Determinants of Financial Self Sufficiency in Microfinance Institutions: A study of Pakistan, India and Bangladesh

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Abstract

This study is an attempt to identify the factors that are affecting the financial self-sufficiency of MFIs in Pakistan, India and Bangladesh. Panel data on MFIs of these countries for the year 2011 to 2015 is used. This yielded balanced panel data for thirty-two MFIs, comprising of 161 observations. Our results show that Size of MFI and Loan Portfolio to total assets have positive impact while Portfolio at Risk, Breadth of outreach, Management inefficiency and operating cost ratio have negative impact on financial self-sufficiency.

Keywords: Financial Self-sufficiency, Loan Portfolio, Management Inefficiency, Microfinance Institutions

Introduction

One of the major challenges faced by developing countries in pursuit of their social and economic development is poverty. Unfortunately, the benefit of macro-economic growth of economy does not always filter down to the poor people and millions are left in poverty. Microfinance is provided to low-income people or unemployed people having no access to traditional financial institutions and it has proved itself as one of the most effective tool for poverty alleviation in many developing countries of Africa and Asia (Yunus & Abed , 2004). The primary objective or microfinance is to provide an opportunity to financially deprived people to become financially self-sufficient and come out of poverty.

In developing countries, millions of poor people have availed microfinance and its growth has grabbed the attention of many stakeholders to measure the financial sustainability of such institutions (Beg, 2016). The financial services are provided to poor people that enhance the financial deepening in economy and in this way, financially deprived people become part of economy development. MFI has developed many innovate approaches like group lending, collateral substitute etc to target their potential clients.

Microfinance is providing financial activities to millions of people, it is also a fact that still a large number of potential clients are unserved and available supply of microfinance is less than the actual demand (Nyamsogoro, 2010). At present, the biggest challenge of any MFI is become sustainable while increasing its outreach. Due to certain unavoidable circumstances, MFIs are in great pressure to decrease their dependency on external financial resources e.g. subsidized funding, grants etc. The transaction cost of providing microfinance to clients in informal financial sector is high. Presently many MFIs are not financially sustainable and depend on external financial resources like donations, grants and loans. As the primary focus of any MFI is poverty reduction, so it has to be financially sustainable. The MFI management should focus on financial self-sufficiency "extent to which operating profits covers MFI cost" and operational self-sufficiency.

Microfinance sector is Pakistan witnessed the growth of 29.2% in aggregate loan portfolio reaching to 73.7 billion in 2015-2016. The state bank of Pakistan is promoting MFBs to enhance their outreach so that maximum numbers of under privileged people can avail financial services. According to report of UNDP, approximately 39% of Pakistani people lives under poverty line (Multidimensional poverty in Pakistan, 2016). Currently 11 MFBs and 37 MFIs are operating in Pakistan. The number of clients served by MF also increased to 1,249,857 (Ministry of Finance, 2015-2016). In India, Microfinance was started in late 1980s. Majority of NBFC-MFI are following institutional approach and do not relay on government loans or grants to provide MF to poor people. According to World Bank, 23.6% of Indian population lived below the poverty line (US $1.25 per day. As on March 2016, gross loan portfolio exceeds 53,000 crores and total number of clients exceeds 325 million (Microfinance Institute Network , 2016). Bangladesh, also known as land of microcredit, is among the leading countries in microfinance. In Bangladesh, approximately 25% of population of Bangladesh lived under poverty line (US $2 per day). Currently 506 MFIs are operating in Bangladesh serving more than 36 million people and total loan disbursement 827.7 billion in year 2015 (World Bank Group, 2016).

Nyamsogoro (2010) exaplined the importance of sustainable MFI by stating that having no MFI is better than having an unsustainable MFI. Many researches have been conducted on analyzing the factors affecting financial sustainability of MFI however; the results of these studies vary from country to country (Tehulu, 2013). Millions of potential microfinance clients are un-served because enough financial resources are not available to facilitate all (Rai & Rai, 2012). The purpose of this study is to analyze the factors that are affecting financial self-sufficiency of MFI in Pakistan, India and Bangladesh over the period 2011-2015. The next section will provide literature review on factors affecting financial self-sufficiency. Section III will discuss about research methodology and final section will provide conclusion and recommendations.

Literature Review

Rai and Rai (2012) stated that financial sustainability is one of the important areas to examine the MFI performance. Defining sustainability is an important issue that has given different interpretations; however, the focus of MFI is usually on operational self-sufficiency and financial self-sufficiency (FSS). The FSS measures how well MFI is earning from loans after covering its expense i.e. whether MFI is generating enough income from loans to cover operating expenses, financing costs, cost of capita and provision for loan loss (Iezza, 2010).

