Does Insurance Improve Resilience? Measuring the Impact of Index-Based Livestock Insurance on Development Resilience in Northern Kenya

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Abstract:

Weather shocks, such as drought, have disastrous impacts on people living in pastoral regions of the Horn of Africa. The cycle of droughts and humanitarian response in this region – and in arid and semi-arid lands in general – has motivated donor and governmental interest in building the "resilience" of vulnerable populations in the hopes of reducing demands for humanitarian assistance and fostering sustainable development. Toward this end, over the past decade, several countries have considered index insurance as a promising approach to help households manage weather risk and cope with catastrophic shocks.

Taking advantage of a multi-round, household panel dataset, this paper evaluates the impacts of an index-based livestock insurance (IBLI) product on household development resilience in terms of both 1) household herd size, the primary productive asset and wealth stock in the region, and 2) child health in pastoral areas of Northern Kenya. The survey, which was first administered in 2009, spans the devastating 2011 drought. Combined with randomized inducement to purchase IBLI that allows for causal identification and a new method of estimating development resilience, we generate the first causal estimates of the resilience impact of an intervention – in our case, insurance – in the face of drought. Given the hundreds of millions of dollars currently being spent on resilience building in developing countries, rigorous impact evaluations are necessary to assess the impacts of those projects.

Building on recent work that develops a new approach for micro-level estimation of development resilience, we parameterize household- and child-level conditional distributions of well-being in each season. By selecting a normative well-being threshold (e.g., poverty line), we predict household and child probabilities of attaining satisfactory levels of well-being; these probabilities indicate their resilience. For a herd size well-being threshold of thirty animals, which places a household at the herd size thresholds estimated in previous studies in the region, we find that holding an IBLI contract in the previous season increases a household's resilience in terms of livestock holdings, regardless of whether a drought occurred. The impact of insurance on resilience is significantly greater, however, during droughts. IBLI is also positively associated with child anthropometric resilience during droughts. There appears to be no relationship between insurance holdings and probabilities of subsequently becoming severely acutely malnourished in non-drought years.

Keywords: Drought, Impact Evaluation, Insurance, Malnutrition, Pastoralism, Poverty, Resilience

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