Observing Unobservables: Identifying Information Asymmetries with a Consumer Credit Field Experiment

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Information asymmetries complicate financial relationships. They give rise to problems that force lenders, for example, to rely on contracts that are second-best solutions both from their own and from borrowers' perspectives. But while these problems, namely adverse selection and moral hazard, are important in theory, they are difficult to identify and disentangle in practice. Researchers Dean Karlan and Jonathan Zinman take up the challenge with an innovative research methodology. Using an experimental design that randomizes along three dimensions and working with a South African lender, the study isolates the effects of adverse selection and moral hazard, finding strong evidence of moral hazard and weaker evidence of adverse selection on hidden information.

Testing for Adverse Selection & Moral Hazard

In the case of credit, adverse selection (which occurs *ex ante*) and moral hazard (*ex post*) are difficult to distinguish because they lead to the same result, namely increasing loan defaults with increasing interest rates. Randomizing interest rates across borrowers and observing this correlation does not disentangle their effects. FAI researchers Dean Karlan and Jonathan Zinman designed an experiment to overcome this obstacle and ran it with a major South African lender that deals in consumer credit, mainly for low-income borrowers. The lender, which ordinarily uses direct-mail solicitation, mailed "pre-qualified, limited-time" loan offers to 57,533 former clients, randomly varying the interest rates contained in those offers. 5,028 individuals applied for a loan, and 4,348 were approved. Some of those individuals were then surprised with a contract interest rate lower than the one they were offered in the mail. Additionally, some were selected to receive a dynamic repayment incentive that would offer them the lower rate conditional on timely repayment. By creating a sample group that contains clients who chose to borrow at different rates but actually received the same rate, the authors were able to look for evidence of adverse selection. Moral hazard could then be observed in the group who chose to borrow at the same rate but actually received different rates. A third group, composed of people who selected in and borrowed at the same rates but then faced different dynamic repayment incentives (guaranteed future rate) also allowed for observations of moral hazard. By randomizing along three dimensions, Karlan and Zinman separate hidden information effects from selection on the offer rate, from hidden action effects induced by actual contract terms.

Results

The authors find evidence of significant moral hazard, observed most strongly in the effect of offering dynamic incentives. A rough estimate suggests that moral hazard explains perhaps 13% to 21% of default in the sample. They also find weaker evidence for adverse selection. Information asymmetries may help explain the prevalence of credit constraints even in a market that specializes in financing high-risk borrowers at very high rates.

Policy Implications

Two lessons can be drawn from the DrumNet experience. First, on the positive side, DrumNet succeeded in building trust between farmers and exporters by convincing farmers to invest in export oriented production and exporters to purchase the farmers' produce. The increase in income for first-time growers in particular suggests that future interventions should focus on deepening outreach to new farmers rather than to those already producing for export. The second lesson, however, was that an organization facilitating such transactions must take into account changing certification requirements. DrumNet should have covered the substantial infrastructure and maintenance costs needed to certify the farmers for EurepGap. The eventual collapse of the transactions may have generated a loss of trust, the exact problem DrumNet was designed to solve.