

AN ANALYSIS OF THE DETERMINANTS AFFECTING THE PERFORMANCE OF MICROFINANCE INSTITUTIONS IN GHANA

Jane ARTHUR-SAM^{1*}

¹University of Sunderland, Faculty of Business, Law and Tourism,
Sunderland, United Kingdom, jane.arthur-sam@research.sunderland.ac.uk

Abstract: Microfinance Institutions (MFIs) are crucial in providing services to the underprivileged, particularly those with limited incomes and the unorganized sector in a sustainable manner. In the Ghanaian business industry, these firms are primarily seen as vital institutions for progress against poverty and an excessive dependence on national and local governments. Thus, the goal of this study is to identify the factors affecting the performance of Microfinance institutions in Ghana. Multiple regression and descriptive statistics were used to analyze the secondary data gathered from the 133 MFIs in Ghana with SPSS. The study's conclusions showed that efficiency and liquidity have significantly positively impact on the firms' return on equity (ROE). Capital adequacy ratio (CAR) and non-performing loans (NPL) had no statistically significant effect on the Microfinance institutions' performance (ROE). Additionally, the study discovered a significant positive effect of CAR on the performance of the return on assets (ROA) on the MFIs. However, liquidity, efficiency and NPL had no statistical significant impact on the performance (ROA) of the companies. The research contributes to literature on the studies conducted on MFIs in Ghana and practically assists in improving and enhancing their performance. This study also promotes ways on how the government and stakeholders can support MFIs for a long-term sustainability and the economic growth in the country.

Keywords: Liquidity, efficiency, capital adequacy ratio, NPL, performance, Microfinance institutions, Ghana.

Original scientific paper

Received: 19.07.2025

Accepted: 24.08.2025

Available online: 19.10.2025

DOI: 10.5937/jpmnt13-60280

1. Introduction

Microfinance is the process of giving small and micro companies access to financial services. Although not entirely new, the idea of microfinance is becoming more and more popular as a preferred means of funding small and micro firms who have opted out of traditional banking and financial intermediation networks. Millions of people worldwide receive credit services as well as other financial services from microfinance organizations (Watkins, 2018). People in desperate need can effectively escape poverty, increase their income, accumulate money, and

* Corresponding author

reduce their mortgage risks with the help of micro lending programs, savings accounts and financial services. A wide range of financial services are offered to the lower income groups in society as part of microfinance institutions. The provision of retail financial services to the underprivileged, including savings, credit, cash transfer, financial management, insurance, lending and other services, are known as some duties performed by the microfinance institutions (Alhassan & Nwagbara, 2021).

According to the World Bank (2001), microfinance is defined as using distinct methods and relatively modest financial services to address the requirements of low-income households, micro companies, small-scale farmers, and other groups that do not have access to standard banking services. Deposits, loan payments, service charges and insurance are all involved in microfinance. This financial service is aimed to give people the chance to become self-sufficient by offering a platform for saving or borrowing money, insurance and a range of financial services, such as payments and remittances. Generally speaking, the idea of MFI's is to give underprivileged people and organizations moderate sums of money so they can engage in profitable activities. Worldwide, microfinance is viewed as a development instrument because it offers financial services to the productive poor unofficial sector that lack access to capital for growth and development.

According to Bank of Ghana (2019), despite the enormous contributions of the Microfinance institution in promoting economic growth in Ghana, many fall short of expectation. In Ghana, the Bank of Ghana withdrew the licenses of 192 insolvent Microfinance businesses on May 31, 2019. Furthermore, 155 bankrupt microfinance organizations had their licenses revoked to stop operating. These actions were carried out in accordance with section 123 (1) of the Banks and Specialized Deposit-Taking Institutions Act, 2016 (Act 930), which mandates that, in cases where the Bank of Ghana determines that a bank or Specialized Deposit-taking Institution (SDI) is insolvent or likely to become so within the next sixty days, the Bank of Ghana must revoke the institution's license. The purpose of revoking these institutions' licenses is to eliminate bankrupt and dormant organizations that pose a risk to the stability of the financial system, have no realistic chance of being revived, and have refused depositors' requests to access their money.

The Bank of Ghana aimed to safeguard impacted depositors and the stability of the financial system by revoking these licenses. Given that the Microfinance industry supports Ghana's economic development, the alarming rate at which these institutions are failing calls for attention. Financial markets in Ghana were recently impacted by the unviability of some Microfinance and other financial institutions in the country, which caused the macroeconomic indicators to drop. The highest level of political and intellectual discourse continues to analyze and monitor the current economic structures, regulatory frameworks, financial systems, and policy framework that impact the performance of these institutions. This led to a thorough understanding of the necessity for suitable financial and economic indicators that affects the performance of the MFI's in Ghana (Bank of Ghana, 2019). Considering the aforementioned information, this study seeks to examine the determinants affecting the performance of MFIs in Ghana by achieving the following objectives:

- To analyse the descriptive information of the determinants affecting the performance of Microfinance institutions in Ghana
- To evaluate the impact of the determinants on the financial performance of Microfinance institutions in Ghana
- To suggest ways the Government can assist Microfinance institutions to contribute to the economy growth in Ghana.

Ghana's economy has greatly benefited from the establishment of Microfinance institutions; it is especially significant to Ghana's economic advancement. MFIs act as the engine of growth

and the driving force for development in the Ghanaian business industry by financing small and medium scale enterprises (SMEs). These firms consistently improve the success and growth of the economy. The significance of Microfinance for small and medium-sized enterprises is a contributing element in the decision making of the Ghanaian government to regulate and oversee their operations. Nevertheless, despite this, Microfinance institutions continue to face operational challenges that had led to the collapse of numerous companies. Thus, the purpose of this study is to fill a gap in literature and offer the Bank of Ghana useful insights into some factors influencing the performance of Ghana's Microfinance institutions. The remaining sections of the paper are organized as follows. The literature review is presented in section 2, and the methodology is covered in section 3. The discussion of the results is provided in section 4 and 5. The final section of this paper serves as the study's conclusion.

