



Impact of Financial and Social Performances on Lending Interest Rate: Evidence from Microfinance Institutions in Vietnam

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This paper focuses on assessing the impact of financial and social performance on the lending interest rate of microfinance institutions (MFIs) in Vietnam during 2012-2016. Data collected is mainly from 26 MFIs in Vietnam through the Microfinance Information Exchange (Mix Market) and the Vietnam Microfinance Working Group (VMFWG). Financial performance is evaluated through variables of data such as return on assets (ROA), return on equity (ROE) and operational self-sufficiency (OSS), whereas social performance is measured by indicators such as average loan size (AVGLS) and number of credit clients (CC). For MFIs, the lending rate is a weighted average of the interest rates actually received by the MFIs from their clients. The authors also used some control variables to capture variations in size, age, funding cost (FC) and legal status. This paper applies panel data estimation techniques to calculate the correlation between selected variables. Research results indicate three financial performance variables: ROA, ROE and OSS, which have a significantly positive impact on MFIs' lending interest rate in Vietnam, whereas a variable size in social performance variables creates a significant negative impact on the lending interest rate. Moreover, legal status and AVGLS have a significant inverse relation with the lending interest rate. However, variables, in terms of depth outreach and breadth outreach, make different impacts on the lending interest rate, mainly due to the way MFIs operate, that is, they are more specialised than other financial institutions.

Key words: *Financial performance, Social performance, Lending interest rate, Microfinance institution, Vietnam*



Introduction

As numerous international organisations penetrate the new microfinance market, microfinance has undergone a remarkable transformation. It is well-known that microfinance bloomed in Bangladesh in the 1970s. Dr. Muhammad Yunus, working as a Professor of Economics at Chittagong University, framed the concept of microcredit during his research on the poor in his homeland suffering famine in 1974. He also established an institution - Grameen Bank, aimed at supporting poor people in his country. Henceforth, modern microfinance was officially born (Ledgerwood, 1999; Morduch & Haley, 2002; Khandker, 2003).

Microfinance plays an important role in social and economic development. The UN Capital Development Fund 2004 (UNCDF) points out that microfinance plays three key roles in development including: (i) helping very poor households meet basic needs and protecting against risks; (ii) being associated with improvements in household economic welfare, and; (iii) helping to empower women by supporting women's economic participation and so promoting gender equity. The microfinance sector has risen and moved in a new direction for low-income populations, supporting traditional banks in accessing the disadvantaged segment in society (World Bank, 2008).

Otero (1999,p.3) highlights that “microfinance, at its core combats poverty”. She states that microfinance creates access to productive capital for the poor, which together with human capital, addressed through education and training, and social capital, achieved through local organisation building, enables people to move out of poverty (Otero,1999). When the poor have access to capital, they can open up the direction of development, create facilities and empower themselves to participate in the economy and society. Like Otero (1999), Schreiner and Colombet (2001,p.4) define microfinance as “the attempt to improve access to small deposits and small loans for poor households neglected by banks”. Therefore, microfinance exists mainly to provide financial services such as savings, credit and insurance to the poor in both urban and rural areas who are unable to obtain such services from the formal financial sector.

Zohir and Matin (2004) also presents an individual viewpoint, that it is essential to evaluate the impact of microfinance through cultural, economic, social and political factors through evaluation at the individual, enterprise and household levels. Kabeer (2003) argues that social impact is an important factor in assessing the impact of microfinance. Kabeer (2003) also argues that MFIs themselves need to be fully aware of the “full range of changes associated with its efforts and use these to improve its performance”. For many MFIs, social performance and development impact are as important as financial performance (Legerwood, 1999). Cull, Demirgüç-Kunt and Morduch (2006) use regression techniques to evaluate the factors affecting loan interest rates such as funding cost (FC), operating cost, average loan size (AVGLS), rate of profitability, a proxy for competition, offering microloans and a set of dummies to control for time waves and geographic location.



