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### Credit Elasticities in Less-Developed Economies: Implications for Microfinance

By DEAN S. KARLAN AND JONATHAN ZINMAN\*

*Policymakers often prescribe that microfinance institutions increase interest rates to eliminate their reliance on subsidies. This strategy makes sense if the poor are rate insensitive: then microlenders increase profitability (or achieve sustainability) without reducing the poor's access to credit. We test the assumption of price inelastic demand using randomized trials conducted by a consumer lender in South Africa. The demand curves are downward sloping and steeper for price increases relative to the lender's standard rates. We also find that loan size is far more responsive to changes in loan maturity than to changes in interest rates, which is consistent with binding liquidity constraints. (JEL G21, O16)*

Microcredit fights poverty by expanding access to credit. Some microfinance institutions (MFIs) focus on maximizing profits, and do so while lending to the poor. Others seek to maximize access for the poor subject to a budget constraint. Regardless, nearly all MFIs face pressure from policymakers, donors, and investors to eliminate their reliance on subsidies.

Economic modeling, policy, and practice suggest that loan pricing is critically related to reliance on subsidies, and to the functioning of credit markets more generally. Yet existing research offers little evidence on interest rate sensitivities in MFI target markets,<sup>1</sup> and little methodological guidance on how to derive optimal rates.<sup>2</sup> Instead, MFIs and policymakers rely heavily on descriptive evidence and intuition. Policymakers often presume that the poor are largely insensitive to interest rates, and then prescribe that MFIs should increase rates without fear of reducing

\*Karlan: Department of Economics, Yale University, PO Box 208209, New Haven, CT 06520 (e-mail: dean.karlan@yale.edu); Zinman: Department of Economics, Dartmouth College, Hanover, NH 03755 (e-mail: jonathan@dartmouth.edu). Previous title: "Elasticities of Demand for Consumer Credit." Thanks to the Lender for funding the loans and generously providing us the data from their experiment. Thanks to the National Science Foundation (NSF-0424007 and CAREER SES-0547099), BASR/USAID (ICRP), and the Bill and Melinda Gates Foundation for funding research expenses. Most of this paper was completed while Zinman was at the Federal Reserve Bank of New York (FRBNY). We thank the FRBNY for research support. Views expressed herein are those of the authors and do not necessarily reflect those of the Federal Reserve Bank of New York, the Federal Reserve System, the National Science Foundation, or USAID. Thanks to Mary Astorick-Karimov, Ashraf Banerjee, Ragun Deheja, Jonathan Morduch, Doug Shapiro, Chris Udry, two anonymous referees, and the editor for comments on the paper. Thanks to Jeff Arnold, Jonathan Buscher, Soudo Hartono, and Kaito Lyons for excellent research assistance.

<sup>1</sup>The most comparable study is Rajeev Deheja, Heather Montgomery, and Jonathan Morduch (2005), which exploits quasi-experimental variation from a pricing policy change by a Bangladeshi nonprofit MFI, and finds full-sample elasticities ranging from  $-0.73$  to unity. There has been similarly little work on estimating the price elasticity of demand for credit in other countries. Exceptions include Rob Alquist, Stefan Haggstam, and Gagliardo Weber (2005) on consumer loan borrowers in Italy; David R. Gries and Nicholas S. Sodickson (2003) on credit card holders in the United States; and Orazio P. Attanasio, Pradeep K. Goldberg, and Kianitzi Kyriakidou forthcoming on car loan borrowers in the United States. Each of these studies exploits quasi-experimental variation from government or business policy rules.

<sup>2</sup>Randomized and controlled trials are standard practice among many US credit card companies, but the results of these experiments are rarely made public (George S. Elay 2003). Lawrence M. Ausubel (1999) is the only exception so far, and in focuses largely on repayment effects, not on net profits and optimal pricing implications.

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