

**Chapter V**  
**COST STRUCTURE OF MFIs**

## **Chapter V**

### **COST STRUCTURE OF MFIs**

#### **5.1 Introduction**

The cost structure includes all costs incurred in a business organization. The cost structure of an organization can be classified into various categories such as direct and indirect costs, operating and non-operating costs, main and other costs, controllable and uncontrollable costs and so on (discussed in Chapter II ). The MFI cost structure includes the cost of funds, the MFIs operating expense, loan losses, and the profits needed to expand their capital base and fund required for future growth (Fernando (1-18) and Rosenberg, Gonzalez and Narain 2). According to Shankar (1331), when a lending institution provides a loan it incurs the cost on the money that it lends; the cost of prudent financial practices such as provisioning for loan defaults and the cost of transaction (includes the cost of identifying, screening the client, loan processing, documentation, etc.). In microfinance, the expense on the cost components determines the interest rate charged by the borrowers on loans. The operating expense of MFIs is usually higher than other financial institutions (Srinivasan 213). The financial expenses are increasing at year on year basis. Hence, it is important to understand the composition and determinants of the cost components of the MFIs in Assam.

From organization perspective, the knowledge of cost components is vital for the long-term competitive advantage of the organization. Tucker (1) argued that MFIs can be successful by cost cutting. Identification of cost components ensure that cost cutting is targeted at the right places and the success of cost management initiatives are properly measured. Reducing expenses increase profits, which in turn fuels innovations throughout the enterprises. In light of this, it is important to identify the cost components of the MFIs. Hence, this chapter attempts to provide a detailed analysis of cost structure of the select MFIs in Assam, which includes expenditure components of these MFIs, such as operating expense, financial expense and loan loss provision (components are discussed in Chapter II). To analyze the operational features of the

MFIs, the selected MFIs are categorized into two categories based on their legal status viz.

- (i) Non-Banking Financial Companies (NBFCs), and
- (ii) Not for Profit Microfinance Institutions (NGO-MFIs).

## **5.2 Methodology**

This study is based on primary data collected from eight leading microfinance institutions (MFIs) operating in Assam based on certain criteria (see Chapter III, Section). Audited reports of three NBFCs and five NGO-MFIs for the period of five financial years viz. 2009-10 to 2013-14 are used to analyze the pattern of expenditure components of the MFIs. The three cost components viz. operating expense, financial expense and loan loss provision are discussed in detail and simultaneously, the expense ratios (median value) for the FYs are compared with the National average (all Indian MFIs). An attempt is made to identify the determinants of operating expense and financial expense of the MFIs in Assam. Regression analysis is used to analyse the impact of various variables on the operating expense of the MFIs.

The data collected from 61 MFI branch offices of the select MFIs (which includes 46 branch offices of NBFCs and 15 branch offices of NGO-MFIs), are used to find out the determinants of operating expense. These branches are maintaining separate accounting information, client details, lending methodology, the number of staffs and are located at different geographical regions. The branch specific information are crucial in the analysis to study the effect of the various factors on operating expenses of the MFIs. The list of branches visited in each district for each MFI is given in Table 3.3. Other studies such as Hartarska and Nadolnyak (1207-1222), Shankar (1331-1342) have used branches as units of study to capture the impact of branch specific variables.

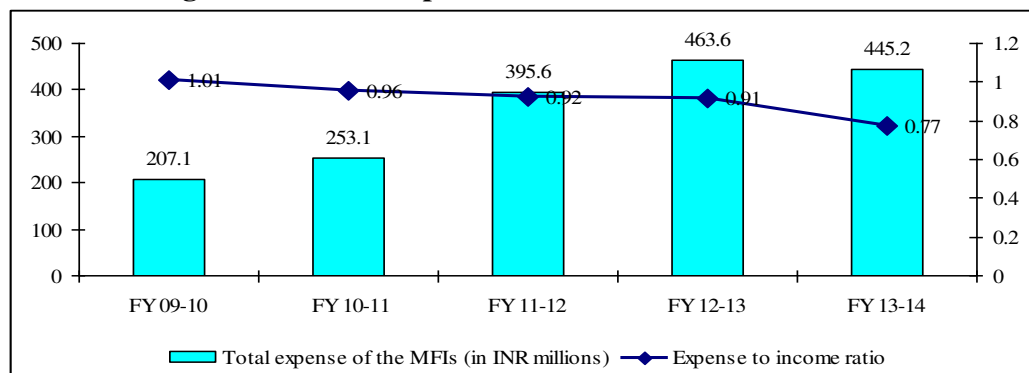
## **5.3 Cost components**

The cost components of MFIs consist of operating expense, financial expense, and loan-loss provision expense. The operating expense includes personnel and administrative expenses<sup>i</sup>. Finance expense includes all interest, fees and commissions

incurred on all liabilities, commercial<sup>ii</sup> and concessional<sup>iii</sup> borrowings, mortgages, and other liabilities. The loan loss provision is a noncash expenditure which is set aside to cover potential losses.

The sum of all the expenses is the total expense for the MFIs. The total expenditure<sup>iv</sup> of the selected MFIs in Assam increased substantially from FY 2009-10 to FY 2012-13 with a small decline (of four percent) in the FY 2013-14 (Figure 5.1). However, the expense in ratio to income decreased by 23 percent in last five years. The loan loss provision in 2013-14 declined by 48 percent from the previous year (Annexure VIII).

**Figure 5.1: Total expense of the MFIs**



Note: The figure represents total expenditure of eight MFIs in Assam for the FY 09-10 to FY12-13. In the FY 2013-14 the total expense of seven MFIs are reported.

Source: Field survey

Out of the total expense in the year 2013-14 (Figure 5.1), 51 percent was incurred as finance expense in comparison to 47 percent as operating expense.

***Proportion of expenditure components for the NBFCs and NGO-MFIs in Assam***

The expenditure pattern of MFIs seems to vary based on their legal status. It is seen that NBFCs, have spent 48 percent of total expense for financial expenses and 50.82 percent for operating expenses in the FY 2013-14 (Table 5.1). From 2009-10 to 2013-14, the operating expenses of the MFIs declined by 46 percent. During the same period, the proportion of finance expenses increased by 50 percent. The financial expense seems to be the major expense component for the MFIs in Assam and is higher than the national average (49 percent). The loan loss provision comprises a very small share of the total expenditure and it represents a decreasing trend. Except in the financial year 2011-12, the provision was higher in compare to other financial years. In the case of RGVN (NE) MFL and AFPL, the proportion of average operating expense is decreasing and the percentage of average financial expense is increasing

(Annexure IX). This is due to economies of scale where the MFI borrows more, which increases its financial expense. In the case of UFSPL, the proportion of operating expense is much higher than the financial expense in all five financial years. This may be due to the fact that UFSPL is a young<sup>v</sup> MFI with few branch offices.

**Table 5.1: Proportion of expenditure components for the NBFCs and NGO-MFIs in Assam (all in percentages)**

<b>For NBFCs</b>					
<b>Financial year</b>	<b>FY 09-10</b>	<b>FY 10-11</b>	<b>FY 11-12</b>	<b>FY 12-13</b>	<b>FY 13-14</b>
Operating expense/ total expense	63.22	57.52	55.08	47.96	48.37
Financing expense/ total expense	36.25	40.47	42.58	50.25	50.82
Loan loss provision expense / total expense	0.54	2.01	2.34	1.78	0.81
<b>For NGO-MFIs</b>					
<b>Financial year</b>	<b>FY 09-10</b>	<b>FY 10-11</b>	<b>FY 11-12</b>	<b>FY 12-13</b>	<b>FY 13-14</b>
Operating expense/ total expense	83.94	75.85	71.05	64.40	39.08
Financing expense/ total expense	14.19	21.58	27.46	33.72	57.96
Loan loss provision expense / total expense	1.87	2.56	1.49	1.88	2.95

Note: Figures shows the proportion of each expense component in total expense of the MFIs

Source: Annual reports of the MFIs

NGO-MFIs have spent 57.9 percent for financial expense and 39 percent for operating expense. The operating expenses for NGO-MFIs decreased from 83 percent in 2010-11 to 39 percent in 2013-14. In contrast, the financial expenses increased by 147 percent from 2009-10 to 2013-14. This shows that the access to donated funds for the NGO-MFIs has reduced to a large extent. The NGO-MFIs have started lending from commercial banks and developmental institutions. Due to funding problem MZGPS stopped its microfinance activities from the year 2012-13. Also in

anticipation of better access to commercial funds two NGO-MFIs namely SATRA and NCS transformed into NBFCs in the year 2013-14.

