Authors
Dean Karlan
Northwestern University

Robert Osei
Institute of Statistical, Social and Economic Research (ISSER), University of Ghana

Isaac Osei-akoto
Institute of Statistical, Social and Economic Research (ISSER), University of Ghana

Christopher Udry
Northwestern University

AGRICULTURAL DECISIONS AFTER RELAXING CREDIT AND RISK CONSTRAINTS*

Dean Karlan, Yale University, IPA, J-PAL and NBER
Robert Osei, University of Ghana - Legon
Isaac Osei-Akoto, University of Ghana - Legon
Christopher Udry, Yale University

December, 2013

Abstract

The investment decisions of small-scale farmers in developing countries are conditioned by their financial environment. Binding credit market constraints and incomplete insurance can limit investment in activities with high expected profits. We conducted several experiments in northern Ghana in which farmers were randomly assigned to receive cash grants, grants of or opportunities to purchase rainfall index insurance, or a combination of the two. Demand for index insurance is strong, and insurance leads to significantly larger agricultural investment and riskier production choices in agriculture. The binding constraint to farmer investment is uninsured risk: When provided with insurance against the primary catastrophic risk they face, farmers are able to find resources to increase expenditure on their farms. Demand for insurance in subsequent years is strongly increasing with the farmer's own receipt of insurance payouts, with the receipt of payouts by others in the farmer's social network and with recent poor rain in the village. Both investment patterns and the demand for index insurance are consistent with the presence of important basis risk associated with the index insurance, imperfect trust that promised payouts will be delivered and overweighting recent events.

Keywords: agriculture, insurance markets, credit markets, risk, underinvestment, misallocation

JEL: C93, D24, D92, G22, O12, O13, O16, Q12, Q14

* Contact information: dean.karlan@yale.edu, rosei@ug.edu.gh, iosei-ak@ug.edu.gh and udry@yale.edu. The authors thank the International Growth Centre, the Bill and Melinda Gates Foundation via the University of Chicago Consortium on Financial Systems and Poverty, the National Science Foundation, and the ILO for funding. The authors thank the editors and three referees, and many conference and seminar participants, for comments and insights. Any opinions contained herein are those of the authors and not the funders. The authors thank Caren Beyson, Will Coggins, Alex Cohen, Ruth Demten, Emanuel Feld, Rob Fuller, Adèle Rossouw, Elana Safran, Lindsey Shaughnessy and Rachel Strohm, for incredible research support and project management throughout this project, and Kelly Bidwell and Jessica Kiessel for their leadership on this project as IPA-Ghana Country Directors.

1

Agricultural Decisions after Relaxing Credit and Risk Constraints

The investment decisions of small scale farmers in developing countries are conditioned by their financial environment. Binding credit market constraints and incomplete insurance can limit investment in activities with high expected profits. We conducted several experiments in northern Ghana in which farmers were randomly assigned to receive cash grants, grants of or opportunities to purchase rainfall index insurance, or a combination of the two. Demand for index insurance is strong, and insurance leads to significantly larger agricultural investment and riskier production choices in agriculture. The binding constraint to farmer investment is uninsured risk: When provided with insurance against the primary catastrophic risk they face, farmers are able to find resources to increase expenditure on their farms. Demand for insurance in subsequent years is strongly increasing with the farmer’s own receipt of insurance payouts, with the receipt of payouts by others in the farmer’s social network and with recent poor rain in the village. Both investment patterns and the demand for index insurance are consistent with the presence of important basis risk associated with the index insurance, imperfect trust that promised payouts will be delivered and overweighting recent events.

December 01, 2013