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FINANCIAL SUSTAINABILITY OF MICROFINANCE INSTITUTIONS IN VIET NAM

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ABSTRACT

Microfinance plays an important role in the nation's financial inclusive system. Therefore, the development of Microfinance Institutions (MFIs) increasingly receives the attention of governments, especially in developing countries. In which, financial sustainability is one of the determinants which measures the development of microfinance institutions (MFIs). In this research, the institutionalist approach is applied with the purpose of developing empirical evidence for the determinants that affect the financial sustainability of MFIs in Viet Nam. Financial sustainability is analyzed through the evaluation criteria of the investors and the wholesale lending organizations. The Fixed Effect Model is applied to determine the factors that affect the financial sustainability of MFIs in Viet Nam. Quantitative results show that the financial sustainability of MFIs is governed by five factors, including (i) the growth rate of MFIs' outstanding loans, (ii) the efficiency of MFIs' performance, (iii) the ratio of borrowers to the number of staffs of MFIs with a positive impact; (iv) the debt-to-equity ratio of MFIs; and (v) the incremental cost per client of the MFIs with negative effect.

Keywords: *financial sustainability, microfinance institutions, outreach, subsidies, Viet Nam*

INTRODUCTION

Microfinance is considered an economic development method that benefits low-income residents. By providing financial solutions and training, microfinance empowers people living in poverty to transform their lives, the future of their children and their communities. Microfinance institutions (MFIs) are financial institutions that provide a small number of simple financial services to low income households and individuals, collectively referred to as microfinance services. Microfinance services include savings, credit, insurance and payment services for low-income clients; social intermediary services such as group formation, community development, training, financial literacy, or transfer of science and technology. This shows that the goal of microfinance is to improve the well-being of the poor. Therefore, poverty reduction is a good indicator to measure the achievement of that goal. However, the provision of financial services to the poor often requires high transaction costs. MFIs need resources from the donors to compensate for the shortfall in revenue generated by the customers and delivery costs of service. At the same time, funding is still scarce, and the interest of future microfinance providers is uncertain. Financial sustainability is therefore the key factor that will enable the poor, especially the poor in the future, to receive the financial services they need. Thus, a successful microfinance operation must meet both the poverty reduction and financial sustainability requirements (Nguyen & Tsai, 2014). Microfinance can cover itself for microfinance operations and this is necessary when the poor are involved in large numbers. Unless microfinance providers, including MFIs, collect enough to cover costs, they will always be constrained by scarce and uncertain supplies from donors and governments (CGAP, 2006).

Sustainability, as known as self-sufficiency, is one of the most discussed terms when it comes to MFIs as it is a decisive factor and core criteria for their future (CGAP, 2003). Financial sustainability can be measured in two stages namely operational sustainability and financial self-sufficiency (Kinde, 2012).

Reaching the Operational Self-Sufficiency (OSS) is therefore the primary goal, and the next goal is financial self-sufficiency (FSS) is a term that describes the ability of MFIs to cover their operational costs from their operating income, including loan supervision, branch office opening, etc., regardless of whether it is subsidized or not (subsidies might still be used to issue loans or cover defaulted loans). MFIs are financially self-sufficient (FSS) when they have own sufficient generated income to cover all their cost from operations (including both of operating and financing costs) and other form of subsidy valued at market prices (including all administrative costs, loan losses, potential losses and funds). Accordingly, when MFIs are financially sustainable, they raise money through their lending activities without depending on external supports or subsidies. Financial sustainability of MFIs is probably the key dimension of microfinance sustainability (Thapa et al., 1992). Financial sustainability is the ability to keep on going towards microfinance objective without continued support of donors (Dunford, 2003). The definitions also imply the possibility of making profit out of the microfinance operations based on the ability of MFIs' self-operation.

