Examining Chronic and Transient Poverty in the United States with the Supplemental Poverty Measure

Sara Kimberlin
UC Berkeley
skimberlin@berkeley.edu

Extended abstract submitted to PAA 2013 Annual Meeting

Background

Official statistics and academic research on poverty and outcomes associated with it typically consider poverty from a cross-sectional perspective, categorizing individuals as poor by comparing annual income to an annual poverty threshold amount over a single year. However, this perspective fails to account for the time dimension of poverty. Empirical research shows that long-term or chronic poverty has a significantly greater impact on life outcomes, particularly for children, than short-term or transient poverty (Chen, Martin, & Matthews, 2007; Duncan, Brooks-Gunn, & Klebanov, 1994). Moreover, chronic and transient poverty are conceptually distinct phenomena which call for very different policy solutions (Jalan & Ravallion, 1998). Thus examining poverty from a longitudinal perspective provides important information beyond that available from cross-sectional poverty research.

Prior research has been conducted on poverty duration in the United States, finding that the characteristics of households experiencing longer-term poverty are different from the characteristics of those experiencing only short-term poverty. This research shows that racial minorities and female-headed households are overrepresented in the transient poor population, and even more so in the chronic poor population (Duncan, 1984; Stevens, 1999; Anderson, 2011).

All research to date on poverty duration in the U.S. has used the official federal poverty measure (FPL), or a closely related measure (e.g., a threshold based on a multiplier of the FPL), to define which households qualify as poor in a given year. However, the FPL is widely recognized as an inadequate measure of poverty, criticized for failing to account for the impact of taxes and non-cash benefit policies, work-related expenses, geographical differences in living costs, and modern patterns of family formation (Citro & Michael, 1995; Blank, 2008). To address these shortcomings, the U.S. Census Bureau and Bureau of Labor Statistics have recently developed a new Supplemental Poverty Measure (SPM) that provides a better-grounded measure of poverty in the U.S. (Short, 2011). Research to date using the SPM has examined poverty from a cross-sectional perspective, but not from a longitudinal perspective. Thus no studies to date have combined a longitudinal approach with the Supplemental Poverty Measure to examine chronic and transient poverty in the U.S. using a well-grounded measure of poverty. This study aims to fill this gap.

Using data from a nationally representative survey over the 11-year period from 1998 to 2008, this study identifies the extent, demographics, and significant correlates of chronic and transient poverty measured using the SPM, including quantification of the disproportionate experience of chronic and transient poverty among racial minorities and female-headed households. It is also one of the few studies of poverty duration in the United States that includes data on the Hispanic population, as most prior studies have excluded Hispanics due to data limitations (e.g. Grieger & Wyse, 2011).

Data

This study uses data for the 11-year period of 1998 to 2008 from the Panel Study of Income Dynamics (PSID). The PSID is a longitudinal, nationally representative dataset, with income and demographic information collected biennially. Thus the sample for this study comprises all individuals who have survey data for all six years of interest: 1998, 2000, 2002, 2004, 2006, and 2008 (n=10,435). The starting year of 1998 was selected because it was the first full year of implementation of welfare reform, a policy change representative of a broad shift in the anti-poverty policy environment that significantly altered the public benefits available to low-income families (Grieger & Wyse, 2011). The 10 years following 1998 included both economic booms and contractions, culminating in the beginning of the Great Recession, and thus allow for examination of poverty outcomes over a substantial timeframe with varying macroeconomic conditions.