2. Literature overview

2.1. The evolution of Ghana's microfinance sector

In general, Microfinance is not a new financial sector in Ghana. The practice of people accumulating money and/or obtaining small loans from both individuals and organizations in the framework of self-help initiatives to launch companies or agricultural endeavors has long existed. For instance, based on the information that is currently accessible, Canadian Catholic missionaries founded the African continent's first credit union in Northern Ghana in 1955. However, one of Ghana's Microfinance programs, Susu, is believed to have started in Nigeria and moved to Ghana in the early 1900s. Many financial sector policies and programs implemented by various governments since independence have allowed the Microfinance sector to flourish and develop into its current condition over time (Ussif & Ertuğrul, 2020). There are now three main types of Microfinance institutions in Ghana as a result of the policies. They are as follows: 1. Semi-formal suppliers like credit unions, cooperatives, and rural and community banks, as well as some development and commercial banks; 2. Formal suppliers like savings and loan companies; 3. Informal suppliers like moneylenders, traders, rotating savings and credit associations (ROSCAs also known as Susu collection.), accumulating savings and credit associations (ASCAs), and other individuals. The Non-Bank Financial Institutions (NBFI) Law (PNDCL 328) has governed savings and loan companies since 1993 (Bank of Ghana, 2016).

2.2. The concept of microfinance in Ghana

Microfinance entails offering financial services to persons in low-income social groups, such as farmers, small-scale business owners, vendors, and dealers, as well as artists and producers. Microfinance is often seen as a means of combating poverty in developing nations. Given that small and medium-sized businesses are viewed as the actual drivers of the nation's economy, the government of Ghana has actively supported the expansion of Microfinance institutions. The Microfinance and Small Loans Centre (MASLOC) acts as an Apex Body supervising the operations of these institutions and is responsible for regulating them through the Central Bank of Ghana because of the government's high regard for Microfinance institutions. The actions of these two organizations have aided in the closure of numerous unlawful Microfinance institutions (Bank of Ghana, 2007). The MASLOC's responsibilities include legislation and capacity building for Ghana's Microfinance sector. Their duties are to:

- Maintain funds associated to the Ghanaian government and/or development partners in an account under trust for the purpose of managing micro and small-scale lending initiatives.

- Supply, supervise and control funds that have been authorized for Microfinance and small-scale lending, credit and programs.

Be the apex body in Microfinance, be in charge of:

- Fostering and accelerating the development of a decentralized Microfinance system;
- Cooperating, collaborating, and identifying cooperation with other non-bank financial institutions in the provision of Microfinance services;
- Coordinating and facilitating the actions of institutions and organizations in the Microfinance subsector of the economy (Bank of Ghana, 2007).

Compared to the primary banking industry, Microfinance comprises a smaller amount of deposits, loan disbursements, service fees, and insurance. By providing a platform for saving or borrowing money, insurance, and a range of financial services, including remittances and payments, it ultimately seeks to give people the chance to become self-sufficient. The idea is generally to provide underprivileged people and organizations small sums of money so they can participate in profitable endeavors. Worldwide, Microfinance is viewed as a development instrument. In particular, it is crucial to Ghana's economic development since it offers financial services to the "productive poor" in the unorganized sector who lack access to capital for expansion and improvement (Ussif & Ertuğrul, 2020).

Microfinance is viewed by governments and donor organizations as a key success in lowering poverty in developing nations. The different services offered by MFIs have been particularly advantageous to women. Advocates of MFIs believe that in addition to having a significant impact on poverty reduction, MFIs can do it in a sustainable way. In Ghana and many other developing countries, Microfinance institutions are primarily seen as vital means for progress in the fight against poverty and an excessive dependence on the national and local governments (Ussif, 2020).

2.3. Approaches of microfinance

According to Aslam & Thiagarajan (2018), the two approaches of Microfinance are:

Welfarist Microfinance approach – This approach places a high priority on borrowers' immediate well-being and poverty reduction that are frequently through donations and subsidies. This approach provides ways on empowering people, especially women, through access to small loans and savings. Microfinance organizations prioritize outreach, especially to the most vulnerable and impoverished with the goal of enhancing their own and their families' quality of life.

Institutionalist approach - MFIs must be able to pay their expenses out of their income. They attest to the fact that, self-sufficiency makes MFIs sustainable over the long term, which in turn allows for greater levels of poverty eradication. The goal of the institutionist approach is to establish financial institutions that provide services to customers that are either underrepresented or not served by the established financial system.

2.4. Concept definition

Financial performance is the evaluation of a business entity's performance, including how well it uses its resources to support its future growth and expansion. ROE and ROA were used to measure performance in this study. A company's ROE is an indicator of how well it uses the capital that its shareholders invested into the business. ROE is calculated by dividing net income by shareholders' equity. Furthermore, ROA is the ability of an organization to generate profit from its assets. ROA is calculated as company's net income divided by its average total assets (Sharma & Mittal, 2023).

2.4.1. Determinants of firm performance

CAR is defined by Gabilondo (2016) as the measure of a bank's capacity to fulfill its commitments. Alternatively referred to as the capital-to-risk-weighted assets ratio (CRAR), this ratio assesses a bank's failure risk by comparing capital to risk-weighted assets. CAR is the ratio of a bank's capital to its current liabilities and risk-weighted assets.

Efficiency ratios assess how well a business uses its resources and handles its obligations in the current period or short term. These ratios evaluate a company's capacity to manage its assets and how well it generates revenue from those assets (Sharma & Mittal, 2023).

Non-performing loan (NPL) is a loan that is in default and for which the borrower has not made any scheduled principle or interest payments for a predetermined amount of time. If a commercial debt is ninety days past due, the lender considers it as non-performing (Gosztonyi, 2023).

