How can we guess how many will be living in shelters in the next U.S. Census?

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Background

The sheltered population in the United States increased from 141,000 in 1990 to 167,000 in 2010. Growth in this population is due to several factors, including the state of the economy, the housing market, the range of public policies regarding homelessness, and the size and age structure of the total U.S. population.

Thus, some factors related to homelessness may respond more promptly to short-term fluctuation in the political and economic environment, while others may be the result of longer-term demographic trends and therefore more predictable in the next two or three decades. Easterlin (1987) proposed that relative cohort size affects the economic conditions that a birth cohort is likely to face in adulthood. Homelessness, however, has not been previously associated with generation-specific economic stress and distress (Macunovich and Easterlin 2008). Given the concern over the future structural pressures for growth or contraction in the level of homelessness, our research addresses the following interrelated questions:

- What does the future sheltered population look like of we take age-specific rates as fixed, but allow for the growth and aging of the U.S. population?
- How does this picture change if we represent future rates as functions of differential cohort size?

Modeling homelessness

Data on homelessness in the U.S. are sparse. The U.S. Census surveyed the homeless population in 1990, 2000, and 2010. The decennial Census sample is not intended to be a full count of the homeless population, but we expect it to be representative regarding population dynamics. Annual counts of the sheltered homeless population correspond to the equation $E = \sum_{i=1}^{n}(Pc_i r_i)$, where the total shelter population, E, is the sum of the product of the total population P, the share c of the population in each of n age groups, and the age group-specific rate r. Alternatively, we estimate a Poisson model (separately by sex):

$$H = \exp\left[N + \sum_{i=1}^{5}(\beta_i A^i + \gamma_i C^i) + \sum_{i=1990}^{2010}(\delta_i Y_i)\right]$$

where H is the count of homeless population enumerated in the U.S. Census, N is the exposure measure (person years), β is a vector of coefficients on the set of transformed age variables A, γ is a vector of coefficients on the transformed relative cohort size measures C, and δ are coefficients on dummy variables absorbing period effects in each Census year Y.

How much of U.S. homelessness is driven by cohort dynamics?

Period-specific factors are the largest contributor to rates of homelessness, but significant "Easterlin effects" related to cohort size are apparent, and portend a contraction in the size of the homeless population, *c.p.*

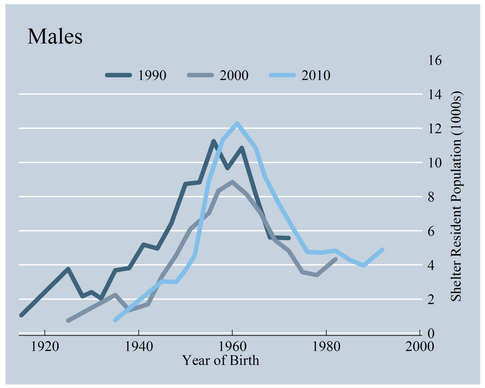

Figure 1: Prevalence of homelessness in the U.S. according to the Census, adjusted to birth date

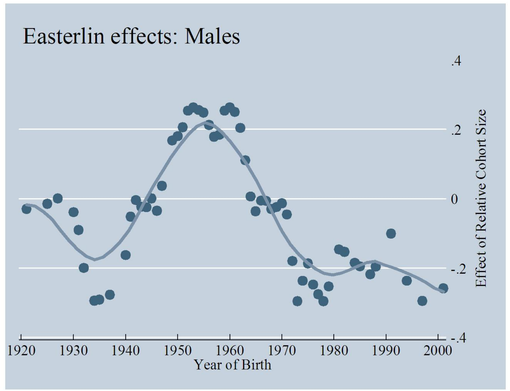

Figure 2: Estimated effects of relative cohort size on probability of ever being homeless.

