

The Reliability and Validity of Skills Measurement in Rural Household Surveys

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Abstract

Measures of cognitive, non-cognitive and technical skills are increasingly used in development economics, to analyze determinants of skills formation, the role of skills in economic decisions or simply because they are potential confounders.

Yet in most cases, these measures have only been validated in developed countries. This paper tests the reliability and validity of some of the most commonly used skills measures, in a rural developing context. To do so, we administrated a survey with a series of skills measurement to more than 900 households, asked them the same questions again after 3 weeks, and also collected questions on agricultural practices and production in rural western Kenya. The results show the cognitive skills measures are reliable and internally consistent. Technical skills are difficult to capture and very noisy, but predictive power and coherence increase as questions are aggregated through factor analysis. By contrast, the reliability of non-cognitive skills measures are low in this setting, and measurement error appears non-classical as correlation between questions are driven in part by answering patterns of respondents and the phrasing of the questions. We show that correcting for such systematic measurement error, following common psychometric practices, leads to substantially different empirical results.