Kinde (2012) conducted a research to analyze the factors that are affecting financial sustainability of MFI in Ethiopia and found that breadth of outreach has a positive impact on financial sustainability. On the contrary, Nyamsogoro (2010) concludes that there is significant but negative relationship of breadth of outreach and financial sustainability. The reason could be the increase of inefficiency with the increase in number of borrowers. The study of Tehulu (2013) shows the significant impact of size of MFI whereas negatve impact of Portfolio at Risk and Management inefficiency on financial sustainability of MFI. A study by Rai and Rai, (2012) on MFI of India and Bangladesh showed that Portfolio at Risk and Operating expense to Loan Portfolio ratio has a significant impact on financial sustainablity of MFI. A study by Ayayi and Sene (2010) showed a positive impact of management efficiecny and portfoio at risk. The study conducted by Abdur Rahman and Mazlan (2014) showed that there is significanct impact of size of MFI while negative impact of operating expense ratio and breadth of outreach with financial sustainability of MFI. Zerai and Rani (2012) conducted a study to examine the technical efficieny of MFI of Ethiopia. The resutls revealed that there is trade-off between efficiency of MFI and its outreach and size of MFI has a significant impact on financial sustainability of MFI. The study of Beg (2016)

showed that size of MFI has positive significant impact while Portifolio at Risk has negative significant on financial self-sufficency (FSS) of MFI. Also, Gross loan portfolio to total assets has no significant impact on FSS. A study conducted by Ferdousi (2013) concluded that breadth of outreach is significant when MFI opeates within formal financial sector.

Duwal (2012) conducted a research on MFI of Nepal and concluded that Portfolio at Risk, Operating Expense ratio and Gross Loan portfolio to total asset are significant factors to determine financial sustainability of MFI. Khan (2010) conducted a research on analyzing the factors that are affecting performance of MFI in Pakistan. The results showed that level of poverty alleviation is used to measure the effectiveness of MFIs in Pakistan. Also the number of borrowers is a measure of poverty alleviation. Schäfer and Fukasawa (2011) conducted a study to examine the factors affecting sustainability of MFI. Their results showed that no. of borrowers is significantly affecting the sustainability while portfolio at risk is insignificant while measuring sustainabulity. Cull, Kunt, and Morduch (2009) argued that supervision is negatively associated with profitability of MFI. Also, MFI that rely on donations or grants (non-commerical source of funding) are less profitable as comapre the other MFIs.

Data and Methodology
Data Source and Sampling
In order to analyze the factors that are affecting financial self-sufficiency of MFI in Pakistan, India and Bangladesh, panel data on MFIs of these countries for the year 2011 to 2015 is used. This yielded balanced panel data for thirty-two MFIs, comprising of 161 observations. We have used secondary data in this study, which is obtained from annual reports of respective MFIs and MIX market.

We will apply three model of Panel Regression i.e. i. Pooled OLS Model ii. Fixed Effect Model iii. Random Effect Model. One the basis of Hausman test, most appropriate model will be used and results will be interpreted on the basis of that model.

Dependent and Independent Variable
Dependent Variable. Financial Self-sufficiency (FSS) is used as dependent variable in our study. This ratio shows the ability of MFI to generate enough revenue so that it can cover its cost. FSS is best measure to examine the financial sustainability of MFI because it uses the adjusted data and it offers detailed summary of input and output as compared to other financial ratios (Beg, 2016).

Independent Variable. Following are the independent variables used in our study.

i) Portfolio at Risk (30 Days). PAR shows the efficiency of MFI in making loan collections. Higher the PAR, more inefficient MFI is in collecting loans from customers. It shows that loans that are due for more than 30 days have high risk of default (Tehulu, 2013).

ii) Size of MFI. Size of MFI is measured as natural log of total assets MFI possess (Abdur Rahman & Mazlan, 2014).

iii) Breadth of Outreach. It shows how much people are served by MFI. It is measured as natural log of total borrowers (Nyamsogoro, 2010).

iv) Management Efficiency. It indicates the ability of management to control its costs. It is measured as operating expense divided by total assets (Tehulu, 2013).

v) Operating Cost Ratio. This ratio is key indicator to measure the efficiency of lending operations of MFI. The higher the Operating cost ratio, less will be the efficiency of MFI (Abdur Rahman & Mazlan, 2014).

vi) Portfolio to Assets. It is an indicator of the financing structure of MFI. It shows how MFI has allocated its assets to lending activities (Cull, Kunt, & Morduch, 2009).

Hypothesis

Based on above-mentioned previous literature, we have framed following hypothesis

H_1: Portfolio at Risk has negative impact on financial self-sufficiency of MFI

H_2: Size of MFI has positive impact on financial self-sufficiency of MFI

H_3: Breadth of Outreach has negative impact on financial self-sufficiency of MFI

H_4: Management Inefficiency has negative impact on financial self-sufficiency of MFI

H_5: Operating Cost has negative impact on financial self-sufficiency of MFI

H_6: Portfolio to Assets has positive impact on financial self-sufficiency of MFI

Table 1: Variable Measurement and Expected Signs

Variable	Formula/ Proxy used	Expected Sign
Portfolio at Risk (PAR)	Total Outstanding Loan Balance/Loan Portfolio	Negative
Size of MFI (SIZE)	ln (Assets)	Positive
Breadth of Outreach (BREAHT)	ln (No. of Borrowers)	Negative
Management Inefficiency (MGTIE)	Operating Exp./Total Assets	Negative
Operating Cost Ratio (OPA)	Operating Exp./ Loan Portfolio	Negative
Loan Portfolio to Assets (LPA)	Loan Portfolio / Total Assets	Positive

Model Specification

$$FSS_{i,t} = \alpha_i + \beta_1(PAR)_{i,t} + \beta_2(SIZE)_{i,t} + \beta_3(BREATH)_{i,t} + \beta_4(MGTIE)_{i,t} + \beta_5(OPA)_{i,t} + \beta_6 LPA_{i,t} + \mu_{i,t} + \varepsilon_{i,t}$$

Where,

FSS = financial self-sufficiency for MFI "i" for "t" time period.