Liquidity is measured by the capacity of a business or firm to settle short-term debts with their accessible assets. This represents a quick glance at the company's financial situation (Sharma & Mittal, 2023).

2.5. Empirical review

2.5.1. The effect of capital adequacy ratio on the performance of firms

The aim of the study was to determine how capital adequacy affected the financial performance of Kenyan companies listed on the Nairobi Securities Exchange. This study employed a mixed research approach that combined qualitative and quantitative methods. Primary data was obtained by conducting interviews and distributing questionnaires, while secondary data was taken from the NSE database. Descriptive statistics and inferential statistics were used to analyze the data. Standard statistical methods, such as regression analysis and Pearson product moment correlation, were used. The fundamental conclusion was that capital adequacy had positive effect on the Kenyan companies listed on the NSE, and as a result, it is critical for businesses to have a strong capital basis to stay competitive and keep the trust of their clients. Making sure that businesses have enough capital is essential (Otwani, Simiyu & Makokha, 2017).

Nguyen, Nguyen & Pham (2020) conducted an empirical investigation on the impact of capital adequacy and related variables on the corporate performance of banks in Vietnam. 31 commercial banks were specifically chosen for the study from 2013 to 2018. Corporate performance was assessed using returns on average total assets (ROTA), returns on equity (ROE), and net interest margin (NIM), whilst financial leverage and capital adequacy ratios functioned as substitutes for capital adequacy in the study. Using multiple regression analysis, the study's panel data results showed that capital adequacy positively impacted the financial performance of the firms.

The impact of capital adequacy on the corporate performance of 63 listed non-financial companies in Nigeria between 2011 and 2020 were evaluated in this study. The study employed an ex-post facto research design and made use of secondary data by using multivariate regression analysis to examine the data. The study discovered that, corporate performance of firms were positively impacted by company size and debt equity ratio, but negatively impacted by cost income ratio, equity capital/total assets ratio, and capital adequacy ratio. Thus, it was determined that the two most important variables that might positively impact the corporate performance of non-financial enterprises were their size and the profitable use of loan capital in their capital structure (Ogunode, Awoniyi, & Ajibade, 2022).

H1: There is a positive correlation between capital adequacy and the performance of Microfinance institutions in Ghana.

2.5.2. The effect of efficiency on the performance of firms

This study aimed to determine how efficiency management affects Pakistani textile companies' performance between 2015 and 2019. Efficiency management, which includes the turnover of accounts payable, inventories, total assets, capital employed, cash, fixed assets, and working capital, was regarded as the independent variables. Performance on the other hand, was based by return on asset. With E-Views, the panel regression test was utilized to achieve the study's goal. The results demonstrate that a firm's performance is significantly and positively influenced by its turnover of accounts receivable, inventories, and capital employed. On the other hand, a company's performance is not significantly impacted by payable turnover, total asset turnover, fixed asset turnover, working capital turnover, or cash turnover (Idrees & Siddiqui, 2021).

Jain & Jain (2020) examined how Coal India Ltd.'s profitability is impacted by solvency, efficiency and liquidity between 2010 and 2019. This study used ordinary least square regression to analyze the data. Profitability (dependent variable) was measured by return on equity and return on assets and solvency, liquidity and efficiency were the independent variables. The study found that while liquidity had a significant impact on profitability, solvency and efficiency had no significant effect on the profitability of the firms.

This study sought to ascertain how the ratios of non-performing loans, loan to deposit ratios, and operational efficiency ratios affected ROA on banks that were indexed by Kompas100 between 2018 and 2020. Using multiple linear regression for data analysis, 8 study sample satisfy the requirements for the purposive sampling approach. According to the study's findings, non-performing loans and the loan-to-deposit ratio had positive but insignificant impact on return on assets, whereas the operational efficiency ratio has a negative but considerable impact (Sitio, 2024).

H2: There is a positive correlation between efficiency and the performance of Microfinance institutions in Ghana.

2.5.3. The effect of liquidity on the performance of firms

Sudiyatno & Suwarti (2022) investigated the relationship between liquidity and business performance for Indonesian manufacturing companies. Performance was the dependent variable in this study and the independent factors were capital structure and company size. Operational assets served as the control variable and liquidity served as the moderating variable. Purposeful sampling was employed to gather data from 123 manufacturing organizations between 2019 and 2021. Multiple regression analysis was used for the data analysis. The results showed that whereas operational assets and firm size were positively correlated with business performance, liquidity negatively correlated with firm performance.

The study conducted by Arthur-Sam, Seddighi, and Osseo-Asare Jr. (2024) examined the impact of financial characteristics on the performance of firms that are listed in Ghana. The research utilized a quantitative approach that included casual and correlation research design. Firm performance was determined by return on assets (ROA), which took into account financial characteristics like leverage, liquidity, and business activity. Leverage and business activity showed a significant positive correlation with performance. But there was no statistically significant relationship found between liquidity and performance. Additionally, the performance of the corporation was positively impacted by leverage, liquidity, and business activity.

This research examined the impact of leverage and liquidity on the financial performance of 120 Community and Rural banks in Ghana. Liquidity and financial leverage served as the independent variables, and ROE was used as the proxy for bank's performance. The data was analyzed using multiple regression and Pearson correlation by SPSS. According to the study's

conclusions, there was no statistically significant relationship between leverage and performance; liquidity and performance had a positive relationship; and both leverage and liquidity had a statistically significant positive effect on the performance of the banks (Arthur-Sam, 2024).

H3: There is a positive correlation between liquidity and the performance of Microfinance institutions in Ghana.