Methods

Annual poverty status under the Supplemental Poverty Measure is calculated by summing a specified set of cash and in-kind family resources, subtracting specified necessary expenses, and comparing the resulting amount to a specified threshold amount designed to reflect necessary basic expenditures for food, clothing, shelter, and utilities, adjusted for family composition as well as for housing status and geographic location (Short, 2011). The PSID includes not only detailed cash income and demographic information, but also reasonably detailed information about a variety of near-cash and in-kind benefits, household expenses, and housing status, including directly reported values for many of the resource inputs to the SPM, reported receipt and/or sufficient information to directly estimate values for the remaining inputs, as well as data on housing tenure, location of residence, and family composition needed to assign and adjust SPM thresholds. SPM poverty status can therefore be calculated in the PSID with minimal imputation of input variables. The method for calculating SPM poverty status in this study utilizes forthcoming historical SPM thresholds (Garner & Gudrais, 2012; Fox et al., 2012), and closely follows the procedures described in the most recent comprehensive Census Bureau publication on the SPM (Short, 2011). For comparison, annual poverty status using the official federal poverty measure is also calculated, using cash income and FPL threshold variables that are included in the PSID data file for each year.

The patterns of annual SPM and FPL poverty status across the six data years are then used to categorize individuals as chronic poor, transient poor, or nonpoor. Individuals in chronic poverty are broadly understood to be those experiencing poverty most or all of the time, while individuals in transient poverty are those who experience one or more years of poverty but are generally nonpoor (Hulme & Shepard, 2003). Prior research has used multiple methods and cut-offs to categorize poor individuals as chronic or transient poor, with two basic approaches dominating (Hulme, Moore, & Shepherd, 2001). In the spell-based approach, the number of discrete time periods with income below the poverty threshold are counted and then tabulated over a set timeframe or analyzed in terms of the number of consecutive periods in poverty. In the components approach, an individual's "permanent income" is modeled over a set timeframe, and compared to a specified poverty line; a simple version of this approach is averaging income over a number of years, then comparing the mean income to an averaged annual poverty threshold. The spell-based approach implicitly assumes that income is not transferable between time periods, while the components approach implicitly assumes that income is transferable between time periods (e.g. one year with an income well above the poverty line can compensate for several subsequent years with income below the line) (Foster, 2009). In this study, the spell-based approach is used, based on the assumption that income is unlikely to be fully transferable across the 11-year timeframe. Individuals are categorized as chronic poor if they are poor for four or more of the six years, and as transient poor if they are poor for at least one year but do not meet the cutoff for chronic poverty.

Rates of chronic poverty and transient poverty are then calculated using both the SPM and FPL measures. The demographic characteristics of the chronic poor and transient poor populations are examined and compared to the overall population. Subsequent analysis will examine significant correlates of chronic poverty and transient poverty using multivariate multinomial logistic regression. Covariates to be examined will include gender of head of household, race, age, disability and health status, work history, and immigrant status, with investigation of both baseline and cumulative covariates (e.g. number of years worked during the study timeframe).

The PSID utilizes sample weights to account for over-sampling of low-income individuals and sample attrition. Thus all analyses will be conducted using the individual longitudinal weights developed for survey year 2009.

Preliminary Results

Preliminary results show a different population distribution of poverty duration depending on which poverty measure is used; with the SPM, the transient poverty rate is higher and the chronic poverty rate is lower than with the FPL.

Examining preliminary results using the SPM, several demographic groups are overrepresented in both the chronic and transient poor populations, including individuals in families with black and Hispanic heads of household, individuals in female-headed households, immigrants, and children. Chronic poor and transient poor demographics are somewhat different, with the chronic poor showing a larger proportion of individuals in households with a disabled head/wife/cohabitor, a smaller proportion of individuals in households with a working head/wife/cohabitor, and a larger proportion of individuals in minority-race and immigrant households.

Comparing the results using the SPM versus using the FPL, the demographics of the transient poor are largely similar, but those of the chronic poor differ. In particular, individuals in families with black household

heads and in female-headed households comprise a smaller proportion of the SPM chronic poor than the FPL chronic poor, while seniors comprise a larger proportion of the SPM chronic poor than the FPL chronic poor. Immigrants and individuals with Hispanic household heads comprise a nominally larger share of the SPM chronic poor than the FPL chronic poor.

Ongoing analysis will explore these patterns further using additional individual and household characteristics and using multivariate regression.