Most of MFIs' customers are poor and disadvantaged people in society encountering obstacles to accessing financial support through formal financial institutions and banks. They often tend to borrow from informal institutions, often falling into black credit debt traps and facing credit risks. However, if the MFIs were to expand more approaches, aiming at more customers and financial balance to increase their level of self-sufficiency, they would earn more profits and effectively support the target customer segment. The activities of MFIs are important in the process of socio-economic development. Overall, MFIs both bring financial benefits and conduct a lofty social mission. In term of finance, through the process of providing financial services, MFIs perform several important functions: (i) mobilising savings; (ii) reallocating savings to investment, and; (iii) facilitating trade in goods and services, which become an effective tool for reducing poverty and increasing income. Socially, MFIs create opportunities for people, especially for the poor to access financial services, thus encouraging their customers to participate in their community and enhance their social capacities. MFIs at the same time perform two tasks: financial performance and social performance (Nguyen Kim Anh, 2014).

This paper strengthens existing literature by investigating when MFIs provide loans to customers at high interest rates, finding that this was largely due to low outreach and high operating costs. The authors also deduced that the application of loans to customers with high interest rates supports MFIs to earn and boost profits quickly, enhancing MFIs financial self-sufficiency (FSS) and operational self-sufficiency (OSS). Finally, other factors such as size, age, financial costs (FC) and legal status also influence the interest rate of MFIs.

Literature review

According to Levine (2005), the correlation and the nature of causality between economic growth and financial development are analysed in depth at the macroeconomic level. Subsequently, a number of researchers also point out the importance of greater financial leverage because of its ability to affect the poorest group of the world's population (Beck, Demirgüç-Kunt, and Levine, 2007). This is the reason why the development of financial institutions in general and MFIs in particular not only helps to reduce poverty but also reduce inequality.

There are two persuasions of thoughts with which to appraise MFIs' mission, a welfarist approach to microfinance and an institutionalist approach. The welfarist calculates MFI's success by values like poverty reduction and credit penetration (Gutiérrez-Nieto, Serrano-Cinca, & Mar Molinero, 2009; Hartarska & Denis, 2008), while the institutionalists calibrate the basis of sustainability and profitability (Cull, Demirguc-Kunt, & Morduch, 2008; Nawaz, 2010). Most recent studies have focused on both schools of thought and present outcomes in light of both financial and social findings.

Broadly, in microfinance framework, two levels of financial sustainability are addressed (Ledgerwood, 1997), namely operational self-sufficiency (OSS) and financial self-sufficiency

(FSS). OSS commonly shows the financial performance of the MFIs, where FSS depicts the actual financial health of MFIs. Along with a provision of loan loss, OSS only incorporates operating income and expenses that are necessary to illustrate the accurate picture of the financial sustainability of the MFIs. Therefore, FSS includes the cost of capital (adjusted), apart from the factors covered by OSS.

Researchers have broadly argued the two grades of sustainability. Pollinger, Outhwaite and Guzmán (2007) state that self-sufficiency is the phase in which an MFI is able to operate fully on the basis of the income generated through its lending operations and services. In contrast, Vinelli (2002) defines FSS as a ratio of operating income split by the operating expenses incurred, thus eliminating revenue from subsidies. A subsidy is not only an essential matter in the case of the sustainability of microfinance but is also observed as a constraint in maintaining the sustainability of a microfinance program.

When MFIs increase their sustainability, the lending interest rates to customers also need to be balanced. Resultantly, nowadays, what drives an MFI to formulate its interest rate strategy turns out to be a debate of immense importance. The high rate of interest charged by many MFIs in the world has attracted the extensive attention of policymakers globally. According to one statistic, there are currently about 40 developing countries that have interest rate ceilings of some kind (Helmes & Reille, 2004).

The financial and social performance of MFIs precisely alters their interest rate planning; Hudon and Traca (2008) conclude that MFIs may do a tradeoff between financial and social efficiency, preferring financial efficiency, as it will allow them to better perform their social work. Thus, the evolution of an interest rate policy is under the primarily influence of the social intentions and financial performance of an MFI.

