Trade-off between Outreach and Profitability in Microfinance Institutions: Evidence from Bangladesh

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Abstract:
Claims have been made that the purpose of microfinance is to alleviate poverty and remain sustainable. Hence, there is a trade-off between outreach to the low-income community and financial profitability. This research study tried to examine the trade-off between outreach and profitability of microfinance institutions in the context of Bangladesh. This study uses a data sample of 433 Microfinance Institutions obtained from Microcredit Regulatory Authority on Microfinance Institutions in Bangladesh. Factors that significantly influence the outreach are Total number of borrowers and Loan size to borrower, while for the profitability, are Equity to asset and Total assets. The result shows that there is significant evidence of trade-off between outreach and profitability in Microfinance Institutions in Bangladesh. Furthermore, the paper recommends Microfinance Institutions to remain small in order to maximize their outreach and urges policymakers to develop robust regulations on microfinance helping the poor community and supporting the nation’s economy for long-term prosperity.

Keywords: Microfinance institutions, Trade-off, Outreach, Profitability, Islamic Finance.

Abstrak:

Kata Kunci: Keuangan Mikro, Trade-off, Penjangkauan, Profitabilitas, Keuangan Syariah.

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INTRODUCTION

Microfinance Institutions (MFIs) are relatively small financial institutions that have traditionally provided small loans (microcredit) to low-income citizens with the objective of helping them to engage in productive activities or microenterprises (Zerai & Rani, 2012). Financial services available to the poor in developing countries are very limited. In developing markets, MFIs are often considered to play an increasingly critical role in the development of the economic system. They serve the poor who have been excluded from formal financial institutions, providing a wide range of financial services and products; ranging from simple credit facilities to savings, remittance, insurance, and many others (Wijesiri et al., 2017).

With its worldwide success as a social movement, the microfinance industry has recently started addressing the issue of financial sustainability of MFIs. Based on the assumption that there is a trade-off between outreach and sustainability of an MFI, there are some apprehensions that this focus may adversely affect the industry's primary mission of poverty alleviation. While funding agencies prefer continuing the outreach efforts, emphasis on the financial performance of MFIs has gained momentum to ensure the efficient use of the funds allocated by the donors and build a path to future sustainability, so MFIs can eventually wean themselves off external subsidies. Conventional wisdom seems to suggest that such a universal drive towards financial sustainability has trade-offs and could seriously impair the effort for outreach (Quayes, 2015).

In Microfinance literature, researchers have focused on the determinant of mission-drift of MFIs. Many studies have examined the sustainability and outreach of MFIs. In addition to that, several studies made attempts to assess the impact and efficiency of MFIs in a global scale (Dorfléitner et al., 2017; Imai et al., 2012; Quayes, 2015) and the trade-off between efficiency and outreach of MFIs (Abdulai & Tewari, 2017; Caserta et al., 2018; Zerai & Rani, 2012). Few studies talk about the performance of MFIs in the micro level by looking at the impact of MFIs on poverty alleviation (Jia et al., 2016; Megicks et al., 2005; Raihan et al., 2017; Samer et al., 2015). However, there is no study that examines the trade-off between performance and outreach in Bangladesh MFIs. Bangladesh is among the nations which has promising Islamic financial industry with a number of innovations in IMFs. Thus, this paper attempts to address this lacuna based on 434 MFIs in Bangladesh.

The microfinance sector in Bangladesh has undergone some major transformations over the past two decades. MFIs started as non-government voluntary social organizations with the basic objective of providing microfinance services to poor households. The most well-known of them, the Grameen bank, started formally in 1983 under the Grameen Bank Ordinance. According to the latest available statistic, some 740 MFIs are operating with a network of around 19,000 branches, employing over 250,000 people and serving over 34 million borrowers (Raihan et al., 2017). Although Bangladesh has a long history of microfinance dating back to 1978, the sector essentially took off in 1992 with the establishment of Palli Karma Sahayak Foundation (PKSF), which acts as a wholesale provider of funds to the MFIs (Faruqee & Badruddoza, 2012). Since microfinance services are provided in a manner that minimizes the risk of default despite the absence of collateral, a number of commercial banks have also ventured to come forward to finance microfinance operations through wholesale lending to MFIs. These banks are now important providers of external funds. However, member savings and reserves (generated out of surplus) remain the major source of financing for the total assets held by the MFIs.

