



Determination of the factors affecting financial performance of NBFC-MFI in Gujarat

Abstract

MFIs need to create substantial impact for poverty alleviation. However, it is also important that MFIs are operationally and financially viable, because as financial institutions, they have to be sustainable in delivering financial services to their intended clients. Therefore, it is important that MFIs accomplish their social obligation alongside organizational efficiency. Various standards and parameters are being used among microfinance institutions (MFIs) to assess the efficiency of their operations. The study followed a quantitative research approach using a balanced panel data set of 63 observations from 9 MFIs over the period 2009-2015. It is very much necessary to find out the factors, which are affecting to financial performance of MFIs, as their intended beneficiaries are the marginalized sections of society. The regression model was developed to find possible determinants that could explain the prospects of sustainability of the MFIs with respect to measures of financial performance. This paper found that microfinance capital structure, cost per borrower, operational self-sufficiency and size of MFI affect significantly on the financial sustainability of microfinance institutions in Gujarat. However, the microfinance age, operating ratio, Capital to Asset Ratio, Portfolio at risk >30 and Yield have insignificant impact on financial sustainability of MFIs in Gujarat for the study periods.

Keywords: Microfinance, sustainability, financial performance, outreach

Introduction

The Task Force on Supportive Policy and Regulatory Framework for Microfinance constituted by NABARD defined microfinance as “the provision of thrift, saving, credit and financial services and products of very small amount to the poor in rural, semi-urban and urban areas for enabling them to raise their income levels and improve their standard of living.” (Sen, 2008). Microfinance Institutions have been expected to reduce poverty, which is considered as the most important development objective (World Bank, 2000). For eradication of poverty, microfinance has always been seen as ray of hope but later on it has been realized the core issue that access credit to poor could create Non Performing Assets (NPAs) problem more worsen. MFIs must be able to sustain themselves financially in order to continue pursuing their noble objectives for long run, through good financial performance. There does not seem to be any working model of analyzing the financial performance and thereby sustainability of microfinance institutions. This problem is aggregated by the absence of regulatory mechanism for financial disclosures by microfinance institutions. The present study is an attempt to analyze the financial performance of NBFC microfinance institutions operating in Gujarat. It is very much necessary to find out the factors, which are affecting to financial performance of MFIs, as their intended beneficiaries are the marginalized sections of society. By examining the factors affecting the financial performance, MFIs efforts should be reach out microcredit to thousands of borrowers in a sustainable way (Rhyne, 1998) is supported in the literature.

Some of the determinants are found to be significant in one economy or applicable to a set of MFIs, some are not significant (Cull et al., 2007 & Christen et al., 1995). Moreover, such study has not been conducted empirically in Gujarat exclusively focused on factors affecting financial sustainability. Even if they report the result of some financial performance measures, they did even without doing statistical test of

significance. This study, therefore, investigates empirically the factors affecting the financial sustainability of MFIs in Gujarat over the period 2009- 2015, and gets started to fill this knowledge gap.

2. Review of Literature

Pankaj K. Agarwal, S.K. Sinha (2010) concluded that most of the best performing firms are following different business models in India. In areas, especially in risk coverage, debt equity ratio, productivity, cost per borrower, operational self-sufficiency etc. there exist a similarity between the firms performance. This similitude in performance is not due to a chance factor but a deliberate business model that emanates from group lending and rural focus of MFIs operating in the Asian subcontinent. The managerial capability as reflected in productivity parameters etc. is different as it is possible that management of different MFIs are at distinct stages of the learning curve.

Ahlin et al. (2011) examined the determinants of performances of MFIs where variables, like self-sufficiency, borrower growth, or loan-size growth, are estimated by macro- economic variables as well as macro-institutional factors, such as corruption control. Their paper relies on the Microfinance Information Exchange (MIX) data for the MFI specific variables. One of their main conclusions include that MFIs' performance is not necessarily good or sometimes worse in the country where institutions are more advanced.

Bayeh Asnakew Kinde (2012) revealed on the base of empirical evidence from the econometrics analysis, that breadth of outreach (number of borrowers), depth of outreach (average loan size), dependency ratio(donated equity) and cost per borrower were found to be important variables in determining financial sustainability of microfinance institutions in Ethiopia. According to this paper, no significant association was found between capital structure(debt to equity ratio) and financial sustainability of microfinance institutions, and the same is true for staff productivity(active borrowers by the number of loan officers).

Maina, L. & Ishmail, M. (2014) found that firms (both highly and lowly geared) should take into cognizance the amount of leverage incurred because it is a major determinant of firms performance, this is pronounced in both the highly geared and lowly geared firms. The study provides evidence of a negative and significant relationship between asset tangibility and ROA as a measure of performance in the model means the firms were not able to utilize the fixed asset composition of their total assets judiciously to impact positively on their firms' performance. Therefore, this study highly recommends that asset tangibility should be a driven factor to capital structure because firms with more tangible assets are less likely to be financially constrained.

