Selected work on financial inclusion

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In recent years, a variety of new technologies have been introduced in LMICs to address financial constraints among households and microenterprises. Because of this, the field of financial inclusion is rapidly evolving. In this context, my past, current and planned efforts center around two themes. First, I am interested in improving both reach and efficiency of a grass-root financial inclusion strategy—the savings group (also known as VSLAs). This effort has primarily centered around understanding how financial intermediation occurs within VSLAs, and figuring out strategies to eliminate constraints on this financial intermediation. Second, I am interested in consumer protection for users of digital credit. My work around these two themes uses RCTs and Regression Discontinuity analysis, and takes place in many countries in sub-Saharan Africa and Latin America.

Savings groups—Past work

My initial research on financial inclusion studied the allocation and distribution of capital in savings and borrowing groups. Savings groups, or VSLAs, are small local financial clubs (20-30 members) whose participants accumulate savings in a joint fund and use those savings to provide interest-bearing loans to one another, in a way that resembles a credit union. Because they allow group participants to borrow when needed, they can potentially improve the ability of households to smooth out shocks and make investments. In the past decade, membership in VSLAs has increased exponentially across sub-Saharan Africa and elsewhere.

In my first paper, "**Does group inclusion hurt financial inclusion? Evidence from ultra-poor members of Ugandan savings groups**" (with Andrea Canidio, published in the *Journal of Development Economics*, 2017), we establish that there are important limits on the ability of VSLAs to effectively provide financial inclusion to the poorest members of a community. Specifically, we used an RCT in which we randomly assigned ultra-poor participant to join savings groups that had different compositions of other ultra-poor participants. We found that there is a tradeoff between the inclusion of extremely poor participants and their ability to borrow. That is, the poor who are randomly assigned to groups with a high concentration of other poor members save and borrow significantly less. The less poor, meanwhile, do not seem adversely affected by their inclusion in a ``poor" group.

The tradeoffs introduced experimentally in that paper were then formalized in "**The Economics of Savings Groups"** (with Andrea Canidio and Rebekah Selby, published in the *International Economic Review* in 2021). In the model, members supply funds (through their savings) and borrow from the group at a fixed interest rate, decided by the group in advance. We show that the overall supply of funds (savings) does not match the demand for loans and can therefore lead to credit rationing. As a response, rationed borrowers may *reduce their savings*, which exacerbates the rationing problem. This problem is made worse when poor members (with low savings capacity) are included. We show that rationing could be addressed by certain policies, including the use of external financing (i.e., groups borrowing from commercial banks).

Those papers support the idea that the presence of credit rationing (conversely, the absence of sufficient savings) was a first-order problem that limited the ability of savings groups to bring real, significant change in the lives of its members. With a different team of co-authors, I sought ways to improve the operations of savings groups through external financing. In "**Banking the Group: Impact of Credit and Bank Linkages among Ugandan Savings Groups**" (with Jessica Goldberg from University of Maryland and Luciana Etcheverry Hernandez at the Inter-American Development

Bank), we ran an RCT in which savings groups in Uganda were given access to a group loan from a commercial bank. The analysis has provided a number of fascinating yet puzzling results. As expected, external financing increased lending within savings groups and allowed for a larger number of loans being issued, without negatively impacting operations or members' confidence in the group. At the same time, disagreements also increased, and a large fraction of members left their group. To make sense of these conflicting results, we are re-evaluating the experiment using machine learning techniques. Our preliminary analysis suggests that linkages do create "winners" and "losers" in savings groups; we are still working on what characterizes one or the other.

Savings groups—Forthcoming work

My planned work on savings groups focuses on innovations designed to improve the spread and effectiveness of savings groups in areas with little savings group activity. In **Zambia**, my coauthors and I partnered with local chiefs and traditional leaders to engage these leaders in the provision of financial inclusion (including savings groups) within their rural communities. Our preliminary findings (we recently completed data collection) are that savings group penetration and outcomes are much improved when leaders receive financial inclusion training and are become involved in savings group activities. In **Egypt**, my coauthors and I are partnering with the Government of Egypt for an impact evaluation of "digital VSLAs"—savings groups that are administered digitally (through an App) and where all financial transactions are cashless. The project seeks to shed light on the transition process to the cashless economy, the role of financial services in this transition, and the use of savings groups to improve female economic empowerment in settings where this power is weak.

Digital finance

I am also actively working on digital credit, which consists of loans whose application and delivery occurs entirely online or through mobile phone applications. They are often delivered by non-bank entities and Fintech companies, and they provide fast credit at high interest rates. The explosion of the digital credit market in both low-and middle-income countries raise a number of consumer protection issues, which I explore in current and forthcoming work in Latin America and Africa with my coauthors Silvia Prina (Northeastern University) and Mike Kuhn (University of Oregon).

In "**Too Fast, Too Furious? Digital Credit Speed and Repayment Rates**" (under review at the *Economic Journal*) we used loan records from a Mexican online lender to study the effects of the speed of delivery of credit on the likelihood that the credit is repaid. The paper uses regression discontinuity methods to identify delays in the delivery of credit. We found that, when loans are delivered a little less quickly (i.e., with a two-hour average delay) the default rate declines by 27%. A second paper, titled "**Digital Credit, Learning, and the Value of Credit Bureaus**" (in preparation for the January 2024 issue of the *Oxford Review of Economic Policy)* uses the same data and exploits the fact that the lender received credit reports from a credit bureau only after a certain date. Using regression discontinuity, we are thus able to show that the adoption of credit scores reduced defaults by 18%. We discuss some of the main regulatory issues around requiring credit reporting within the context of the African digital credit market.

Currently, we are collaborating with an African Fintech on "**A Second Chance at Financial Inclusion**" In this project, we seek to address the issue of the ever-increasing number of digital borrowers who are shut out of borrowing due to an overdue digital loan. In our RCT, we will test a number of consumer-centered strategies to generate repayment and restore loan eligibility. We are waiting for contracts to be signed ahead of the start of the study.