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PERFORMANCE ANALYSIS FOR A SAMPLE OF MICROFINANCE INSTITUTIONS IN INDIA

by

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ABSTRACT:** *We use regression analysis to study the determinants of self-sustainability of a sample of microfinance institutions in India. These institutions stand out by their ability and willingness to report financial and operational data to Sa Dhan, a know-how sharing organization. We investigate particularly three aspects of sustainability: cost coverage by revenue, repayment of loans and cost-control. Our results suggest that the challenge of covering costs on small and partly unsecured loans can indeed be met, without necessarily increasing the size of the loans or raising the monitoring cost. The analysis suggests other ways to improve the financial results, like a better targeting of the interest rate policy or increasing the number of borrowers per field officer especially in collective delivery models.*

1 Introduction and issues

Microfinance institutions (MFIs) face the challenge of sustainability and outreach. These challenges are surveyed e.g. by Robinson

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** *Résumé en fin d'article; Zusammenfassung am Ende des Artikels; resumen al fin del artículo.*

(2001), or Armendariz de Aghion and Morduch (2005). Empirical analysis of the operational trade-offs faced by MFIs trying to meet this challenge in practice, is just beginning. An interesting performance analysis of an international set of MFIs was started independently by Cull, Demirguc-Kunt and Morduch (2007). The recent survey of Hernes and Lensink (2007) points to the need for further evidence on the specific mechanisms which explain different performances of various delivery models of microfinance.

In this paper, we focus on the operational aspects of performance of Indian MFIs surveyed by Sa Dhan, a know-how sharing organization. We also take the broader social objectives of outreach and poverty alleviation of these MFIs into account by analysing the indicators of operational performance conditional upon the observed values of the indicators of the social objectives. Our contribution is thus in assessing the ability of a set of MFIs to reach sustainability without harming outreach to the poor. Such an assessment contributes first to the empirical foundations of the microfinance movement and second to the development of appropriate management benchmarks and recommendations.

Operational performance or sustainability broadly defined is the ability to cover costs and to continue operations without resorting to gifts, subsidies and debt relief or without keeping depositors savings illiquid. It can be divided into three broad aspects. First comes the ability of MFIs to obtain loan repayments on time from the borrowers. A priority for microfinance is to reach the highest possible repayment rates, as repayment of dues is an integral part of the integration of participants into a banking relation.[1] Understanding this relation is important, because it must also be understood that some needs of poor people would be better served by real gifts than by loans (Robinson 2001).

Beyond repayment, the next step for microfinance is to cover costs. A second performance component is thus financial self sustainability or operational self sustainability. This requires enough interest revenue on the one hand and cost control on the other hand. A third performance component is cost control or efficient use of resources. Standard indicators of the three components of operational performance just mentioned are portfolio at risk, operational self sufficiency and cost per borrower; they form the starting point of the

1 This banking relation can be on non-commercial terms or can leave room for grace periods or refinancing, but it necessarily includes some form of payments by the borrower.

management chapter of Armendariz de Aghion and Morduch (2005, Chap. 10).

In this paper, we do not study explicitly the extent to which MFIs contribute to the ultimate goals of poverty reduction, business development or alleviation of market failures, and we do not either perform a cost-benefit analysis of funds invested by donors or governments. Instead we look at factors that contribute to self-sufficiency of MFIs and we shed light on the potential trade-offs or conflicts that may arise if MFIs try simultaneously to serve the poor (small loan size, low interest rates) and reach self-sufficiency. The assessment of the importance of trade-offs may then inspire further research about the justification of subsidies for start-ups or for small loans of the types discussed by Armendariz de Aghion and Morduch (2005, chap. 9).

The methodology of this paper is based on regression analysis. This makes it possible to study the role of each determinant of operational performance conditional upon other determinants and upon indicators of the specificity of MFIs. Moreover, we study simultaneously the determinants of repayment, profitability and costs, to see whether there may be a contradiction between high repayment rates and profitability or between high repayment rates and cost control.

Regression analysis has two main advantages. First, from a project evaluation point of view, it makes it possible to create conditional benchmark values (on the regression line) based on interdependencies between specific objectives and constraints rather than using absolute values for performance standards. It is thus possible to assess the cost or profitability indicators of a given institution given the size of the loans it provides, i.e. accepting a specificity of this institution.[2] Second, from the wider point of view of the foundations of the microfinance movement, we can then look at the importance of trade-offs between indicators of outreach and indicators of sustainability and efficiency which the regressions try to explain.

We use an original data set of MFIs from India, the first one assembled by Sa Dhan, a non-profit microfinance coordination and analysis organization. This data set includes 42 MFIs[3] and covers the year 2003. It has been used by Sa Dhan to see how well the

2 This will appear in the graphs of Section 5, although we refrain from identifying individual MFIs in this paper.

3 Three institutions did not report all the variables we want to use. These institutions are not excluded and at times we may have the number of observations smaller than 42.

participating microfinance institutions reach six target indicators of performance[4] set by Sa Dhan.

The paper is thus organized as follows. In Section 2, we first present the microfinance delivery models used by the MFIs in our data set. In Section 3, we discuss the advantages of regression analysis for the purpose of global and individual performance analysis. Section 4 presents the data set and the summary statistics of the main variables. Section 5 then discusses the effects of the main variables on the three sets of indicators of performance. The analysis is structured around the effects of each determinant on all three indicators, holding the other determinants constant. Section 6 concludes.

2 The Indian microfinance delivery models

Microfinance services are provided with different methods in India (Sa Dhan 2005, Basu and Srivastava 2005). Delivery models can be divided into two broad categories: group models and individual models. Group models include Self-Help Groups (SHG), the Grameen model and joint-liability groups (JLG). The individual model corresponds to individual banking.

In the SHG model, the institution lends to groups of 10–20 individuals, mostly women who have created a SHG. A SHG is a solidarity group. It is a very flexible structure, formed by economically homogeneous women who share generally the willingness to improve their living conditions. It is a place of empowerment of members and a 'channel' for microfinance services. Usually a SHG has a single account with the MFI, and individual members make their transactions through the unique SHG account (Nair 2005).

The Grameen model corresponds to the lending method initiated by Yunus in Bangladesh. With this model, the institution lends to

4 The six indicators are Operational Self-Sufficiency (OSS), Portfolio at Risk (PAR), Current Repayment Rate (CRR), Operating cost ratio (OCR), Total Cost Ratio (TCR), and Borrower per credit officer (ABFO). We study the determinants of OSS an indicator of sustainability, of PAR and CRR as indicators of sound banking, and of OCR and TCR among the indicators of cost or efficient use of resources. We consider ABFO as a measure of inputs and we use it as a possible determinant of the 3 sets of performance indicators. As we said, we also depart from Sa Dhan by considering that the benchmark value of a performance indicator may vary according to the objectives pursued by an MFI, and we use regression analysis to make the computation of such conditional benchmarks possible.

