

**Authors**

Marshall Burke  
Stanford University

Edward Miguel  
University of California, Berkeley  
Center for Effective Global Action (CEGA)

Lauren Bergquist  
Lauren Bergquist

NBER WORKING PAPER SERIES

SELL LOW AND BUY HIGH:  
ARBITRAGE AND LOCAL PRICE EFFECTS IN KENYAN MARKETS

Marshall Burke  
Lauren Falcao Bergquist  
Edward Miguel

Working Paper 24476  
<http://www.nber.org/papers/w24476>

NATIONAL BUREAU OF ECONOMIC RESEARCH  
1050 Massachusetts Avenue  
Cambridge, MA 02138  
April 2018

We thank Christopher Barrett, Kyle Emerick, Marcel Falchamps, Susan Goddard, Kelsey Jack, Jeremy Magruder, Nicholas Minot, and Dean Yang for useful discussions, and thank seminar participants at ASSA, BREAD, CSAE, IFPRI, Kellogg, Michigan, NEUDC, Northwestern, Stanford, PacDev, UC Berkeley, and the University of Chicago for useful comments. We also thank Peter LeFrancis, Ben Wekesa, and Innovations for Poverty Action for excellent research assistance in the field, and One Acre Fund for partnering with us in the intervention. We gratefully acknowledge funding from the Agricultural Technology Adoption Initiative and an anonymous donor. All errors are our own. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2018 by Marshall Burke, Lauren Falcao Bergquist, and Edward Miguel. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

# Sell Low and Buy High: Arbitrage and Local Price Effects in Kenyan Markets

Large and regular seasonal price fluctuations in local grain markets appear to offer African farmers substantial inter-temporal arbitrage opportunities, but these opportunities remain largely unexploited: small-scale farmers are commonly observed to "sell low and buy high" rather than the reverse. In a field experiment in Kenya, we show that credit market imperfections limit farmers' abilities to move grain inter-temporally. Providing timely access to credit allows farmers to buy at lower prices and sell at higher prices, increasing farm revenues and generating a return on investment of 28%. To understand general equilibrium

effects of these changes in behavior, we vary the density of loan offers across locations. We document significant effects of the credit intervention on seasonal price fluctuations in local grain markets, and show that these GE effects shape individual level profitability estimates. In contrast to existing experimental work, the results indicate a setting in which microcredit can improve firm profitability, and suggest that GE effects can substantially shape microcredit's effectiveness. In particular, failure to consider these GE effects could lead to underestimates of the social welfare benefits of microcredit interventions.

April 24, 2018