Financial self-sustainability measures the level of operating income used to cover the operating costs of a financed MFI by inflation and eliminate impact of subsidies. The adjusted operating cost includes operating expenses, financial expenses, provision for loss of capital, and cost of capital. Almas & Mukhtar (2015) described that FSS can be measured by adjusted financial costs, adjustable credit risk provisions, adjusted operating costs, and joint Income from adjusting lending activities. These adjustments aim to clarify the financial situation of a MFI without the subsidies, when capital is mobilized in the commercial market, rather than from aid or preferential funding of donors, and when considering inflation. MFIs are considered financially self-sustaining if FSS > 100% (Nguyen et al., 2011; Nguyen & Le, 2014). Frumen & Isern (1996) defined that the financially self-sustaining approach of MFIs involves (i) MFIs that have significant economies of scale, including a large number of clients who do not have access to microfinance; (ii) operating and financial expenses are offset by revenue towards full sustainability. According to Thapa et al. (1992), financial sustainability refers to the ability of MFIs to cover their own costs by generating income from activities that are not dependent on support or subsidies from outside.

The concept of financial sustainability always emphasizes the viability of MFIs. MFIs can self-finance their own when they are able to derive income from business operations and subsidies, and interest rates are calculated as following:

$$FSS = \frac{Adjusted\ financial\ revenue}{Adjusted\ operating\ costs}$$

Where: Adjusted finance revenue = Income from loans - deferred income,
Adjusted operating costs = Operating expenses + financial expenses + adjusted capital costs, and
Cost of capital = (Inflation rate * (Average equity-Net fixed asset)).

Accordingly, the FSS index is designed to evaluate the level of subsidy dependence of MFIs and to gauge their progress over time towards self-sufficiency. In fact, more specifically the FSS measures the extent to which the adjusted business revenue of an MFI, including interest and fee income, covers adjusted costs (Yaron & Manos, 2007). The FSS measures the adjusted income of the MFI relative to its adjusted costs. When adjusted income is lower than adjusted costs, the FSS measure is below 100% and the MFI is defined as subsidy dependent. When adjusted income exceeds adjusted cost, the MFI is defined as self-sufficient. Although the FSS is widely used, this measure of self-sufficiency suffers from four main deficiencies. The first three deficiencies relate to subsidy elements which the FSS methodology ignores in calculating the real opportunity cost of financial resources used by the MFI. The fourth deficiency relates to the failure of the FSS measure to distinguish between MFIs that lend to the target clientele and those that invest in other financial instruments (Yaron & Manos, 2007).

RESEARCH METHOD

There are two points of view in approaching the goal of MFI as a tool to help reduce poverty through access to finance and financial services. These are (i) welfarists approach and (ii) institutionalist approach (Arun & Hulme, 2008; Brau & Woller, 2004; Woller et al., 1999). From the point of view of welfarists,

microfinance is set to eradicate poverty. Therefore, even if MFIs are not sustainable (or profitability), the access to poor clients as much as possible should be prioritized and reflected by the depth of outreach. There is thus a trade-off between financial self-sufficiency and the goal of reaching the poor through access to the poorest will be ineffective in terms of cost when profitability is taken into account (Paxton, 2003). MFIs' supports from donor contributions are needed to address this issue. This implies that, in order to reach the poorest quintile, there should be small exclusively focused programs which cannot be sustainable and always demanding from donor funds (Rhyne, 1998; Morduch, 1999). Deficits in activities should be filled with donors and government or social investment supporters (Brau & Woller, 2004; Woller et al., 1999).

According to institutionalist approach, the financial strengthening refers to the creation of sustainable financial intermediaries for the poor. It was asserted that financial sustainability is measured by the ability to financial self-sufficiency will be given higher priority by all MFIs because in the most cases, the dependence on donors are uncertain. Therefore, if MFIs cannot sustain themselves financially, they will not be able to serve the poor for long periods of time (Brau & Woller, 2004; Woller et al., 1999). Thus, the financial sustainability of MFIs will be achieved when the MFIs are financially self-sufficient. That is, when MFIs can operate without subsidies, they can pay their operational and financial expenses to the MFIs' revenue (Brau & Woller, 2004). Ideally, for the sustainability of MFIs, when all costs of credit, loss prevention, inflation and return on investment are fully considered and covered by the interest rate on loans (Thapa et al., 1992). With this approach, MFIs should make a profit to attract private capital because grants or funds are unstable and may run out at any time, MFIs have to stop its operations consequently (CGAP, 2006).