Table 1 – Delivery models by region

	Region				
Delivery model	East	North	South	West	Total
Grameen	1	1	6	0	8
Individual	2	0	1	2	5
Joint liability Group	1	0	1	1	3
Self Help Group	7	1	15	3	26
Total	11	2	23	6	42

affinity groups of 5 individuals. These groups are very standardized in structure. They organize weekly meetings and saving is mandatory for members. Credit is not given to all members simultaneously, but all hope to have their turn and all stand for each other's obligations. The groups are created under supervision of the MFI, according to a well-defined structure to facilitate access to microfinance services (Basu and Srivastava 2005, Schreiner 2003).

With the Joint liability model, the MFI gives individual loans to members of a group of 4 to 6 individuals, based on the mutual guarantee of each other's loans. Members of a joint liability group are generally engaged in the same activity and they are not forced to save.

With the individual banking model, the MFI gives directly loans to clients as a standard bank. There is a bilateral relationship between the MFI and the borrower, but requirements such as collateral are less stringent than in standard banking contracts.

It is in the self-help group model that the group plays the largest role in decisions. In the two other group models (Grameen and JLG), the group mainly serves as a substitute for material guarantees. In our sample, 26 MFI operate through SHG, 8 use the Grameen model, 5 provide mainly individual loans and 3 rely on joint liability groups. Table 1 describes the distribution of our sample across delivery models and across regions of India.

3 Regression method

The objective of this paper is to investigate the determinants, of three main performance indicators of MFIs. Given the size of the sample, we will highlight essentially correlations between independent and dependant variables. We will thus estimate by ordinary least

square[5] reduced-form equations of the form:

$$Y_i = b'X_i + u_i$$

where Y is the dependent variable, X a vector of independent variables, b a vector of parameters, u the error term and the index i represents one observation. Observations are at the MFI level, and do not represent individual borrowers. The dependent variable is always an indicator of sustainability and the independent variables are possible determinants of sustainability (performance). The variables are described in Section 5. We estimate single regressions for each performance indicator independently although we use the same independent variables in most equations.

Regression analysis has at least four advantages for our study of performance. A first advantage is that regression analysis with many independent variables makes it possible to measure the marginal effect of one determinant of performance keeping others constant. For instance, it is possible to measure the marginal effect of field officers per borrower, taking the size of loans constant; thus it is possible to measure the effect of an input (field officers) taking the desired depth of outreach (an objective measured by the size of loans) into account.

Second, regression analysis, like correlation analysis, makes it possible to test the significance of a coefficient, and thus get a statistical measure of reliability of a determinant of performance. Confidence intervals can also be built around coefficients and this is especially relevant when coefficients correspond to elasticities. Indeed an elasticity of one corresponds to a proportional effect, while an elasticity below one indicates a less than proportional effect of the independent variable on the dependent variable. In a cost regression (in log), a coefficient of (the log of) outputs significantly below 1 indicates economies of scale because it shows that costs grow less than proportionately with output.

Third, our analysis of 3 sets of performance regressions makes it possible to test the importance of the determinants of performance across indicators. We can thus understand better the channels

5 Actually we study 3 main indicators (repayment, profitability and cost) for the MFI. A SUR model for the 3 indicators is a relevant specification. But it turns out that we have qualitatively similar results with SUR model and OLS. For simplicity and given our sample size we rely on OLS models. Table 6 in annex reports SUR results corresponding to column 1 of Table 3, column 1 of Table 4 and column 4 of Table 5 estimated simultaneously.

through which the independent variables affect the performance of MFIs, and identify the pro and cons for MFIs of manipulating a variable in lending contracts or in institutional structures.

Fourth, regression analysis can be used to assess the individual performance of an MFI within a sample. It is indeed possible to see how far off the regression line an individual MFI lies. Moreover this individual analysis can be done holding a variable constant. For instance, if scale economies are detected within a sample of MFIs, it is nevertheless possible to see how well a small MFI performs relative to the sample given its size. Thus conditional performance analysis can be done for MFIs which want to remain small. This requires the computation of a confidence interval in a two-dimensional space where a relation between cost and size can be displayed, holding other characteristics constant. An MFI which would have an observed cost above the values admitted in the confidence interval for the relation between cost and size clearly has excessive costs for its size and should work on its other characteristics to reach acceptable costs for its size, if it wants to maintain its size. We did not check individual performances for a given target variable within a confidence interval, because we did not want to point individual MFIs. This is rather a tool to be used inside an MFI, which wants to assess itself against a test group.

The discussion will be conducted below looking at each determinant of sustainability across all 3 sets of performance regressions to ensure a consistent analysis of the determinants of performance rather than a partial one.

4 The data

The data were obtained through on-site cooperation with Sa Dhan in New-Delhi during the academic year 2004–2005. The raw data were adjusted following the methodology recommended by Ledgerwood (1998) and ratios were computed according to the same methodology.

Institutions in the sample are those, which responded to Sa Dhan's questionnaire and provided consistent and comparable data. The dataset is thus not representative of all microfinance institutions in India. At best it represents existing (surviving) MFIs which are able to produce and disclose relevant information on their internal operations. However, the data set covers collectively 662 thousand

borrowers, with a collective outstanding portfolio of 2437 million INR (US $54 million)[6] in 2003–2004.[7]

We study three sets of indicators of performance. The first set summarizes the self-sustainability level reached by the MFI; it includes the Financial Self-Sustainability (FSS) ratio and the Operational Self-Sustainability ratio (OSS). FSS includes a cost for own funds of the MFI, simply by applying the inflation rate to own funds, and is thus a more comprehensive measure of sustainability than OSS which includes all costs except the cost of own funds. It is likely, however, that OSS is more reliable than FSS, given the difficulty in estimating the equity or own funds of an MFI and the opportunity cost of such funds. The average FSS of 61% and OSS of 72% presented in Table 2 show that most MFIs in the sample do not cover costs, but the variance is wide across MFIs. Sa Dhan (2005) recommends an OSS ratio of at least 100%.

The second set of performance indicators describes the repayment of loans. We use mainly the portfolio at risk at 60 days past due (PAR 60). This measure does not include short-time delinquencies, which are included in the portfolio at risk (PAR) and which are often unavoidable but can then be promptly solved. The PAR 60 also seems more representative of repayment problems than the rate of arrears which simply records payments in arrears and not the whole loan affected by these arrears.[8] The average PAR 60 of our sample is 4% of the portfolio (unweighted average of the 42 MFIs). It is thus well within the target of less than 10% recommended by Sa Dhan (2005), and it is close to the 5% delinquency rate reported by Nair (2005) for SHG. The PAR is related to the measure of the financial cost as provisions should be made for loans in arrears and as provisions add to costs in the cost and revenue accounts. Even if MFIs report arrears and classify loans in the PAR, they often arrange grace periods in practice (Schreiner 2003).

The third set of performance indicators relates to costs. We distinguish the total cost and the operating cost. Following Ledgerwood (1998) and Sa Dhan (2003), the total cost includes the cost

6 We use an exchange rate of INR 45 per USD.

7 For India in 2003, Basu and Srivastava (2005, p. 12) report 717,306 SHG linked to banks, with Rs 20,487 million (USD 500 million) of loans outstanding, to which they add about 1 million borrowers from other MFI delivery models with Rs 2.4 billion (USD 53 million) loans outstanding. Nair (2005) reports similar numbers for SHG and 8 billion savings.

