | Before tax cash income                                | 11.7         | 11.6           |
| FCSU-outlays                           | Before tax cash income                                | 12.9         | 13.2           |
| <i>Change Thresholds and Resources</i> |   |              |                |
| FCSU-rental<br>equivalence             | Before tax cash income + net<br>return to home equity | 13.1         | 10.9           |

Net return to home equity subtracts property taxes as in official Census publications

Source: Garner and Short 2001

# Methodological and Technical Issues



- Methodological
  - Concept
    - Spending
    - Consumption
  - Comparable treatment for owners and renters in thresholds
  - Consistency in thresholds and resources
- Technical
  - Data availability
  - Data quality
  - Imputations

# Conclusions



- Importance of treating owners and renters consistently
- Measurement preferred that is consistent with international standards and recommendations, and practice in the literature
  - Given current U.S. data
    - Thresholds: rental equivalence
    - Resources: return to home equity based on imputations
- Only one study thus far consistently accounts for owner occupied housing in U.S. thresholds and resources using NAS Panel's recommendations
- Elderly poverty may increase or decrease with fully implemented poverty measure; preliminary work indicates reductions in poverty not as great as might be expected *a priori*