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Attrition in Longitudinal Household Survey Data Some Tests for Three Developing-Country Samples

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Abstract

Longitudinal household data can have considerable advantages over much more widely used cross-sectional data for capturing dynamic demographic relationships. Because the collection of longitudinal data may be difficult and expensive, analysts need to assess the magnitude of the particular problems associated with longitudinal but not with cross-sectional data. One problem that has concerned many analysts is that sample attrition may make the interpretation of estimates problematic. Such attrition may be particularly severe in areas where there is considerable migration between rural and urban areas. Many analysts share the intuition that attrition is likely to be selective on characteristics such as schooling and thus that high attrition is likely to bias estimates. This paper considers the extent and implications of attrition for three longitudinal household surveys from Bolivia, Kenya, and South Africa that report very high per-year attrition rates between survey rounds. Our estimates indicate that: (a) the means for a number of critical outcome and family background variables differ significantly between those who are lost to follow-up and those who are re-interviewed; (b) a number of family background variables are significant predictors of attrition; but (c) nevertheless, the coefficient estimates for standard family background variables in regressions and probit equations for the majority of the outcome variables in all three data sets are not affected significantly by attrition. Therefore, attrition apparently is not a general problem for obtaining consistent estimates of the coefficients of interest for most of these outcomes. These results, which are very similar to those for developed countries, suggest that multivariate estimates of behavioral relations may not be biased due to attrition and thus support the collection of longitudinal data.

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