

Comparing estimation strategies in the presence of panel attrition. Empirical results based on the ECHP*

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Abstract

Since attrition in the European Community Household Panel (ECHP) has cumulated to a considerable extent, there is concern that attrition biases empirical analysis. In this paper we compare empirically the performance of four different estimation strategies in the presence of panel attrition. The example we analyze is the estimation of earnings equations. By splitting the completely observed sample according to the response behaviour of the following wave, we assess empirically the bias of an un-weighted, an inverse probability weighted, a Heckman and a matching estimator through bootstrap methods.

Our findings lead us to several conclusions. First, for the example of Mincerian earnings equations, attrition is no matter of great concern when using the ECHP data. Second, the three different estimation strategies, which correct for attrition based on estimated response probabilities, reduce the number of significantly biased parameters. Third, the correction strategies strongly increase the variance of the estimates through relying on estimated response probabilities and increase the relative bias. Hence, the reduction of significant biases is rather due to increased variance than due to lower biases. This result is confirmed when comparing the mean square error of the different estimation techniques. Therefore for the estimation of income equations the uncorrected estimation based on respondents is suggested as the superior estimation strategy.

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