The Long-term Impact of Offering a Repayment Flexibility Option in Microfinance Contracts on Business Growth and Repayment Rates: Evidence from India

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Notwithstanding the large availability of microcredit products around the world, and in particular in low-income countries (LICs) – with India being consistently a frontrunner (MIX, 2011) – the impact of microfinance on the *average* borrower appears limited (Banerjee et al., 2015). One potential explanation for these heterogeneous effects is that the contract terms of these loans are often too rigid to fuel business growth among high-potential micro and small enterprises. In LICs, these firms are often informal and mostly lack official financial statements, collateral and borrowing history. Thus, information asymmetries generate frictions between lenders and borrowers, wherein financial institutions find it difficult to identify entrepreneurs with the largest ability to grow. This results in the provision of financial products whose characteristics are tailored on the traits of the average borrower, in order to minimize default rates: small amounts, frequent repayments, absence of repayment flexibility. Against this background, a natural question that arises is whether more sophisticated contracts can be introduced to solve such frictions and allow "high-type" entrepreneurs to borrow and grow.

In collaboration with IFMR-LEAD, I have started a new research initiative that asks whether, and how, MFIs can offer innovative financial contracts – namely, flexible repayments schedules – to target high-growth entrepreneurs in a sustainable way. In this context, repayment flexibility consists in providing borrowers the opportunity to waive some repayments during the loan cycle, either at the loan disbursal (like a "grace-period", as in Field et al., 2013) or at some point during the loan maturity (what I call a "repayment holiday"). In doing so, the first step has been to study borrowers' selection in flexible versus rigid microfinance contracts, both theoretically and experimentally. This in order to understand i) *under which conditions* offering flexible contracts increases default rates; ii) *which* borrowers would choose the flexible versus the rigid repayment schedule, should lenders offer a menu of contracts that includes both.

In Barboni (2017), I used a set of lab-in-the-field games with microfinance borrowers to test a theory model that predicts the existence of a separating equilibrium where the lender can successfully offer both a rigid and a flexible contract to his customers, at different prices. Experimental results show that risk-loving and more entrepreneurial borrowers are more willing to pay higher prices for a flexible repayment schedule than risk-averse and less entrepreneurial customers, thus suggesting the possibility that such separating equilibrium exists. In Barboni and Agarwal (2017), thanks to a grant from IGC, we made a further step by setting up a Randomized Controlled Trial in collaboration with Sonata Microfinance, an Indian microfinance institution (MFI) based in Lucknow, Uttar Pradesh. There, we selected twenty-eight Sonata branches. In half of them, randomly chosen, Sonata offered both the flexible and the rigid contract, priced at 26% and 24%, respectively; in the other half, only the standard, rigid contract was offered, at 24%. About 800 microfinance clients were involved in the experiment. These were borrowers who had just graduated from group loans, and who were approaching Sonata to get individual business loans, which are specifically targeted for microentrepreneurs seeking to invest in their business activity. One year after the start of the intervention, we compared the two groups of Sonata branches – those that offered both the flexible and the rigid contract (treatment branches) and those that only offered the rigid contract (control branches). We found that, in treated branches, approximately one out of three borrowers chose the flexible contract; in addition, time-consistent and financially literate borrowers – those who draft a budget for their business activity more frequently – have been more likely to choose the flexible schedule vis-à-vis the rigid one. We also found that borrowers in treated branches are five per cent less likely to be late with their monthly repayments; moreover, weekly sales are 20 per cent higher in treatment versus control group. So far, the RCT has allowed us to achieve two main sets of results: 1) *In terms of selection*, borrowers appear to self-select in the repayment schedule that best fits with their type, based on their sensitivity to price and behavioral characteristics. 2) *In terms of impact,* offering such portfolio of contracts vis-à-vis only the rigid repayment contract appears to improve business outcomes without harming repayment rates (expressed in terms of late repayments), *at least in the short-term*. In fact, borrowers appear to use the repayment holiday to "reshuffle" their cash-flows and thus re-invest their profits.

With this proposal, we are seeking funds to study the *long-term* impact of offering a repayment flexibility option in microfinance contracts. Building on the results gathered so far, and thanks to the long-lasting collaboration with Sonata, we plan to carry out a new round of surveys with this pool of customers. The loan cycle of the borrowers under study will terminate during the Summer 2018. By conducting an additional wave of questionnaires after all loans will be completed, we will, first of all, measure default rates – the only dimension we haven't been able to observe, so far. In addition, by asking an extensive set of questions on business activities, investment decisions, expenditures, income, as well as borrowing and saving behavior, we will identify the medium-to-long-term effects of providing a flexibility option on business growth and productivity, as well as on access to formal versus informal sources of finance. Finally, by using customer data from Sonata, we will perform a comprehensive Cost-Benefit Analysis (CBA) of this flexible contract. The scope of the CBA is twofold: 1) to assess the sustainability of this product for a typical MFI, as is Sonata; 2) to achieve a proof of concept to provide recommendations to Self-Regulatory Organizations (SROs) such as the Indian Microfinance Institutions Network (MFIN) on how to set specific guidelines that could promote the provision of such innovative contracts among MFIs.[1] Findings from this project will help consolidate our short-term results (discussed in Barboni and Agarwal, 2017) and make an important contribution to the literature that studies how innovations in financial contracts can promote high-growth entrepreneurship. In fact, they will allow us to establish a clear link between the selection observed at baseline (our "first-stage") and a set of reduced forms on borrowers' business and repayment outcomes. This, in turn, will help us understand i) to what extent clients' observable and unobservable characteristics predict business and repayment performance in the *long-term* ii) what are the dimensions of entrepreneurship that are mostly affected by repayment flexibility – do borrowers keep re-investing their profits? Make different types of investments? Or rather change occupation?; iii) whether offering loan portfolios that include a more expensive flexibility option is sustainable for lenders.

All in all, findings from this project will complement existing results on the impact of repayment flexibility in microfinance contracts and will inform new research avenues. We aim, in the future, to test the impact of: 1) alternative screening mechanisms in microfinance contracts that are based on borrowers' observables, rather than unobservable characteristics; 2) "twists" to the current structure of the flexible financial contract we have designed and offered in partnership with Sonata. For these reasons, we will also ask a set of questions to capture borrowers' psychometric characteristics and personality traits, but also their willingness to pay for different degrees of flexibility. Budget-wise, we anticipate the costs for this survey will be $20,000. This sum will be used entirely to cover primary data collection with a sample of 800 microfinance borrowers, and will include both direct survey costs and personnel salaries – enumerators, project assistant, field executive, and training costs.

References

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[1] At present, one of the reasons why MFIs do not offer flexible loans is that they do not receive subsidized credit for such financial products from the Reserve Bank of India (RBI). By rigorously estimating the viability and sustainability of flexible repayment schedules, we aim at providing recommendations also to RBI on the benefits of offering this product.