References

Anderson, R. (2011). Dynamics of economic well-being: Poverty, 2004–2006. Current Population Reports, P70-123, U.S. Census Bureau. Washington, DC: Government Printing Office.

Blank, R. (2008). How to improve poverty measurement in the United States. *Journal of Policy Analysis and Management*, 27(2), 233-254.

Chen, E., Martin, A. & Matthews, K. (2007). Trajectories of socioeconomic status across children's lifetime predict health. *Pediatrics*, 120(2), e297-e303.

Citro, C.F. & Michael, R.T. (eds.) (1995). *Measuring Poverty: A New Approach*. Washington, DC: National Academy Press.

Duncan, G. (1984). *Years of Poverty, Years of Plenty*. Ann Arbor, MI: Survey Research Center, University of Michigan.

Duncan, G., Brooks-Gunn, J., & Klebanov, E (1994). Economic deprivation and early childhood development. *Child Development, 65*,296-318.

Foster, J. (2009). A class of chronic poverty measures. In T. Addison, D. Hulme, & R. Kanbur (eds.), *Poverty Dynamics: Interdisciplinary Perspectives* (pp.59-76). Oxford: Oxford University Press.

Fox, L., Garfinkel, I., Hutto, N., Kaushal, N., Waldfogel, J. & Wight, V. (2012). Historical SPM thresholds, from Re-evaluating Historical Poverty Trends with the Supplemental Poverty Measure. Paper in progress at the Columbia Population Research Center.

Garner, T. & Gudrais, M. (2012 forthcoming). The Supplemental Poverty Measure: Threshold issues. Paper in progress at the U.S. Bureau of Labor Statistics.

Grieger, L. & Wyse, J. (2011). From welfare to workfare: Did increases in the Earned Income Tax Credit reduce long-term poverty among children? Paper presented at the 2011 Annual Meeting of the Population Association of America.

Hulme, D., Moore, K., & Shepherd, A. (2001). Chronic poverty: Meanings and analytic frameworks. CPRC Working Paper 2. Manchester: Institute of Development Policy and Management, Chronic Poverty Research Centre.

Hulme, D., & Shephard, A. (2003). Conceptualizing chronic poverty. *World Development*, 31(3), 2003: 403-423.

Jalan, J. & Ravallion, M. (1998). Transient poverty in post-reform rural China.. *Journal of Comparative Economics*, 26(2), 338–357.

Short, K. (2011). The Research Supplemental Poverty Measure: 2010. Current Population Reports, P60-241, U.S. Census Bureau. Washington, DC: Government Printing Office.

Stevens, A.H. (1999). Climbing out of poverty, falling back in: Measuring the persistence of poverty over multiple spells. *Journal of Human Resources*, 34(3), 557-588.

Preliminary Results

Rates of Chronic and Transient Poverty 1998-2008 Using SPM and FPL

	Chronic Poor %	(se) [95% CI]	**Transient Poor %**	(se) [95% CI]
SPM (n=9,289)	2.33	(0.39) [1.68, 3.25]	19.24	(0.79) [17.70, 20.87]
FPL (n=10,435)	4.69	(0.58) [3.66, 5.98]	17.06	(0.78) [15.55, 18.69]

Source: Author's analysis of PSID data.

