

The Effect of Loan Diversification on The Performance of Microfinance Institutions in Bamenda Cameroon

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ABSTRACT: Diversification in financial sector is crucial in the sense that it helps to reduce the level of risk facing by the sector especially in the area of loan. In the financial sector, microfinance institutions are more expose to the problem of loan management, it is for that reason that this article tried to investigate and analyze the effect of loan diversification on the performance of microfinance institutions in Bamenda Cameroon. To reach our objective, the article make use of primary data collected from 35 microfinance institution in bamenda. 70 structured questionnaires were administered to manager and loan officer who were selected randomly. Data were analyzed using descriptive and inferential analysis. The findings indicate that MFIs with loan diversification tend to exhibit better financial performance and lower risk levels, suggesting that diversification is a viable strategy for enhancing the stability and profitability of microfinance institutions.

KEYWORDS: loan diversification, microfinance institutions, financial performance, risk management, Bamenda Cameroon, profitability

1.INTRODUCTION

A major threat to MFI sustainability lies in their lending activities, as reflected in the quality of their loan portfolios. In 2005, David and Dionne argue that depending on the diversification variable, MFIs should build a portfolio with outstanding loans that have repayment probabilities with low correlations. For all financial institutions it is imperative to pursue some sort of loan portfolio diversification which consists of well thought out strategic implementations that aim to optimize the risk-reward tradeoff. In an evolving financial landscape, the significance of loan diversification cannot be overstated. Diversification is fundamental about spreading risk and ensuring that an institution's fortunes are not tied to the performance of a single sector or demographic group. Recent studies have shown that MFIs with diversified portfolios tend to exhibit higher levels of stability and are better equipped to withstand economic shocks (Wagner, 2013). This is particularly crucial for institutions operating in the volatile markets of developing countries, where economic downturns, sector-specific crises, or localized natural disasters can quickly lead to a surge in default rates. Despite the recognized potential of loan diversification to enhance the performance and stability of MFIs, the sector is still faced by the problem of loan management. This article aims to shed light on how MFIs can go through loan diversification to improve their financial performance.

2. CONCEPTUAL LITERATURE

2.1 Loan Diversification

Loan Diversification is a strategic approach employed by Microfinance Institutions (MFIs) and other financial entities to spread their credit risks across a wide array of loan types, sectors, and demographics. This strategy is designed to minimize the impact of specific, isolated risks that might otherwise disproportionately affect the institution's financial health (Wagner, 2013). According to Aarflot and Arnegard (2017) diversification is a better tool to improves performance.

Diversification in a loan portfolio is a strategic that reduce credit risk on loan according to some loan characteristics such as: their maturities, their sectors, and geographic area. According to the maturities of loan, MFIs offer a range of loan products with different terms and maturities. Short-term loans, like working capital loans, might carry higher risks of default but provide quicker returns, while long-term loans, such as those for equipment financing, offer more stability but have longer recovery periods. Cull et al. (2017) suggest that offering a mix of these products allows MFIs to balance their short-term liquidity needs with long-term investments, optimizing their overall portfolio performance.

Another aspect of diversification is sectoral diversification, where MFIs spread their lending across different industries such as agriculture, retail, and manufacturing sector. Each sector has its own economic cycles and risk profiles. For

instance, while retail might boom during festival periods, agriculture's profitability may be seasonal, based on harvest times. Hartarska & Nadolnyak (2012) highlight that by lending across various sectors, MFIs can ensure a more consistent flow of loan repayment, thereby mitigating the risk that a down turn in one industry will significantly impact their entire portfolio.

Geographic diversification is crucial, especially for MFIs operating in regions prone to localized economic downturns, natural disasters, or political unrest.

2.2 Performance of MFIs

The profitability is a way to measure a company's performance. It is the capacity to make profit, and a profit is what is left over from income earned after you deducted all costs and expenses related to earning the income. As indicator of profitability or performance, we have Return on Equity (ROE) and Return on Assets (ROA). Brigham and Houston (2012) describe ROE as a key indicator of financial performance that measures how effectively a company is using its equity base to generate profits. Ross & Jaffe (2013) emphasize the importance of ROE in evaluating the returns generated on the equity invested by the owners of the company. Higgins (2015) notes that ROE is a comprehensive measure of a firm's profitability, providing insights into how well the firm is leveraging its equity to generate profits. Using primary data, financial performance is capture in this article by the growth or evolution in Return on equity and Growth or evolution in Return on assets.