8 A further discussion of repayment indicators can be found in Honlonkou, Acclassato and Quenum (2006).

Table 2 – Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Panel 1: Performance indicators					
FSS: Financial self-sufficiency ratio	42	0.61	0.32	0.05	1.60
OSS: Operational self-sufficiency ratio	42	0.72	0.36	0.27	2.22
PAR 60 (Portfolio at risk, 60 days past due)	42	0.04	0.08	0.00	0.50
PAR (Portfolio at risk, 1 day past due)	42	0.07	0.12	0.00	0.67
OCB: Operating cost (per borrower in 1000 INR)	42	0.64	0.65	0.01	3.45
OCR: Operating cost (per INR lent)	42	0.20	0.12	0.01	0.57
TCR: Total cost (per INR lent)	42	0.35	0.18	0.01	0.83
Panel 2: Explanatory variables					
Yield	42	0.22	0.12	0.00	0.54
Operating cost per INR lent	42	0.20	0.12	0.00	0.57
Financial cost per INR lent	42	0.11	0.11	0.00	0.51
Average loan (per borrower in 1000 INR)	42	3.30	1.85	0.08	8.43
Age (Years)	42	7.90	4.47	1.00	23.00
Share of women of borrowers	40	0.93	0.20	0.06	1.00
Offering savings services dummy	42	0.60	0.50	0.00	1.00
ABFO (average borrower per field officer)	41	275.82	354.66	7.64	1945.85
South India (= 1 if in south India)	42	0.55	0.50	0.00	1.00
Average Outstanding portfolio in year (in million INR)	42	57.79	124.27	0.22	679.35
Operating Cost (in million INR)	42	8.64	21.97	0.06	122.91
Total cost (in million INR)	42	15.18	36.95	0.06	216.36
Average number of field staff in a year	42	75.65	147.93	2.5	885.5
Total number of Borrowers (in 1000)	42	15.8	28.9	0.1	165.5

of borrowed funds and the loan loss reserves, which are not included in the operating cost. The logarithm of the total cost and of the operating cost is regressed on the logarithm of output variables like the total portfolio or the total number of borrowers to estimate an elasticity and uncover scale economies if the estimated elasticity is smaller than unity. Then we also study the operating cost per borrower (OCB) and the operating cost per rupee lent (OCR). In microfinance, it is important to distinguish these two cost ratios as loans are small and as there may be fixed costs per borrower. Table 2 shows that the operating cost per borrower is at 640 rupees (US $ 14.22) on average per MFI, and that the operating cost per rupee is 20% per rupee lent on average, a figure not uncommon in the sector (Schreiner 2003), but which may contribute to the high interest rates charged and the self-sustainability problems. Sa Dhan's standard for operating costs per rupee (OCR) is below 20%, and for total cost per rupee (TCR), it is below 30%. The MFIs in our sample have TCR slightly above 30% on average.

It should be noted that financial costs are relatively high in India at 11% per rupee in our sample (table 2), a fact recognized by other observers like Basu and Srivastava (2005, p. 14) who mention an average range between 11 and 13.5% against 4 to 5% in Bangladesh.[9]

The set of explanatory variables is presented in Table 2. It includes the yield, which measures all interest and fees charged on loans outstanding over the period and is at 22% on average.[10] The yield affects both the FSS and the PAR 60. The relation with the PAR 60 stems from potential adverse selection and agency problems when high interest rates may lead to adverse selection of borrowers and to opportunistic behaviour by the borrowers. The relation between yield and FSS is immediate and positive through interest and fee revenues, but there may be an indirect negative effect through the PAR and the loan loss reserves as well.

9 According to IMF country reports on www.imf.org, this can be seen as a difference in ex-post real interest rates as well. Inflation in Bangladesh steadily increased from 2.8 to 7% per year between 2001 and 2006, while it hovered around 4% in India during the same period. Short term market interest rates were not very different across both countries during this period. The difference may be in access to funds more than in macroeconomic conditions.

10 The standard deviation of the yield is 12% and its spread is large (50%). This suggests that MFIs charge different interest rates and collect different amounts for fees. It also indicates the latitude of MFIs in setting their interest rates and various fees.

The average number of borrowers per field officer (ABFO) is a (inverse) measure of monitoring intensity and of labour intensity. Monitoring is expected to decrease the PAR but to raise operating costs (OCB and OCR), while its overall effect on FSS is undecided a priori and depends largely upon the relative effect on PAR and OCR. The average number of borrowers per field officer of our sample of MFIs is 276, within but at the lower end of the Sa Dhan recommended range of 250 to 350.

The size of loans or average loan per borrower can affect costs per rupee, FSS, and even PAR. Indeed, large loans may be more risky than small ones, but their cost per rupee is expected to be small if there are fixed costs per loan. The size of loans is often taken as an indicator of depth of coverage, i.e. of the ability of an MFI to reach the poor, as poor people are expected to take smaller loans than wealthier people. Increasing FSS and lowering OCR by lending larger amounts is a strategy that some MFIs may refuse to follow. It is interesting to see how important the effect of the size of the loans is, and to see also how well MFIs perform for a given loan size. This can be done through regression analysis. In our sample, the average loan amount is INR 3,300 (US$ 73.5).

Beyond the size of the loans, the size of the MFI itself may matter. The size of the MFIs can be measured by the total value of the portfolio or its average value over a year, or by the number of borrowers or of members. Economies of scale can occur through the size of the portfolio or through the number of active customers or both. If they occur mainly at the portfolio level, this will be captured by the size of the loans.

Other relevant characteristics of MFIs may be their age, their geographical area of activity, the delivery model and the percentage of women borrowers. Although there is a presumption that performance indicators may improve with age, this is not always confirmed by the facts. South India has a longer tradition with microfinance, higher literacy rates and a high share of MFIs in our sample (23/42) and it matters. There are not enough observations of the various delivery models to test their specificities through slope or intercept dummies, but SHG represent 26 out of 42 observations and can be represented by a dummy when appropriate. SHG is the delivery model typically developed by Indian NGOs. It is thus interesting to test how much it can be distinguished from all other classical delivery models. Finally, it is expected that the share of women borrowers may improve the repayment rate (lower the PAR). Moreover, women are a target group, especially of Grameen and SHG which also pursue empowerment

objectives. It is important to check that higher performance indicators are not obtained at the expense of neglecting this group. This is an issue of outreach as with the size of loans.

We also use squared values of some explanatory variables. This makes it possible to identify the possible optimum values of some explanatory variables, like the yield and the size of loans in a non-linear relation. Logarithmic values are also useful to uncover scale effects and log-log regressions reveal elasticities.

Given our small sample size, our OLS results are very sensitive to outliers and extreme values. Because heteroskedasticity could be important across MFIs, we test for heteroskedasticity (Breusch and Pagan test) and use White standard errors for coefficients. In addition, as a form of sensitivity analysis, we performed robust regressions[11] to have robust (less influenced by outliers) coefficients. This technique indicates the strength of some relations observed and the weakness of others. We report such adjusted maximum likelihood estimates only when they differ significantly from OLS estimates and thus call for caution.