α_i = Constant term

$\beta_1(PAR)_{i,t}$ = Coefficient of Portfolio at Risk for MFI "i" for "t" time period

$\beta_2(SIZE)_{i,t}$ = Coefficient of Size for MFI "i" for "t" time period

$\beta_3(BREATH)_{i,t}$ = Coefficient of Breadth of outreach for MFI "i" for "t" time period

$\beta_4(MGTIE)_{i,t}$ = Coefficient of Management Efficiency for MFI "i" for "t" time period

$\beta_5(OPA)_{i,t}$ = Coefficient of Operating Cost Ratio for MFI "i" for "t" time period

$\beta_6 LPA_{i,t}$ = Coefficient of Loan Portfolio to Total assets for MFI "i" for "t" time period

$\varepsilon_{i,t}$ = Within Entity Error Term

$\mu_{i,t}$ = Between Entity Error Term

Analysis and Finding

In order to analyze the factors affecting the financial self-sufficiency, we have applied pooled OLS, Fixed and Random effect regression model. All these models are used to check the consistency. Then Hausman Test is applied to check which model is appropriate i.e. random or fixed. The result of Hausman test clearly indicates that P-value =0.73, hence we fail to reject H0 hence Random effect model is appropriate model for our study and interpretation is based on results of Random effect model. We have checked cross sectional dependency by applying Pesaran CD test and Heteroscedasticity is check by applying Modified Wald Test.

Table 2: Random Effect Regression Model Results

Variable	Coefficient	Z	P > |Z|
PAR	-1.180591	-2.17	0.030
SIZE	16.47176	4.33	0.000
BREADTH	-16.01792	-3.76	0.000
MGTIE	-49.02954	-3.37	0.001
OPA	-1.30255	-2.29	0.022
LPA	3.090129	2.44	0.015
Prob>chi2=0.0001			

Our results indicates that Portfolio at Risk (β= -1.1805, Z= -2.17) has a negative impact on financial self-sufficiency which shows that higher the PAR value, lesser will be the repayment rates and that will affect the financial sustainability of MFI. The findings of our study are in consistent with the findings of Nyamsogoro (2010) and Tehulu (2013). Size of MFI (β= 16.4717, Z= 4.33) has a positive impact on FSS showing that increasing the asset size of MFI causes a positive impact on financial sustainability. The findings of our study are according to the findings of Beg (2016) and Abdur Rahman and Mazlan (2014). Breadth of Outreach (β= -16.01792, Z= -3.76) has a negative impact on FSS showing that increase in number of borrowers will decrease the financial sustainability of MFI. It may be due to increase in inefficiency of MFI. In addition, our finding validates the findings of Nyamsogoro (2010). Management Inefficiency (β= -49.0295, Z= -3.37) has a negative impact on FSS showing that less efficient management of MFI will result in less financial sustainability. Our findings are consistent with the findings of Tehulu (2013). Opearting Cost Ratio (β= -1.3025, Z= -2.29) has a negative impact on FSS showing that higher the operating cost ratio, less will be the financial sustainability of MFI. Our findings are consistent with the findings of Abdur Rahman and Mazlan (2014). Loan Portfolio to Assets (β= 3.0901, Z= 2.44) has a positive impact on FSS. Our findings are consistent with the findings of Cull, Kunt, and Morduch (2009).

Conclusion and Recommendations

This study was an attempt to identify the factors that are affecting the financial self-sufficiency of MFIs in Pakistan, India and Bangladesh. For this, data of 32 MFIs were selected from three countries. Hausman test indicates that Random effect regression model will be appropriate for this study. Results of Random Effect model shows that size of MFI and Loan portfolio to asset ratio has a positive and significant impact whereas Portfolio at Risk, Breadth of outreach, Management inefficiency and operating cost ratio has negative and significant impact on financial self-sufficiency.

Based on our results, we can conclude that in order to become financial sustainable, MFIs should increase their repayment rates. In addition, management of MFIs should be efficient in disbursing loans and collecting repayments. Millions of potential clients of MFIs in these three countries lived in rural areas due to which transaction cost and administrative expenses of MFI becomes high. In order to be financial sustainable, MFI should minimize their transaction and administrative expenses. That is why we have found breadth of outreach and operating cost ratio negatively affecting the financial self-sufficiency.

This study investigated the microeconomic variables affecting the financial sustainability of MFIs. Further research in this area can be done by investigating macroeconomic variable i.e. per capita income, real interest rate and degree of economic freedom.

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