3. METHODOLOGY

3.1 Source and technique of data analysis

The primary data used in this article was collected through the use of self-reporting questionnaires. The questionnaire

was addressed to loan officers and managers of microfinance institutions in Bamenda city.

3.2 Model Specification

Empirical Model

This empirical model made use of the multi linear regression technique. This is because it enables the prediction of one variable on the basis of several other variables. In order to measure the relationship between the two variables loan portfolio diversification as an independent variable and performance of MFIs as dependent variable. This model therefore expresses the performance of MFI as a function of loan portfolio diversification (loan term diversification (LTD), geographic diversification (GD), and sectoral diversification (SD) which were independent variables of loan portfolio diversification. This functional relationship can be expressed as follows:

$$P=f(LTD,GD,SD),\dots\dots\dots(3.1)$$

The above relationship can therefore be put in the linearized form, taking care of error term and the constant term; the above functional relationship becomes an econometric model as follows;

$$P = \beta_0 + \beta_1LTD_i + \beta_2GD_i + \beta_3SD_i + \beta_4AGE_i + \beta_5SIZE_i + \varepsilon_i \dots\dots\dots(3.2)$$

Where β_0 is the constant term, $\beta_{1,2,3}$ are the parameters to be estimated, ε is the error term component that captures all the omissions and error committed in the process of analyzing the data.

P: Performance of MFI

LTD: Loan Term Diversification

GD: Geographic Diversification

SD: Sectoral Diversification

(AGE) and (SIZE), are control variable.

4. RESULTS

4.1 Questionnaires analysis

Table 4.1: Questionnaire response rate

		Frequency	Percent	Cumulative Percent
Valid	Returned Questionnaire	64	91.4	91.4
	Unreturned Questionnaire	06	8.6	100
	Total	70	100	

Source: Author (2025)

Table 4.1 shows, the number of questionnaires that were administered. Out of the 70 questionnaires that were issued, 64 questionnaires were returned giving a percentage of 91.4%.

4.2 Presentation of Inferential statistics

4.2.1 Test of Reliability (Cronbach Alpha)

Table 4.2: Cronbach Alpha

Item	Obs	Sign	item-test correlation	item-rest average correlation	interitem covariance	alpha
Performance	64	+	0.8777	0.7662	0.3449653	0.7365
Loan term diversification	64	+	0.6618	0.5478	0.5370288	0.7937

Geographical diversification	64	+	0.8190	0.7521	0.4873016	0.7630
Sectorial diversification	64	+	0.3407	0.1747	0.6526042	0.8496
Age of the institution	64	+	0.6960	0.5374	0.4838542	0.7923
Number of branches	64	+	0.8851	0.7869	0.3490079	0.7286
Test scale					0.4757937	0.8132

Source: Author (2025)

Results indicate good internal consistency given that the overall value of Cronbach alpha (0.8132) > 0.7 which is greater than the bench mark of 0.7. So, these primary indicators have good internal consistency, thus can be used to form or build our index of variable.

4.2.2 Factor Analysis (Variance Inflation Factor Test)

Table 4.3: VIF Test

Variable	VIF	1/VIF
Number of branches	2.47	0.404183
Geographical diversification	2.12	0.470911
Age of the institution	1.61	0.619496
Loan term diversification	1.50	0.668826
Sectorial diversification	1.18	0.850526
Mean VIF	1.78	

Source: Author, 2025

The VIF results presented above reveals a mean VIF of 1.78 which is below the general accepted cut-off for VIF which is 2.5. Also, no individual VIF was found to be greater than 10. Thus the results of the regression are reliable and predictable. This means that our analyses are void of multicollinearity which validates the findings of this study.

4.2.3. Pairwise Correlation Analysis

Table 4.4: Correlation Matrix

Variable	Loan term diversification	Geographical diversification	Sectorial diversification	Age of the institution	Number of branches
Loan term diversification	1.0000				
Geographical diversification	0.3011	1.0000			
Sectorial diversification	0.1378	0.1237	1.0000		
Age of the institution	0.2500	0.0924	-0.3551	1.0000	
Number of branches	0.3752	0.1542	-0.0149	0.7512	1.0000

Source: Author (2025)

From the correlation matrix, all the correlation coefficients along the diagonal are unitary indicating that each variable has a perfect positive correlation with itself. The table reveals that many of the independent variables are positively correlated and has a low multicollinearity values which are less than 0.8. Hence, there is no strong correlation between the variables. Therefore, it can be concluded that there is no strong relationship between the variables and hence the variables can be subjected to other empirical testing.