By following institutionalists approach, the research analyses the general assumption that for profit-based microfinance institutions are expected to exhibit better financial performance than non profit-based MFIs (welfarists approach) since they focus on provision of financial services on sustainable basis. Besides, the authors found that different studies by different authors (specifically on the determinants of financial sustainability) addressed different results on the determinants that affect the operational and financial self-sufficiency of microfinance institutions (Christen et al., 1995; Hulme & Mosley, 1996; Ledgerwood, 1998; Woller & Schreiner, 2002; Hartarska, 2005; Peter, 2007; Kereta, 2007; Cull & Morduch, 2007; Kyereboah-Coleman, 2007; Hermes et al., 2008; Mersland & Strøm, 2009; Ayayi & Sene, 2010; Nyamsogoro, 2010; Kar, 2011; Rajdev & Bhatt, 2013; Tafesse; 2014). Accordingly, the authors separated two broad coverage related to factors affecting the FSS, including (i) the outreach and (ii) the subsidies. However, the research focuses on analyzing which affect the financial sustainability of MFIs in Viet Nam, including (i) number of borrowers; (ii) outstanding loans; (iii) capital structure of MFIs; (iv) subsidies; (v) the cost per customer. To satisfy this objective of analyze the factors affecting MFI's financial sustainability, the data set were collected from Mix Market, a web-based platform that contains extensive financial and outreach information for MFIs.

RESULTS AND DISCUSSION

Descriptive data

Statistics show that most MFIs are financially self-sufficient in 2016 (Figure 1). MFIs (except Viet Nam Bank for Social Policies - VBSP) have made up for themselves all costs and have profit instead of depending on the funding of the projects or governmental subsidies. Financial sustainability enables MFIs to ensure the continuity of microfinance services provided. This is very important for the poor, helping the poor to get a loan and to keep saving steadily and, helping to improve social security sustainably.

Descriptive variables and applied models

Based on the previous equation and Kinde (2012), the estimation model is as following:

$$FSS_{i,t} = \beta_0 + \beta_1 NV_{i,t} + \beta_2 CV_{i,t} + \beta_3 DE_{i,t} + \beta_4 TC_{i,t} + \beta_5 CP_{i,t} + \beta_6 HS_{i,t} + \varepsilon_{i,t}$$

Variable		Description	Expectation
FSS (dependent variable) Financial self- sustainability		Calculated by formula	
Independent variables			
NV	Number of customers	Log of the number of customers borrowing MFIs annually	-
CV	Outstanding loans	Estimate the average loan size of MFIs annually	+
DE	Capital Structure of MFI	Debt-to-equity ratio of MFIs	-
TC	Subsidies	Equity ratio is granted on the total equity	-
CP	Cost per customers	The cost per client of MFI loans	-
HS	Effectiveness of MFIs	The ratio of the number of customers to the number of employees of MFIs	-