In terms of CGAP's study (2004), interest rates that are widely higher than those of the banking sector, yet below those of informal borrowers such as loan sharks, are reasonable for MFIs. Cull, Kunt and Morduch (2007) assure that MFIs must employ high but not exorbitant interest rates to earn financial sustainability. They also show that for MFIs that grant individual loans, when the interest rates applied surpasses 60%, the MFIs are no longer profitable because the demand for credit decreases. However, the expansion of MFIs' capital, their financing capacity, both in terms of debt and by accepting larger deposits from their clientele, in turn broadens the reach of their actions, which reinforces financial sustainability. It follows then that to gain financial sustainability an MFI must set sufficiently high interest rates to cover its expenses because an extremely low rate would cause financial distress leading to the bankruptcy. In contrast, a needlessly high interest rate would castigate the clients, that the MFIs could consequently lose, which would then undermine its social mission.

Mark and Gabriel (2010) indicate that notably great MFIs that borrow from commercial lenders have low funding costs. When industries and economies emerge, information frictions tend to

play a crucial role in boosting the costs of finance. In markets with less well-established institutions and weaker regulations, adverse selection considerations will make it expensive for institutions to expand funds, and may restrict growth. The financing of MFIs conflicts with that of banks in two main dimensions. On one hand, MFIs do not rely much on demand deposits, on the other hand, non-commercial lenders along with the usual commercial sources provide the debt financing of MFIs. Development agencies, governments, co-operatives and other MFIs supply non-commercial loans. According to them, the rate paid by MFIs on their funding sources have a positive connection with the lending interest rate of MFIs.

Neither financial performance variables can calculate directly. Thus, proxies have to promote. In this study, financial performances measure through ROA, ROE and OSS, whose values are available in the projects of Cotler (2010) and Rosemberg et al. (2009). In their research, the variables evaluating the financial performance of MFIs (ROA, ROE, OSS) have a significant positive impact on lending rates. These findings suggest that if small MFIs receive high sums of money, they will charge higher interest rates when making loans. Therefore, small MFIs tend to increase higher lending rates with the purpose of increasing financial efficiency.

As mentioned by Brand (2003), another crucial aspect regarding interest rates is the regulation of the interest rate to defend vulnerable borrowers against the high rate required by MFIs. According to Ashta (2009), the ceiling of the interest rates could motivate MFIs to lend to the poor and serve the rich. MFIs can be (i) formal MFIs, (ii) semi-formal MFIs and (iii) informal MFIs. The formal MFIs must often follow extremely strict provisions of Laws, Decrees, and Circulars concerning formal financial institutions, so the interest rates offered by these institutions are often higher than the remaining groups (CGAP, 2004).

According to Campion, Ekka and Wenner (2010), if organisations have a larger scale and greater maturity, they tend to apply lower lending rates because along with lending activities, organisations also conduct many other derivative activities to earn profits.

Gonzales and Rosenberg (2006) clarify the link between outreach, lending interest rate and poverty handling data, as reported to Microcredit Summit Campaign (MSC) and the MIX market platform. Among the Mix Market data, the interaction between average loan size, number of credit clients and lending interest rate is very feeble and the slope of the curve is low. They assert that relatively little conflict between increasing the lending interest rate, as well as loan size, and reaching poor clients may occur. Moreover, Roy and Strom (2010), when conducting research on MFI mission drift, found no substantial signal of mission drift. They also found that although MFIs attain higher profits with higher loan sizes, this permits them to continue to target poor customers. Therefore, the cost-benefit comparison allows MFIs to stay on track serving typically poor customers rather than targeting wealthier clients.

Conclusively, higher interest rates in the microfinance sector are the combination of numerous factors. Decisions on the interest rate in the microfinance industry mostly involve the motive

of the MFI. In terms of sustainability motive, there is an upward trend in interest rates, whereas a contrary one happens in terms of social objectives (Copestake, 2007).

Data and model specification

Data

To carry out the research, the authors gathered specific variables: (i) financial performance indicators: ROA, ROE and OSS; (ii) social performance indicators: average loan size (AVGLS) and number of credit clients (CC). Other variables include funding cost and the lending interest rate of 26 MFIs in Vietnam. The data was collected through statistics on Vietnamese MFIs and the information in the MIX market - one of the credible websites visited by many scholars in the world – and the Vietnam Microfinance Working Group (VMFWG). We gathered the data from MFIs in Vietnam for the period 2012-2016, with 144 observations.

