



A Robust ELL Methodology for Poverty Mapping

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The ELL (Elbers, Lanjouw and Lanjouw 2003) methodology for poverty mapping was developed by the World Bank and is widely used in developing countries. The method combines household survey income and expenditure data with population census data but does not require any linkage between the datasets at the household level. However, the ELL method has also been criticized because of its assumption of negligible between area variability in calculation of small area poverty estimates and the mean squared errors (MSEs) of these estimates. In particular, these MSEs are significantly underestimated when the between area variability in the income and expenditure data cannot be adequately explained by the explanatory and contextual variables in the regression model. In this paper a method of MSE estimation for ELL-type estimates is proposed which is robust to the presence of significant unexplained between area variability in the variables underpinning the poverty estimates. Simulation results show that the proposed method performs better than the classic ELL methodology for poverty estimation. An application to a poverty mapping study of Bangladesh is described.

Keywords: Mean Squared Error, Model Misspecification, Poverty Mapping, Small Area Estimation.