### 5.3.1 Operating expense

The operating expense is further comprised of personnel expense and administrative expenses. In the year 2013-14, salary and incentive of the staff comprise of 68 to 87 percent of the total personnel expense. The salary allocation of All Indian MFIs ranged between 40-80 percent (M-Cril 44). The salary of CEO contributes about 5-15 percent of the total personnel expenses. The major contributors of administrative expenses are rent (15 to 32 percent), and traveling (16 to 22 percent). The other expense components such as printing and stationery, communication expenses, electricity charges and general expenses also contribute to the administrative expense in lower proportion (Table 5.2).

**Table 5.2: Major contributing components of personnel and administrative expense**

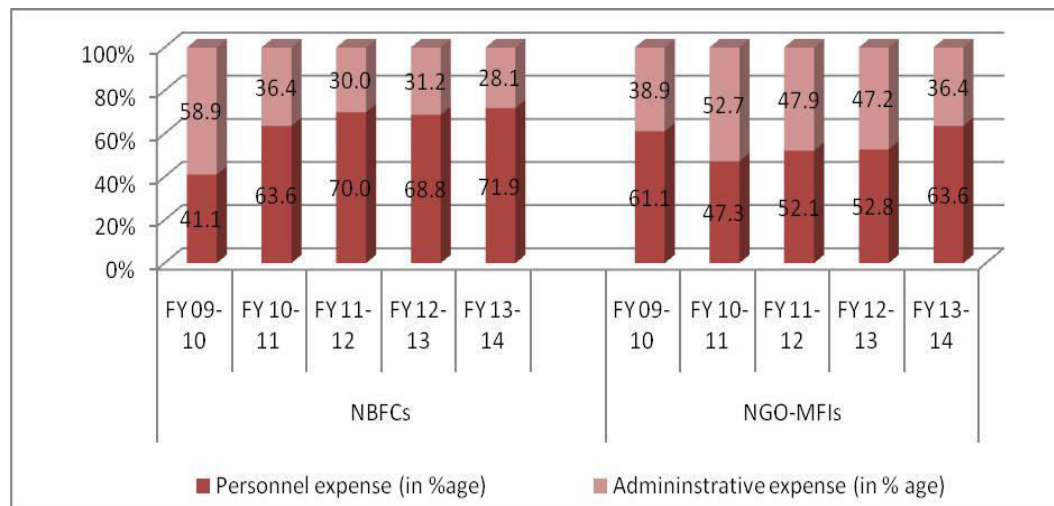
Categories	Components	Minimum percentage	Maximum percentage
Personnel expense	Salary and incentive	68	87
Administrative expense	Rent	15	32
	Traveling/conveyance expenses	16	22
	Printing and stationery	9	11
	Communication expenses	2	4
	Electricity charges	2	3.2
	General expenses	2	9.3

Source: Field survey

It was observed that the personnel expenses for the NBFCs comprise of more than 60 percent of the total operating expense. The NBFCs indicates an increase in personnel expenses from 41 percent to 71 percent of the total operating expense in FY 2013-14 (Figure 5.2). This increase in salary expense is due to recruitment of additional staff and also due to pay revision<sup>vi</sup>. The operating expense of RGVN (NE) MFL is

increasing rapidly from 2010-11 to 2013-14. While, the operating expense of the UFSPL and AFPL are increasing in a steady rate. This is attributed due to a rapid expansion of the MFI. The RGVN (NE) MFL increased its number of branch offices from 67 in 2009-10 to 107 in 2013-14. Hence, the MFI recruited more employees to extend the financial services. The number of employees increased by 35 percent from 2009-10 to 2013-14. This reflects the exponential increase in the portfolio of the NBFC. Similarly, UFSPL reported growth in the number of employees.

**Figure 5.2: Proportion of personnel expense and administrative expense in total operating expense of the NBFCs and NGO-MFIs**



Source: Field survey

However, the personnel expense for the NGO-MFIs increased from 61 percent in 2009-10 to 63 percent in 2013-14 (Figure 5.2). The number of employees hired by the NGO-MFIs in last five financial years is showing a decreasing trend (Section 4.8, Chapter IV). In the case of Prochesta in the year 2009-10, the total employees were 40 which increased to 68 in 2010-11, thereby reduced to 31 in FY 2013-14. Similar, trend was observed in other NGO-MFIs.

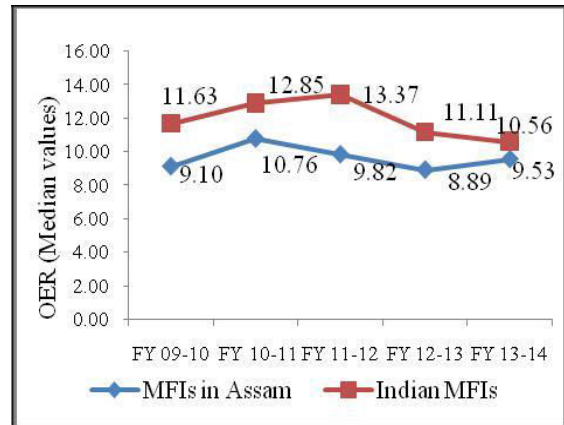
### 5.3.1.1 Operating Expense Ratio (OER)

The operating expense ratio (OER) indicates the efficiency of the MFIs. OER is the ratio of operating expense (summation of personnel expense and administrative expense) to the average loan portfolio during a year of the MFIs. The operating

expense ratio does not include the financial expenses or risk expenses (loan loss provisions and write off expenses) incurred by an MFI. It measures the institutional expense of delivering loan services. Lower the OER, the higher the efficiency of an institution (Arunachalam 1-2).

**Figure 5.3: OER of MFIs in India and Assam**

The OER of the selected MFIs in Assam is lower than the All Indian MFIs(Figure 5.3). This shows that the MFIs in Assam are more efficiently managed. According to Sa-Dhan, (2014), the OER has decrease with increase in the scale of operations. The MFIs in Assam are expanding their business and decreasing the expense per unit of money lent.



Note: Median values of OER are reported  
Source: Field survey for MFIs in Assam  
All Indian MFIs from the MIX Market Report 2015

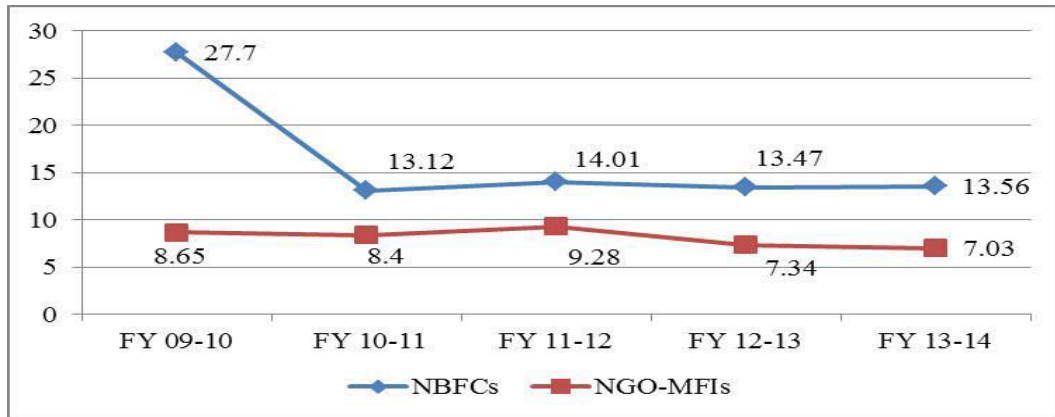
However, we have also found that in two MFIs namely SATRA and Prochesta, the change in OER is not uniform (Annexure X). After the financial year 2011-12, the OER decreased by 35 to 40 percent in two years. The sudden decrease in OER is due to increase in their loan size (Table 4.9).

The difference in OER between the selected NBFCs and NGO-MFIs in Assam was observed. The median OER of the NBFCs in the FY 2009-10 was 27 percent which decreased to 14 percent in 2013-14 (Figure 5.4). This implied the impact of outreach and high operational efficiency of the NBFCs. Though the ratio was decreasing, it was significantly higher than that of the national average (11.7 percent) in the year 2013-14 (Sa-dhan 2014). This might be due to the high operational expense of the MFIs operating in the northeast India. The tough geographical terrain, lack of infrastructure, the high expense of traveling and fuel resulted in high operational expense for the



MFIs (SIDBI 31). However, in the case of NGO-MFIs, the median OER in the FY 2013-14 was much lower than the national OER (13.3 percent).