5 The determinants of performance

5.1 The role of the interest rate

Interest rates charged to borrowers – SHG, JLG, Grameen or individuals – affect the financial performance of microfinance institutions at two levels, the overall sustainability (FSS or OSS) and the repayment of loans (PAR). As we conjectured above, this is indeed the case for our sample, and a non-linear relation between the yield on loans and the FSS and the PAR is largely confirmed in our regressions.

The PAR regressions in Table 3 confirm the deterioration of the portfolio at relatively high interest rates, all other things equal. Indeed economic theory predicts that high interest rate may cause an adverse selection problem. Safe borrowers with good projects or safe sources of income cannot afford to pay high interest rates, but rarely default. High interest rates frighten such borrowers and leave the lenders with borrowers with risky projects or volatile

11 Using the rreg of STATA. It performs a M (maximum likelihood) estimator.

sources of income who default often, because they are often unable to pay.

Economic theory predicts a positive relation between the PAR and the yield, as argued by Stiglitz and Weiss (1981) and by the literature surveyed in Ahlin and Townsend (2007) for microfinance. Our regressions broadly confirm this effect as can be seen from Figure 1's bottom panel. Nevertheless, the shape of the relation seems to be non-linear, with a turning point around an interest rate of 15% in our sample. Most specifications of the regression give a U-shaped relation, with the PAR declining first as interest rates increase and then increasing as interest rates go further beyond the turning point. Figure 1 (bottom) shows the estimated relation between PAR and yield from column 2 of Table 3 and plots the conditional values of PAR.[12] A U-shaped relation may be explained by other selection and repayment effects which complement the standard adverse selection effect of high interest rates. A low interest rate may weaken the screening efforts of the MFI and weaken the self-selection by the borrowers, leading to loans to non-creditworthy borrowers because of a lack of critical foresight of repayment cost and ability.[13] MFIs which want to target the poor may be less stringent on selection criteria which affect the repayment ability. In addition to the ability to pay, the willingness to pay may be affected by the interest rate. Although we are not aware of theories on this, anecdotal evidence suggests that willingness to pay may be highest at 'fair' interest rates; low interest rates create confusion with gifts, especially among the kind of people targeted by microfinance, and low interest rates are not associated with incentives for the borrower to build a good credit record. High interest rates, however, may be perceived as unfair, or as remunerating the risk of the lender well enough, which can lead to default or at least to arrears.

The estimated relation between the financial performance (FSS or OSS) and the yield on the portfolio is clearly hump-shaped, first increasing in the interest rate charged and then decreasing. The coefficient on the yield is positive and significant, the coefficient on the yield squared is negative and generally significant. The relation

12 Given the observation i of the dependent variable Y, the independent variables S and the vector of independent variables X and given the estimated relation $\hat{Y}_i = \hat{a} + \hat{b}S_i + \hat{c}X_i$, the conditional value of Y plotted in the two-dimensional Y, S space is $Y_i^c \equiv Y_i - \hat{a} - \hat{c}X_i$. An example of such a graphical presentation is Barro (1991) in his GDP growth regressions.

13 Such problems seem to have plagued many state development banks in the past (Armendariz de Aghion and Morduch, 2005, chap. 1).

Table 3 – Delinquencies regressions: Portfolio at Risk (PAR) and Portfolio at Risk 60 days past due (PAR 60)

	(1)	(2)	(3)	(4)	(5)	(6)
					M L robust	
	PAR	**PAR**	**PAR 60**	**PAR 60**	**PAR**	**PAR 60**
Yield	−1.009	−1.061	−0.567	−0.650	0.669	0.392
	(2.12)**	(2.87)***	(1.44)	(2.28)**	(3.15)***	(3.22)***
Yield squared	3.371	3.634	2.008	2.239	−1.607	−1.011
	(3.42)***	(4.34)***	(2.24)**	(3.20)***	(3.24)***	(3.56)***
Average loan per borrower (in 1000 INR)	0.002	−0.005	0.020	0.010	−0.003	−0.005
	(0.11)	(0.21)	(1.23)	(0.64)	(0.21)	(0.69)
Average loan per borrower (in 1000 INR) squared	0.001	0.001	−0.000	−0.000	−0.000	0.001
	(0.54)	(0.47)	(0.30)	(0.13)	(0.33)	(0.67)
Log ABFO	−0.007	−0.016	0.004	−0.003	−0.024	−0.010
	(0.54)	(1.09)	(0.46)	(0.27)	(3.41)***	(2.52)**
South India	−0.070	−0.046	−0.063	−0.040	0.002	0.002
	(2.15)**	(1.34)	(2.58)**	(1.73)*	(0.14)	(0.25)
Offering savings services dummy	−0.012	−0.017	−0.002	−0.005	−0.013	−0.000
	(0.41)	(0.59)	(0.10)	(0.25)	(0.98)	(0.06)
SHG	0.049	0.085	0.039	0.061	−0.011	−0.015
	(1.60)	(2.39)**	(1.49)	(1.96)*	(0.59)	(1.44)

Table 3 – *Continued*

	(1)	(2)	(3)	(4)	(5)	(6)
					M L robust	
	PAR	**PAR**	**PAR 60**	**PAR 60**	**PAR**	**PAR 60**
% women of borrowers		−0.171		−0.143	−0.026	−0.034
		(2.53)**		(2.55)**	(0.69)	(1.56)
Log age		−0.017		−0.004	0.031	0.014
		(0.57)		(0.19)	(2.33)**	(1.87)*
Log Financial cost per INR lent		0.133		0.160	−0.139	−0.079
		(1.31)		(1.58)	(1.81)*	(1.80)*
Constant	0.108	0.315	−0.031	0.137	0.109	0.072
	(0.93)	(2.46)**	(0.35)	(1.62)	(1.63)	(1.87)*
Observations	39	37	39	37	36	36
Adjusted R-squared	0.58	0.63	0.55	0.63	0.32	0.40

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

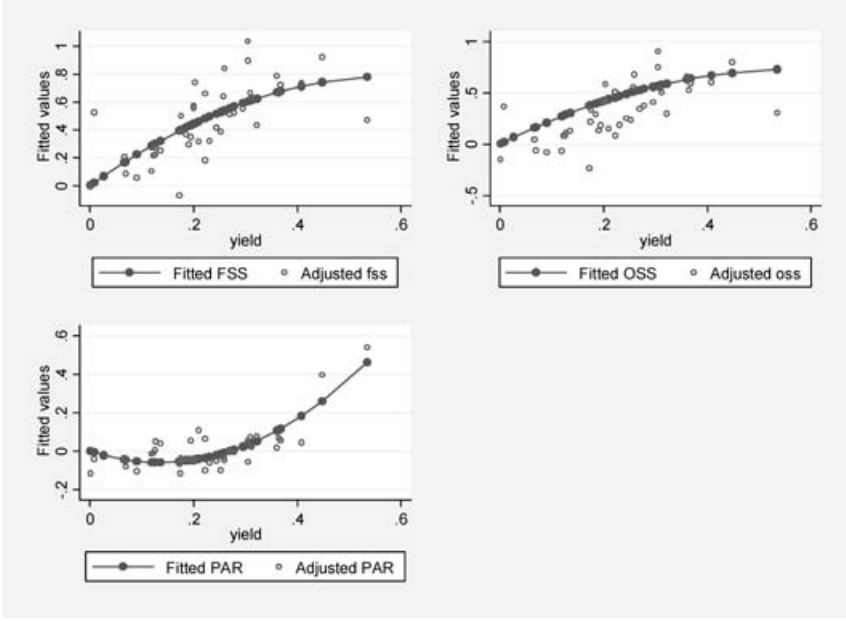

Figure 1 – Conditional effect: FSS, OSS, PAR and Yield
FSS is from column 1 of table 4. OSS is from column 4 of table 4. PAR is from column 2 of Table 3
If $Y_i = b_0 + b_1\ \text{yield}_i + b_2\ \text{yieldsq}_i + C\ Xi + u_i$, then
Fitted values are defined by
$\hat{Y}_i = \hat{b}_1 yield_i + \hat{b}_2 yieldsq_i$.
Adjusted values are defined by $Y_i^c \equiv Y_i - \hat{c}X_i - b_0$.