Variables Used in the Study

Following are the details of dependent, independent and control variables used in the study, along with a description:

Table 1: Describing variables

Variables	Abbreviation	Description
<i>Dependent variable</i>		
Lending interest rate	LIR	The nominal interest rate charged by MFIs on their loans
<i>Financial performance variable</i>		
Return on assets	ROA	An MFI's revenue through its asset utilisation
Return on equity	ROE	An MFI's return on its owners' investments.
Operational self-sufficiency	OSS	When MFIs cover their operational costs by the income generated through operations.
<i>Outreach variables</i>		
Average loan size	AVGLS	Average loan size is an indicator of the depth of outreach. A small average loan size indicates that the MFI serves the poorest client
Number of credit clients (log)	CC	Percentage of total borrowers of MFIs.
Funding cost	FC	The rate paid by MFIs on their funding sources.
<i>MFI-level control variable</i>		
Total assets (log)	Size	Natural log of total assets of MFIs
Age (log)		The year MFI has started operations
<i>Dummy variables</i>		
Legal status		This has three categories: formal, semi-formal and

informal MFIs in Vietnam^a. However, in this paper, 26 MFIs includes two categories: formal and semi-formal MFIs.

^a: ADB (2010) & Nguyen Kim Anh (2013)

Source: Afsheen Abrar (2019)

Econometric Specification

This section provides a discussion of the econometric models, data and variables used in this paper. In order to analyse the relationship among variables, the panel data estimated technique was used and a Hausman test suggested applying a random effect model (REM) (Appendix 1, 2 and 3). In this case, the model found was significant and then REM results were analysed.

To examine the impact of financial and social performance on lending interest rate MFIs in Vietnam, the following baseline specification was utilised:

$$\text{LIR}_{it} = \beta_0 + \beta_1 \text{FC}_{it} + \beta_2 \text{AVGLS}_{it} + \beta_3 \text{CC}_{it} + \beta_4 \text{ROA}_{it} + \beta_5 \text{ROE}_{it} + \beta_6 \text{OSS}_{it} + \beta_7 \text{Size}_{it} + \beta_8 \text{Age}_{it} + \beta_9 \text{LegalStatus}_{it} + \mu_{it} \quad (1)$$

Where LIR_{it} is the lending interest rate of an MFI i at year t . This study used three financial performance indicators ROE, ROA and OSS, estimated through three separate models (1a), (1b) and (1c), respectively. Social performance that represents the outreach of MFIs includes both breadth and depth dimensions. The number of CCs shows the breadth of outreach. However, the depth of outreach is shown by the average loan size (AVGLS). This indicator has been used by different studies including, Cull et al. (2007) and Olivares-Polanco (2005). All of them agree that the smaller the average loan size, the deeper the outreach of MFIs. Model (1) also includes dummy variables such as legal status. Based on legal status, MFIs in Vietnam consist of three groups: formal, semi-formal and informal MFIs. However, in this paper, the authors selected 26 MFIs, in which are only two groups: formal and semi-formal MFIs. The formal MFIs are under management and regulation by the government in accordance with the Law on Credit Institutions 2010; the remaining group is not under significant influence or strict control by the Government. However, this group is still subjected to the supervision of the SBV.

Results and discussion

This section presents the descriptive statistics of dependent and independent variables. Table 1 shows the the descriptive statistic of all the main variables along with their mean, median, maximum, minimum and standard deviation. Table 2 and 3 show the descriptive statistics of all the control and dummy variables, respectively.