**Figure 5.4: Operating Expense Ratio (median values) of the NBFCs and NGO-MFIs**



Also, the OER of NGO-MFIs was lower than that of the NBFCs (Figure 5.4). While examining the operating expense components of the selected NBFCs, it was observed that the personnel expense of the NBFCs influenced significantly the operating expense<sup>vii</sup>. The personnel expense of the NGO-MFIs is much lower than that of the NBFCs. The NBFCs are known to have better staff compensation levels than other MFIs (M-CRIL 20). Based on the discussion with the human resource department and the field staff of the NBFCs, it was observed that the field staff of the MFIs received similar salary that was in line with the Minimum Wages Act, only the incentive varies from MFI to MFI. In case of NBFCs the employees received housing allowance, medical benefit, traveling allowance, dearness allowance, provident fund (PF), Employee State Insurance (ESI) and loans in addition to salary. The field employees are provided with vehicle loan, so that they can buy a two wheeler for field visits. However, in case of NGO-MFIs the employees received a fixed amount and an incentive linked with their performance. From the survey, it was observed that the average operating expense of the NGO-MFI branch offices was only Rs 36,821, whereas for NBFCs the expense was Rs 50,208. Similarly, the personnel expense and administrative expenses of the NGO-MFIs were much lower than that of NBFCs (Table 5.3).

**Table 5.3: Monthly operating expense of the MFI branch offices**

<b>Forms of the MFIs</b>	<b>Descriptive Statistics</b>	<b>Personnel Expense (in Rs)</b>	<b>Administrative expense (in Rs)</b>	<b>Operating expense (in Rs)</b>	<b>Ratio of personnel to administrative expense</b>
		A	B	C=A+B	D=A/B
NBFC	Mean	40126	10081	50208	4
	Median	39927	8450	49395	5
	Minimum	21900	5415	28547	4
	Maximum	59566	23184	71784	3
	Mean	30312	6509	36821	5
NGO-MFIs	Median	27255	4400	36373	6
	Minimum	8500	1270	11166	7
	Maximum	58108	15240	68325	4

Source: Field survey

In addition, the outreach of the NGO-MFIs was found to be limited to one to four districts of Assam. The NBFCs were observed to be reaching to more remote areas which increased their operational expenses. Out of five NGO-MFIs studied, three were sharing their staff and infrastructure with different programmes which were grant funded. After the new RBI regulation, the portfolio management issues, and client protection compliance has adversely impacted the operating expense of the MFIs. It was observed that NBFCs were verifying their client's credit history in Credit Information Bureau. Apart from that they are members of Sa-dhan, which charges an annual subscription fee. This altogether increases the operating expense of the NBFCs in compare to NGO-MFIs.

Based on the data gathered from MFI branch offices, the study tried to identify the factors which effect the operating expense of the MFIs. Regression model<sup>viii</sup> is used to estimate the impact of some variables (discussed in section in Chapter II) such as the forms of the MFI (LS), lending models (LM), location of the branch office (LOC), the portfolio at risk exceeding 30 days(PAR), the average loan size (ALS), the number of active borrowers (NAB), the number of borrowers per staff (BPS) and the years of operation of the MFI branch office (AGE) on the operating cost of MFIs.

The linear regression model proposed is as follows–

$$\text{Operating expense} = \beta_0 + \beta_1 \text{LS} + \beta_2 \text{LM} + \beta_3 \text{AGE} + \beta_4 \text{NAB} + \beta_5 \text{BPS} + \beta_6 \text{PAR} + \beta_7 \text{LOC} + \beta_8 \text{ALS} + \text{error-component (I)}$$

The above model was fitted to the data, which are provided in Annexure XI. It was observed that the *p-value* of F statistics is less than 0.05. It means that the variation in operating expense value explained by the model is not due to chance. The value of R is high, indicating that the linear regression model can be used to predict operating cost values of the MFIs based on the independent variables included in the study. R square represents the proportion of variation in the dependent variable which is explained by the independent variables in the model. Thus, 66.9 percent of the variation in operating expense is explained by the independent variables (Table 5.4).

**Table 5.4: Regression Model Summary**

Model	R	R Square	Std. Error of the Estimate
1	.82(a)	.67	7907.37

It was observed that out of the eight variables, four variables have a significant impact on operating expense of the MFIs (Table 5.5). These variables are forms of the MFI (LS), lending model (LM), the number of active borrowers (NAB) and the number of borrowers per staff (BPS). However, we have not found any impact on the location of the branch office, average loan size, and portfolio at risk greater than 30 days, and age of the branch office on operating expense of the MFI in Assam.

**Table 5.5: Regression table**

Model I		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Dependent Variable	Independent Variable	Beta (β)			Tolerance	VIF
Operating expense	(Constant)		1.28	.204		
	LS	-0.54	-5.69	0.00	0.70	1.41
	LOC	-0.02	-0.23	0.81	0.80	1.24
	AGE	-0.14	-1.25	0.21	0.47	2.12
	LM	-0.28	-2.98	0.00	0.68	1.45
	NAB	0.59	4.86	0.00	0.43	2.32
	ALS	0.05	0.61	0.54	0.70	1.41
	PAR	0.02	0.17	0.85	0.53	1.87
BPS	-0.40	-3.17	0.00	0.39	2.50	

Note: in legal status '1' is for NBFCs and '0' for NGO-MFIs and in lending model '0' stands for SHG and '1' stands for JLG. \* Significant at 10 percent

Source: Author's calculation

For the present data, the regression result indicated that the operating expense was higher for NBFCs and lower for NGO-MFIs (Table 5.3). SIDBI (32) also reported similar results. Also, the MFIs following JLG model reported 16 percent higher operating expense than the MFIs following SHG model<sup>ix</sup>. Similar results were reported by Crombrughe et al. (278), that the cost of MFIs in serving SHG borrowers was relatively less. The study reported that the SHG model in compare to JLG has lowest operating expenses, due to operational characteristics (Dutta and Das 199-211).

The study found that with the increase in the number of active borrowers operating expenses of the MFIs in Assam increase, other factors remaining constant. In contrast, Gonzalez (37-38) reported that with the increase in the number of borrowers the fixed cost is divided proportionately, which lowers the total operating cost. However, for the present study the fixed or indirect (administrative) expense of the MFIs branch offices in Assam account for only 16 to 25 percent of the total expenditure. But the direct cost (personnel expense) accounts for 70 to 88 percent of the total operating expense. The direct expense increases with increase in

a number of employees. With the increase in the number of active borrowers, the number of employees of the MFIs in Assam exhibits an increasing trend (except in 2013-14). Hence, the increase in number of employees contributes to the increase in operating expense of the MFIs. Consequently, with the increase in number of borrowers the operating expenses are increasing. This explains our observation. It can be suggested that MFIs could watch in their staff turnover rate, as high turnover increases the operating expense. Evidence from MIX reports on Latin America and Caribbean regions were found. For instance, the staff turnover of AFPL is high in compare to RGVN (NE) MFL<sup>x</sup>. This results in higher OER of AFPL than RGVN (NE) MFL. As high turnover increases recruitment expenses as well as the expenses of training new staff (Srinivasan 10).

It was observed that the operating expense decreases with the increase in a number of borrowers per staff for the given data. It is found that out of 61 MFI branch units only eight branch units are able to minimize their operating expense by having 500-600 borrowers per staff. Thus, there is a scope for the branch offices to increase their borrowers in order to reduce their operating expense. Moreover, the branch offices with 1501 to 1800 active borrowers also reduced their operating expense drastically. The MFIs where branch offices have 500 to 600 borrowers per staff or 1500 to 1800 active borrowers are able to reduce their cost effectively.

This may be due to the fact that a borrower per staff is an indicative of productivity of the MFIs staff and with the increase in borrowers per staff the operating expense per borrower decreases.

