



Amsterdam School of Economics

Econometric Game 2009

Case A (8 April 2009):

Analysing the number of children in relation to the number of deceased children within families

Research question: One of the arguments for having a large number of children is that families in the poorest less developed countries need a lot of children in order to survive, because of the potential for children to earn money which helps to lift the standard of living. An alternative explanation might be the limited access to contraceptives either because of lack of knowledge or because of financial or religious reasons. If the first argument is true one would expect that the number of deaths of children experienced by a family will have a positive impact on the total number of child births. If the alternative argument is true, this variable will not have an impact. Investigate the relation between the number of children ever born in a family and the number of deceased children in that family.

Data: Indian DHS-3 (DHS is Demographic and Health Surveys, 3rd one took place in 2005-2006), individual sample, 10% random subsample (12439 observations), respondents all female. Available variables and definitions: see codebook. Most variables are taken directly from DHS-3. A few variables have been created: see SELECT.DO.

The data have been downloaded from the US federal government agency USAID, Measure DHS, see <http://www.measuredhs.com/start.cfm>
[Thanks are due to Dr. Alok Bhargava (University of Houston) and Dr. A.M. Guntupalli (University of Southampton) for providing reference to Measure DHS]

Available data files (all containing the same data and variable names):
Indiadhs3.dta (STATA); Indiadhs3.xls (Excel); Indiadhs3.wf1 (EViews)

Further files: Teams also receive PDF files of the three papers on child mortality in India listed below, a PDF file containing some further information on the data, a TXT file containing the code book for the data, and the Stata DO file that has been used to extract the data from the original Measure DHS Stata dta file.

Dependent variable: nrchever (or some transformation of it) i.e. number of children the woman gave birth to.

Most important explanatory variable: decch (or some transformation of it) i.e. number of children of the responding woman that died.

References on the estimation of count data models:

- Cameron, A.C., Trivedi, P.K., 1998. *Regression Analysis of Count Data*. Cambridge University Press.
- Cameron, A.C., Trivedi, P.K., 2005. *Microeconometrics*. Cambridge University Press. Chapter 20.
- Mullahy, J., 1986. Specification and testing of some modified count data models. *Journal of Econometrics*, vol. 33, 341-365.
- Winkelmann, R., 2003. *Econometric Analysis of Count Data*, 4th edn. Springer: Heidelberg.
- Winkelmann, R., 2004. Health care reform and the number of doctor visits – an econometric analysis. *Journal of Applied Econometrics*, vol. 19, 455-472.

References on child mortality in India:

These references need not be directly related to the problem at hand. They serve as background information and give some idea about the kind of explanatory variables that has been used in related research.

- Bhalotra, S. and A. van Soest, 2008. Birth-spacing, fertility and neonatal mortality in India: Dynamics, frailty, and fecundity. *Journal of Econometrics*, vol. 143, 274-290.
- Bhargava, A., 2003. Family planning, gender differences and infant mortality: evidence from Uttar Pradesh, India. *Journal of Econometrics*, vol. 112, 225-240.
- Bhargava, A., Chowdhury, S., Sing, K.K., 2005. Healthcare infrastructure, contraceptive use and infant mortality in Uttar Pradesh, India. *Economics and Human Biology*, Vol. 3, 388-404.