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Expense based performance assessment of financial institution

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ABSTRACT

Performance of Financial Institutions is dependent on various aspects that can affect their growth. Many of them are standardized aspects such as Portfolio at Risk, Provision Expense Ratio, Risk Coverage Ratio, and Write off Ratio. Along with these, we introduce a scientific cost distribution value that we name as the Expense Accrual Ratio (EAR). Along with the other parameters of measurement, EAR can be used to assess if the health of a financial institution. In this paper, we explain the role and functioning of EAR along with ways of calculation of it with formulas for the derivation. The effect of dependent parameters on EAR is explored and the graphs are explained. Further, its impact on performance is analyzed with data references. Comparison is done with the current interest rates of the institution to derive at a conclusion based on EAR. Along with other parameters of the measure this can be used as a powerful tool to adjust the functioning of the financial institution to avoid further losses. The necessity to balance EAR for unforeseen or natural calamities has been pointed out for future work.

Keywords— Financial institution, Finance, Expense, Performance, Loan outstanding

1. INTRODUCTION

Microfinance Institution is a financial institution that provides small loans to people and plays an integral part of the change in society. For the smooth functioning of the institution, its proper maintenance is required. The maintenance includes its performance and health monitoring. To improve its performance the financial institution needs to check upon a few factors such as Portfolio at Risk, Provision Expense Ratio, and Risk Coverage Ratio Write off Ratio. Along with these a new factor is introduced here represented as Expense Accrual Ratio which is the quantification of the expenses of the financial institution. These expenses may include many categories some of them are fixed charges, provisions and variable charges.

2. LITERATURE REVIEW

Different literature noted that financial sustainability is one of the areas that financial institutions need to look at to assess the performance of micro finance institutions. The MIX [1] Market defines the term financial sustainability as having an operational

sustainability level of 110% or more, while operational sustainability is defined as having an operational self-sufficiency level of 100% or more. The Operational Self-Sufficiency Measure (OSSM) is defined as below. [2]

$$OSSM = \frac{\text{total financial revenue} + \text{operating expense}}{\text{financial expense}} \quad (1)$$

Yeron in 1992 discussed that the two most important objectives for rural financial institutions to be successful are financial self-sustainability and more outreach to the target rural population. Financial self-sustainability is said to be achieved when the return on equity, net of any subsidy received, equals or exceeds the opportunity cost of funds. [1]

According to Khandker et al. (1995), the concept of sustainability of microfinance can be divided into four interrelated ideas; namely, financial viability, economic viability, institutional viability and borrower viability. And He even pointed out that loan repayment (measured by default rate) could be another indicator for financial sustainability of MFIs; because low default rate would help to realize future lending. [3]

Financial viability relates to the fact that a lending institution should at least equate the cost per each unit of currency lent to the price it charges its borrowers (i.e. the interest rate). Economic viability relates to meeting the economic cost of funds (opportunity cost) used for credit and other operations with the income it generates from its lending activities. [3]

Meyer (2002) indicated, "Measuring financial sustainability requires that MFIs maintain good financial accounts and follow recognized accounting practices that provide full transparency for income, expenses, loan recovery, and potential losses." [4]

Nandru, Anand and Rentala (2016) attempted to identify the factors of financial inclusion amongst the southern states of India using Index of Financial Inclusion (IFI) developed by CRISIL. They used five indicators namely branch penetration, size of the population, gender ratio, deposit to credit penetration ratio and literacy rate. Except for the literacy rate, the authors found all the variables having a significant impact on financial inclusion amongst the selected states. [5]

Sathiyan and Panda (2016) examined the pattern, progress, and determinants of financial inclusion in India during the post-reform period for Indian states for the years 2001 and 2011. The results revealed a positive association between the increase in the number of bank accounts availed by households with the factors such as the number of bank branches, population dependency per branch, and industry concentration in the state. The authors suggested that effective implementation of the financial literacy programs and leveraging existing bank branches will go a long way in achieving greater financial inclusion. [6]

3. DETERMINING MEASURES

For measuring Performance the parameters generally used are Portfolio at Risk, Provision Expense Ratio, Risk Coverage Ratio and Write off Ratio. Along with these a new factor is introduced here represented as Expense Accrual Ratio (EAR).