From the very inception of the microfinance sector in Bangladesh, access to both savings and credit has been recognized as essential prerequisites for alleviating poverty. In order to enhance the savings rate, the act of saving was invariably linked with micro-lending. The original Grameen Bank model introduced compulsory weekly savings as a precondition for
access to microcredit (Khandker, 1998). Following the devastating flood of 1988 and 1998, flexible savings schemes were introduced. Other large MFIs, such as BRAC, have also emphasized savings. The greater emphasis on member savings was based on the notion that access to own savings will reduce dependency on microcredit.

All the MFIs have followed essentially the same ‘microfinance’ model, with some minor variations. However, with the increase in loan size and volume of loans, many MFIs have begun to introduce micro-insurance schemes, especially since 2000. As a result, the microfinance model currently contains all three essential elements of finance, namely, credit, savings and insurance (Raihan et al., 2017). The mission of MFIs to reduce the poverty by employing profit-making banking in low-income communities is challenging. Much research has been done to prove this. (Cull et al., 2007) argue that there is a possibility of earning profits while serving the poor, but a trade-off emerges between profitability and serving the poorest. Raising fees to very high levels does not ensure greater profitability and the benefits of cost-cutting diminish when serving better-off customers.

Imai et al., (2012) examine the impact of MFIs in eradicating poverty on a global scale and the result suggests that microfinance significantly reduces poverty at the macro level and thus reinforces the case for channelling funds from developed finance institutions and government developments of developing countries into MFIs. Dorfleitner et al., (2017) carried out a study on the social failure of MFIs and their result shows that MFIs with a good portfolio are seen as less prone to social failure. Also, MFIs with better measures for the quality of outreach appear to be less likely to fail socially.

A good number of literature studies about the trade-off between efficiency and outreach in MFIs. An early study on this issue is by Conning (1999). He argues that trade-off is shaped by the endogenous monitoring and delegation costs that arise within a chain of agency relationship subject to moral hazard between borrowers, loan staff, MFIs equity owners and outside investors. The same has been echoed and proved by Zerai & Rani (2012). They argue that there is a strong positive correlation between the number of active borrowers and operational sustainability. This idea is supported by Hermes & Lensink (2011), who find strong evidence that the trade-off between the two is existent. Aiming for sustainability does compromise the goals of MFIs. In addition to that, Abdulai & Tewari (2017) found a trade-off between the depth of outreach and operational self-sustainability. Their result shows that interest rate is a major determinant for MFI sustainability, which is consistent with institutionalist view. They recommend that managers of MFIs and decision-makers in the region closely monitor their cost-side variables and improve productivity by adopting measures such as information communication techniques that enhances outreach at low cost.

While it has been argued that there is a trade-off in MFIs, numerous studies have been conducted to assess the performance of MFIs at the micro level. Saab (2015) finds that the impact of micro-financing on economic performance was far below expectations and did not contribute to the attainment of the Millennium Development Goals (MDGs). Megicks et al., (2005) investigated the outreach of MFIs in Indian regional rural banks and argued that the attitudes and behaviours of managers, along with institutional characteristics, are identified as an influence on market orientation, service innovation, customer satisfaction, and outreach performance. Besides, Rahman et al., (2017) examine the effects of microcredit on women’s empowerment in rural Bangladesh. Their result demonstrates that there are positive impacts of microfinance on most of the selected indicators for women’s empowerment and consider microfinance programs as an important development strategy to reduce the poverty.

In Malaysia, the study on the impact of microfinance was conducted by Samer et al., (2015) who examined the role of Malaysian microfinance Amanah Ikhtiar Malaysia (AIM) on
household income. They found that AIM has a positive impact on the household income of women borrowers who spent three years in the scheme as compared to new borrowers. They suggest that microfinance enables women to participate in the economic market by forming and extending their micro and small businesses and generating independent income that allows them to contribute to their household income. They also point out that access to microfinance enables poor and low-income borrowers to diversify their livelihood and alleviate their vulnerability.

Raihan et al., (2017) try to estimate the micro impact of microfinance in Bangladesh by looking at how microfinance has affected positively the gross domestic product (GDP) of Bangladesh by operating through several channels. His result estimates that microfinance has added somewhere between 8.9% and 11.9% to the GDP of the country. The contribution to the rural GDP is even higher which is recorded between 12.6% and 16.6%. Mazumder & Lu, (2015) added that microfinance appears to increase the basic rights of respondents and help improve their quality of life; the positive changes are consistently higher in non-governmental microfinance recipients.

Ahlin et al., (2011) examine whether and how the success of MFIs depends on the country-level context, in particular macroeconomic and macro-institutional features. There is suggestive evidence from the study that MFI performance should be handicapped for the environment in which it was achieved; MFI success is significantly affected by the macroeconomic and macro-institutional environment in which an MFI is situated. The total assets of microfinance institutions are very small relative to mainstream finance even in countries that have reached high levels of penetration and are considered by specialists as being close to saturation for microfinance (Honohan, 2004).