2.5.4. The effect of NPL on the performance of firms

The research explored the effect of non-performing loans on the performance of Nigerian commercial banks from 2000 - 2013. The impact of non-performing loans, loan loss provisions, loans, and advances on the ROE and ROA of the banks was explicitly ascertained from the annual reports and accounts. Ordinary least squares and ratio analysis were used to analyze the data. The investigation specifically revealed that while return on equity and return on asset had a positive correlation with loans and advances, they had an inverse relationship with non-performing loans and loan loss provisions respectively. Thus, it can be concluded that non-performing loans had an adverse impact on the performance of commercial banks, which should not be undervalued. Furthermore, these loans represent a serious threat to the banks' existence as corporate businesses (Ozurumba, 2016).

Odebode, Ishioro & Ezi (2024) assessed the impact of non-performing loans on the return on assets of commercial banks in Nigeria. Panel least square analysis with annual time series was employed on the secondary data from 2010 to 2021 from the Central Bank of Nigeria Statistical Bulletin and annual financial reports. The results indicated that loan loss provisions had an adverse influence on the ROA of the selected commercial banks, whereas interest rates had a positive effect. The study recommends that the chosen commercial banks adopt an effective credit policy, modify lending terms, and convert in order to lessen the negative effects of loan defaults.

The impact of non-performing loans (NPL) on the African banks' profitability was investigated in this study. ROE was used as the profitability metric to further examine the macroeconomic indicators and bank-specific factors affecting the profitability of the African banks. Stata statistical software was used to analyze the panel data estimate framework for the 26 African nations from 2017 to 2023. The research employed regression analysis, correlation, and descriptive statistics. Utilizing the fixed effect model, the study's conclusions indicated that the profitability of the African banks was negatively impacted by NPL, liquidity, operating efficiency, and net interest margin. According to the results of the expanded model of the non-bank specific factors, the profitability of African banks was negatively impacted by GDP, and inflation significantly had a positive impact on ROE while the exchange rate was not significant using the random effect model (Arthur-Sam, 2025).

H4: There is a negative correlation between non-performing loan and the performance of Microfinance institutions in Ghana.

3. Materials and methods

3.1. Research design

Descriptive and casual research design was used for this study. Descriptive statistics is focused on outlining the features of the available data. Measures of variability and measures of central tendency are the two categories of descriptive statistics. In casual research, the cause-and-effect relationship among study variables is established. This design aids in determining

whether or not the independent values significantly affect the dependent variables (Singh, 2022).

3.2. Study population

According to the Bank of Ghana Annual Report (2023), there were 177 Microfinance institutions in Ghana so, the study considered 133 MFI's as the sample size for the analysis due to the available of data.

3.3. Method of data analysis and estimation techniques

The dependent variables were ROA and ROE and the independent variables were liquidity, efficiency, CAR and non-performing loan. Singh (2022) explained that, a variable that must be explained is called a dependent variable. However, an independent variable is the one that is altered or changed in an experimental study to investigate its effects. The data for the research was analyzed into descriptive statistics which includes the mean, median, standard deviation and mode. Multiple regression was utilized to evaluate the impact of the independent variables on the performance of the MFIs. The data for the study was accumulated from the financial statements of the MFIs and the Bank of Ghana. The data gathered from the fieldwork were analyzed by statistical package for social science (SPSS) data analysis tool. This paper applied Linear Regression Models in order to test the propose hypothesis on the determinants affecting the performance of Microfinance institutions in Ghana. The regression model is explained in the equation (1) below.

$$Y = b_0 + b_1LQTY + b_2EFF + b_3NPL + b_4CAR + ui \quad (1)$$

where

Y = Performance (ROA and ROE)

bo = intercept

b₁, b₂, b₃ and b₄ are coefficients

ui = stochastic term

Table 1. Variable definitions and descriptions

Dependent Variable	Formula terms
Return on equity (ROE)	Profit after tax / Shareholders' equity
Return on Assets (ROA)	Profit after tax / Total Asset
Independent Variable	
Liquidity (Current Ratio)	Current asset / Current liabilities
Capital Adequacy Ratio	Equity / Total asset.
Efficiency (Asset turnover ratio)	Net sales / Average total asset
Non-Performing Loan (NPL)	Gross value of loan / total value of loan

Source: Author's computation (2025)

4. Results

Table 2. Descriptive statistics

	N	Minimum	Maximum	Mean	Std Deviation
Liquidity	133	-1.0954220	1.0197230	.209355332	.2378417418
Efficiency	133	.0089190	.3593060	.132992777	.0609116318
NPL	133	.0007	.5132	.074325	.0861575
CAR	133	.0016930	1.4017550	.161239704	.1731470691
ROE	133	-.0756910	.1205070	.025965749	.0237744456
ROA	133	-.6030	1.1678	.191434	.1888408
Valid N	133				

Source: Author's computation (2025)

The table shows the detail account of the descriptive statistics for the dependent and independent variables respectively (ROE, ROA, capital adequacy ratio, liquidity, efficiency, NPL). On average, during the period of the study, the ROE and ROA have a mean value of .025965749 / .191434 respectively. Liquidity recorded an average of .209355332; also the efficiency recorded an average value of .132992777, CAR recorded .161239704 while NPL mean stood at .074325. Amongst the Independent variables, liquidity had the highest standard deviation of .2378417418 signifying more volatile and less predictable in the performance of the MFIs. NPL had the lowest standard deviation which suggests a predictability in the institutions' performance. Finally, the maximum observation value of liquidity is 1.0197230, efficiency is .3593060, NPL is .5132, CAR is 1.4017550, ROE is .1205070 and ROA is 1.1678. These are the highest values on the data set.

4.1. Regression results

The model of performance was measured by ROA and ROE where performance was used as the dependent variable with liquidity, NPL, capital adequacy and efficiency as the independent variables.

4.2. Diagnostic testing (ROE)

The fundamental assumptions used for this study were based on the (P-P plot and histogram normality test), and multicollinearity. The majority of the scores were found to be in the center, along the diagonal line, as shown in Figure 1. An observation is considered normal when the majority of the scores closely align with the diagonal line (Pallant, 2020).