between the two coefficients, however, indicates that the financial performance could reach a maximum around a yield of 55%[14] per year, which is quite high. This value is out of our sample, bigger than two times the average yield of the sample, and bigger than the turning point for the portfolio at risk. The estimated relation between FSS (and OSS) and yield based on equation 1 (and 4) of Table 4 is graphed in Figure 1 top left (top right). The observations plotted around the conditional regression line are the conditional observations of FSS (OSS).

The hump shaped relation between FSS and yield is easily reconciled with the U-shaped relation between the yield and the PAR

14 This value is computed from estimated coefficients in column 1 of Table 4.

or with an increasing relation between the yield (or its log) and the PAR. Indeed a U-shaped PAR leads to lower and then higher provisions as the yield charged rises, these declining and then rising provisions cost first raise profits, then lower them, which fits with the hump-shape of the FSS and OSS regressions.

The estimated increasing relation between the FSS and the yield and the much higher turning point, around 50%, in the FSS (or OSS) relation than in the PAR relation suggest that the deterioration of the quality of the portfolio (increasing PAR) for a whole range of interest rates increases does not have a strong enough effect on the provisioning costs of the MFIs to undo the positive effect of collecting more interest and fees on the performing loans. Given the small size of the portfolio at risk (4%), the estimated combination of the effects of the yield on the PAR and the FSS effects seem coherent with the descriptive statistics of the sample. If FSS were to become a major objective of the MFIs in our sample, they may find room for increasing the interest and fees charged to borrowers.

The role of the interest rate thus broadly fits the theory. There is a deterioration of the portfolio for high interest rates but there is an even stronger gain in terms of earnings on performing loans at least up to a very high point on the yield scale. The actual values of the estimated turning points on the interest rate should be taken with caution, they are illustrative. The policy implications of our observations depend upon the strategy of the MFIs. If they give priority to high repayment rates, the current interest rate policy is about right; if they give priority to covering costs, higher interest rates may be useful. We'll see below, however, that there are also other variables which could contribute to better financial and sustainability performances.

5.2 Field officers

Educating, selecting and monitoring borrowers are part of microfinance institutions' task. Indeed they rely much less than banks or even than moneylenders on material collateral. The institutions in our sample devote more than half of their operating cost on salaries, and total expenses on labour accounts for one third of their total cost. The number of borrowers per field officer (ABFO) in our sample is relatively low (276 on average, see Table 2), at the bottom end of Sa Dhan's recommended range of 250–350 (Sa Dhan 2005).

The most important role of a low ratio of borrowers per field officer should be the possibility for field officers to effectively educate,

Table 4 – Sustainability regressions

FSS : Financial Self-sufficiency ratio (revenue/expenses incl cost of equity at inflation rate)
OSS: Operational Self-sufficiency ratio (revenue/expenses excluding cost of equity)

	(1) FSS	(2) FSS	(3) FSS	(4) OSS	(5) OSS	(6) OSS
Yield	2.671	2.662	3.231	2.546	2.650	3.746
	(1.95)*	(1.89)*	(2.72)**	(1.94)*	(1.88)*	(3.52)***
Yield squared	−2.265	−2.064	−2.698	−2.217	−2.131	−3.194
	(0.84)	(0.78)	(1.43)	(0.83)	(0.79)	(1.95)*
Average loan per borrower (in 1000 INR)	0.184		0.112	0.199		0.117
	(2.53)**		(1.87)*	(1.91)*		(1.73)*
Average loan per borrower (in 1000 INR) squared	−0.020		−0.012	−0.023		−0.012
	(2.69)**		(1.85)*	(2.10)**		(1.71)*
Log ABFO	0.157		0.138	0.161		0.133
	(3.45)***		(3.10)***	(2.38)**		(2.59)**
South India	0.139	0.148	0.146	0.139	0.141	0.086
	(2.12)**	(2.05)**	(2.25)**	(1.94)*	(1.71)*	(1.16)
SHG	−0.031	0.032	−0.108	−0.004	0.077	−0.077
	(0.41)	(0.41)	(1.58)	(0.04)	(0.86)	(0.86)

Table 4 – *Continued*

	(1) FSS	(2) FSS	(3) FSS	(4) OSS	(5) OSS	(6) OSS
Log Portfolio outstanding		0.070			0.068	
		(1.23)			(0.99)	
Log # of borrowers		0.067			0.069	
		(1.40)			(1.37)	
Log # of field staff		−0.092			−0.082	
		(1.84)*			(1.37)	
Log age			0.034			−0.038
			(0.62)			(0.62)
% women of borrowers			0.190			0.276
			(1.04)			(1.16)
Log OCR			−0.724			−1.309
			(1.94)*			(2.74)**
Log Financial cost per INR lent			−1.251			−2.000
			(3.35)***			(4.33)***
Constant	−1.029	−1.363	−0.855	−0.936	−1.288	−0.541
	(2.80)***	(2.23)**	(1.97)*	(1.71)*	(1.51)	(1.03)
Observations	41	42	39	41	42	39
Adjusted R-squared	0.57	0.55	0.72	0.38	0.36	0.68

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5 – Average cost regressions

Log Operating Cost per Rupee (Log OCR), Log Total Cost per Rupee (Log TCR), Log Operating Cost per Borrower (Log OCB).
(Log/Log regression to measure elasticities)

	(1) Log OCR	(2) Log TCR	(3) Log OCB	(4) Log OCB
Log average loan amount in 1OOO INR (per borrower)	−0.080	−0.087	0.306	0.327
	(2.04)**	(1.79)*	(2.76)***	(2.97)***
Log ABFO	−0.041	−0.037	−0.100	
	(3.49)***	(2.12)**	(2.93)***	
SHG	−0.074	−0.083	−0.150	−0.229
	(2.99)***	(2.47)**	(2.24)**	(2.86)***
Log age	0.006	0.022	−0.006	0.029
	(0.28)	(0.56)	(0.09)	(0.46)
Log # of borrowers				−0.132
				(4.01)***
Log # of field staff				0.062
				(1.21)
Constant	0.533	0.615	0.652	0.988
	(5.67)***	(3.63)***	(2.01)*	(3.33)***
Observations	41	41	41	42
Adjusted R-squared	0.20	0.08	0.42	0.50

Robust *t* statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

select and monitor borrowers that they have enough time to get to know and to follow. In our PAR regressions (Table 3) however, the coefficient of the number of borrowers per field officer is not significant. We also tested the effect of the ABFO variable on the operating cost per borrower and per rupee and we found significant negative coefficients (Table 5). Looking together at the ABFO coefficients of Table 3 and Table 5 suggests that the number of borrowers could be increased or the number of officers could be decreased without significant damage to the quality of the repayment performance.

