Using ACS Microdata to Compute Shelter Poverty

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Housing Affordability in Context

- Standard measure of spending "too much" on housing: Over 30 percent of income on mortgage/rent and utilities
- There are a number of potential flaws with this, however …
  - That figure is based on politics, not a sound theoretical basis
  - "Ratio approach" assumes all expenses are scalable to income
  - Differences in housing market conditions are not accounted for
  - Housing needs vary based on household size and membership

Potential Solution: Shelter Poverty

- Residual income approach developed by Michael Stone
- New definition of "too much": When housing costs are higher than household income less essential non-housing expenses
  - Operationalization has been a challenge; Kutty (2005) used 2/3 of the poverty line, while Stone (2006) used 1980s BLS budgets

The Self-Sufficiency Standard (SSS)

- Developed in the 1990s by Diana Pearce, U. of Washington
- Computed for 41 states using public data sets to determine minimum income needed to avoid reliance on assistance
  - Done on a contract basis, so many may now be out of date …
- Figures broken out by type of need, county, and hh category

Initial Processing

- Download an IPUMS ACS microdata file with the following:
    - Gross rent and selected monthly owner costs
    - Number of household members and their ages
    - Household income
    - PUMA of residence
    - Household weight
- Encode bullet 2 to match SSS categories (e.g., "a1i0p1s0t0")

Geography Issues

- Because SSS is county-level, there are two problems:
  - In rural and suburban areas, PUMAs can span multiple counties
  - In densely populated areas, multiple PUMAs fit within one county
- The first problem can be addressed by using a crosswalk weighted average method (e.g., Geocorr from U. of Missouri)
- The second cannot, so data from a within-county PUMA that is atypical of other PUMAs in that county may be inaccurate

Merging the Data

- A simple many-to-one merge attaches the appropriate non-housing expenditure to corresponding heads of household
- Then, computing the "affordability gap" is simple arithmetic, where a value greater than zero indicates shelter poverty:

AG = max(12 x gross rent OR selected owner costs + non-housing expenditures – annual household income, 0)

The Final Results

- After weighting the responses, there are three key outcomes:

1. Prevalence of shelter poverty
2. Aggregate depth of shelter poverty
3. Average depth of shelter poverty

- Each of these can be compared with standard cost burden

Case Study: Ohio Renters

- Responses to 2012-2016 ACS collected through IPUMS for Ohio households paying cash rent 2015 SSS report
- Sample: 147,173 individuals in 68,717 households
- SSS data available for 67,706 households (98.5 percent)
- Ohio has 93 PUMAs; unweighted counts of respondents ranged from 258 to 1,964, with a median of 653

Findings from Ohio

- Shelter poverty (52.4%) is higher than cost burden (45.6%)
- Relative to CB, SP is higher in poor/average areas and lower in wealthy areas, raising some equity concerns
- Aggregate shelter poverty affordability gap is $14.9 billion, compared with $3.2 billion under the cost burden measure
- Average affordability gap: $18,225 vs. $4,559 (4x higher)
- More detail: https://bit.ly/2GrxV0W; journal article to come

Conclusions

- Using ACS microdata to compute shelter poverty can yield an alternative, potentially better, measure of housing affordability
- This approach suggests challenges in low-income areas are substantially understated; preliminary data for SC are similar
- Preservation and expansion of the tools used is paramount

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