3.1 Portfolio at Risk

Portfolio at Risk (PAR) is the percentage of the total loan portfolio that is at risk. So, PAR 30 is the principal amount (net after repayments) of open loans overdue by 30 days or open loans where no repayment has been made for 30 days. This is divided by the total principal amount of all open loans. A PAR 30 of 5% can be highly risky if it contains a large proportion of loans that are seriously overdue, especially past 90 days, or it can be relatively safe if loans are sure to be repaid. As for write-offs, they can reduce PAR with the stroke of a pen. Generally, PAR 90 loans are considered as bad loans. You can use this to keep enough cash aside in case of future loan defaults. PAR values are often used in accounting to show the health of the total loan portfolio. [7]

3.2 Provision Expense Ratio

The Provision Expense Ratio (PER) is calculated by dividing the loan loss provisioning expenses for the period by the period's average gross portfolio. It represents the charge to income that takes into account future loan losses. [7]

$$PER = \frac{\text{Loan Loss Provisioning Expenses}}{\text{Average Gross Portfolio}} \quad (2)$$

3.3 Risk Coverage Ratio

The Risk Coverage Ratio (RCR) is calculated by dividing loan loss reserves by the outstanding balance in arrears over 30 days plus refinanced loans. This shows what per cent of the portfolio at risk is covered by actual loan loss reserves. [7]

$$RCR = \frac{\text{LoanLossReserves}}{\text{OutstandingBalanceonArrearsover30days}} \quad (3)$$

3.4 Write off Ratio

The Write-off Ratio (WOR) is calculated by dividing total write-offs for the period by the period's average gross portfolio. This measure provides the value of loans written off against the average gross loan portfolio. Write off policies may vary by country and regulator. This ratio represents the loans that the institution has removed from its database because of a substantial doubt that they will be recovered. [7]

$$WOR = \frac{\text{ValueOfLoansWrittenOff}}{\text{AverageGrossPortfolio}} \quad (4)$$

4. EXPENSE ACCRUAL RATIO

For the performance of the Financial Institution, the above factors are also responsible. The most significant tool from

which the expenses can be recovered for the financial institutions is a loan. If all the expenses are divided for loans as charge then, here it referred to as Expense Accrual Ratio.

EAR calculation needs to be done on the loan outstanding. While calculating EAR over a period the current loan outstanding cannot be considered. That is because during the period over which EAR is being calculated there may have been some repayments affecting the loan outstanding but EAR will have to be applied even on the original outstanding.

For Example: Consider loan outstanding of a person is ₹5000 at the beginning of the period and repays it within time. At the end of the calculation period, current outstanding will be zero and hence EAR applied would be zero. But this loan to needs to be considered as within the period the loan outstanding was present. That is the reason EAR is calculated based on average loan outstanding. Average Loan Outstanding is calculated as below:

$$\text{CurrentLoanOutstanding} = \text{FirstOutstanding} + \text{LastOutstanding} \quad (5)$$

4.1 Expense Accrual Ratio Flowchart

Flow Chart -1 the algorithm for calculating the Expense Accrual Ratio is represented. Here the required data is acquired such as Average Loan Outstanding and Total Expenses. The value of the EAR is calculated as:

$$EAR = \frac{\text{Total Average Loan Outstanding}}{\text{Total Expenses}} \quad (6)$$

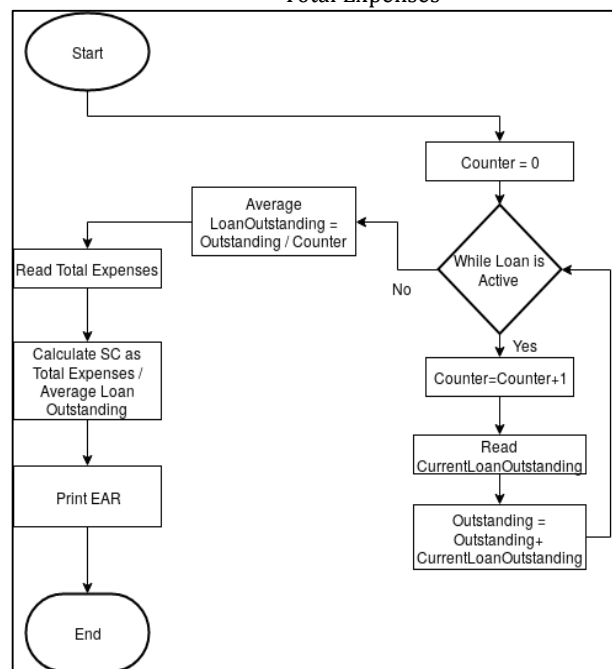


Fig. 1: Expense accrual ratio calculation

4.2 Expense accrual ratio comparison

The contention of this paper is to calculate EAR value which relates expenses of the financial institution to the loan outstanding. It is being assumed that loan is the only portfolio on which financial institution can generate income via interest for managing the institution. EAR defines the cost borne by the financial institution for every rupee of loan kept outstanding. Hence the relation between EAR and Interest is as show below Table 1, if the interest received per rupee of loan outstanding is greater than EAR per rupee of outstanding then the financial institution is making a profit and so on.

