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The Impact of a Digital Credit for Small-Scale Farmers in Ghana

Researchers:

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Sector(s): Agriculture, Finance

Fieldwork: Innovations for Poverty Action (IPA)

Location: Ashanti Region, Ghana

Sample: 2,000 farmers in the rice, vegetable, soybean, and cocoa value chains

Target group: Farmers

Outcome of interest: Earnings and income Savings/deposits

Intervention type: Credit Digital and mobile Savings Monetary incentives

AEA RCT registration number: AEARCTR-0005829

Dados: http://www.nber.org/data-appendix/w33271

Partner organization(s): Digital Credit Observatory, Farmerline

In Ghana, many traditional credit providers like banks and microfinance institutions are wary of extending credit to small-scale farmers, fearful that they will inherit the risks inherent to farming; with limited access to traditional, formal credit, many farmers must rely on costly, informal loans. Researchers are evaluating the impact of an innovative mobile phone-based digital finance program on loan repayment rates, investment decisions, savings, and use of other financial services, as well as agricultural yields and profits.

Policy issue

Credit constraints faced by small-scale farmers are thought to drive low crop yields in many countries in Africa and other developing countries. Expensive or inaccessible credit restricts the capital available for farmers to invest in their crops, contributing to low yields and profits. The lack of credit available to small-scale farmers stems, in part, from a widespread perception among lenders that working with small-scale farmers is too costly to be profitable. Barriers to lending include high transaction costs associated with providing financial services to farmers in remote areas and high assessment costs relative to average loan sizes. Development practitioners and financial professionals increasingly leverage digital technologies to attempt to surmount these barriers, yet research on digital credit is still in its infancy and a consensus on best practices in the field remains elusive. This study contributes to research on agricultural and digital finance by exploring whether and how digital technologies can overcome agricultural credit constraints.

Context of the evaluation

In Ghana, agriculture constituted 20 percent of economic output[1], and 34 percent of total employment in 2018.[2], However, the agricultural sector in Ghana receives little credit relative to its contribution to the country's GDP. Many lenders are wary of extending credit to farmers, fearful that they will inherit the risks inherent to farming, but lacking the technical expertise to effectively manage agriculture-related risks. These challenges have discouraged traditional credit providers like banks and microfinance institutions from extending financial services to small-scale farmers. Instead, many farmers rely on costly informal loans. A mobile-phone based digital finance program offers potential to overcome these barriers in Ghana: whileonly 58 percent of adults had a bank account in 2017,[3], over 80 percent owned mobile phones.[4]

Farmer inspecting a cocoa pod

Photo: Shutterstock.com

Details of the intervention

Researchers are partnering with Farmerline Limited, a social enterprise devoted to assisting the entrepreneurial efforts of small-scale farmers in Ghana, to evaluate the impact of its Mergdata Digital Finance Module. Mergdata is a mobile phone-based digital finance program that facilitates rapid credit rating and loan provision.

To request a loan, farmers work with Farmerline purchasing clerks to fill out an application form through the Mergdata mobile application. If they are deemed eligible by Mergdata's credit scoring algorithm and recommended by the purchasing clerk, they are given a loan in the form of a particular input (the exact input depends on the farmer's credit score and the crops he or she grows). Loans can take the form of urea, lettuce seeds, or other relevant inputs; the products are delivered to the farmer at home.

For this evaluation, researchers will randomly assign 2,000 farmersin Ghana's Ashanti Region to one of three groups:

1. *Normal Mergdata Digital Finance loans:* Eligible farmers are offered normal Mergdata Digital Finance loans.

2. *“Special incentive” Mergdata Digital Finance loans*: Eligible farmers are offered normal Mergdata Digital Finance loans. If these loans are repaid on time and in full, the purchase clerk will receive a monetary bonus in addition to his or her base salary. Comparing these loans to the normal loans will allow researchers to understand the impacts of monetary incentives on purchase clerks’ effort to encourage repayment, and the impacts of these efforts on repayment rates.
3. *Comparison group*: Eligible farmers will not be offered loans until the study is over.

Researchers will conduct an initial survey in 2019 and a follow-up survey in 2020 to evaluate the impact of the intervention on loan repayment rates, investment decisions, savings, and use of other financial services, as well as agricultural yields and profits.

Results and policy lessons

Study ongoing; results forthcoming.

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1. Ghana Statistical Service, 2018. Annual Gross Domestic Product.

2. World Bank, 2018. “Employment in Agriculture (% of Total Employment).” https://data.worldbank.org/indicator/sl.agr.empl.zs

3. World Bank, 2014. “The Global Findex Database 2014: Measuring Financial Inclusion around the World.”Policy Research Working Paper 7255. http://documents.worldbank.org/curated/en/187761468179367706/pdf/WPS7255.pdf

4. Pew, 2018. “Internet Connectivity Seen as Having Positive Impact on Life in Sub-Saharan Africa.” https://www.pewresearch.org/global/2018/10/09/majorities-in-sub-saharan-africa-own-mobile-phones-but-smartphone-adoption-is-modest/