3. Research Objective

To study the factors affecting financial performance (ROA) of NBFC-MFI in Gujarat

4. Research Methodology

4.1 Sample Frame:

The target population for this particular study is all the microfinance institutions currently operating in Gujarat. There are 17 NBFC-MFIs, which are providing a microfinance services to the poor society in Gujarat and reported their annual statement to Microfinance Information Exchange (MIX), a not-for profit organization.

4.2 Sample Size:

This study has used a sample of 9 MFIs, from the total population of 17 NBFC-MFI working in state of Gujarat. For these MFIs, a seven year data (2009-2015) has been taken. The criteria for choosing among the MFIs were based on the availability and quality of data. Based on the sample size and the time coverage, the sample consists of 63 observations.

The size of the sample does not violate the general rule of thumb that for the generalization, a ratio of number of observations to number of variables should never fall below 5:1. That is five observations are made for each independent variable (Hair *et al.*, 2006). Moreover, Hair *et al.* (2006) states that although the minimum is 5:1, the desired level is between 15 to 20 observations for each independent variable to be representative.

4.3 Sources of Data:

The data were provided by the “Mix Market” web site, which is known as the Microfinance Information Exchange (MIX), which is a non-for profit organization.

4.4 Research Model and Technique:

The objective of the study was to identify the determinants of financial performance (Return on Assets) of Microfinance Institutions. This objective was done by Multiple Regression Analysis with the help of SPSS 23.

The following model shows the hypothesized relationship between the performance and the factors affecting the performance of NBFC-MFI:

$$\text{Financial Performance (ROA)}_{i,t} = \alpha_i + \beta_1 \text{DERatio} + \beta_2 \text{CpB} + \beta_3 \text{Age} + \beta_4 \text{OELP} + \beta_5 \text{CAR} + \beta_6 \text{PAR30} + \beta_7 \text{OSS} + \beta_8 \text{logAst} + \beta_9 \text{Yld} + \delta_i + Y_t + e_{i,t}$$

4.5 Indicator of Financial Performance and their Potential Determinants:

Return on assets (ROA) (shown in Table-1) falls within the domain of profitability measures and tracks MFIs’ efficiency to generate income based on its assets. It gauges profitability regardless of the MFIs’ funding structure. The ratio excludes non-operating income and donations. ROA provides a broader perspective compared to other measures as it excels the core activity of MFIs, namely, providing loans, and tracks income from all operating activities including investment. ROA is expected to be positive as a reflection of the profit margin of the MFI, otherwise it reflects non-profit or losses.

Table-1 : Variable Description (Dependent Variable)	
Variables Name	Measurement (Formula)
ROA	Net Income (Excluding Donations) /Average Total

The independent variables for financial performance used in this study includes Debt-Equity Ratio, Cost per Borrower, Operating expense ratio, Capital to Assets Ratio, Portfolio at Risk_30 days, Operational Self-Sufficiency, Yield, Age and Size of microfinance institutions. Table-2 presents the description of the independent variables or explanatory variables used in this study. Some of the variables are presented in their log form for regression purpose.

No.	Variable Name	Formula	Variable name in regression model	Variable Description
1	Debt to Equity Ratio	Adj. Total Liabilities/ Adj. Total Equity	DERatio	Debt as a percentage of Equity

2	Cost Per Borrower	Adj. Operating Expense/Adj. No. of Active Borrowers	logCpB	Natural logarithm of the cost per borrower
3	Age of MFIs	Age of MFIs since their establishment	Age	Number of operation Years
4	Operating Expense Ratio	Adjusted Operating Expenses/Adjusted Average Gross Loan Portfolio	OELP	This measures the operating efficiency of an MFI
5	Capital to Assets Ratio	Total Capital/ Risk Weighted Assets	CAR	It is a key financial ratio measuring MFI's capital adequacy
6	Portfolio At Risk_30 days	Sum of Unpaid Principal Balance of All Loans with Payments Past Due/ Total Gross Outstanding Loan	PAR30	It is a percentage (%), which represents the "Proportion of an MFI's total gross outstanding loan portfolio that is at default risk."
7	Operational Self-Sufficiency	Operating Income (from Loans + Investments)/ Operating Costs + Loan Loss Provisions + Financing Cost	OSS	It indicates in form of percentage (%), whether or not enough revenue has been earned to cover the MFI's total costs
8	Size of MFI	Total Asset of MFI	logAst	Natural Logarithm of the Total Asset
9	Yield	Adjusted financial revenue from Loan Portfolio/Adj. average GLP	Yld	Financial Revenue as a percentage of GLP

5. Empirical Results and Analysis

In this section, the study presents the econometric results on factors affecting the financial performance of microfinance institutions working in Gujarat.