The effect of the ratio of active borrowers to field officers on profitability is clearer than on PAR. A positive and significant coefficient in most regressions (Table 4) indicates that increasing the number of borrowers for a given amount of field officers would contribute to profits, while the reverse would hurt. The benefits of increasing this ratio do not grow linearly but slower and slower, given that the estimated coefficient applies to the log of the ABFO

ratio. Given that our sample is overwhelmingly constituted of MFIs which use some form of group delivery model, it is not impossible that overstaffing the MFI would not add much to what the groups are able to do by themselves. Regressions where we treated the number of field officers and the number of borrowers separately instead of jointly (see Table 4 col 2 and 5), confirmed the result: we observed a positive effect of the number of borrowers and a significant negative effect of the number of credit officers on profitability (FSS or OSS).

The insignificant contribution of the ratio of borrowers per field officer to the quality of the portfolio on the one hand and the significant contribution of this ratio to cost-reduction and to profitability increases on the other hand suggest that institutions in our sample could gain from either staff reduction or from an increase in the number of borrowers. This is consistent with the fact that most MFIs in our sample have room to raise the ABFO ratio within Sa Dhan standards[15] and with the fact that most MFIs in our sample use group mechanisms which the literature recognizes as ways to reduce monitoring costs at the level of the MFI.[16] An alternative to staff reduction is an increase in the number of borrowers keeping the staff constant. This will be investigated further with scale economies, as the higher number of borrowers per MFI could not only contribute to scale economies on the staff involved but also on other fixed costs.

5.3 Size of loans

We also investigate the effect of loan size on repayment. We observe no significant correlation with the portfolio at risk. Clients are then repaying their loan in due time, irrespective of the amount borrowed. The portfolio quality of MFIs in our sample is not influenced by the average amount lent. Given the screening devices used by the MFIs, they can thus choose their (average) size of loan by focussing mainly on their financial sustainability and their cost structure.

The relationship between FSS or OSS with the size of loan has a hump shape (inverted-U) as can be seen from Table 4 or Figure 2

15 Sa Dhan standards are based on experience. Our regressions give them a stronger foundation, and even suggest to raise them. Actually a range of 250–350 borrowers per field officer amounts to less than 2 per working day.

16 Table 6 shows that Self Help Groups lower the operating cost per borrower and per rupee (SHG-dummy); we discuss this group-lending effect in Section 5.5.

(top part). There is thus some benefit from increasing the size of the loans but only up to a point. In other words, to reach financial or operating self-sufficiency, MFIs should not lend very large or very small amounts. In our sample, they should give loans of middle size (around 5,400 INR = US$ 120) and target this as optimal loan size.[17] Of course, some SHG in India are known for lending much smaller amounts to their members, as low as USD 10 (Nair 2005). Figure 2 also plots the conditional value[18] of our observations in the performance/size of loan space. This gives a visual idea of how well the estimated relation fits the data holding the other determinants of performance constant.

The effect of the loan amount on the average cost is also of interest. The average cost regressions (in Table 5) are in logarithms and the estimates coefficients can thus be interpreted as elasticities. The elasticity of the operating cost per rupee (OCR) or of the total cost per rupee (TCR) is very small and significant. Quadratic forms of the size of loans (not reported) were not significant in cost regressions and we cannot find a cost-minimizing size of loan which would corroborate the profit-maximizing size of loans found in the FSS regressions of Table 4. Self-Help groups issue smaller loans than the other delivery models and have also lower costs per borrower and per rupee lent. The individual delivery model is just the opposite: larger loans and higher average costs.

The elasticity of the operating cost per borrower (OCB) to the size of the loans is positive but smaller than unity. This reflects the higher selection and monitoring costs that MFI devote to larger loans, especially individual loans, instead of delegating part of these activities to a group. This cost increase is not proportional to the size of the loan which is compatible with a decreasing cost per rupee lent. In our sample, increasing the size of loans seems to quickly reach its limits in terms of profitability because the cost increase per borrower (elasticity = 0.3) dominates the cost reduction per rupee (elasticity

17 Table 3 reports average OCB = 640 INR (14.22 USD), the 11.85 interest rate points would be needed to cover operating costs. The rest of the interest points would be needed to cover the cost of funds and loan losses. A reduction of ABFO (see Section 5.2. and 5.4.) would make it possible to reduce the cost to be passed on to customers through the interest rate.

18 The conditional value $Y^c{}_i$ of observation i in the space Y/S is obtained using the same method as in Figure 1. ON Figure 2, there is a large dispersion of FSS and OSS performance, all else equal, for loans in the range 2000 to 5000 rupees. Some MFIs clearly outperform others in terms of FSS and OSS for a given size of loans.

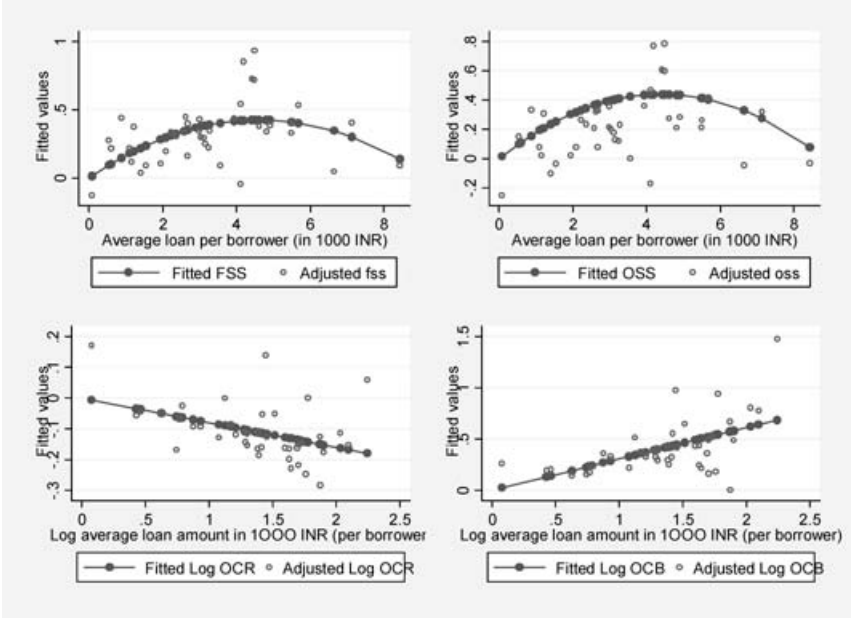

Figure 2 – Conditional effect: FSS, OSS, OCR , OCB and loan size

0.08), while the size of loans doesn't affect the quality of the portfolio, all other things equal (e.g. increased monitoring).

