Flexible Repayment Schedules for Dairy Clients in India

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Sector(s): Finance

Location: Orissa, India

Sample: 196 Self-help groups with 3,007 dairy farmers

Target group: Rural population

Outcome of interest: Earnings and income Business investment

Intervention type: Credit Risk mitigation

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Partner organization(s): KAS Foundation

Policy issue

Most microcredit institutions offer loan products with fixed weekly or monthly repayment schedules to reduce transaction costs and product complexity, and to encourage better repayment behavior. Yet, fixed repayments may not be best for most clients, particularly if their income varies over time due to seasonal activities, business cycle, health, and other factors. The necessity of paying back their loans on a fixed schedule may also limit the types of activities and investments people choose, making it difficult to fund longer term projects that need time to realize returns. In contrast, a flexible repayment schedule could help microcredit clients manage repayments better, potentially leading to higher demand for credit as well as higher return on investments or smoother consumption. There is, however, little empirical evidence on the effects of flexible repayment schedule in microfinance.

Context of the evaluation

KAS Foundation is a microfinance institution operating in the states of Orissa and Chattishgarh, with more than 400,000 clients at the time of evaluation. Typically, KAS clients are organized in Self-Help Groups (SHGs) of 15-20 women. The routine product is a INR 4,000 (US$75) loan, with 24 months loan tenure with fixed, monthly repayment schedule of principal plus interest. Loans are secured by joint liability at group level as well as some regular savings of group members in a savings account with KAS. KAS aims to offer microloans tailored to clients' livelihood activities. In Puri district in Orissa, for example, the major income generating activity is dairy farming, and KAS clients face lean seasons in milk production. Dairy farming is especially subject to seasonality, since milk production depends on the lactation phase of the cow (when they give milk), a period that lasts for around nine to thirteen months. Cows are usually bought in the lactation phase. If farmers are purchasing cows using credit, the lactation phase of the cow might be shorter in duration than the period of loan repayment, leading to problems in loan repayment, especially for small dairy farmers with only a few cattle.



A dairy farmer and his buffalo in India.

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Details of the intervention

This evaluation studies the effects of flexible repayment schedules on borrowers' investment level, consumption, and loan default in the dairy industry in India. Dairy farmers in 196 SHGs were randomly assigned to receive an offer for one of four loan products. Two of these products had a fixed repayment schedules (monthly), while the other two had flexible repayment schedules. For each product, the duration of loan was 24 months, and the interest rate 10.75% per annum.

1. *Lower amount fixed loan*: This is the routine fixed repayment loan that KAS Foundation offers its clients, with a loan size of INR 4,000 (US$75). This product serves as a comparison to see the effect of higher loan amount (INR 6,000 or US$113) that was given out for the remaining three loan products
2. *Higher amount fixed loan*: This is similar to the routine loan product, but with a higher principal amount of INR 6,000, an amount more appropriate to the purchase of a decent-quality cow. This product serves as a comparison group to the two flexible repayment products, both of which received the same loan amount of INR 6,000.
3. *Dairy specific flexible loan*: The first flexible loan is tailored to dairy production cycles. Under this product, clients repay two principal installments instead of one during the first six months of loan repayments, when milk production is high. In return, they are allowed to skip repayment for any other consecutive six months period thereafter.
4. *Coupon flexible loan*: This loan is tailored to unexpected idiosyncratic shocks. In the first three months, monthly principal and interest payments are mandatory for all clients. Thereafter, clients are allowed to skip repayments and lag behind up to two repayments. Repayment of installments is tracked with the help of a coupon booklet that is easy to understand and

handle for both clients and loan officers.

Household level data was collected on demographics, household conditions, income details, assets and expenditure details, indebtedness, savings and insurance details, status of cattle ownership, and repayment information. Final endline data was collected after two years, at the completion of the loan cycle, for all borrowers except for the data on loan default rate, which was available for just under half of the borrowers.

Results and policy lessons

Preliminary analysis of data suggests the following:

Investment: Borrowers who were financed by the lower amount fixed loan product made lower total investment in cattle than those financed by the higher amount fixed loan product, probably due to the smaller loan amount (by Rs. 2000) that they received. There was no evidence to suggest that borrowers financed by either of the flexible loan products were more likely to purchase cattle than the comparison group that received the same loan amount under a fixed repayment product. However, among the clients who actually invested in dairy cattle, clients with the dairy specific flexible loan invested 12.6 percent more on better quality cattle.

Consumption and Income: Households financed by flexible loan products were expected to use this flexibility to have a more stable consumption of goods and services. Evidence from this study suggests that neither the level nor the stability of their consumption expenditures increased. Nevertheless, clients with the dairy-specific flexible loan diversified their income portfolio with a 7 percent increase in the number of income sources.

Loan Default: Around 90 percent of borrowers financed by any of the loan products had their loans in arrears during the loan cycle, which was higher than expected. At the end of the loan cycle, there were significant differences in loan status across the different treatment groups. The probability of default increased from 54 percent among those financed by the higher amount fixed loan product to 87 percent for borrowers financed by the advance repayment flexible loan product. However, no increase was found for borrowers financed by coupon flexible loan product. The default rate for borrowers who received the lower amount flexible loan product was 82 percent. Overall, while it is inconclusive if flexible repayment schemes lead to higher default rates, it does seem that the coupon flexible repayment loan performed better than the dairy specific flexible loan product in terms of default rates. However, the default analysis has to be treated with care due to gaps in default information for half the sample, and other data quality concerns.

The study concludes that the loan size has to be tailored to the intended loan purpose, in this case investment in dairy cattle, to effectively impact client households' investments and income generation activities. A flexible loan product allowing households to cope with short-term, unexpected shocks does not have any substantial impact on client households. Potential benefits of this flexible loan could also be achieved with general mutual insurance in the borrowing group.

Czura, Kristina, Dean Karlan, Sendhil Mullainathan. "Does Flexibility in Micofinance Pay Off? Evidence from a Randomized Evaluation in Rural India." Working Paper, Goethe University Frankfurt, October 2011.