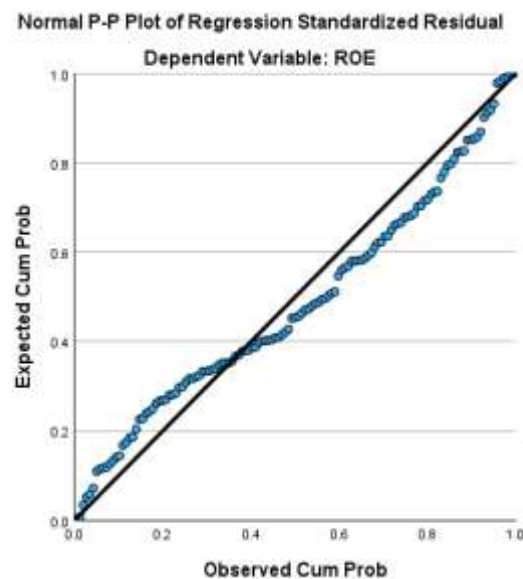


Figure 1. P-P plot of normality
Source: Author's computation (2025)

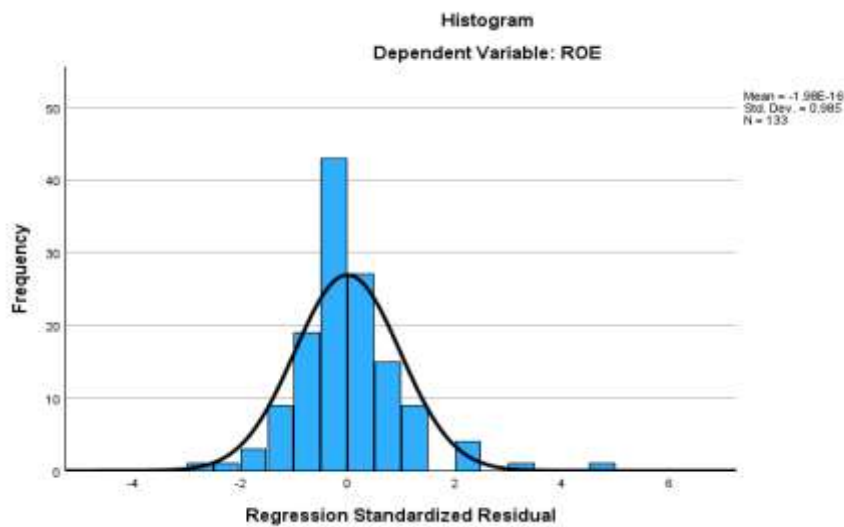


Figure 2. Histogram graph of normality test
Source: Author's computation (2025)

The histogram in Figure 2 shows that the scores were normally distributed which means that data gathered follows a normal distribution. Histogram normality assumption was conducted to support the P-P plot and Multicollinearity (Tolerance and Variance Inflation Factor = VIF) test.

Table 3. Microfinance regression model with performance as dependent variable (ROE)

Model 1	Unstandardized coefficients		Standardized coefficients	T	Sig.	Collinearity statistics	
	B	Std. error	Beta			Tolerance	VIF
(Constant)	-.002	.003		-.798	.426		
Liquidity	.088	.004	.876	21.437	.001	.942	1.061
Efficiency	.083	.016	.212	5.175	.001	.934	1.071
NPL	-.004	.012	-.013	-.317	.752	.894	1.119
CAR	-.007	.006	-.48	-1.177	.241	.950	1.053

Source: Author's computation (2025)

Table 4. ANOVA

Model	Sum of squares	Df	Mean square	R Square change	F	Sig.
Regression	.060	4	.015		126.835	.001
Residual	.015	128	.000	.799		
Total	.075	132				

Source: Author's computation (2025)

Table 5. Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.894	.799	.792	.0108366149

Source: Author's computation (2025)

Predictors: (Constant), CAR, LIQUIDITY, EFFICIENCY, NPL *significant level at $p < .05$,
Dependent Variable: ROE.

From the Table, there is a significant correlation between performance and the independent variable with coefficient of correlation $R = 0.894$ and at the same time, the coefficient of determination $R^2 = 0.799$. This means that the percentage variations in the performance are explained by changes in the independent variables by 80%. Only 20% of the variation in the performance is not explained by liquidity, NPL, capital adequacy and efficiency. The summary of Analysis of Variance and F-statistics, which reveals the value of $F = 126.835$ is significant at the 0.001 level. Since the F value is large, the identified variables contribute greatly to the variance on the performance of the Microfinance institutions. The regression analysis in the table reveals that the percentage of ROE and the four independent variables are significantly connected with the correlation coefficient $R = 89\%$. The table reports the percentage of the model of ROE with the coefficient of determination $R^2 = 80\%$. Tolerance and Variance Inflation Factor (VIF) are used to test the multicollinearity. The results show that the tolerance values were not less than .10, which is an ideal result. The VIF statistics also met the acceptable standards, which states that VIF values must be lower than 10 (Pallant, 2020). It is obviously that no multicollinearity problem exists because both the tolerance and variance inflation factor results satisfied the necessary cut-off values.

4.3. Diagnostic testing (ROA)

The assumptions used for the study were the (P-P plot and histogram normality test) and multicollinearity. It was found that the majority of the scores are in the center, along the diagonal line, as shown in Figure 3. According to Pallant (2020), an observation is considered normal when the majority of the scores closely match the diagonal line.