Table 1: EAR based performance indication

EAR v/s Interest	Indication
If Interest > EAR	Profit
If Interest = EAR	No Profit No Loss
If Interest < EAR	Loss

4.3 Expense accrual ratio versus expense graph

Chart-1 is a graph depicting the dependency of the Expense Accrual Ratio on the expenses of the financial institution. It clearly shows that as the expense of the financial institution increases the EAR also increases. It suggests that if the expense is high then the EAR will also be high. Hence it can be concluded that to achieve lower EAR financial institutions have to manage expenses carefully.

Table 2: Expense accrual ratio versus expense data

Loan Outstanding At the Beginning of the Period	Loan Outstanding At the End of the Period	Average Loan Outstanding	Expense	Expense Accrual Ratio
10000	5000	7500	8000	1.07
14000	6000	7500	17000	2.27
18000	7000	7500	26000	3.47
22000	8000	7500	35000	4.67
28000	9500	7500	48500	6.47

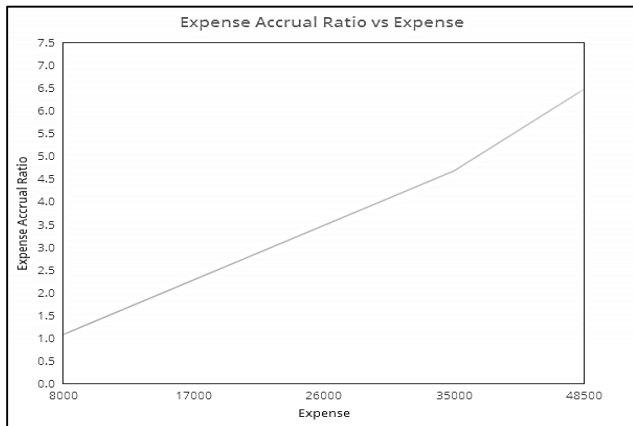


Fig. 2: Expense accrual ratio versus expense

4.4 Expense accrual ratio versus average loan outstanding graph

Figure 2 is a graph depicting the dependency of the Expense Accrual Ratio on the Average Loan Outstanding of the financial institution. Here, as the loan outstanding is increasing the EAR is decreasing. It suggests that if the number of loans disbursed is high then the EAR will be less. This suggests that a financial institution with large expenses should have a larger amount as loan outstanding if the cost has to be offset. Simply put fewer expenses can be managed with fewer loans but more expenses need more loans.

Table 3: Expense accrual ratio versus average loan outstanding data

Loan Outstanding At the Beginning of the Period	Loan Outstanding At the End of the Period	Average Loan Outstanding	Expense	Expense Accrual Ratio
10000	5000	7500	8000	1.07
14000	6000	10000	8000	0.80
18000	7000	12500	8000	0.64
22000	8000	15000	8000	0.53
28000	9500	18750	8000	0.43

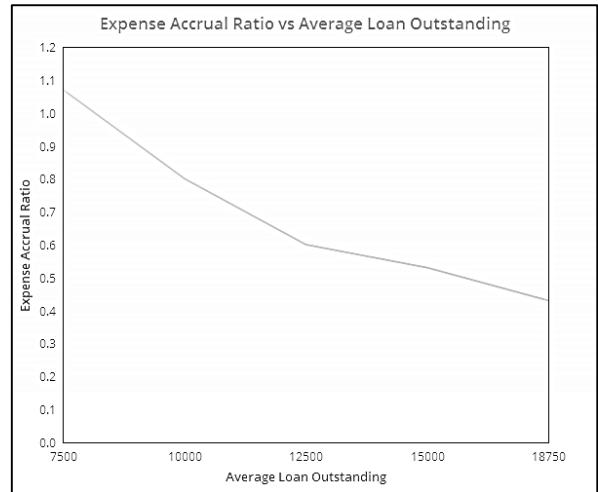


Fig. 3: Expense accrual ratio versus average loan outstanding

5. CONCLUSIONS

This paper aims to provide the conclusive inference through it can be stated that all the above-discussed factors of financial institution are having good participation in its improvement. This is achieved by interpreting and analyzing the above-mentioned factors which can make an impact on its sustainability. These factors are determined by studying the different situations of financial systems so that the conclusion made is more accurate. EAR is not the lone perfect solution to monitor the financial institution health if it is calculated along with other factors then it can be taken into consideration. For Example, if there is a natural calamity then EAR for this cannot be calculated. Further study can be made on how to overcome loss due to this kind of calamities.

6. REFERENCES

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