5.4 Scale economies

Table 5 suggests the presence of scale economies related to the size of the MFI. They can be observed at different levels: number of borrowers or total portfolio.

The average cost regression reported in Table 5 column 4 shows that the operating cost per borrower (OCB) is sensitive to the number of borrowers. The elasticity is small (0.13) but negative and significant. This confirms the fact that increasing the number of borrowers per MFI in the current state of affairs would lower the average operating cost and would raise total operating costs less than proportionately with the number of borrowers. Figure 3 plots the estimated declining average cost relation between (log) OCB and (log) number of borrowers and it also shows the dispersion of the conditional observations around this line. This cost effect does not appear explicitly in the profit regressions (FSS, OSS), but it fits perfectly

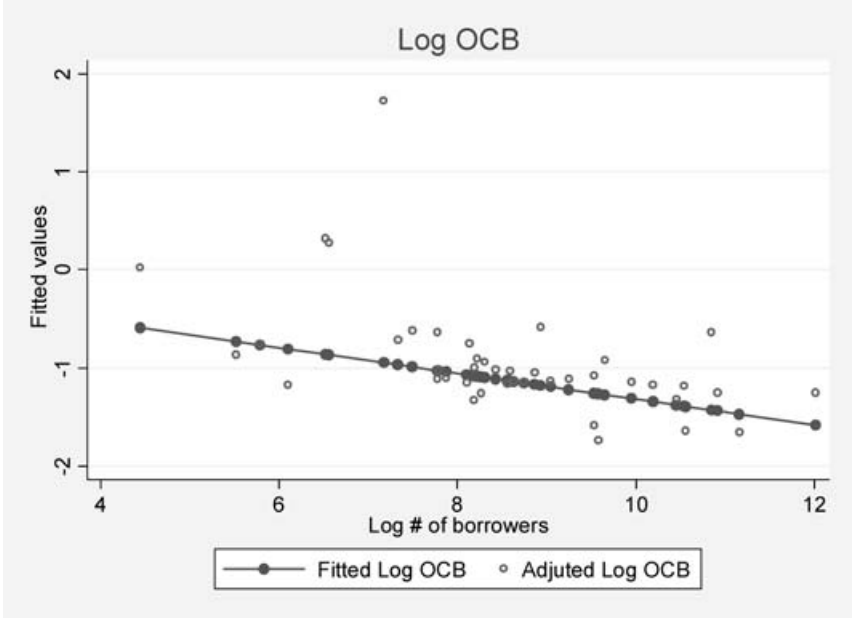

Figure 3 – Conditional effect: operating cost and number of borrowers

This figure uses values from table 5 column 4.

with the observation, in these regressions, that increasing the number of borrowers per field officer would raise the sustainability indicators (positive coefficient of Log ABFO in FSS and OSS regressions in Table 4). In the same line, Nair (2005) also suggests that scale economies could be made by Indian MFI by serving more people per MFI. Bluntly speaking, it could be said that in the Indian context, serving one more borrower costs nothing to the MFIs in our sample, but that offering larger loans to current MFI borrowers could eventually raise costs more than profits.

5.5 The delivery model and the targeted borrowers

Self help groups

The Self Help Group (SHG) delivery model is the only one for which we have enough data to perform some tests. The coefficient of the SHG dummy is negative and significant in all the operating cost regressions: log of total operating cost, operating cost per borrower

and operating cost per rupee. This means that, compared to other delivery models (all together),[19] MFIs spend relatively less for each borrower when they lend to a Self Help Group. Given that the size of Self Help Groups (10 to 20 people) is bigger than that of groups used by other delivery models in our sample, this result suggests that information flows might be more important in bigger groups and therefore reduce costs such as monitoring costs (Banerjee et al., 1994).

When we try to explain total costs instead of operating costs, the coefficient of the SHG dummy is not always significant in regressions because SHG tend to have higher financial cost than other delivery models. This is partly due to slightly higher borrowing costs (Basu and Srivastava, 2005) and partly to higher loan loss provisions (also in our sample). Indeed in our PAR regressions, the coefficient of the SHG dummy is positive when it is significant. However the positive coefficients for SHG in PAR regressions should not suggest that group repayment performance is globally weak[20] but instead that the other delivery models (Grameen, JLG and Individual) in our sample have a better repayment rate all other things equal.[21] The weakness of the self-help groups on the level of financial cost and portfolio at risk dominates their operating cost advantage in the FSS regressions where the coefficient is either not significantly different from 0 or negative.

Women participation

Women are a target group of microfinance for two reasons. First, this fits a poverty-fighting and empowerment objective because women are perceived as poorer than men and less autonomous at any given level of wealth or income. They are also perceived as good

19 Given the sample size, we cannot put dummy variables corresponding to other delivery models. We isolate SHG as this is the delivery model most specific to India and to our sample and it is promoted by local NGOs.

20 The SHG portfolio at risk in our sample is around 5% which is smaller than the 10% of the traditional banking system. This obviously suggests that loan recovery is better for SHG even if marginally better performances can be reached with other delivery models in our sample (Basu and Srivastava 2005).

21 Hermes and Lensink (2007) indicate that there is no consensus on the group repayment performance in the empirical literature. Ahlin and Townsend (2007) found some negative relations between joint liability and repayment rates in Thailand, and Besley and Coate (1995) have made a clear distinction between joint liability and social sanctions as determinants of repayment, the second being more effective than the first one.

customers because they have the reputation of repaying better than men. We measure the share of women in the borrowers of our MFIs.

In our portfolio at risk regressions, the coefficient of the share of women is negative and significant in most specifications. When we included this variable in the cost regressions it displayed often a negative but not significant coefficient. In the profitability regressions, it doesn't show a significant pattern either. It is thus not sure that targeting women adds much per se to the financial performance of an MFI, except possibly on the repayment side, all other aspects being taken into account. Anyway, continuing to target women cannot harm microfinance in the environment of our sample. This is actually good news because they account for 93% of the borrowers of the MFIs in our sample on average and because lending to them has most probably desirable effects that our regressions cannot capture.

Age of the institution

The age of the institutions never comes up with a significant regression coefficient. Conjecturing that performances would not increase much beyond some age threshold and having heard anecdotal evidence on this, we used the log of age in the regressions, but without result. We tried and kept the variable many times as a control variable. Set up costs and other age-related effects may vary across MFIs of the same age and are then better captured by operation-specific variables than by the age variable. Indeed, the ratio of borrowers per field officer (ABFO) is a significant variable. Scale economies on the size of loans or on the size of the portfolio, which could increase with age, are actually limited or not very significant. Scale economies appear on the number of borrowers, but this specific variable again seems to dominate the age variable in any regression.

Savings

The coefficient on a dummy indicating that the MFI is also offering savings services is never significant, at least in the Indian environment of our sample. Savings collected can increase available funds and reduce financial cost and therefore improve profitability as it appears in profitability regressions (Table 4). From the repayment point of view, we expect MFIs to use savings records of borrowers as a screening device or as partial collateral for loans, but we could not detect a significant effect. Net savers could also contribute to social pressure on net borrowers to repay on time, but this doesn't appear in our PAR regressions.