Source: Summarized by author

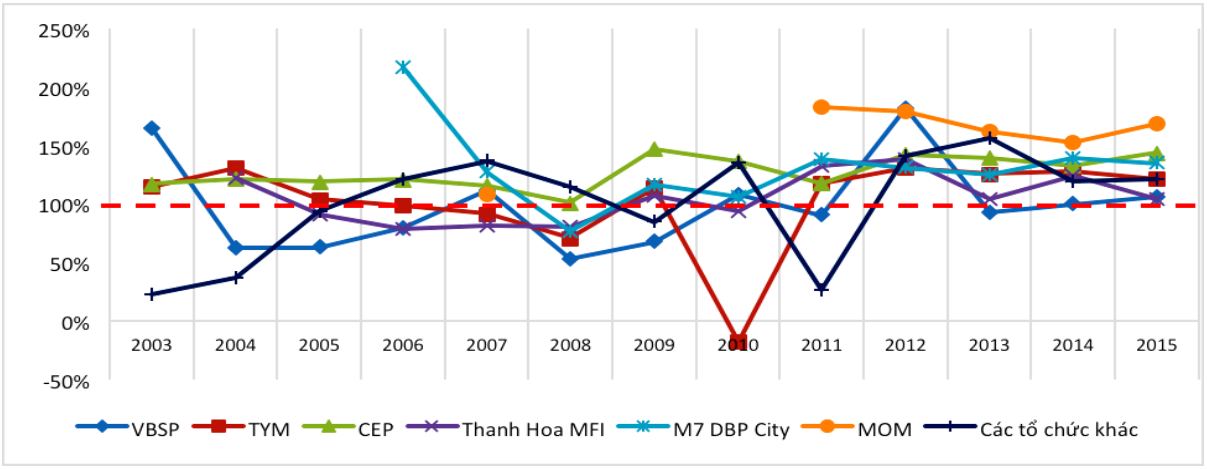

Figure 1: Financial Sustainability Index of MFIs for period 2003-2016.
Source: Mix Market (2017).

Hypothesis 1: The ratio of subsidies in the capital reduces FSS.

The ability of community access is measured by the number of clients that a MFI accesses and serves. Mersland & Strøm (2009) also argued that the number of borrowers from MFIs is an accurate measure of the level of access of MFIs. A study by Tafesse (2014) suggested that the number of borrowers has a positive impact on MFIs. In contrast, the results of Nyamsogoro's study (2010) provided evidence that the number of clients accessible by MFIs has a negative impact on FSS. The author argues that when the MFIs expand their customer reach too much and see it as the primary objective of the organization, it will reduce their ability to evaluate clients. Hence, the increase of customers who do not meet the loan requirements will reduce the FSS of MFIs. On the other hand, the results of Hartarska's (2005) study showed that the number of clients that MFIs reach does not significantly affect their FSS. The study suggests that Vietnamese MFIs, when expanding too many customers, will have a negative impact on FSS.

Hypothesis 2: The growth of the number of borrowers will reduce FSS.

Hulme & Mosley (1996) argued that poor clients are very important to the performance of MFIs, as poor clients remain major clients of MFIs. Ledgerwood (1998) showed that the number of borrowers or the number of clients only considers the serviceability and reach of MFIs. Loan size is the coefficient used as a

variable representing the depth of the outreach. Mersland & Strøm (2009) and Cull & Morduch (2007) in their study have argued that smaller loans would indicate poorer clients. However, the average size of the loan will not account for a significant number of people with the lowest loan. As a result, the calculation result may be biased due to the large number of customers of MFIs. Woller & Schreiner (2002) argued that the relationship between community outreach and FSS is complex. Research results indicate that the relationship between community outreach and FSS is positive. Woller & Schreiner (2002) provided evidence that low-risk loans are unrelated to the decline of FSS in MFIs. In contrast, Cull & Morduch (2007) argued that smaller loans do not contribute to MFIs by large loans. The study also points to the evidence that small loans are costly to MFIs and there is a negative relationship between the depth of loans and the FSS of MFIs.

Hypothesis 3: Outstanding loans and FSS of MFIs have a positive relationship.

Funding source is considered as an important input for financial intermediaries. The combination of different funding sources may affect the MFIs of MFIs, as the cost of funds coming from different sources varies according to the agreement between the MFI and the financing provider. Woller & Schreiner (2002) argued that the major sources of microfinance include loans, deposits and equities. Many studies have examined the impact of capital structure on FSS of MFIs. Research results from Kyereboah-Coleman (2007) showed that MFIs which have high performance of foreign funding source are more likely to cope with the risk and adverse selection than low ones. Nyamsogoro (2010) argued that the combination of too much capital in a MFI will not improve its FSS. On the other hand, the study also indicates that equity is an important and relatively inexpensive source of capital, thus improving the FSS of MFIs. Consequently, MFIs have to bear greater repayment pressure if they use more and more debt.