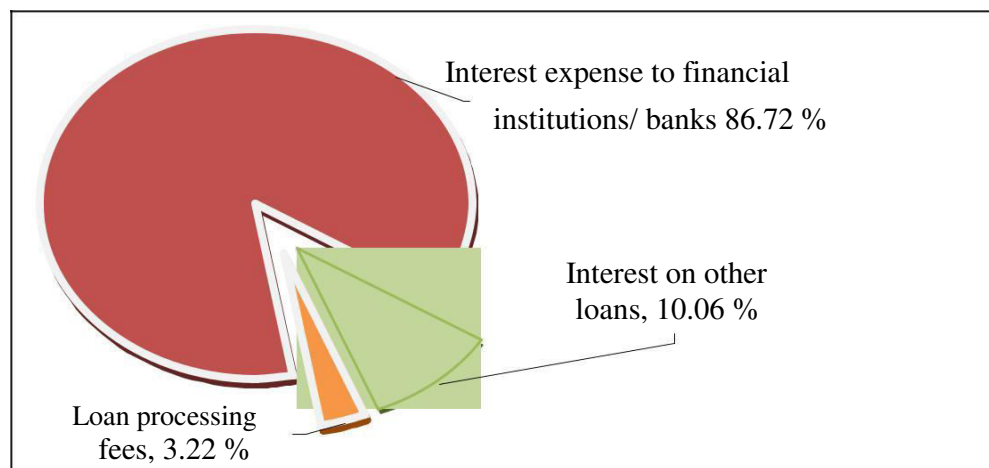
From the above discussion, it can be suggested that the operating expense can be reduced either by keeping the number of staff constant and increasing the number of active borrowers. Hence, it is important for the MFIs to maintain a striking balance between the number of borrowers and the number of staffs.

### **5.3.2 Financial expense of the MFIs**

The financial expense includes the interest paid by the MFIs to the financial institution and banks and also includes the loan processing charges. It is an important determinant of the total expense of the MFIs and plays an important role in the pricing

of loans for the clients. From Figure 5.5, it is observed that the major portion of the financial expense consists of interest paid to the developmental financial institutions and banks (86.7 percent), which was followed by loan processing fees (3.22 percent). Interest paid on other loans stands for 10.06 percent of total finance expense. Other loan includes the interest paid by the NBFCs for unsecured loans borrowed from private companies or other parties and for NGO-MFIs (not all) paying interest for the beneficiaries' loans.

**Figure 5.5 Proportions of different components in finance expense**



Note: The figure shows the average of finance expense of all the MFIs  
 Source: Calculated from the annual reports of the MFIs

### **5.3.2.1 Financial expense Ratio (FER) of the MFIs**

The financial expense ratio measures the total interest expense the MFI incurred to fund its lending portfolio. FER can be used by an MFI to determine the minimum interest rate to be charged in order to cover its funding expense. An MFI that attracts more deposits will likely to have a lower financial expense ratio than an MFI that is more dependent on borrowing from commercial sources. An MFI that receives a subsidy on borrowing interest may also have a lower FER. In Table 5.6 we compare the median FER of the MFIs in Assam with that of the All Indian MFIs for five financial years.

**Table 5.6: FER (median) of All Indian MFIs and selected MFIs in Assam**

	Categories	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
Assam	NBFCs	2.8	5.2	8.0	9.3	9.1
	NGO-MFIs	8.4	8.9	9.6	9.0	9.5
	All MFIs	7.7	7.3	8.4	9.2	9.1
Indian MFIs	FER of Indian MFIs	8.26	11	12	11.89	12.17

Source: For MFIs in Assam the values are calculated from the Annual reports of the MFIs FER of All Indian MFIs is collected from MIX reports

From Table 5.6 it is observed that the median FER for MFIs in Assam is lower than that of the MFIs in India. The lower FER of MFIs in Assam is also because of a higher proportion of fund from Developmental Financial Institutions (see section 4.6.1 in Chapter IV). Hence, low debt to equity ratio and a higher proportion of fund from Developmental institutions resulted in lower FER of MFIs in Assam. Whereas, the All Indian MFIs in general are heavily dependent on debt, have higher value (median) of debt to equity ratio (Gaul 1).

The median FER of NBFCs seems to be increasing over the five years (Table 5.6). The financial expense increased by 75 percent in 2010-11 from that of the previous year. This is due to AP crisis and new RBI regulation, the banks in Assam were reluctant to lend to the MFIs. The expense of fund, processing charges and the collateral requirements were higher than that of the year preceding AP crisis (Das and Dutta 18-19). The public sector banks raised their interest rate at which they lend to MFIs to about 13-15 percent, citing higher risk in the sector and regulatory confusion. In addition, development institutions (like SIDBI) were become quite passive in terms to lending (The State of the Sector Report 2012-13). In FY 2011-12, the rate of interest charged by banks was 9.8 percent which increased to 12.25 percent in the year 2013-14. The finance expense of RGVN (NE) MFL is higher than the other two NBFCs<sup>xi</sup>.

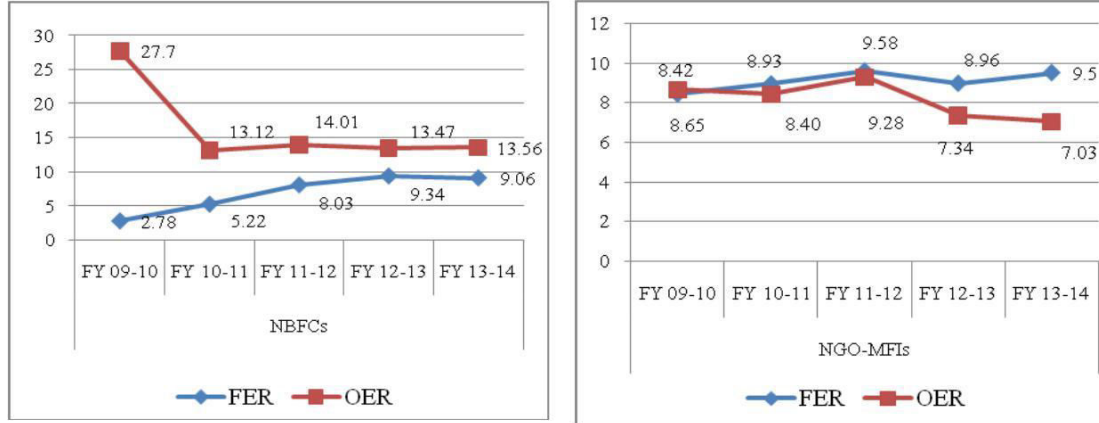
Similarly, the median FER for NGO-MFIs in Assam reflects an increasing trend during the five financial years. This may be due to the fact that grants, cheaper funds, donations are no more accessible to the NGO-MFIs. Out of five NGO-MFIs in this

study two are transforming into for-profit model, which leads them to higher risk perception of lenders and thereby higher cost of borrowing for the institution. The NGO-MFIs paid 75 to 92 percent of the interest to development institutions like NEDFI, RGVN, SIDBI, IFMR etc. The banks like Assam Gramin Vikas Bank, Indian Bank, APEX bank, and UCO Bank are also extending financial support to the MFIs. The loan processing fees for NGO-MFIs stands at two to three percent of the total finance expense, whereas for NBFCs the loan processing fees stood at 2.24 to 3.41 percent of total financial expenses.

### 5.3.2.2 Trends between OER, FER and portfolio yield

**OER and FER:** Comparison of the OER and FER over a period of five years, it is observed that the OER of the NBFCs and NGO-MFIs is decreasing whereas the FER is increasing in both the cases (Figure 5.6). In NBFCs, the value of FER is lower than OER whereas, in NGO-MFIs the value of FER is much higher than OER.

**Figure 5.6: Trends of OER and FER of the NBFCs and NGO-MFIs**



Note: All median values are reported.

Source: Calculated from the annual reports of the MFIs

In contrast, to the operating expense, financial expense is less influenced by the microfinance delivery model and geographical location of the MFI (SIDBI 34). The results were confirmed by correlation test, which shows no relation between the age of the MFI, and lending model with financial expense of the MFI<sup>xii</sup>. However, the financial expense or the cost of fund depends on the composition of fund maintained



by the MFI. A positive and strong correlation was observed between debt to equity ratio and financial expense of the MFIs (Table 5.7).

**Table 5.7: Correlation between CAR, DER and FER**

		<b>Capital to asset ratio</b>	<b>Debt to equity ratio</b>	<b>Finance expense ratio</b>
Capital to asset ratio (CAR)	Pearson Correlation	1	-0.74(**)	-0.56(**)
	Sig. (2-tailed)	.	0.000	0.000
Debt to equity ratio (DER)	Pearson Correlation	- 0.74(**)	1	0.39(*)
	Sig. (2-tailed)	0.000	.	0.013
Finance expense ratio (FER)	Pearson Correlation	-0.56(**)	0.39(*)	1
	Sig. (2-tailed)	0.000	0.013	.