**RESEARCH METHODOLOGY**

In this paper, OLS regression is used as an estimation with cross-sectional data available obtained from Microcredit Regulatory Authority on Microfinance Institutions in Bangladesh. The study is quantitative in nature with random sampling data available from the data source. The data consists of the microfinance’s specific variables as contained in Table 1. Regression is made in the data that is made up of 433 Microfinance Institutions in Bangladesh for the year 2015. The paper classifies these ratios into four categories of determinants namely, Total Borrower, Loan Size to Borrower, Equity to Asset and Total Assets. Furthermore, the paper analyses and investigates the issues and practical implications from the obtained result.

**Table 1**

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Definition</th>
<th>Expected Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>MFIs ability to deploy its assets profitability</td>
<td>+</td>
</tr>
<tr>
<td>Total Borrowers</td>
<td>Total numbers of borrowers of the MFIs (In Log)</td>
<td>+</td>
</tr>
<tr>
<td>Loan Size to Borrower</td>
<td>Total loans / total borrowers (In Log)</td>
<td>+</td>
</tr>
<tr>
<td>Equity to Asset</td>
<td>Total equity / Total Assets</td>
<td>+</td>
</tr>
<tr>
<td>Total Asset</td>
<td>Total Assets of MFIs</td>
<td>-</td>
</tr>
</tbody>
</table>
Return on Asset ROA is an indicator of how profitable a microfinance institution is relative to its total assets. ROA gives a manager, investor, or analyst an idea as to how efficient an MFI management is at using its assets to generate earnings. ROA is displayed as a percentage. It is calculated by dividing Net Income by Total Assets. Abdulai & Tewari, (2017) investigate the relationship between outreach and sustainability of MFIs in sub-Saharan Africa. They also examine the determinants of sustainability using data from 71 MFIs across 10 countries and find that interest rate is a major for MFI sustainability. Mersland & Strøm, (2009) show that the internationalization of MFI to a large extent enhances social performance but does not enhance financial performance.

While for the independent variables, total borrower is an indicator of the breadth of outreach of MFI. Number of Total borrowers gives the manager, law makers, and researchers information on the breadth of outreach of MFI. It can be measured by summing up all the numbers of borrowers. Ahmed et al., (2014) examine the breadth of outreach and argue the comparison of outreach levels of microfinance institutions in South Asia. Eventually, they found a negative trade-off between profitability and outreach. Besides, there are other relationships also identified from the study such as competition, interest rate, and governance effects on outreach. In addition, loan size to borrower as proxy for the depth of outreach to poorer borrowers since the poor are likely to demand and receive smaller loans than wealthier borrowers. Jia et al., (2016) have done a study to test whether officer’s personal characteristics affect the size and quality of their loans. They found that the career background of loan officers did play a role in preventing mission drift. Moreover, Bos & Millone, (2015) introduce a simple approach to estimating the operational efficiency of MFIs. Their result shows that MFIs with a high depth of outreach are the most efficient, resulting in higher levels of outreach and profits for the same input.

Equity to Assets ratio is the proxy for the performance of MFIs. It determines how much shareholders would receive in the event of an MFI liquidation. The ratio expressed as a percentage is calculated by dividing Total Equity by Total Assets of the MFI. Studies have been done on how to maximize the impact and outreach of MFI lending activities to a target population of poor borrowers while remaining financially sustainable. The result shows that the trade-off between outreach, sustainability and financial leverage is shaped by the endogenous monitoring and delegations cost (Conning, 1999).

Total assets are the proxy for the performance of MFIs. It determines the size of MFI by looking at how big the total assets are. We expect the asset of MFIs to remain small because it will keep their performance and nature; in dealing with the low-income community. Coleman (2007) examines the impact of capital structure on the performance of MFIs. He finds that most of the MFIs employ high leverage and finance their operations with long-term as against short-term debt. Also, highly leveraged microfinance institutions perform better by reaching out to more clients, and thus enjoy economy scale, and are able to deal with moral hazard and adverse selection, enhancing their ability to deal with risk.