Hypothesis 4: Leverage ratio has a negative impact on MFIs of MFIs.

Woller (2002) showed that the effectiveness of MFIs is reflected in the ability to provide the maximum number of loans to the poor at a given level of inputs. Increased efficiency targets include minimizing costs and maximizing income to a certain extent and this will have a lasting impact on MFIs. Woller (2002) argued that performance can be measured by the productivity of MFIs as the number of borrowers per employee and the cost of management as the cost of the loan. Christen et al. (1995) argued that the proportion of borrowers and the number of creditors does not affect the FSS of MFIs. The results of Woller (2002) and Nyamsogoro (2010) showed evidence that the number of borrowers and cost per customer are important variables that affect FSS. The Nyamsogoro study (2010) also identified the negative relationship between the ratio of borrowers to the number of employees and the FSS of MFIs. The reason is that credit officers of MFIs are ineffective because they do not manage their customers when the number of MFIs grows beyond their control.

Hypothesis 5: Cost per customer has a negative relationship to FSS.

The finding by Nyamsogoro (2010) indicated that there is a negative coefficient but statistically insignificant relationship between cost per borrowers and financial sustainability of MFIs. The insignificant effect of the staff cost per borrower on the financial sustainability is contrary to the findings by Woller & Schreiner (2002) and Christen et al. (1995) which showed that salary levels significantly determines financial sustainability of microfinance institutions. The finding by Cull & Morduch (2007) also strengthened the significance effect of staff cost per borrowers on the financial sustainability of microfinance institutions. Nyamsogoro (2010) concluded that the higher payment for staff, all things remain constant, could lead them to more leisure than in doing more work for the MFIs' main business, especial where facilitation for site-visiting is very low. This analyze can also help to explain why possibly the administrative expenses are positively related with financial sustainability.

Hypothesis 6: The number of active borrowers and FSS of MFIs has a negative relationship.

Crombrugghe et al. (2007), on their study confirmed the fact that increasing the number of borrowers per MFI would lower the average operating cost and would raise total operating costs less than proportionately with the number of borrowers. This is a clear indication for an increasing the number of borrowers per credit

officer would raise the sustainability indicators in FSS and OSS. In the Indian context, according to these researchers, serving one more borrower costs nothing to the MFIs in the sample, but that offering larger loans to the MFIs borrowers could eventually raise costs more than profits. They have also indicated on their finding that increasing the number of borrowers per credit 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. Another result by Mersland & Storm (2007) on the impact of the number of active borrowers indicated that there was a notion implying the existence of positive relationship between the active number of borrowers and the sustainability of microfinance institutions. However, this has not been clearly indicated on the research finding by these researchers.

However, the econometric result by Nyamsogoro (2010) indicated that the number of borrowers per staff was negatively related to financial sustainability of MFIs. This indicated that an increase in the number of borrowers per staff affected negatively the financial sustainability of microfinance institutions in Tanzania. That is microfinance staff for rural MFI in Tanzania are not efficient, as a result they fail to manage the borrowers when their number grows causing the microfinance institutions to suffer poor repayment rates, and therefore, become less financially sustainable. Therefore, based on these literatures it can be hypothesized that the number of active borrowers in an MFI has a positive and significant influence on both the operational and financial self-sufficiency of microfinance institutions.

Statistics variables and correlation matrix

Variables with large standard deviations show that there are large differences in FSS among MFIs (Table 1). The average FSS of 112.15 indicates that most MFIs show financial viability over the years. The number of borrowers and outstanding loans has increased rapidly over the years. However, the percentage of equity capitalized in total MFIs of Vietnam MFIs was relatively low at an average of 22.2%.

The correlation between borrowers' growth and loan growth has a high correlation (Table 2). As borrowers increase, the loan balance of MFIs increases. On the other hand, the growth rate of borrowers and the ratio of borrowers to the number of credit officers is high. Therefore, in order to manage and seek customers, MFIs must increase the number of credit officers.

