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Bundling cash loans with agricultural input loans for farmers in Nigeria: A Pilot Study

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Credit allows borrowers to access funds required to make an investment before returns materialize. For smallholder farmers, who must invest in agricultural inputs (i.e., seeds, chemicals, equipment, land, and labor) during the planting season before earning income from the sale of agricultural produce after harvest, credit helps alleviate liquidity constraints and promotes the ability of local agricultural production to support nutrition and food security. In rural Nigeria, access to credit—especially formal credit from financial institutions—is limited. Data collected in 2020 show that less than a third of households in rural Nigeria report using credit in the previous 12 months and only two percent of rural households borrowed credit from a financial institution (EFInA 2020). The rest is borrowed informally from friends, family, or local money lenders.

In the absence of credit, smallholder farmers must cover the costs of agricultural production with their own funds that they have available during the planting season. This constrains agricultural production and contributes, in part, to the large gaps in agricultural productivity between high-income and low-income countries around the world (Gollin, Lagakos, and Waugh 2014).

Agricultural Input Loans from Crop2Cash

In response to the need to provide access to credit for smallholder farmers during the planting season, Crop2Cash, a local digital financial technology startup company, was launched to provide access to agricultural inputs loans and other financial services to smallholder farmers in Nigeria. Their products allow farmers to: (i) save money, (ii) get paid by buyers digitally, (iii) receive market price updates via SMS text

message, (iv) build a financial identity to improve their creditworthiness, and (v) buy farm inputs on credit. While all these products are closely linked to each other, focus group interviews with Crop2Cash clients conducted in May 2023 revealed that the agricultural inputs loan program was the most popular and useful service provided by Crop2Cash at that time.

To provide agricultural input loans, Crop2Cash partners with commercial banks or other funders to finance purchases of fertilizer, agro-chemicals, and improved seeds directly from agricultural input companies. Working with farmers, Crop2Cash builds a database with information about the agricultural activities of each farmer and provides a financial assessment that helps reduce the risk of providing credit. Farmers apply for the agricultural input loans and must meet the following eligibility criteria: farmers must (i) be an active user of Crop2Cash platforms, (ii) have no history of default on payments of previous loans provided by Crop2Cash, and (iii) deposit a cash guarantee—typically between 10 to 30 percent of the input loan value—in the Crop2Cash digital wallet system. Based on the information collected in the database, Crop2Cash first assesses farmers' input needs, decides the quantity of inputs to be given to each farmer, then purchases these inputs at competitive prices from trusted agricultural input companies, and finally arranges delivery of these inputs to farmers.

While the farmers' experience with this agricultural input loan product was reported as positive in focus group interviews, many noted that the addition of a cash loan component to this service would be useful. Farmers highlighted that a small cash loan would help them meet their other obligations such as labor and equipment costs, which would help them make the most of their investment in agricultural inputs—perhaps reducing the probability that they default on the agricultural input loan.

Research Objectives

Although providing access to a cash loan that allows farmers to cover other costs of production—in addition to agricultural inputs—would relieve liquidity constraints that might hamper some farmers, the funds available at commercial banks to meet this need is limited. In our conversations with possible commercial bank partners, we observed that these banks hold a negative perception about the risks involved in lending cash to farmers. This directly informs the objectives of this pilot study to:

- Assess whether providing access to a small cash loan can improve loan repayment rates and reduce the overall risk of the banks' input loan portfolio.
- Assess whether increased loan fungibility can boost farmers' productivity and profitability by allowing them to make other investments in the farm to unlock the full potential of their input investment.
- Evaluate whether traditional assessments made by commercial banks and agro-tech firms to estimate the adequate loan amount for a farmer are too restrictive.

Intervention and Experimental Design

We plan to implement a small pilot study in the dry agricultural season, beginning in December 2023, which will help motivate and inform a larger scale version of the intervention in the wet season later in 2024. The goal of this pilot project is to demonstrate the potential in providing access to a small cash loan to reduce default rates and ultimately reduce the overall risk of a loan portfolio. This small pilot study will serve as a proof-of-concept before financial institutions decide to make an investment of their own funds for a larger intervention.

To avoid disrupting the way the farm inputs on credit is usually implemented, we work with farmers who apply and are approved for the input loan by Crop2Cash in this pilot study intervention. The main outcomes of interest in this pilot study are loan default rates.

Experimental design

- Treatment group 1 (T1): Is offered a 10 percent cash loan offer in addition to their needs assessment-based input loan.
- Treatment group 2 (T2): Is offered a 10 percent input loan offer in addition to their needs assessment-based input loan.
- Control group (C): Receives needs assessment-based input loan and is not offered any additional loans.

Comparing outcomes between T1 and T2 allows us to evaluate if making the loans slightly more fungible leads to improved loan repayment rates. Comparing outcomes between T2 and C allows us to assess whether the needs assessments used to determine the size of the input loan are too restrictive, while comparing outcomes between T1 and C allows us to measure the overall treatment effect of the additional cash loan, which combines the loan composition effect (i.e., adding cash to the input loan) and the income effect (i.e., giving a larger loan).

Randomization into the treatment and control groups is at the individual (farmer) level. Each treatment arm will have to be limited to roughly 100 farmers. For the purposes of minimizing implementation costs of this pilot study, we limit data collection to include only client information collected by Crop2Cash at baseline and administrative data on loan repayments.

Results from the dry season pilot will inform the design of the larger scale intervention, planned to be implemented during wet season later in 2024. Our expectation is if adding additional cash loans to the existing agricultural input loans reduces (or at least does not increase) default rates in the pilot study, then local commercial bank partners will be willing to provide financing. This will allow us to conduct a

larger scale intervention during the wet season, for which we plan to explore additional outcomes of interest, such as farmer productivity and various measures of farmer welfare.

Implementation of field activities

A total of 6,600 farmers from the states of Niger (3,387 farmers), Kebbi (2702 farmers), and Kaduna (511 farmers) applied for an input loan with Crop2Cash for the dry season, out of which 3,693 (2,568 in Niger, 801 in Kebbi, and 324 in Kaduna) were deemed eligible by Crop2Cash based on the above criteria (i.e., be an active user of Crop2Cash platforms, have no history of default on payments of previous loans provided by Crop2Cash, and depositing the 10 percent cash guarantee of the input loan value). Based on preliminary discussions with local government authorities and community leaders about our planned interventions, Crop2Cash established that Kaduna offered the best conditions for the pilot study.

The pilot study will include all 324 farmers scheduled to receive Crop2Cash's input loan in our study, with 108 farmers randomly assigned to each of the treatment arms and the control group. Little information is available about the makeup of the farmers, but 88 percent of the initial sample of participating farmers are male.

Immediately after the initial distribution of inputs by Crop2Cash to farmers corresponding to the main loan (currently ongoing, as of December 2023), farmers assigned to group T2 will be offered an additional amount of inputs equal in value to 10 percent of their original input loan. In January 2024 farmers assigned to group T1 will be contacted and offered a cash loan equal in value to 10 percent of their original input loan. The research team will track repayment rates and compare them across the three groups.

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