\*\* Correlation is significant at the 0.01 level (2-tailed). Correlation is significant at the 0.05 level (2-tailed).

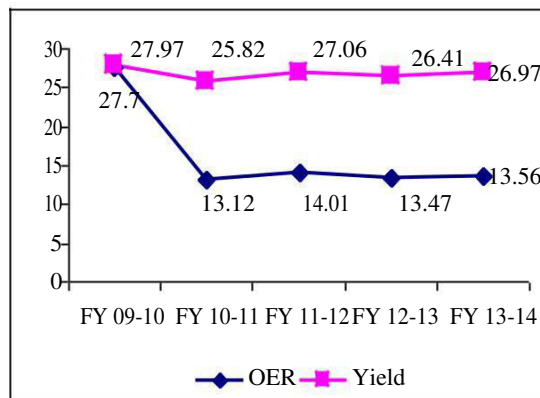
An increase in the interest paid by an organization or an increase in the debt portion of the portfolio funding (relative to equity or donations) will increase the financial expense of the MFIs (Calmeadow, Chapter 4, 5), whereas with the increase in capital to asset ratio the financial expense is decreasing. Apart from this, the institutional environment and the regulatory framework might have an impact on the financial expense of the MFIs.

**5.3.2.3 Portfolio yield compared with OER of the MFIs:** Over the past five years, the portfolio yield declined in 2010-11 and further increased in 2013-14 (Figure 5.6a and b) (discussed in Chapter IV Section 4.9). The decline in portfolio yield is due to the microfinance crisis (in 2011) and controversy about the interest rate fixation by the RBI (M-CRIL xi). This is partly due to changes in the fees charged on loans and on loan terms. For instance, prior to the crisis the loan tenure for maximum MFIs was 45 weeks, which is now 52 or 104 weeks. Increase in loan term increases the operating expense of the MFIs, thereby the yield declines (M-CRIL 33). Prior to RBI Guidelines

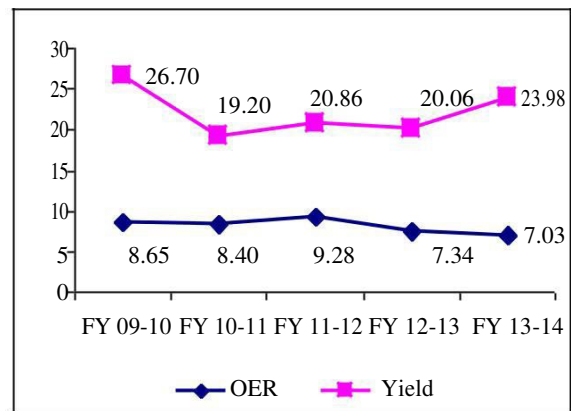
all MFIs were charging flat interest rate (ranging between 13-18 percent per annum) on their loans (Das and Dutta 20-23). In addition, the MFIs were charging admission fees (Rs 20), security money, stationary fees, etc in addition to the interest rate from their clients. After the RBI recommendations these charges are waived and the institutions fixed their interest rate between 22 to 25 percent on a reducing basis. This has reduced the profit margin of MFIs especially of the NGO-MFIs. However, from Figure 5.7 it is observed that in both the cases the yield is moving closely in line with the operational expenses. This suggests that cost-efficient MFIs are transferring their efficiency gains to their clients in the form of lower interest rates (Hug 5).

**Figure 5.7: Trend in portfolio yield and OER of the MFIs**

**(a) NBFCs**



**(b) NGO-MFIs**



Note: All median values are reported.

Source: Calculated from the annual reports of the MFIs

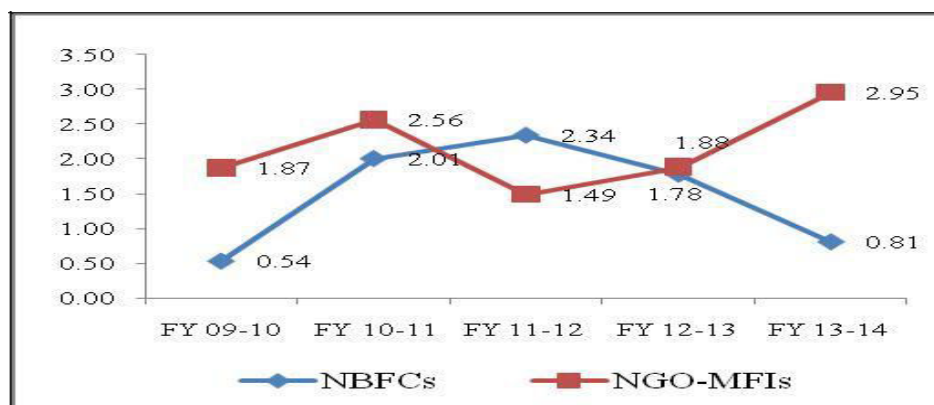
Figure 5.7 (a and b) exhibits substantial widening in the yield-OER margin <sup>xiii</sup> available to the MFIs in the year 2013-14, for covering their financial expense, loan loss provision, and surplus. In the year 2010-11 the yield-OER margin was squeezed to 10.8 percent (for NGO-MFIs), which was increased to 16.94 percent in the year 2013-14. Among the selected NBFCs, AFPL and UFSPL reported high OER in the year 2009-10, resulted in lower margin. RGVN (NE) MFL reported the highest margin of 17.44 percent in the year 2013-14, followed by ASC (16.4 percent) and NCS (15.6 percent).

### 5.3.3 Loan Loss Provision expense

Another component of expenditure for an MFI is its loan loss provision, which is a noncash expenditure which is set aside to cover potential losses. In India, the microfinance loans are not backed by any collateral. In case, a borrower fails to make repayment and declared as a defaulter, the MFIs book a “loan loss provision expense”. This expense reflects the loan’s loss in value i.e., the lowered likelihood it will be collected in full (Rosenberg et al. 11). The loan loss reserve is established from the income earned by the MFIs and is used to replenish funds lost to the portfolio when loans are written off (ACCION 2). The loan loss expense of MFIs usually stands for one to two percent of the total expenditure of the MFIs. After the Andhra Pradesh crisis, the loan loss expense of All Indian MFIs climbed up to 9.7 percent in 2011 from below two percent in 2004 (Rosenberg et al. 12).

The MFIs uses different accounting policies for recognizing and reporting problem loans (Kumar and Paul 1). Usually, the MFIs estimate the amount of expected loan loss based on their previous experience and express it as a percentage of the portfolio. However, some MFIs categorized the loans into different categories based on their likelihood of recovering and determine the rate based on the probability of loan defaulting. In India, the MFIs are required to maintain provisions of at least 1 percent of their Gross Loan Portfolio or 50 percent of the aggregate loan installments which are overdue for more than 90 days and less than 180 days and 100 percent of the aggregate loan installments which are overdue for 180 days or more (IFMR 7-8).

**Figure 5.8: Share of Loan loss provision of NBFCs and NGO-MFIs**



Note: The figures represent the share of loan loss provision in total expense of the MFIs Source: Field survey

In the given data, the MFIs are not following any uniform pattern in the calculation of loan loss provision. The loan loss provision for the MFIs in Assam was high during the FY 2009-11. The increase in provision was due to AP crisis. The loan loss provision for the NBFC's seems to be decreasing since FY 2012-13 onwards. However, the loan loss provision seems be higher and increasing for the NGO- MFIs (Figure 5.8).

The calculation of loan loss expenditure varies from one MFI to another. The MFIs UFSPL treats a loan as overdue as soon as a scheduled installment is failed. The MFIs classify the loan portfolio into different categories on overdue basis (Table 5.8).