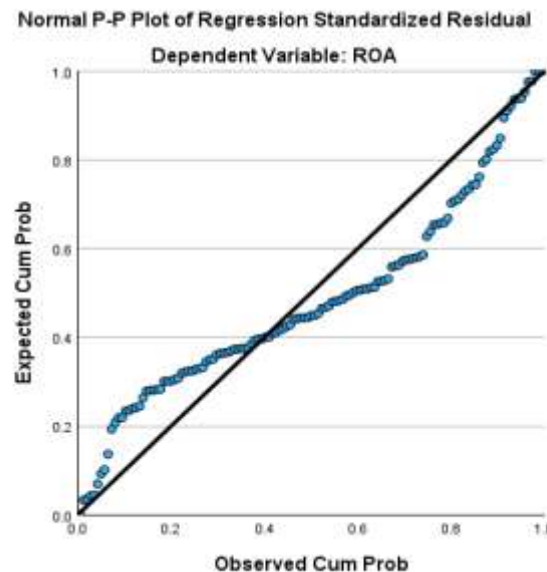


Figure 3. P-P plot of normality
Source: Author's computation (2025)

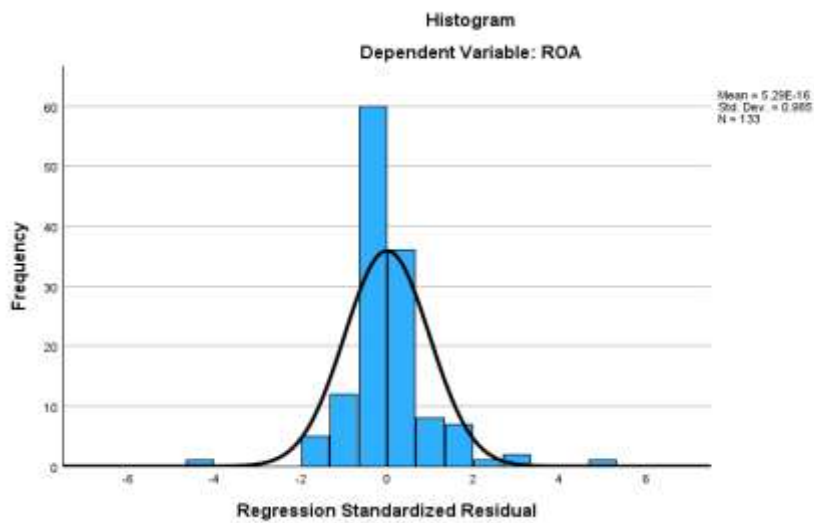


Figure 4. Histogram graph of normality test
Source: Author's computation (2025)

Figure 4 presents how the histogram scores were normally distributed which means that data gathered follows a normal distribution. Histogram normality assumption was conducted to support the P-P plot and Multicollinearity (Tolerance and Variance Inflation Factor = VIF) test.

Table 6. Microfinance regression model with performance as dependent variable (ROA)

Model 2	Unstandardized coefficients		Standardized coefficients	T	Sig.	Collinearity statistics	
	B	Std. error	Beta			Tolerance	VIF
(Constant)	.181	.044		4.068	.001		
Liquidity	.022	.070	.028	.317	.752	.942	1.061
Efficiency	.011	.276	.004	.004	.968	.934	1.071
NPL	-.364	.199	-.166	-1.825	.070	.894	1.119
CAR	-.195	.096	-.179	2.031	.044	.950	1.053

Source: Author's computation (2025)

Table 7. ANOVA

Model	Sum of squares	Df	Mean square	R Square change	F	Sig.
Regression	.249	4	.062		1.784	.136
Residual	4.459	128	.035	.053		
Total	4.707	132				

Source: Author's computation (2025)

Table 8. Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
2	.230	.053	.023	.1866370

Source: Author's computation (2025)

Predictors: (Constant), CAR, LIQUIDITY, EFFICIENCY, NPL *significant level at $p < .05$,
Dependent Variable: ROA

The coefficient of determination of ROA model above indicated that 53% of the variation in ROA is explained by liquidity, efficiency, NPL and capital adequacy. 47% of the variation in the ROA is not explained by the independent variables. Additionally, the analysis of the study reveals that the F value (1.784) is not significant at 0.136 level. As the F value is small compared to the First value, the independent variables do not contribute to the variations of the performance in the Microfinance institutions. The regression analysis in the table reveals that the ROA and the four independent variables are significantly connected with the correlation coefficient $R = 0.230$ and the model of ROE with the coefficient of determination $R^2 = 0.053$. The results show that the tolerance values were not less than .10, which is an ideal result. The VIF statistics also met the acceptable standards, which states that VIF values must be lower than 10 (Pallant, 2020). It is obviously that no multicollinearity problem exists because both the tolerance and variance inflation factor results satisfied the necessary cut-off values.

5. Discussions

5.1. The impact of liquidity, efficiency, NPL and CAR on ROE

This research evaluated the determinants affecting the performance (ROE) of Microfinance institution in Ghana. The following findings were gathered from the data accumulated from the fieldwork. Liquidity and efficiency have statistically significant impact on the performance (ROE) of the Microfinance institutions. This is explained because the independent variables have significant values below 0.5. The independent variables (liquidity and efficiency) have an effect on the dependent variable at ($\beta = 0.876$ and 0.212) for the standardized beta values. Liquidity and efficiency are shown to have a positive significant effect on the ROE of the firms. The unstandardized coefficient is ($\beta = .088$, $p = .001 < .05$), indicating that the firm's ROE will increase by .088 for every unit increase in liquidity. In addition, efficiency has ($\beta = .083$, $p = .001 < .05$) which means that the firm's ROE will increase by .083 for every unit increase in efficiency. This finding is in line with Arthur-Sam (2024) who found out that liquidity had a statistically significant positive effect on the performance of the Rural and Community banks in Ghana. This is also contrary to the findings of Arthur-Sam (2025) who explained that liquidity had a negative impact on the profitability of banks in Africa. This finding of the efficiency on the performance of Microfinance institutions is in line with Idrees & Siddiqui (2021) who demonstrated that companies' performance is positively and significantly influenced by efficiency ratios. This is also contrary to Sitio (2024) who found out that the efficiency ratio had a negative effect on the profitability of the companies.

