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School attendance of children and the work of mothers: A joint multilevel model for India

Abstract:

This paper employs a multilevel random effect model to investigate the determinants of children schooling and mothers' work in a joint framework. The two observed outcomes are the working status of the mother and the schooling status of anyone of her children. These outcomes, under the hypothesis that children's time is an extension of their mother's time, are determined by the two underlying utilities of the mother, one of working and the other of sending each child to school. We specify a two-equation linear model for these utilities (mother-level and child-level) under the assumptions that children of the same mother share the same mother-level error such that the child equation becomes a random effects probit. Also, the mother equation has an error structure that allows for correlation between the mother and child equations.

Our data is drawn from the National Family Health Survey for India, 1998-1999 (NFHS-2). We aim at estimating two parameters: the residual correlations of the utilities for a mother and for anyone of her children (mother-child correlation) and the residual correlations of the utilities for any two siblings of the same mother (within class correlation).

Our results show that, controlling for a number of covariates, the mother-child correlation is significant and negative. That is, if mothers work, children may not attend school in order to contribute to the housework or to the household income through child labour. Its rather low absolute value, however, indicates a somehow contained effect. Moreover, the within class correlation is significant and quite large, thus suggesting that, others things equal, mothers tend to choose the same state for each child. Indeed, some gender discrimination is present (males have a higher probability to be students), but the size of this correlation is such that preferences for treating all children equally seem to dominate.