**Table 5.8: Classification of loan loss provision**

<b>Asset classification</b>	<b>Arrear period</b>	<b>Provision as per RBI Prudential Norm</b>	<b>Estimation adopted by the RGVN (NE)MFL</b>	<b>Estimation adopted by the UFSPL</b>
Standard asset	Current	0.25 %	1.25 %	0.25 %
Sub Standard asset	1 to 30 days	10 %	10 %	10 %
	31 to 180 days	10 %	10-50 %	10 -50%
Doubtful asset	181 days to 365 days	25 %	100 %	100 %
Loss asset	More than 365 days	100 %	100 %	100 %

Source: Annual reports of NBFCs

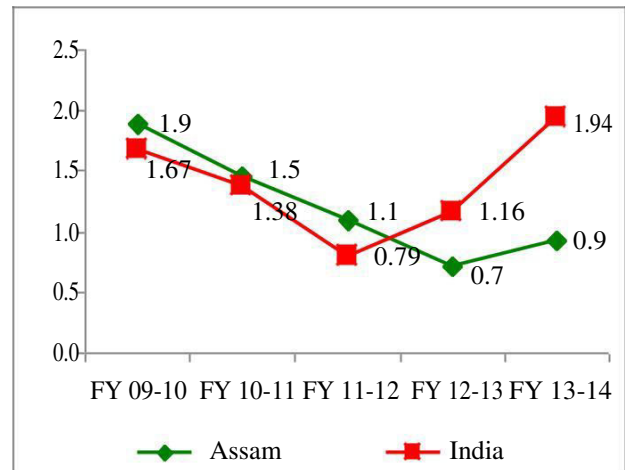
The standards assets indicates loan where no over dues are reported, sub- standard loans are over from day one to 365 days and doubtful loans are over dues for more than to 365 days. The MFIs assign provision for nonperforming assets which ranges from one percent to 100 percent, depending on the days of overdue. However, for NGO-MFIs out of five only three are regularly maintaining the loan loss provision. The ratio increased from 2009-10 to 2013-14 (see Table 5.1). There was not any uniform pattern for calculation of loan loss provision in NGO-MFIs.

## 5.4 Profitability of the MFIs

Profitability and sustainability of the MFIs are measured through ratios such as return on assets, the return of equity and operational self-sustainability.

**Figure 5.9: ROA of the MFIs in Assam and India**

Return on assets (ROA) and return on equity (ROE) measure the profitability and viability of the MFIs. In Figure 5.9, the median ROA of the selected MFIs in Assam and India are reported for five financial years. The ROA of the MFIs in Assam is decreasing and is lower in comparison to the All Indian MFIs.



Note: Median values are reported

Source: Calculated from the annual reports of the MFIs in Assam and for All Indian MFIs data was collected from MIX reports

The 1.9 percent (median) ROA reported by the MFIs in 2009-10, reduced to 0.9 percent on 2013-14. This indicates that there was few loss making organizations. The frequency distribution in the Table 5.9 shows that, out of the eight MFIs, three MFIs are able to manage ROA greater than two percent, whereas the rest are reporting less than one or negative ROA in 2013-14. Five MFIs reported positive ROA in all five financial years, whereas AFPL, SATRA, and MZGPS had reported negative return on assets (Annexure XII). The ROA of UFSPL is highest (4.49 percent), followed by RGVN (NE) MFL (3.34 percent) and NCS. The other NGO-MFIs reported ROA less than one. The low and negative value of ROA is a matter of concern.

**Table 5.9: Frequency distribution of ROA of the MFIs**

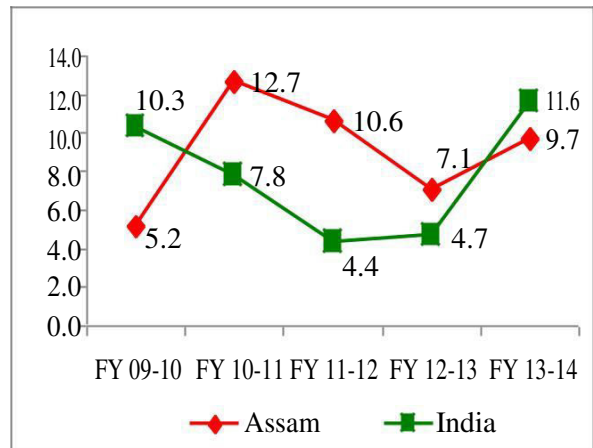
ROA frequency	MFI Numbers				
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
More than 5 %	1	1	1	0	0
2-5 %	3	2	2	3	3
1-2 %	2	2	1	1	0
Less than 1 %	2	3	4	4	4
<b>Total</b>	8	8	8	8	7

Source: Field survey

The ROA of the MFIs is effected by high operational expenses and high loan loss provision. Gaul (1) observed a negative relationship between risk and return of the MFIs. After the AP Crisis the MFIs in Assam, in anticipation of future losses increases the loan loss reserves or buffers which directly effect the profits (see Table 5.1). From Figure 5.6 it is observed that the loan loss provision for NGO-MFIs is increasing, which to some extent effects their ROA. For instance, ROA of ASC declined from 2.76 in 2010-11 to 0.65 in 2013-14, with the increase in loan loss provision during the same period.

**Figure 5.10: ROE of MFIs in Assam and India**

The return on equity (ROE) of the MFIs decline in 2011-12 and 2012-13 to 10.6 and 7.1 respectively, but is now recovered to 9.7 percent (Figure 5.8). Also, the median ROE of the MFIs in Assam is higher than that of the all Indian MFIs from 2010-11 to 2012-13 (Figure 5.10). This is due to higher level of leverage of the MFIs in Assam (Table in Chapter IV).



Note: Median values are reported  
 Source: Calculated from the annual reports of the MFIs in Assam and for all Indian MFIs data was collected from MIX reports

Only two to three institutions reported ROE higher than 30 percent, whereas after 2011-12, these institutions reported ROE between 20-30 percent. This is an indication

that the MFIs are now concerned about quality lending and client protection. Majority of the MFIs earned ROE below 10 percent (Table 5.10).

**Table 5.10: Frequency distribution/table of ROE of the MFIs**

Intervals of ROE	MFI Numbers				
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
More than 30 %	1	3	2	0	0
20-30 %	1	1	2	3	2
10-20 %	1	0		1	2
Less than 10 %	5	4	4	4	3
<b>Total</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>7</b>

Source: Field survey

The highest return on equity was reported by ASC, an MFI in society form. The low return on equity of SATRA (0.61 percent), AFPL and Prochesta is a matter of concern (Annexure XIII). Very low ROE reflects poor organizational and managerial abilities (Srinivasan 34). With low ROE it is difficult for the MFIs to attract funds.

The ROE ratio varies with the capital structure of the MFIs (Ledgerwood 223). The MFIs that fund their assets with liabilities shows high ROE compare to those who fund their assets with equity. The present data shows strong (56 percent) and positive correlation between debt to equity ratio and ROE<sup>xiv</sup>. The ROE and ROA are also effected by the scale of operations of the MFIs. The NBFCs have higher ROA and ROE, in compare to the NGO-MFIs.

### **5.5 Total Expense of the MFIs**

From the earlier discussions, it is found that with the efficient utilization of assets revenue is generated. Also expenses are incurred to earn this revenue. If the revenue<sup>xv</sup> is greater than expenses<sup>xvi</sup>, the MFI is self sufficient (Ledgerwood 215). From Figure 5.11, it is observed that the finance expense or the borrowing cost for the MFIs increased from 5.5 percent in 2009-10 to 8.64 percent in 2013-14. The other ratios such operating expense ratio indicates a declining trend, whereas the revenue for the MFIs in Assam increased in five financial years. By summing up three expense ratios

of the MFIs we have calculated the total expense ratio of the MFIs. In the FY 2013-14, the total expense of the All Indian MFIs is higher than that of the MFIs in Assam.

**Table 5.11: Expense and revenue realization of the MFIs for the FY 2013-14**

	<b>Operating expense/assets</b>	<b>Finance expense/assets</b>	<b>Loan loss expense/assets</b>	<b>Total expense</b>	<b>Financial revenue/assets</b>
All MFIs in Assam	8.3	8.6	0.3	17.3	19.5
NBFCs	9.8	8.3	0.2	18.4	22.3
NGO-MFIs	6.8	8.9	0.4	16.2	16.8
Industry Average	9.2	11.0	0.9	21.1	24.1