Demographics of Chronic and Transient Poor 1998-2008 Measured with SPM and FPL

	SPM (n=9,289)				**FPL** (n=10,435)				**Reference** (n=10,435)	
Baseline characteristics	**Chronic Poor**	(se) [95% CI]	**Transient Poor**	(se) [95% CI]	**Chronic Poor**	(se) [95% CI]	**Transient Poor**	(se) [95% CI]	**Overall Sample**	(se) [95% CI]
Age 0-17	0.32	(0.05) [0.23, 0.42]	0.30	(0.01) [0.27, 0.33]	0.42	(0.03) [0.35, 0.48]	0.35	(0.01) [0.32, 0.37]	0.24	(0.01) [0.23, 0.25]
Age 18-64	0.52	(0.03) [0.46, 0.59]	0.60	(0.02) [0.57, 0.63]	0.50	(0.03) [0.44, 0.57]	0.58	(0.01) [0.56, 0.61]	0.67	(0.01) [0.66, 0.68]
Age 65+	0.16	(0.04) [0.09, 0.26]	0.10	(0.01) [0.08, 0.13]	0.08	(0.02) [0.04, 0.14]	0.07	(0.01) [0.05, 0.08]	0.08	(0.00) [0.08, 0.09]
Black household head	0.23	(0.05) [0.14, 0.35]	0.19	(0.03) [0.15, 0.25]	0.41	(0.07) [0.29, 0.55]	0.22	(0.03) [0.17, 0.28]	0.13	(0.01) [0.10, 0.16]
Hispanic household head	0.41	(0.09) [0.24, 0.60]	0.15	(0.02) [0.11, 0.20]	0.26	(0.06) [0.16, 0.40]	0.15	(0.02) [0.11, 0.19]	0.08	(0.01) [0.06, 0.11]
Other race household head	0.02	(0.01) [0.01, 0.07]	0.04	(0.01) [0.03, 0.06]	0.03	(0.01) [0.01, 0.05]	0.04	(0.01) [0.02, 0.06]	0.04	(0.01) [0.03, 0.05]
White household head	0.34	(0.06) [0.23, 0.47]	0.62	(0.03) [0.55, 0.68]	0.31	(0.05) [0.22, 0.41]	0.59	(0.03) [0.53, 0.65]	0.75	(0.02) [0.71, 0.79]
Immigrant	0.43	(0.09) [0.26, 0.62]	0.16	(0.02) [0.12, 0.21]	0.27	(0.06) [0.17, 0.40]	0.15	(0.02) [0.12, 0.19]	0.10	(0.01) [0.08, 0.12]
Female household head	0.41	(0.08) [0.27, 0.56]	0.35	(0.02) [0.31, 0.40]	0.57	(0.05) [0.47, 0.66]	0.36	(0.02) [0.32, 0.40]	0.21	(0.01) [0.19, 0.23]
Disabled head/ wife/cohabitor	0.20	(0.05) [0.13, 0.31]	0.11	(0.01) [0.09, 0.13]	0.16	(0.03) [0.11, 0.23]	0.11	(0.01) [0.09, 0.13]	0.07	(0.00) [0.06, 0.08]
Working head / wife/cohabitor	0.66	(0.07) [0.52, 0.78]	0.78	(0.02) [0.75, 0.82]	0.66	(0.04) [0.57, 0.74]	0.83	(0.02) [0.79, 0.86]	0.89	(0.00) [0.88, 0.90]
High-cost housing area	0.41	(0.09) [0.24, 0.60]	0.25	(0.03) [0.20, 0.31]	0.21	(0.06) [0.11, 0.35]	0.21	(0.02) [0.17, 0.26]	0.25	(0.02) [0.21, 0.29]
Private health insurance	0.13	(0.03) [0.09, 0.19]	0.56	(0.02) [0.51, 0.60]	0.13	(0.02) [0.09, 0.18]	0.55	(0.02) [0.51, 0.59]	0.76	(0.01) [0.74, 0.79]
Public health insurance	0.65	(0.05) [0.55, 0.74]	0.30	(0.02) [0.26, 0.34]	0.68	(0.04) [0.59, 0.75]	0.31	(0.02) [0.27, 0.35]	0.17	(0.01) [0.15, 0.19]
Uninsured	0.22	(0.04) [0.15, 0.32]	0.14	(0.02) [0.11, 0.17]	0.20	(0.03) [0.14, 0.27]	0.14	(0.01) [0.12, 0.17]	0.06	(0.01) [0.05, 0.08]

Source: Author's analysis of PSID data.