Table 2: Descriptive statistic of main variables

	Obs.	Mean	Std. Dev.	Min	Max
LIR	144	14.49653	1.902792	10.00000	18.50000
ROA	144	2.992431	11.53231	-89.31000	14.75000
ROE	144	7.795486	15.20715	-94.52000	66.20000
OSS	144	138.4119	38.78282	30.85000	290.0800
AVGLS	144	235.6613	108.5322	43.82767	555.9284
CC	144	21535.04	52521.05	185.0000	309949.0
FC	144	6234677	17887769	55483.00	1.25E+08

Source: The authors

Table 3: Descriptive statistic of control variables

	Obs.	Mean	Std. Dev.	Min	Max
AGE	144	9.145833	6.192674	1.000000	26.00000
Size	144	6804406	18602091	291.6380	1.25+E08

Source: The authors

Table 4: Descriptive statistic of dummy variables

	Obs.	Mean	Std. Dev.	Min	Max
Legal_status	144	0.152778	0.361029	0.000000	1.000000

Source: The authors

The correlation matrix examines the degree and direction of relationship among the variables. Table 5 shows that the correlation among variables is not high and this reflects the non-existence of multicollinearity among variables.

Table 5: Correlation matrix

	1	2	3	4	5	6	7	8	9	10
1. LIR	1	0.1999	0.4247	0.1477	0.4135	0.1499	0.0066	0.1287	0.6608	0.4156
2. AGE	0.1999	1	0.6379	0.0657	0.6286	0.1373	0.1521	0.2129	0.3977	0.6548
3. Size	0.4247	0.6379	1	0.2879	0.9978	0.0819	0.1244	0.0575	0.6546	0.9770
4. AVGLS	0.1477	0.0657	0.2879	1	0.2812	0.1269	0.3061	0.1424	0.4676	0.2048
5. FC	0.4135	0.6286	0.9987	0.2812	1	0.0807	0.1213	0.0570	0.6396	0.9753
6. ROA	0.1499	0.1373	0.0819	0.1269	0.0807	1	0.8623	0.5256	0.0537	0.0938
7. ROE	0.0066	0.1521	0.1244	0.3061	0.1213	0.8623	1	0.4297	0.1707	0.1288
8. OSS	0.1287	0.2129	0.0575	0.1424	0.0570	0.5256	0.4297	1	0.0949	0.0962
9. Legal status	0.6608	0.3997	0.6546	0.4676	0.6396	0.0537	0.1707	0.0949	1	0.6383
10. CC	0.4156	0.6548	0.9770	0.2048	0.9753	0.0938	0.1288	0.0962	0.6383	1

Source: The authors

Looking at Table 5, we see that the FC variable correlates with the size variable, the FC variable correlates with the CC variable and the CC variable correlates with the size variable; the authors removed the FC variable from the model, and created the correlation matrix again, after which they formed conclusions. The results show that the remaining variables are no longer correlated, the authors then conducted an evaluation of the model results. The results of model 1 are analysed in Table 6. The empirical results show that all indicators of financial performance (ROE, ROA and OSS) have a significant positive relation with the lending interest rate, as shown by models 1a, 1b and 1c, respectively.

Table 6: The impact of the financial and social performance of MFIs on lending interest rate

	Model (1a)		Model (1b)		Model (1c)	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
LIR						
C	16.29204*	15.29811	15.38196*	15.03490	14.50353*	12.75865
AVGLS	-0.000776*	1.028395	-0.000283*	-0.389035	-0.000437*	0.531993
ROE	0.022304*	6.425368				
ROA			0.028509*	6.992537		
OSS					0.002228*	1.396208
Size	0.008012	0.172318	-0.017455	-0.383570	-0.004624	-0.087255
CC	-0.079132	-0.537628	0.053775	0.379182	0.083194	0.519848
AGE	-0.328769*	-1.929376	-0.269154*	-1.413679	-0.258706*	-1.367845
Legal status	-3.297886*	-3.851048	-3.476517*	-4.245932	-3.576432*	-4.347518
R-Squared	0.316930		0.345107		0.150923	
No of Obs	144		144		144	

Source: The authors

The results of financial performance indicators are consistent with the authors' expectations, and the findings of Cotler (2010), Rosemberg et al. (2009) and the National reports of Bangladesh (Microcredit Regulatory Authority, 2009). Three financial performance figures show that ROA, ROE and OSS have a significant positive impact on the lending interest rate at the five percent (5%) level. These findings verify that if MFIs get expensive funds, they will also charge high interest rates on their lending activities. When the motive is to increase financial performance, MFIs deliberately charge high interest rates to become more sustainable. Moreover, the OSS variable is significant and has positive relationship with the lending interest rate; from this we can understand that when MFIs achieve high levels of sustainability, they usually become formal MFIs. By becoming formal MFIs, they can no longer freely (basically) adjust their own interest rates in a competitive manner, often depending on the Laws and regulations of the Government on adjusting lending rates instead, the same as other formal financial institutions. According to the State Bank of Vietnam (SBV), on September 30, 2017, four of Vietnam's formal microfinance institutions licensed by the State Bank as prescribed in