NPL and CAR have no statistically significant impact on the performance of the Microfinance institutions. This is explained that the independent variables have significant values above 0.5. The independent variables have no effect on the dependent variable at ($\beta = -.013$ and -0.48) for the standardized beta values. NPL and CAR have negative significant effect on the ROE of the firms. The unstandardized coefficient is ($\beta = -.004/-0.007$, $p = .752 / .241 > .05$) where means that the company's ROE will be decrease by -.004 and -.007 for unit increase in the NPL and CAR. The finding from the NPL was consistent to that of Ozurumba (2016) who explained that non-performing loans had a negative effect on the performance of commercial banks in Nigeria. In a similar manner CAR has negative effect on the performance of the Microfinance institutions which is not in line with Ogunode, Awoniyi, & Ajibade (2022) and Nguyen, Nguyen & Pham (2020) who discovered that the corporate performance of firms were positively impacted by capital adequacy.

5.2. The Impact of liquidity, efficiency, NPL and CAR on ROA

In analyzing the determinants that affect performance of the Microfinance institutions, liquidity, efficiency and NPL were not statistically significant to the performance (ROA) of the firms. This result is consistent to the following researchers. Banafa, Muturi & Ngugi (2015) conducted a study on the liquidity factor on the performance of listed non-financial firms in Kenya and came out with the findings that liquidity had no significant impact on the performance of the firms. Again, efficiency ratio has no significant effect on the performance of the Microfinance institutions. This finding is consistent to Jain & Jain (2020) who indicated that efficiency ratio had no substantial effect on the profitability of the firms.

Additionally, the study found no significant effect of NPL on the performance of the Microfinance institutions. This result is consistent to Kathuri (2022) who came out with the findings that, NPL had non-significant impact on the financial performance of the deposit taking Microfinance Institutions in Kenya. Lastly, the study found a positive significant effect of CAR on the performance of the Microfinance Institutions. This explains that, the unstandardized coefficient is ($\beta = .195$, $p = .044 < .05$), indicating that the firm's ROA will increase by .195 for every unit increase in CAR. In a similar study, Nguyen, Nguyen & Pham (2020) found out that capital adequacy positively impacted the financial performance of the commercial banks in Vietnam.

6. Conclusion

The study concluded that: Efficiency and liquidity have significant positively impact on the performance (ROE) of the firms. NPL and CAR has no statistically significant effect on the performance (ROE) of the Microfinance institutions. Furthermore, the study discovered that CAR had a positive effect on the performance (ROA) of the Microfinance institutions. However, NPL, efficiency and liquidity had no statistically significant impact on the companies' ROA. The following recommendations are offered in light of the study's findings:

In a nutshell, the study discovered that Liquidity and efficiency have positive effect on the performance of MFIs. Based on this finding, MFIs must maintain the efforts in meeting short-term debt obligations while maintaining strategic financial resilience. In addition, efficiency must also be managed careful to know how well the firm uses its resources, evaluate the capacity to manage its asset and how it generates revenue from the firm's assets. A positive impact of the CAR on the performance means that a higher CAR is related to sound financial consequences for the MFIs. This explains why MFIs must have good CAR to handle risks, absorb possible losses, and continue operating, which can result in higher stability and profitability.

To encourage more MFIs, the government should assist MFIs in their operations by providing technical guidance, training, and rewards for those that achieve success. This is due to the fact that the activities of these MFIs contribute greatly to the reduction of poverty, provide jobs and generate tax income for the country's growth. The Parliament of Ghana established a new law for MFIs in September 2016 in order to prevent customers from losing their investments and funds with MFIs when they are not performing well (Bank of Ghana, 2016). This law mandates that all deposits and savings of MFI clients be insured. Given the significance of this regulation and the potential harm to customer's assets, the researcher advises that its requirements be vigorously enforced to make sure that MFIs do not violate it in order to protect the funds of the innocent customers. Microfinance institutions must be vigilant in order to provide credit funds such as loans to customers who have the capability of paying it off and also provide a mandate to customer to present collateral security before given out loans to them to reduce the default of loans such as NPL among its customers which collapsed many Microfinance institutions in 2019. MFIs should set up systems to help customers become more

proficient in business. They should also remain true to their main goals. For their employees to be more competent in providing effective service delivery, MFIs should invest in the staff training and development at all levels, from senior to junior managers.

To conclude, the motivation of this research informs stakeholders in the microfinance sector about the determinants affecting their performance. It is useful to know how these factors affect MFIs in order to implement policies that would accomplish their objectives. As a result, this study will help policymakers understand how to enhance the performance of MFIs in Ghana. This is due to the fact that MFI's performance is impacted by the factors examined in this research. The study provides insights on the benefits of Microfinance Institutions in Ghana by improving the lives of their beneficiaries, offering services to the general public and the underprivileged. The contributions of MFIs include funding, jobs, community development, capacity building and women's empowerment.

6.1. Implication of the study for theory and practice

The implications of the study provide indication for theory and practice. In theory, this study is relevant since it will contribute to academic literature and fill a gap in literature by providing new findings and simultaneously examining four determinants affecting the performance (ROA and ROE) of MFI's that have not been investigated in Ghana. The main scientific contribution of this study provides new knowledge on the factors that affects the performance of 133 MFIs which has no or limited studies conducted in Ghana.

Practically, Microfinance institutions play a crucial role in the growth of economies to reduce poverty and it is noteworthy that a number of important stakeholders are involved in the Microfinance to expand their capital and value chain. The study throws more light on the need for the Bank of Ghana and regulatory agencies in developing policies that can promote the sustainability and growth of the MFIs. This will assist the government pinpoint the obstacles MFIs encounter while trying to improve the financial inclusion of Ghanaians. The study can assist managers and decision-makers in MFIs with informed decisions on how to enhance the performance, products, and services of their organization. Therefore, conducting a study on the determinants affecting the performance of MFI's is justified and this will aid shareholders in making effective and useful decisions on the growth of the company. In a nutshell, this study will enable investors to project other determinants affecting the growth and performance (ROA and ROE) of the Microfinance Institutions in Ghana.