For this study, a parametric model of Ordinary Least Square (OLS) method is applied. Therefore, the methods are similar to that of Abdulai & Tewari (2017) in assessing the trade-off between outreach and sustainability of MFIs. Thus, the paper sets out the models around factors influencing the trade-off between outreach and profitability of MFIs.

\[
\text{ROA} = \alpha + \beta_1 \text{Ltotborr} + \beta_2 \text{LloansizeBorrR} + \beta_3 \text{equitytoasset} + \beta_4 \text{Ltotasset} + \varepsilon
\]
Where ROA is the performance ratio, $\beta_1$Ltotborr is Total of Borrowers for outreach ratio, $\beta_2$LloansizeBorrR is Loan Size to Borrower for depth of outreach, $\beta_3$equitytoasset is Equity to Assets for performance, and $\beta_4$totasset is Total Asset for the performance of MFIs.

### Table 02
Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>433</td>
<td>.3210624</td>
<td>.192192</td>
<td>0</td>
<td>.78</td>
</tr>
<tr>
<td>Ltotborr</td>
<td>433</td>
<td>8.327052</td>
<td>1.63458</td>
<td>5.393628</td>
<td>13.4435</td>
</tr>
<tr>
<td>LloansizeBorrR</td>
<td>433</td>
<td>.9467678</td>
<td>1.535868</td>
<td>-4.610785</td>
<td>4.412965</td>
</tr>
<tr>
<td>Equitytoasset</td>
<td>433</td>
<td>.1597921</td>
<td>.1737407</td>
<td>0</td>
<td>.75</td>
</tr>
<tr>
<td>Lntotasset</td>
<td>433</td>
<td>19.25725</td>
<td>2.472787</td>
<td>14.54592</td>
<td>26.96497</td>
</tr>
</tbody>
</table>

The table above summarizes the descriptive statistics; number of observations, mean values, standard deviation, and minimum and maximum value of the variables. In order to normalize the data range for more accurate analysis, total borrowers, loan size to borrower ratio, and total assets were logged.

Based on 433 MFIs in Bangladesh, we measure the trade-off that occurred in MFIs by using ROA as the dependent variable to measure the performance of MFIs. On the other hand, we use four independent variables to analyse the outreach and profitability of MFIs. The former two variables are for measurement of outreach namely, Total of Borrowers and Loan Size to Borrower while the latter two variables are to assess the profitability of MFIs which are Equity to Asset and Total Asset.

### RESULT AND DISCUSSION

In this paper, regression is made on the basis of data that is made up of 433 Microfinance Institutions in Bangladesh for the year 2015 which we obtained from Microcredit Regulatory Authority on Microfinance Institutions in Bangladesh.

In order to investigate the relationship between the variables, the correlation matrix was derived as summarized in Table 03 below. Despite not being significantly correlated, loan size to borrower ratio is included as an independent variable in the base regression. This is because the loan size to borrowers ratio is a key proxy to capture the depth of outreach in the context of MFIs. Furthermore, it showed a significant impact on ROA at 1% interval as discussed in the results.

### Table 03
Correlation Coefficients

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>Ltotborr</th>
<th>LloansizeBorrR</th>
<th>equitytoasset</th>
<th>Lntotasset</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ltotborr</td>
<td>-0.1362</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LloansizeBorrR</td>
<td>0.0787</td>
<td>-0.9620</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
equitytoasset  0.7612  -0.0616  0.0251  1.0000
Lntotasset  -0.6311  0.7576  -0.6525  -0.4635  1.0000

Based on the table above, it can be concluded that the variables are free from the multicollinearity problem. However, in this study, we find that the total number of borrowers have negative impact on ROA. This is because having a high number of borrowers might lead to a higher risk of having non-performing loans that would have a negative correlation with ROA. Other than that, a robustness check has been done for this study and the result shows that the independent variables are having a significant impact on the dependent variable which is shown in the appendix.

<table>
<thead>
<tr>
<th>Coef.</th>
<th>t</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ltotborrow</td>
<td>.1294029</td>
<td>10.08</td>
</tr>
<tr>
<td>LloansizeBorrow</td>
<td>.0596463</td>
<td>5.34</td>
</tr>
<tr>
<td>equitytoasset</td>
<td>.406987</td>
<td>12.81</td>
</tr>
<tr>
<td>Lntotasset</td>
<td>-0.0769317</td>
<td>-20.47</td>
</tr>
<tr>
<td>Constant</td>
<td>.6035536</td>
<td>6.89</td>
</tr>
</tbody>
</table>

R-Squared  0.8018  Breusch-Pagan  0.0080
Adj. R-Squared  0.8000  Heteroskedasticity  0.0000
Skewness  0.0000  Kurtosis  0.0003

* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level

As the MFIs continue to mature, more questions are raised about whether it is possible for MFIs to evolve in a way that can help low-income communities and simultaneously make profits. Based on the above table, it can be said that all independent variables have a big impact on ROA at a 1% significant level. Our finding is aligned with the previous studies that found that there is a trade-off in MFIs (Abdulai & Tewari, 2017; Conning, 1999; Zerai & Rani, 2012). Hermes & Lensink (2011) find that there is strong evidence that the trade-off between the two is existent and aiming for sustainability does compromise the goals of MFIs. They recommend policymakers to transform MFIs into formalized banking institutions.
Total number of borrowers is at 1%, a significant level as one of the factors explaining the outreach. This aligns with the previous study done by Ahmed et al., (2014). They investigate the breadth of outreach and the comparison of outreach levels of microfinance institutions in South Asia. Their result shows that a negative trade-off is found between profitability and outreach. There are other relationships also identified from the study such as competition, interest rate, and governance effects on outreach. In addition, Latifah & Yulianti (2019) found that there are some aspects influencing the success of MSMEs such as innovation, business knowledge and internationalization. Other than that, entrepreneurial marketing can lead MSMEs to their best performances (Setiyaningrum et al., 2022).

Loan size to borrower, significant at 1% is found to positively impact the MFIs outreach. The finding aligns with previous empirical research by Bos & Millone (2015), who also found a significant trade-off between social and financial performance in microfinance. Other than that, they recommend that a high depth of outreach is needed to make MFIs more efficient. Equity to assets is found at a 1% significant level which can be explained; this is because a higher level of equity assets will increase the performance of the MFIs. This means that 1% increase in Equity to assets will increase 0.40 ROA. This result shares a similar view with Conning (1999), who found that sustainable MFIs that target low-income community borrowers have to charge higher interest rates, have higher staff costs per dollar loaned and are less leveraged.

Total Assets is significant at 1%, level and it is found to be negatively correlated with the performance of MFIs. This finding is supported by Coleman (2007). His findings show that highly leveraged MFIs perform better by reaching out to a more clientele base and reducing default rates. He further recommends the development of appropriate policies to enable MFIs to have access to long-term debt to enhance their operations. Differently, Athief (2019) proposes a crowdfunding-based financing structure for MSMEs to cover more MSMEs who are unbankable. However, crowdfunding platforms have to simplify their administration and selection processes to accelerate MSMEs participation (El Ashfahany et al., 2022).

In this paper, we have employed four independent variables; two of them explain outreach while the rest explain the performance of MFIs. This model is intended to look at the possibility of a trade-off between outreach and profitability in MFIs. Based on the regression above, we find that all independent variables have positive impacts on the dependent variable at a 99% confidence level.

CONCLUSION

There have been countless studies on the development of microfinance in different countries yet there is no agreement on a uniform indicator of the level of microfinance development. The microfinance revolution is rooted in the new paradigm. Its mission of eradicating poverty is a holy goal that must be supported. However, its profitability cannot be forgotten, because, without it, MFIs will not survive. There are three major dimensions that MFIs have to consider, namely, scale, style of operation and subsidy. While most previous studies on microfinance have investigated the trade-off in MFIs on a global scale, this research endeavoured to provide significant findings on predicting the trade-off of MFIs in Bangladesh.

Using the data available from 433 MFIs in Bangladesh, this paper found several interesting points. It showed that there is a trade-off between outreach and profitability in MFIs in Bangladesh. However, total borrower has a negative correlation which is not aligned with the concept. A robustness check has been made and we found that it gives a significant impact on ROA. Moreover, we recognize that equity to assets has the biggest impact on ROA in this study. In addition, this study might be extended by involving other variables in the model and investigating the trade-off of MFIs in other regions. The study recommends that MFIs should keep in small to carry on their mission of eradicating poverty by giving loans to low-income communities.
Throughout the study, this paper faces certain limitations. The major limitation is in gathering the data of MFIS in Bangladesh. Due to the unavailability of data in this study, we could not cover all the variables that may cater to other aspects of outreach and profitability. From the regression side, the adjusted R-squared is lower than R-squared and it might be because of some variables which are not covered in this study. Heteroscedasticity also was found in order to eliminate potential causes. Outliers in the data were eliminated but did not result in homoscedastic error terms. However, a robustness regression check was estimated and the results were consistent with the base regression where all variables are significant. Further research on MFIs is encouraged and future research might fill the limitation of this study. The study humbly suggests that the government design a sound policy regulation supporting the MSMEs ecosystem. MSMEs are proven to support the development of the nation’s economy. Moreover, the paper urges further research on MSMEs using other methodologies and data samples to obtain more comprehensive results.

REFERENCE