The Law on Credit Institutions included: (i) Tinh Thuong Microfinance Institution (TYM), (ii) M7 Microfinance Institution Limited (M7MFI), (iii) Thanh Hoa Microfinance Institution and (iv) Capital Aid Fund for Employment of the Poor (CEP). These four institutions are institutions with high financial performance indicators and their lending rates are still higher than other semi-formal MFIs.

Similarly, the result of MFIs' legal status is in line with the findings by the CGAP (2004) and Ashta (2009), while the dummy variable has a significant negative impact on the lending interest rate at the five percent (5%) level. These formal MFIs licensed to establish and operate as formal financial institutions established in the form of a limited liability company, receive deposits, loans with compulsory savings or guarantees from customers and other operations, but need to comply with regulations on conditions, licensing procedures, provisions on debt classification, provisioning and regulations on safety assurance of SBV. Although the interest rates of these MFIs are much more favourable than other financial institutions, they still cannot adjust flexibly as semi-formal MFIs.

The social performance indicators are: breadth of outreach measured by the number of credit clients, average loan size and funding cost. Thus, the results show only an average loan size has negative impact on the lending interest rate at the five percent (5%) level, supporting the fact that there is a higher loan size. The interest rate charged by MFIs will be low to meet the demand of other borrowers. This indicates that as MFIs are catering to fewer poor clients by giving a small amount of loans, they charge a high rate of interest to cover the service cost associated with those loans.

Within control variables, size and age have an insignificant impact, whereas age has a strong negative impact on the lending rate, and these results are in line with the findings of Campion et al. (2010). In Vietnam, older MFIs often develop more derivative activities or products so as not to solely depend on lending activities to customers.

Conclusion

Overall, the authors issue numerous challenges that MFIs struggle to maintain their own financial and social performance, subsequently affecting their lending interest rate decision. Therefore, our paper explores some policy implications from the outcomes as follows:

First, MFIs may improve their performance by lowering their operational and administrative cost, achieved by reducing the delinquency rates and transaction cost. Giving staff incentives would enable staff productivity to be improved.

Second, aiming at the social mission of reducing poverty, MFIs may access more rural areas; once they develop operationally efficiency, it is necessary to design appropriate adjustments for secluded areas where earlier they were not handling clients.



Third, MFIs must remain conscious of their clients concerning the total costs associated with their loans such as the cost of the loan, inflation and other administrative costs, so that clients better understand the logic of high rates. Moreover, MFIs may decrease default rates and improve operational efficiency by maintaining proper documentation of all loans.

Fourth, through the findings of this paper, it is obvious that high interest rates are mainly due to high operating costs, so there should be an application of new technology such as telecommunication networks and branchless banking, aimed at reducing cost.

Fifth, MFIs may increase mobilisation of savings in the direction of various and diverse forms of capital mobilisation with flexible interest rates. Moreover, MFIs may gain access to and apply relatively cheap mobilised sources such as donors' capital, development investors and the entrusted capital of credit institutions. This solution remains the most important basis capable of supporting MFIs to reduce lending rates and improve their skills in operating sustainably.

Finally, the government has to aid MFIs by founding credit agencies and bureaus that would help MFIs assess levels of indebtedness and credit risk. Through such these facilities, MFIs could both fix better interest rates and enlarge their lending operations.



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Appendix 1: Hausman test for ROE

Correlated Random Effects – Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob
Cross-section random	7.529252	5	0.1842

Source: The author

Appendix 2: Hausman test for ROA

Correlated Random Effects – Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob
Cross-section random	6.634393	5	0.2493

Source: The author

Appendix 3: Hausman test for OSS

Correlated Random Effects – Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob
Cross-section random	6.804778	5	0.2356

Source: The author