

Scaling Up Agricultural Policy Interventions: Theory and Evidence from Uganda

Abstract

Interventions aimed at raising agricultural productivity in developing countries have been a centerpiece in the global fight against poverty. These policies are increasingly informed by evidence from field experiments and natural experiments, with the well-known limitation that findings based on local variation do not speak to the general equilibrium (GE) effects if the intervention were to be scaled up to the national level. In this paper, we develop a new framework to quantify these forces based on a combination of theory and rich but widely available microdata. We build a quantitative GE model of farm production and trade, and propose a new solution method in this environment for studying high-dimensional counterfactuals at the level of individual households in the macroeconomy. We then bring to bear microdata from Uganda to calibrate the model to all households populating the country. We use these building blocks to explore the average and distributional implications of local shocks compared to policies at scale, and quantify the underlying mechanisms.