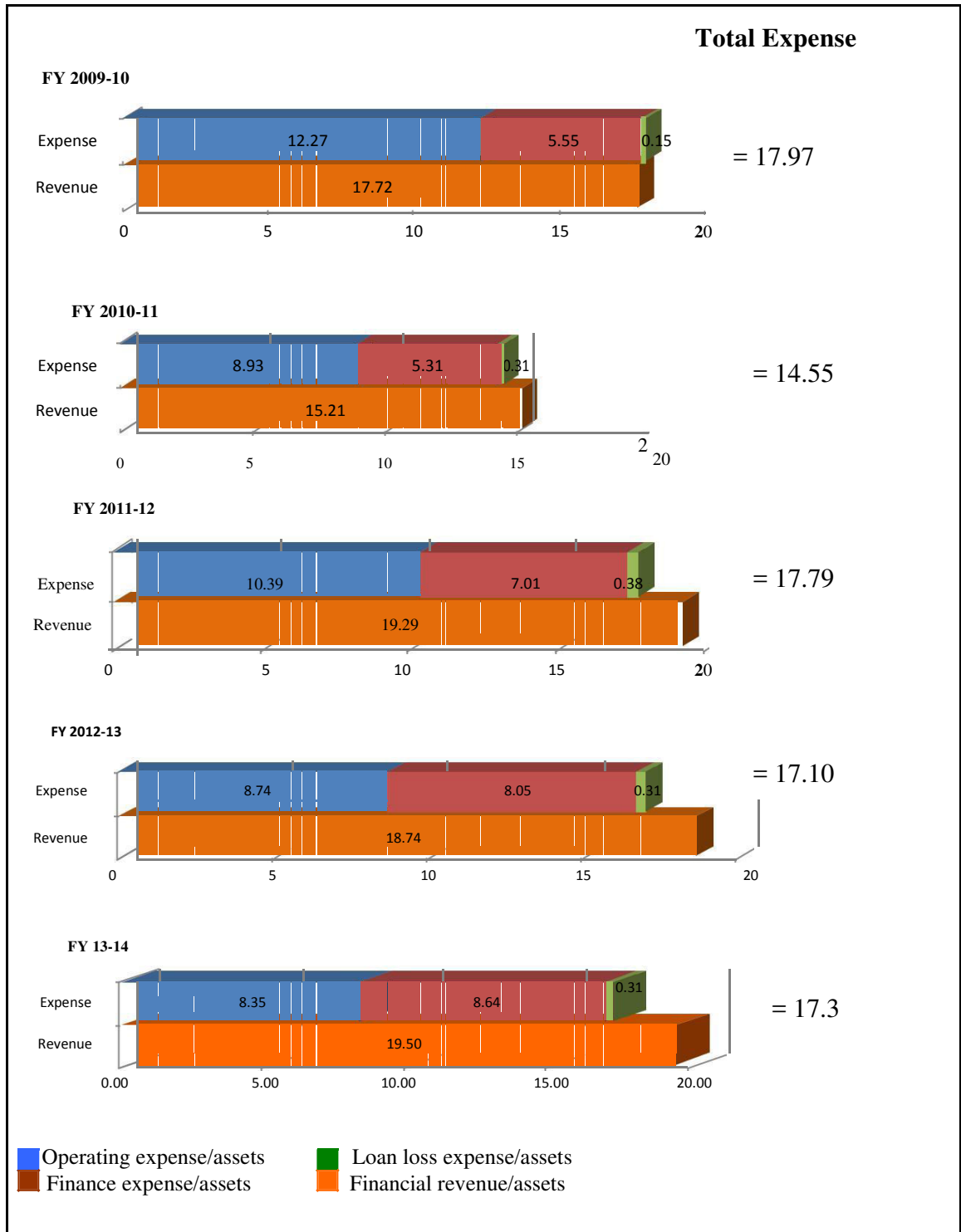
Note: the data represent average of the select MFIs.

Data for all Indian MFIs taken from M-CRIL Microfinance Review 2014.

The expense of the MFIs in Assam is lower than the national average (Table 5.11). The expense and revenue ratio of the NGO-MFIs reflects low margin. In contrast, the NBFCs are earning higher surplus than the Indian Average. This shows that despite of regulatory challenges the NBFCs are in a profitable position.



**Figure 5.11: Expense and revenue realization of MFIs in Assam for the period of five years**



## 5.5 Conclusion

The total expense of the select MFIs in Assam increased from FY 2009-10 to FY2012-13. In FY 2013-14, it reduced by less than five percent in compared to the total expense in the previous year. The drastic change in the pattern of expenditure components was observed in last five years. The operating expense of the MFIs reduced whereas the share of finance expense increased. The high cost of fund and non availability of donor funds increased the financial expense. This change is more visible in case of NGO-MFIs. The OER of the MFIs declined which indicates higher efficiency. However, the decline in OER is misleading in the case of some of the NGO-MFIs. The decrease in OER is mainly attributed by a reduction in human resource. In the case of NGO-MFIs we observed 17 percent decline in the FY 2013-14. Consequently, the operating expense of the MFIs reduced substantially.

The financial expense for the MFIs followed an increasing trend. 86 percent of the financial expense is paid to the banks and financial institutions. The FER of the NBFCs and NGO-MFIs in Assam is higher than that of the national average for the FY 2013-14. The loans from banks and financial institutions became costlier and the donor funds were no more available to the MFIs. Fund crisis and hope for higher access of funds motivated many NGO-MFIs to transform to NBFCs. The two of the selected NGO-MFIs are in the transformation process. The operation manager of the MFIs opined that “access to funding is one of the reasons for transformation”.

The third component of expense is the loan loss provision. From Table 5.1 it is observed that the average loan loss provision of the MFIs in Assam seems to be decreasing from FY 2011-12 onwards. From the survey, it is observed that NBFCs are suffering from higher default than that for the NGO-MFIs. This is due to higher scope and scale of the NBFCs. However, from last three years the NBFCs are following the guidelines laid down by RBI regulation (2011) to calculate the loan loss provision. The NGO-MFIs are keeping aside a certain portion to meet their provision requirement.

The income of the MFIs in Assam increased rapidly during the five financial years from FY 2009-10 to FY2013-14. Interest income on loan contributes 86 to 93 percent of the total income. Hence, the interest rate is an important determinant of MFI's cost structure. The portfolio yield of the MFIs declined in Assam in 2010-11 from that of FYY 2009-10. This is mainly contributed by changes in the operational processes. After the announcement of RBI guidelines in 2011, the MFIs modified their loan products in terms of the loan amount and tenure, the cap on margin and interest rate ceiling curtailed the profits of the MFIs. A study by Das and Dutta (2014), on MFIs in the northeast region reported that the modified loan amount and tenure, interest rate ceiling and a cap on margin curtailed the profits of the MFIs in the region. Prior to RBI guidelines, the MFIs were charging admission fees (Rs 20), security money, stationary fees, etc in addition to the interest rate from their clients. After the RBI recommendations, these charges were waived. The MFI are now charging processing fees of one percent, service charge, and insurance as stated in RBI guidelines. Hence, the operational and financial performance of the MFIs in Assam seems to be effected. With capital and regulatory constraints, remaining sustainable in the market is the main challenge for the MFIs in Assam.

The profitability (measured in terms of ROA and ROE) of MFIs in Assam seem to have declined in FY 2012-13 in comparison to the same in FY 2009-10. This in turn affected their sustainability. The ROA of the MFIs declined during 2010-11. Similarly, the ROE of the MFIs declined in last five years. Though the sector reported positive growth the surplus of the MFIs declined from 2009-10 to 2013-14. The decline is very prominent in case for NGO-MFIs in Assam. The long-term sustainability of the NGO-MFIs seems to be questionable. The surplus of the NGO-MFIs declined from 74 percent in 2009-10 to 31 percent in 2013-14. The sustainability ratio, OSS seems to be remaining constant for NBFCs in last five years, whereas the NGO-MFIs experienced lower sustainability. In this context, it is more relevant to examine the factors effecting the financial sustainability of the MFIs in Assam (addressed in Chapter VII).

**Notes:**

<sup>i</sup> The staff salaries, bonuses, and benefits, as well as employment taxes incurred by an MFI comprises the personnel expense (end note). The administrative expense includes depreciation, rent, utilities, supplies, advertising, transportation, communication, consulting fees, and training expense for the employees, etc

<sup>ii</sup> Funds received by an MFI through a loan agreement or other contractual arrangement that carry a market rate of interest

<sup>iii</sup> Funds received by an MFI through a loan agreement or other contractual arrangement that carry a below-market rate of interest.

<sup>iv</sup> Total expense = operating expense+ financial expense +loan loss provision expense

<sup>v</sup> Young MFIs stands for that MFI which have been in operation from 5 to 8 Years. Number of years calculated from the date of establishment of the MFI till 31st March 2014.

<sup>vi</sup> In case of RGVN (NE) MFL the salary increased by 126 percent whereas total staff by only 1.2 percent in the FY 2011-12.