4.2.4. Analysis of Variance

Table 4.5: Analysis of Variance

Source	SS	df	MS	F	sig
Model	103.589108	5	20.7178215	247.84	0.01 ^a
Residual	4.84839241	58	.083592973		
Total	108.4375	63	1.72123016		

Source: Authors, 2025

The results presented on Table 4.5 reveals that the performance of MFIs model is globally significant since the F-statistic i.e. F (5; 58) = 247.84 has a p-value of 0.001 which is less than 0.05.

4.2.5. Regression Analysis

In order to test the relationship between loan portfolio diversification and the performance of MFIs in the North west region of Cameroon, the OLS regression model was used.

Table 4.6: OLS Regression Analysis

Regression Analysis						
Performance	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Loan term diversification(LTD)	.5680503***	0.1846378	-3.08	0.003	-0.9376431	-0.1984575
Geographical diversification(GD)	1.2671***	0.1777833	7.13	0.000	0.911228	1.622972
Sectorial diversification(SD)	-0.2596312	0.1782155	-1.46	0.151	-0.6163683	0.0971059
Age of the institution (AGE)	0.6319098***	0.0715905	8.83	0.000	0.4886058	0.7752137
Number of branches(Nb)	0.2277015**	0.0935317	2.43	0.018	0.0404774	0.4149256
Constant term	0.0721648	0.1194825	0.60	0.548	-0.1670055	0.3113351
Number of obs = 64, F(5, 58) = 247.84, Prob > F = 0.0000, R-squared = 0.9553, Adj R-squared = 0.9514, Root MSE = 0.28912						

Note: *, ** and *** represents 10%, 5% and 1% level of significant respectively

Source: Author, 2025

$$P = 0.0721648 - 0.2596312LTD_i + 1.2671GD_i + -0.2596312SD_i + 0.6319098AGE_i + 0.2277015 Nb_i + \varepsilon_i$$

5. DISCUSSION OF THE RESULTS

The table above presents the regression analysis on the relationship between loan portfolio diversification (loan term diversification, geographical diversification and sectorial diversification) and the performance of MFIs in Bamenda . From the analysis, we obtained the F-statistics of 247.84 with a P-value of 0.0000. this shows that loan portfolio diversification has a statistically significant effect on the performance of MFIs in the North West region of Cameroon. The result reveals an R-square value of 0.9553 indicating that 95.53% of variation in the performance of MFIs in Bamenda is explained by variation in the independent variables. Specifically, the result revealed that Loan term diversification has a coefficient of 0.5680503 indicating that loan term diversification has positive and significant effect on the performance of MFIs in Bamenda. This shows the importance of loan term diversification in microfinance institutions. From that result, the null hypothesis is rejected and we conclude that loan term diversification has a significant effect on the performance of MFIs in Bamenda. This result is in conformity to apriori expectation and confirms the agency theory innovation diffusion theory by Jensen & Meckling, (1976).

Geographical diversification has a coefficient of 1.2671 indicating that geographical diversification has a positive relationship with the performance of MFIs in Bamenda. This shows that if MFIs in Bamenda extent their loans to rural

areas, and not only concentrate in urban areas, it will increase their performance by approximately 1.27%. The coefficient is found to be significant at 1% since the P-value is less than 1%. Therefore, we reject the null hypothesis and conclude that geographical diversification has a significant effect on the performance of MFIs in Bamenda. This result is in accordance to the finding of Hughes, Lang, Mester, and Moon (1996a) who found that when an efficient bank is more geographically diversified, it reports higher returns, but also higher levels of risk.

Sectorial diversification has a coefficient of -0.2596312 and it is found to be insignificant since the P-value is more than 10%. This result indicate that MFIs in Bamenda. Doesn't grant their loan base on sectors. We conclude that sectorial diversification does not have a significant effect on the performance of MFIs in Bamenda.

6. CONCLUSION

The main objective of this article was to evaluate the effect of loan portfolio diversification on the performance of MFIs in Bamenda. Descriptive statistics with the aid of tables of frequencies and percentages where use to analyzed the data. Ordinary least square was used to run the regression . Results from regression indicate that there is a positive significant effect of Loan term diversification and Geographical diversification on the performance MFIs in Bamenda. Hence

we can conclude that loan portfolio diversification has a positive effect on the performance of MFIs in Bamenda.

7. RECOMMENDATIONS

Based on the findings, the following recommendations can be formulated;

- MFIs in Bamenda should pay more attention to loan terms diversification or lay emphasis on expanding loan portfolio sectors
- MFIs of Bamenda should create a conducive environment and educate employees on the advantages of loan portfolio diversification

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