Proxy Means Tests for Targeting the Poorest Households: Applications to Uganda

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Abstract

The motivation for this research stems from increasing interest exhibited toward the issue of targeting. This paper explores the use of proxy means tests to identify the poorest households in Uganda. The set of indicators used in our model includes variables usually available in Living Standard Measurement Surveys (LSMS). Previous researches seeking to develop proxy means tests for poverty most often use Ordinary Least Squares (OLS) as regression method. In addition to the OLS, the paper explores the use of Linear Probability Model, Probit, and Quantile regressions for correctly predicting the household poverty status.

A further innovation of this research compared to the existing literature is the use of out-of sample validation tests to assess the predictive power and hence the robustness of the identified set of regressors. Moreover, the confidence intervals are approximated out-of sample using the bootstrap algorithm and the percentile method.

The main conclusion that emerges from this research is that measures of relative poverty estimated with Quantile regression can yield fairly accurate in-sample predictions of absolute poverty in a nationally representative sample. On the other hand, the OLS and Probit perform better out-of-sample. Besides it complexity, the Quantile regression is less robust. The Probit may be the best alternative for optimising both accuracy and robustness of a poverty assessment tool.

The best regressor sets and their derived weights can be used in a range of applications, including the identification of the poorest households in the country, the assessment of poverty outreach of Microfinance Institutions (MFIs), the eligibility to social transfer programs, and the measurement of poverty and welfare impacts of agricultural developments projects. Finally, findings from this paper could complement the use of poverty mapping for geographically targeting the poor.

Keywords: Bootstrap, out-of-sample test, poverty assessment, proxy means test, targeting

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