Table-3: Model Summary of Linear Regression

R	R Square	Adjusted R Square	Std. Error of the Estimate
.909 ^a	.827	.797	4.31371%

Table-4 :ANOVA^a

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4708.539	9	523.171	28.115	.000 ^b
Residual	986.230	53	18.608		

Total	5694.769	62		
a. Dependent Variable: ROA				
b. Predictors: (Constant), Yld, logAst, OSS, PAR30, CAR, Age, logCpB, DERatio, OELP				

Table-5: Coefficients of Factors affecting Financial Performance

	Coefficients		
	B	t	Sig.
(Constant)	-39.172	-2.858	.006
DERatio	.104	2.749	.008
logCpB	9.861	2.507	.015
Age	.315	.213	.833
OELP	-.129	-.708	.482
CAR	.036	.543	.589
PAR30	.052	1.370	.176
OSS	.268	11.182	.000
logAst	-2.258	-2.104	.040
Yld	.077	.549	.585

From the econometric result given in Table-3, the adjusted R^2 value indicates that the proportion of variance in the dependent variables that can be explained by the independent variables is 79.7%. That is, about 20.3% of the variations in the dependent variable are not explained by the independent variables included in the model. However, Cameron, 2009 (cited in Ganka, 2010) expresses that for panel data, the R^2 above 0.2 is still large enough for reliable conclusions.

The value of R square is significant, indicated by p value (0.000) of F statistics as given in ANOVA Table-4. This informs that the independent variables, taken together as a set, are significantly related to dependent variable. The multiple correlations are therefore highly significant.

The regression result reveals that Capital Structure, Cost per Borrower and Operational Self-Sufficiency significantly have positive effect on MFIs' financial performance. On the other hand, the significant negative relation has been observed between size of the MFIs working in Gujarat and their financial performance. In the present work, the microfinance institution's age, efficiency ratio, stability, risk and yield on gross portfolio have insignificant impact on financial performance of MFIs for the study periods.

Based on above econometric result, the following regression equation is produced:

$$\begin{aligned} \text{Financial Performance (ROA)}_{i,t} = & -39.172 + 0.104(\text{DERatio}) + 9.861(\text{logCpB}) \\ & + 0.315(\text{Age}) - 0.129(\text{OELP}) + 0.036(\text{CAR}) + 0.052(\text{PAR30}) + 0.268(\text{OSS}) \\ & - 2.258(\text{logAst}) + 0.077(\text{Yld}) \end{aligned}$$

Conclusion and Recommendation

ROA is an overall measure of profitability that reflects both the profit margin and the efficiency of the institution. Analysis of this ratio will help MFIs in determining the economic impact of policy changes, improving in noncompliance management, taking decision about the alteration of revenue source, etc.

- The positive significant coefficient 0.104 for DERatio indicates that the more MFI is debt financed compared to other sources of finance, the more they be sustain financially. It means debt financing improves financial performance, as the interest on debt is tax deductible.

- The significant positive impact of Cost per Borrower (**CpB**) on the financial performance has been observed in the present work as its beta coefficient 9.861 and p value is less than 5% level of significance. It means Cost per Borrower and Financial Sustainability are complimentary to each other. Total number of borrowers refers to individually identifiable borrowers who have at least one current outstanding loan with the institution. Multiple loans to the same borrower are considered as one borrower (Pandey, 1999, Microrate, 2002). More the number of clients, MFIs enjoy economies of scale.
- The finding for Age of an MFI in this study indicates that, its correlation with financial self-sufficiency is positive but insignificant. The analysis of the age represented by dummy variable (1=old, age more than 12 years and 0 =new, age upto 12 years) dictates that with the increase experience of MFI, financial soundness would be strengthened.
- The beta coefficient for Operating Expenses per loan portfolio is -0.129 but statistically insignificant impact on financial performance as p value is 0.482 more than 0.05. More operating expenses would bring financial inefficiency for the microfinance institutions.
- The result from the regression indicates that the Capital Assets Ratio has a positive coefficient 0.036 but statistically insignificant impact on financial sustainability as p value is 0.589 more than 0.05. The Capital Adequacy Ratio (CAR) is an important indicator of an MFI's ability to meet its obligations and absorb losses. It measures the amount of capital relative to risk-weighted assets that an MFI should have. The result suggests that if MFIs working in Gujarat want to increase financial performance, they should invest more capital to cover risk-weighted assets.
- The portfolio at risk is the value of all loans that have one or more instalments of principal due for more than 30 days. However, PAR₃₀ has insignificant relationship with ROA, an interesting result of this analysis is that portfolio at risk positively affects financial performance. Therefore, financial performance can be expanded only with additional risk bearing.
- The beta coefficient 0.268 for Operational Self-Sufficiency is positive and statistically significant at 5% level as its p value is 0.000. OSS is a good measure of the financial sustainability of an MFI. An increase in the operational self-sufficiency leads to a significant increase in financial performance of NBFC-MFI.
- Surprisingly, the size of MFIs working in Gujarat has significant inverse relationship with financial performance shown in regression result as Asset variable has beta coefficient -2.258 and p value is 0.040 that is less than 0.05.
- Yield variable is an indicator of the real rate of interest charged by MFIs. This study shows that an increase in the yield on gross loan portfolio has an insignificant positive effect on the financial performance. Karel Janda and Batbayar Turbat (2013) concluded in his paper that by targeting female borrowers, group lending and good governance, MFIs can improve their financial performance.

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