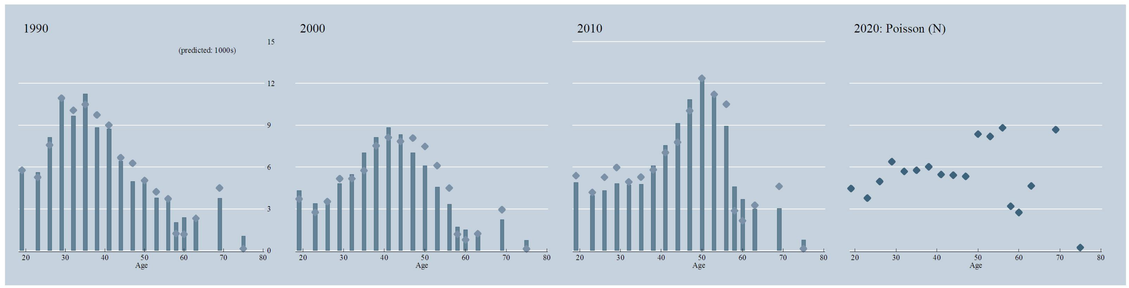

Figure 3: Modeled versus observed counts of homeless males in the U.S. Census

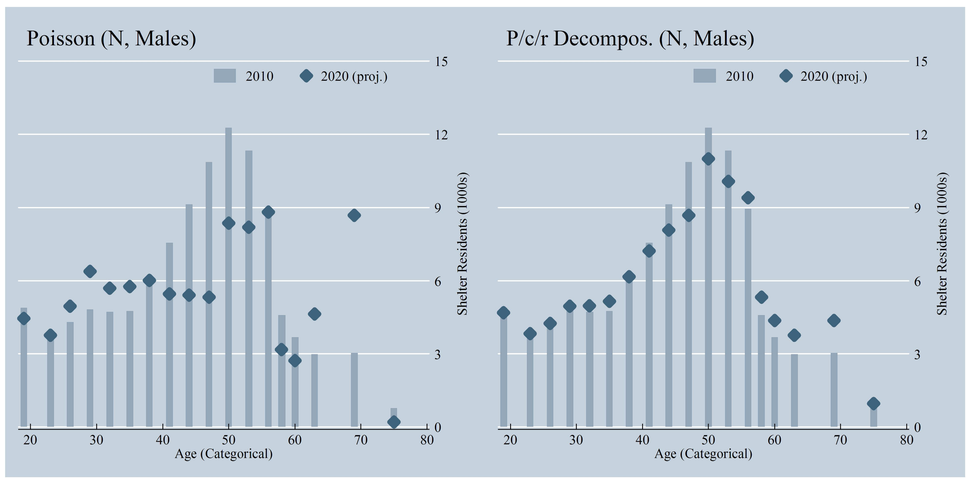

Figure 4: Comparing model results from decomposition versus Poisson regression

Main Results

The cross-sectional age pattern of homelessness has changed dramatically over the past 30 years, and will continue to do so. Cohorts born between 1950–1960 are homeless at a far greater rate than others, and as they entered ages where homelessness rates were higher, they contributed significantly to the growth of the homeless population. We expect this dynamic to reverse, and aging of these cohorts will result in dramatic decreases in the homeless population aged 40–60, and may cause significant increases in the elderly homeless population.

Conclusions and Outlook

Our models can generate projections of the future age distributions of the homeless population, with or without considering cohort-specific dynamics. We found striking Easterlin effects of relative cohort size on the probability of ever being homeless; the projected count of homeless under the Poisson model is nearly 10% lower than the decomposition model, and shows a very different age profile. Demographic dynamics will tend towards reduction of the homeless population, and aging of the cross-sectional homeless population. While economic conditions and policy interventions play the largest role in the size of the homeless population, policy should be mindful of the cohort dynamics of homelessness and the potential credit for reductions in homelessness to go to cohort progression rather than public policy.

Further Information

[1] Sharygin, Ethan, Herbert L. Smith, Vitor Miranda, Tom Byrne, Dennis Culhane. 2013. "Evidence of a strong Easterlin effect on the demography of homelessness in the U.S." (Working paper).

[2] Easterlin, Richard A. 1987. *Birth and Fortune*. Chicago: University of Chicago Press (2nd ed).

[3] Macunovich, Diane J. and Richard A. Easterlin. 2008. "Easterlin Hypothesis" in Steven N. Durlauf and Lawrence E. Blume, eds., *The New Palgrave Dictioanry of Economics, Second Edition.*

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