<sup>vii</sup> The personnel expense of the NGO-MFIs is much lower than that of the NBFCs. The NBFCs are known to have better staff compensation levels than other MFIs (M-Cril, 2011). Based on the discussion with the human resource department and the field staff of the NBFCs, it was observed that the field staff MFIs received similar salary that was in line with the Minimum Wages Act, only the incentive varies from MFI to MFI. In case of NBFCs the employees in addition to salary received housing allowance, medical benefit, traveling allowance, dearness allowance, provident fund (PF), Employee State Insurance (ESI) and loans. The field employees are provided with vehicle loan, so that they can buy a two wheeler for field visits. However, in case of NGO-MFIs the employees are received a fixed amount and an incentive linked with their performance.

<sup>viii</sup> While fitting the regression model to a data we check for collinearity or multi-collinearity, which is a statistical phenomenon where two or more independent variables in a multiple regression model are highly correlated. The presence of multicollinearity does not reduce the predictive power or reliability of the fitted regression model as a whole, but helps in model reduction (i.e. some of the

highlycorrelated independent variables in the model are removed without compromising the predictive power of the model).

We test the null hypothesis H0: The regression coefficients in model (I) are equal to zero, against the two sided alternative H1: At least one of the regression coefficients is different from zero. The value of the test statistics R2 and the p-value of the F-testare obtained using SPSS software. In fact all the computations in the sequel are done using the SPSS software. The values of the F statistics, p-value of the F tests, and also the values of R and R square (coefficient of determination) for the regression models fitted to the data are reported.

<sup>ix</sup> **Operating expense as per lending model (all in Rs)**

Categories	Cost components		Mean	Median	Minimum	Maximum
Lending methodology of MFIs	JLG	Personnel cost	39,887	39,927	8,500	59,566
		Administration cost	10,091	9,066	2,666	23,184

		Total Operating expense	49,978	51,862	11,166	71,784
	SH G	Personnel cost	35,286	37,200	11,200	66,460
		Administration cost	7,511	7,027	1,270	16,398
		Total Operating expense	42,798	44,622	12,470	72,117

Source: Field survey

<sup>x</sup> Table : Staff turnover rate of the MFIs (all in percentage)

	FY 10-11	FY 11-12	FY 12-13	FY 13-14
AFPL	28	19	23.6	23.9
RGVN (NE)MFL	15.32	NA	1.54	16.96

Note: Information about other MFIs was not available

<sup>xi</sup> FER of the MFIs

	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
RGVN (NE) MFL	8.7	6.1	9.5	11.5	12.4
AFPL	3.5	12.6	10.2	12.7	11.4
UFSPL	0.9	3.5	6.0	7.3	7.0
ASC	6.4	7.5	8.7	11.0	15.6
NCS	12.7	12.0	12.4	11.5	11.9
Prohesta	7.9	7.7	8.7	6.0	7.4
MZGPS	7.0	7.6	9.6	10.6	
SATRA	9.6	10.6	11.8	12.9	11.2

<sup>xii</sup> Correlation between age of the MFI, lending model and FER

		Age of the MFI	Lending model	Finance expense ratio
Age of the MFI	Pearson Correlation	1	0.128	0.324(*)
	Sig. (2-tailed)	.	0.437	0.044
Lending model	Pearson Correlation	0.128	1	-0.128
	Sig. (2-tailed)	0.437	.	0.438
Finance expense ratio	Pearson Correlation	0.324(*)	-0.128	1
	Sig. (2-tailed)	0.044	0.438	.

\*\* Correlation is significant at the 0.01 level (2-tailed), \* Correlation is significant at the 0.05 level (2-tailed).

<sup>xiii</sup> Yield-OER margin compares the OER –the cost incurred on servicing loans-with the yield (interest income earned from the portfolio outstanding for the same period) , before accounting for cost of fund and risk expenses (M-CRIL 2014 12).

<sup>xiv</sup> Correlation between debt to equity ratio and return on equity

		Debt to equity ratio	Return on equity
Debt to equity ratio	Pearson Correlation	1	0.558(**)
	Sig. (2-tailed)	.	0.000
Return on equity	Pearson Correlation	0.558(**)	1
	Sig. (2-tailed)	0.000	.

\*\* Correlation is significant at the 0.01 level (2-tailed).

---

<sup>xv</sup> Only operating revenue earned from credit operations and investments is considered for calculation.

<sup>xvi</sup> Expenses incurred by MFIs include financial expenses, loan loss provisions, and operating expenses.

### References:

Arunachalam, Ramesh S. (2006). “What is Operating Cost Ratio? How to use it in Microfinance?” |*Sa-Dhan Microfinance Manager Series: Technical Note # 9*,(2006)1-3. [http://www.sa-dhan.net/Adls/Technicalnotes/Technical\\_Notes\\_09.pdf](http://www.sa-dhan.net/Adls/Technicalnotes/Technical_Notes_09.pdf)

Crombrugge Alain De , Tenikue Michel And Sureda Julie.” Performance Analysis for a sample of Microfinance Institutions in India.” *Annals of Public and Cooperative Economics*, 79.2 (2008): 269–299, Print.

Das Debabrata and Dutta Pinky. “Regulating Microfinance Institutions in South Asia –Issues and Challenges with special reference to India.” *Vinimaya (NIBM)* , XXXV.1 (2014): 5-24.

Fernando, N. “Understanding and Dealing with high interest rates on microcredit-A note to policy makers in the Asia and Pacific Region.” East Asia Department. ADB (2006): 1-18.

Ganka Daniel Nyamsogoro, (2010) Financial sustainability of rural microfinance institutions (MFIs) in Tanzania, PhD thesis, University of Greenwich

Gaul, Scott. “How has the growth of Indian microfinance been funded?” *MIX Microfinance World*, (2010):1-4, Online.

Gonzalez, Adrian. “Efficiency Drivers of Microfinance Institutions (MFIs): The case of operating expenses.” *MICROBANKING BULLETIN*, 15 (2007):37-42

Hartarska, Valentina and Nadolnyak, Denis. “Do regulated microfinance institutions achieve better sustainability and outreach?” Cross-country evidence, *Applied Economics*, 39.10 (2010): 1207-1222, Print.

Hug, Carola. Efficiency is the key to lower interest rates in microfinance, Research Insight, *responsAbility Investments* (2014): 1-8, Print.

IFMR. “Effects of Reserve Bank of India (RBI) Regulations on Priority Sector Lending for Micro Finance Institutions (MFIs)”, Microfinance Researchers Alliance Program (MRAP) Study, *IFMR Research*, Centre for Microfinance, (2011): 1-42, Online.

- 
- Khan, H.R. “Report on Costs and margins of Micro finance institutions”. *Reserve Bank of India*, College of agricultural banking, University road Pune, (2007):1- 30,Print.
- Kumar, Raj and Paul, Anil. “Provisioning for Loan Impairment in MFIs.” *MicroSave India Focus Note 22*, (2009):1-2, Online.
- Ledgerwood, Joanna. “Sustainable Banking with the poor-Microfinance Handbook: An Institutional and Financial perspective”. The World Bank, (1999).
- M-CRIL. “Microfinance Review, 2012: MFIs in a Regulated Environment a financial and social analysis”, *Micro-Credit Ratings International Limited*, (2012): 1-81, Print.
- Rosenberg, Richard; Gaul, Scott; Ford, William, and Tomilova Olga. “Microcredit Interest Rates and Their Determinants 2004–2011”. Access to Finance, Forum Reports by *CGAP* and Its Partners No. 7,(2013): 1- 26, Print.
- Rosenberg, Richard; Gonzalez, Adrian and Narain, Sushma. “Are Microcredit Interest Rates excessive?” *Consultative Group to Assist the Poor*, (2009):1-4.
- Sa-Dhan. “Operating expense of microfinance services and its impact on interest rate setting.” *Sa-Dhan Discussion paper series*, (2004):1- 51, Print.
- Sa-Dhan. “The Bharat Microfinance Report 2014.” Sa-Dhan(2014): 1-86.
- Shankar, Savita. “Transaction costs in Group Micro Credit in India”, *Management Decision*, 45(8), (2007):1331-1342, Print.
- SIDBI.“Study on Interest Rates and Costs of Microfinance Institutions”. Published by *ACCESS Development Services*, SIDBI, (2011):1-106, Print.
- Srinivasan N. *Microfinance India: State of the Sector Report 2011*. SAGE Publications India, New Delhi, (2011).
- Tucker, Michael in Alice Holbrook, *Microfinance Institutions Balance Personal Loans with Sustainable Business Model*, Publihsed on 8<sup>th</sup> January 2015, Accessed on 12 January 2015, <http://www.nerdwallet.com/blog/loans/microfinance-institutions-personal-loans/>