Table 1. Descriptive statistics

Variable	Mean	Standard deviation	Min	Max
FSS	1.1215	0.7468	-0.4271	7.0681
NV	3.9920	0.901	2.2095	6.8949
CV	10.3507	1.201	4.536	14.1539
DE	5.7441	61.3293	-18.19	1021.57
TC	0.2228	0.3178	0	1.2480
CP	37.0574.3	702.439.2	0	9.316.072
HS	426.8254	688.9702	0	5395.13

Source: Results extracted from Stata.

Table 2. Correlation matrix

	FSS	NV	CV	DE	TC	CP	HS
FSS	1						
NV	-0.0711	1					
CV	0.0247	0.8955	1				
DE	-0.0274	0.0991	0.1687	1			
TC	-0.2422	-0.1481	-0.1163	-0.1012	1		
CP	-0.1513	0.0756	0.2653	0.1081	0.0626	1	
HS	0.0667	0.6976	0.6433	0.0575	-0.1672	-0.0506	1

Source: Results extracted from Stata.

Empirical results

Regression results of the model by the Fixed Effect Model (Table 3) show that the growth of the number of borrowers does not have a significant impact on FSS. The growth rate of outstanding loans of MFIs has a positive impact on FSS. This is consistent to the research hypothesis. As MFIs increase their outstanding loans, the increase in net interest income comes from their net interest income plus mandatory savings, thus increasing the MFIs' FSS.

Table 3. Regression Results of Factors Affecting Financial Sustainability of MFIs

Variable	Constant	NV	CV	DE	TC	CP	HS
Coefficient	-0.8367	-0.1373	0.2581***	-0.0227*	-0.2411**	-2.15*10-7***	6.35*10-5*
Standard deviation	(0.5806)	(0.1771)	(0.0642)	(0.0131)	(0.093)	(6.86*10-8)	(3.76*10-5)

Note: *. ***. *** significance levels are 10%. 5%. 1%
Source: Results extracted from Stata.

The debt-to-equity ratio of MFIs has a significant impact on FSS. This is in line with the hypothesis that when MFIs use more debt than equity, they will be forced to pay their own debt. The cost per client of the incremental loan will negatively affect the FSS. This is true of the research hypothesis. Increased cost per customer due to inefficient management of MFIs and increased cost of organization.

The effectiveness of MFIs has a positive impact on FSS. The results show that the higher the ratio of borrowers to the number of MFI staff, the greater the financial sustainability of the organization. This results in contrast to the results of Nyamsogoro (2010). Therefore, other studies on the appropriate thresholds for the ratio of borrowers to the number of employees associated with financial sustainability are needed.

The results show that the growth in the number of borrowers reduces FSS. It means that Vietnamese MFIs, when expanding too many customers, will have a negative impact on FSS. On the other hand, the increase in outstanding loans of MFIs increases their FSS. As a result, Vietnamese MFIs need to adjust their borrowers' loan growth rates and increase the size of their loans to increase FSS. The growth rate of the number of clients controlled will enable the MFIs to increase management efficiency in line with the number of clients that need to be monitored. On the other hand, MFIs need to increase their operational efficiency and cost savings in order to reduce the cost per client. The study provides evidence that high financial leverage will negatively affect MFIs in Viet Nam. It means that a decline in financial leverage will increase the MFIs' FSS. Therefore, MFIs need to increase their equity rather than increase their borrowings.

CONCLUSION

Financial autonomy is very important to MIFs because grants are never enough for those who need access to microfinance services such as social assistance. If there is not financially sustainable, equity of MFIs will be gradually reduced to cover losses. At that point, there will be less capital to serve the target customers. Therefore, the analysis of financial sustainability (FSS) is one of the foundations for MFIs to expand their access to clients and, in turn, the access toward customers widely also contributes positively to strengthening MFI self-sustainability.

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