6 Conclusions

Despite its small size, our sample of Indian microfinance institutions surveyed by Sa Dhan, covers a large number of borrowers, provides comparable data and is quite revealing. Our results suggest that the challenge of covering costs on small and partly unsecured loans can indeed be met, without necessarily increasing the size of the loans or raising the monitoring cost, thus MFIs can ensure sustainability through financial performance while keeping the focus on the poor. The variety of performances and operating parameters of the MFIs in our sample make it possible to suggest ways to increase the ability of MFIs to cover costs. Indeed most institutions in our sample do not cover costs. This may endanger their long run ability to reach out to the poor by providing small and unsecured loans.

On the revenue side, the current average interest rate and other charges of about 22% per rupee lent can be sustained without worsening the repayment performance of the borrowers, thus without triggering adverse selection or moral hazard effects. This is not enough, however, to cover operating and financial costs of more than 30% on average. Our estimates suggest that raising the interest rate can be done without harming profitability, despite some risk of increasing defaults. The MFIs must make choices between their long run sustainability and the educational objective of securing the highest possible repayment rate. Charging too low interest rates seems to actually backfire. MFIs must decide in fairness but should take this information into account. On the cost side, Indian MFIs still face high financing costs relative to MFIs in other parts of the world or even in neighbouring Bangladesh, but this seems to be temporarily beyond their control. Our regressions show that increasing the size of the loans works only up to a point to reduce cost, because large loans require more individual monitoring than small ones which fit into group mechanisms. If small loans are indeed an indicator of outreach to the poor, our data suggest that their small size can be maintained. A large range around 4500 rupees (100 USD) per borrower must be sustainable. Increasing the number of borrowers per field officer seems to be the most promising way to reduce costs, especially in group-based delivery models. This would not hurt repayment despite a likely lightening of the monitoring. If scale economies can be found, it is thus primarily by extending the 'width' of the coverage (number of borrowers), not by abandoning the 'depth' of the coverage, i.e. not by abandoning the focus on the poor. Our regressions do not suggest an optimum number of borrowers per field

Table 6 – SUR results

	(1) PAR	(2) FSS	(3) Log Operating cost (per borrower)
Yield	−1.006	3.077	
	(3.03)***	(3.58)***	
Yield squared	3.286	−2.816	
	(5.21)***	(1.72)*	
Average loan per borrower (in 1000 INR)	0.014	0.151	
	(0.62)	(2.50)**	
Average loan per borrower (in 1000 INR) squared	−0.001	−0.015	
	(0.20)	(2.19)**	
Log ABFO	−0.001	0.156	
	(0.09)	(4.67)***	
South India	−0.082	0.138	
	(2.94)***	(1.92)*	
Offering savings services dummy	−0.001	−0.008	
	(0.02)	(0.12)	
SHG	0.054	−0.023	−0.270
	(2.05)**	(0.33)	(3.38)***
Log average loan amount in 1OOO INR (per borrower)			0.351
			(4.61)***
Log age			0.066
			(1.01)
Log # of borrowers			−0.108
			(3.15)***
Log # of field staff			0.023
			(0.50)
Constant	0.064	−1.040	0.845
	(0.58)	(3.61)***	(3.24)***
Observations	41	41	41
R-squared	0.64	0.64	0.58

Absolute value of t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

officer, but the Sa Dhan's guideline of 250 to 350 seems to be a lower bound.

In addition to the systemic analysis, an individual assessment is also possible. The dispersion of observations away from the regression lines in our graphs is also of interest. MFIs can check the distance between the regression line and conditional observation corresponding to their individual situation and objectives, not simply compare themselves to a uniform benchmark. This may help them set realistic targets and identify individual causes of over or underperformance.

Our results thus confirm the intuition of microfinance with the observation that small loans can indeed be delivered at a (high) cost affordable for this type of (interest-inelastic) borrower, especially if selection and monitoring can be largely delegated to group mechanisms and if a large number of loans of a standard-enough type can be delivered by a given structure.

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Analyse de performance d'un échantillon d'institutions de microfinance en Inde

Nous utilisons une analyse de régression pour analyser les déterminants de l'auto-suffisance financière d'un échantillon d'institutions de microfinance en Inde. Ces institutions se distinguent par leur capacité et leur volonté de fournir des données financières et opérationnelles à Sa Dhan, une organisation de partage d'expertise. Nous analysons plus particulièrement trois aspects de la performance: la couverture des coûts par les recettes, le remboursement des prêts et le contrôle des coûts. Nos résultats suggèrent que le défi de couvrir les coûts de petits prêts non garantis est tenable, sans devoir nécessairement recourir à une augmentation de la taille des prêts ni des frais de suivi. L'analyse suggère d'autres moyens d'améliorer les résultats financiers, tels qu'une meilleure adaptation des taux d'intérêt ou une augmentation du nombre d'emprunteurs par agent de crédit, en particulier dans les structures de prêts impliquant des mécanismes de groupe.

Analyse der Leistungsfähigkeit von Mikrofinanzinstituten in Indien

Wir wenden die Regressionsanalyse an, um die Determinanten für die Zukunftsfähigkeit von Mikrofinanzinstituten in Indien zu untersuchen. Diese Institute zeichnen sich dadurch aus, dass sie in der Lage und bereit sind, finanzwirtschaftliche und betriebliche Daten an Sa Dhan, eine Know how sharing-Organisation, zu übermitteln. Wir untersuchen insbesondere drei Aspekte der Zukunftsfähigkeit: Kostendeckung durch Erlöse, Rückzahlung von Darlehen und Kostenkontrolle. Unsere Ergebnisse deuten darauf hin, dass die Herausforderung, Kostendeckung bei kleinen und teilweise ungesicherten Darlehen zu erreichen, tatsächlich erfüllt werden kann, ohne notwendigerweise das Ausmaß der Darlehen zu steigern oder die Kontrollkosten zu erhöhen. Die Analyse weist andere Wege auf, um die finanziellen Ergebnisse zu verbessern, wie etwa ein besseres Targeting der Zinssatzpolitik oder die Erhöhung der Zahl der Darlehensnehmer pro Sachbearbeiter, insbesondere über Collective delivery-Modelle.

Análisis de los resultados obtenidos en una muestra de instituciones de microfinanzas en India

Se utiliza un análisis de regresión para estudiar los determinantes de la autosuficiencia financiera en una muestra de instituciones de microfinanzas en la India. Estas instituciones se distinguen por su capacidad y su voluntad de proporcionar datos financieros y operativos a Sa Dhan, una organización de expertos. Los autores analizan, particularmente, tres aspectos de los resultados obtenidos: la cobertura de los costes por los ingresos, el reembolso de los préstamos y el control de los costes. Los resultados ponen de manifiesto que el reto de cubrir los costes de los pequeños préstamos no garantizados es defendible, sin tener que recurrir necesariamente a un aumento del tamaño de las operaciones ni de los gastos de supervisión. El análisis sugiere otros medios para mejorar los resultados financieros, tales como una mejor adaptación de los tipos de interés o un aumento del número de prestatarios por agente de crédito, particularmente en las estructuras de préstamo que implican mecanismos de grupo.