6.2. Limitations and future research

The study was limited to four determinants so future studies could cover other determinants that affect Microfinance institutions in Ghana and also investigate the causes of rewinding up of many MFIs in their early years of operation. In addition, Future research studies can use the conclusions of this study to serve as a source of reference in conducting research study on the challenges faced by these microfinance institutions in their daily operations in Ghana as well as the opportunities they can explore in the Ghanaian business industry.

References

- Alhassan, Y., & Nwagbara, U. (Eds.). (2021). *Microfinance and sustainable development in Africa*. IGI Global.
- Arthur-Sam, J. (2024). Analyzing the Impact of Liquidity and Financial Leverage on the Performance of Rural and Community Banks in Ghana. *International Journal of Applied Research in Business and Management*, 5(2).

- Arthur-Sam, J. (2025). The Effect of Non-Performing Loans on the Profitability of Banks in Africa. *International Journal of Applied Research in Business and Management*, 6(1).
- Arthur-Sam, J., Seddighi, H. R., & Osseo-Asare Jr, A. (2024). Assessing the Impact of Financial Characteristics on the Performance of Ghana Club 100 Companies. *Technium Business and Management*, 8, 96-106.
- Aslam, M., & Thiagarajan, S. K. (2018). Microfinance: A Review On institutionalist And Welfarist approach. *Research Journal of Social Science & Management*, 8(08), 25-31.
- Banafa, A. S., Muturi, W., & Ngugi, K. (2015). *The liquidity factor on financial performance of listed non financial firms in Kenya*.
- Bank of Ghana. (2007). *A Note on Microfinance in Ghana. The microfinance sector in Ghana within the context of its potential for growth and development*.
- Bank of Ghana. (2007). *A Note on Microfinance in Ghana'*, Working Paper Series WP/BOG-2007/01.
- Bank of Ghana. (2016). *Bank and Specialized Deposit-Taking Act 930 Institutions Act*.
- Bank of Ghana. (2019). *Annual Report and Financial Statement of the Bank. Notice of Revocation of Licences of Insolvent*.
- Bank of Ghana. (2023). *Annual Report and Financial Statement of the Bank. Development in the Ghanaian Economy*, Accra (www.bog.gh).
- Gabilondo, J. (2016). *Bank funding, liquidity, and capital adequacy: a law and finance approach*. Edward Elgar Publishing.
- Gosztonyi, B. (2023). *Non-Performing Loans, Non-Performing People. Life and Struggle with Mortgage Debt in Spain*.
- Idrees, M. W., & Siddiqui, A. A. (2021). The Impact of Efficiency Management on The Profitability of The Firms: Textile Composite Sector. *Journal for Business Education and Management*, 1(2), 75-97.
- Jain, J., & Jain, R. (2020). Impact of Solvency, Liquidity and Efficiency on profitability: A case study of Coal India Ltd. *An International Bilingual Peer Reviewed Refereed Research Journal Impact*, 7(27), 32-38.
- Kathuri, P. (2022). *Effect of Non-performing Loans on Financial Performance of Deposit Taking Microfinance Institutions in Kenya* (Doctoral dissertation, University of Nairobi).
- Nguyen, A. H., Nguyen, H. T., & Pham, H. T. (2020). Applying the CAMEL model to assess performance of commercial banks: empirical evidence from Vietnam. *Banks and Bank Systems*, 15(2), 177-186.
- Odebode, O. K., Ishioro, B. O., & Ezi, C. T. (2024). Effects Of Non-Performing Loans on Return On Assets Of Selected Commercial Banks In Nigeria. *International Journal of Advanced Economics*, 6(2), 12-25.
- Ogunode, O. A., Awoniyi, O. A., & Ajibade, A. T. (2022). Capital adequacy and corporate performance of non-financial firms: Empirical evidence from Nigeria. *Cogent Business & Management*, 9(1), 2156089.
- Otwani, M. N., Simiyu, G. N., & Makokha, E. N. (2017). Impact of capital adequacy on the financial performance of companies listed on the Nairobi Securities Exchange in Kenya. *International Journal of Social Sciences and Information Technology*, 3(9), 2506-2513.
- Ozurumba, B. A. (2016). Impact of non-performing loans on the performance of selected commercial banks in Nigeria. *Research Journal of Finance and Accounting*, 7(16), 95-109.
- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. Routledge.
- Sharma, F. C., & Mittal, R. (2023). *Financial management*. SBPD Publications.
- Singh, K. K. (2022). *Research methodology in social science*. KK Publications.
- Sitio, N. (2024). The Impact of Non-Performing Loan, Loan to Deposit Ratio, and Operational Efficiency Ratio on Return on Asset. *Journal Management*, 14(1), 16-32.

- Sudiyatno, B., & Suwarti, T. (2022). The Role of Liquidity in Determining Firm Performance: An Empirical Study on Manufacturing Companies in Indonesia. *European Journal of Business and Management Research*, 7(6), 183-188.
- Ussif, R. (2020). Microfinance institutions challenges in poverty and unemployment reduction in Ghana. *International Journal of Engineering and Information Systems*, 4(7), 114-123.
- Ussif, R., & Ertuğrul, M. (2020). Overview of microfinance institutions and the Ghanaian economy. *International Journal of Innovative Science and Research Technology*, 5(5), 1680-1690.
- Watkins, T. A. (2018). *Introduction to microfinance*. World Scientific.
- World Bank. (2001). *The Microfinance Revolution Sustainable Finance for the Poor*. The World Bank, Washington, D.C. Open Society Institute, New York.

© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

