

# MICROFINANCE BANKS CHARACTERISTICS AND CREDIT RISK OF MICROFINANCE BANKS IN KENYA

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**Abstract:** The study sought to determine the effect of bank characteristics on the credit risk of Kenyan microfinance banking institutions was done. The research was anchored by agency theory and adverse selection theory. The adoption of a causal research design was eminent to analyze thirteen banks for the period 2015 to 2021 based on the census approach. The study outcomes were arrived at using secondary data obtained under the guidance of the secondary data collection schedule. The output of the analyzed investigation demonstrated that capital levels had an inversely significant effect on credit risk; liquidity also significantly inversely affected credit risk with bank size positively affecting the credit risk of microfinance banks significantly. The recommendation amongst which included that the microfinance banks' management in Kenya should strengthen banks' liquidity measures to allow for loans that are non-performing hence, lowering the risk associated with such intermediation function of the Kenyan microfinance banks.

**Keywords:** Capital Level, Liquidity, Bak Size and Credit Risk.

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## 1. INTRODUCTION

### 1.1 Background of the Study

Globally, the crucial drivers of any nation's economic progress are the banks. Banks provide credit and deposit services to help businesses conduct business. Due to the widespread adoption of banking technologies and significant financial sector advancements globally, the banking industry has undergone rapid growth and expansion. This has resulted in a diversification of products and services beyond traditional loans and deposit services, such as foreign banking, credit card use, payroll accounting, and data processing (Mwangi, 2016). Microfinance provides low-income and disadvantaged individuals with availability to banking resources through traditional formal banking institutions by organizing products and solutions into small-scale units. Microfinance is a tool that can be employed to alleviate hardship; but, to do so, cost of capital must equal supplies. It should be underlined that a lucrative microfinance industry is required to sustain a sustainable microbanking system. Lower profits diminish MFIs' ability to absorb unfavorable financial events, putting their viability at risk (Ndegwa, 2018). With an estimated outstanding debt of \$36.8 billion in 2018, South Asia is the second-largest creditor. With loans totaling \$48.3 billion or 44% of the whole microfinance bank sector's portfolio growing 5% yearly on average since 2012 for South America and the Caribbean alone. In 2018, the region had a customer base of 22.2 million, making it the second-largest in terms of borrower numbers. However, there was a slight decrease (-0.3 percent) in this figure after years of continuous growth. In terms of rural areas, Latin America and the Caribbean still have relatively low levels of microfinance penetration. The Microfinance Barometer (2019) reports that only 23% of the customers served by

microfinance banks in this region come from rural areas, indicating a relatively low focus on rural outreach compared to other regions.

The microfinance banks have experienced a consistent annual growth rate of over 10% in the Sub-Saharan Africa (SSA) region, for the last twenty years (Chikalipah, 2017a). The microfinance industry's exceptional expansion is the result of a dismal situation: most financial institutions, if not all, have consistently failed to provide finance assistance to the poor in communities. Not only is credit a principal tool of expenditure stabilizing amongst some of the poor in the SSA area, but it is also the sector that is gradually establishing the foundation of banking services. For instance, from 2010 and 2015, bank-provided agriculture microfinance increased by 400% in terms of availability (Kuwekita *et al.*, 2015). Furthermore, with over 100 million registered microfinance customers in the SSA, financial services are the largest developing sector of microfinance banking (Jack and Suri, 2014). There are more microfinance transactions than bank accounts in several countries, such as Ghana, Zambia, Gabon, Chad, Burundi, Guinea, Kenya, Zimbabwe, Liberia, Tanzania, Rwanda, Swaziland, Uganda, Cameroon, and Lesotho (Asongu, 2015).

The CAMEL Framework, originally developed by the International Monetary Fund (IMF) and Basel Committee on Banking Supervision (BCBS), has been historically employed by the Central Bank of Kenya (CBK) as a standard evaluation tool for banks globally (Kalunda, 2015), in which Bank qualities such as management efficiency, liquidity, earnings/profitability, asset quality and capital adequacy are used to ascertain a bank's monetary sustainability. Despite the controller's efforts, Kenya's banking system has faced difficulties, with some banks collapsing and others being placed under receivership (CBK, 2016). Kenya's Central Bank uses the CAMEL grading system to assess the sustainability of banking Banks (CBK, 2016). The majority of institutions that collapsed during the financial meltdown of 2007/2008 did so because they lacked the necessary financial fortitude to withstand losses induced by the decline (Kagecha, 2014).

## 1.2 Statement of the Problem

In Kenya, microfinance banks provide a key position in financial improvement. They finance or offer specialized assistance to low-income communities for business growth. Micro credit, investments and other bank packages, capital inflows and transactions, payment systems, coverage, or any other commercial banks' finance products or operation that will not always provide to low-income consumers in the banking system are among the facilities provided (Kisengo, 2014). In light of this, giving microfinance loans to poor people necessitates experiencing credit risks. In the microfinance industry, credit risks are frequently magnified, owing to two key factors; one is lenders' absence of a security promise and two, disparity of knowledge among financial intermediaries (Chikalipah, 2018).

According to the Bank Supervisory Report (2018), Kenya has experienced substantial bank problems as a result of some reasons, including undercapitalization, bank corporate governance faults, and, most importantly, high credit risk levels. Furthermore, the CBK stated that credit risk increased by 32%, or Ksh.13 billion, from Ksh.9.8 billion in 2019 to Ksh.9.9 billion in 2019, with an 11 percent drop in portfolio loan interest to Ksh.9.9 billion in 2019 from Ksh.11.2 billion in 2019. This resulted in a 219 percent increase (Ksh.1.7 billion) in microfinance banks' provision for loan impairment, up from Ksh.539 million in 2019. Credit risk issues have had an adverse impact on the operations of microfinance institutions. Notwithstanding, the implementation of CAMEL by Kenya's banking sector, the degree of credit risk in Kenya has been steadily increasing as noted by the CBK Supervision Report (CBK, 2016). The proportion of NPLs to total loans gross climbed from 4.59% in 2012 to 5.05% in 2013, 5.46% for 2014, 5.99%, and 7.82% in 2015, and 2016 (World Bank report, 2017). Notwithstanding the application of the risk of credit processes intended to reduce the risk of lending, banks consistently report large amounts of assets that are non-performing on their balance sheets (World Bank, 2017).

Research has been conducted on Bank characteristics and credit risk. Astawa and Rahayu (2019) goal was to investigate and describe how capital adequacy affects credit risks. Capital adequacy has a large and favorable impact on credit risk. Mennawi (2020) examined the impacts of bank characteristics on the profits of Sudanese Islamic banks from 2008 to 2018. Using the panel regression approach of research on 13 banks, the results revealed that leverage, credit, and liquidity risk all had inverse and significant effects on performance. Mbekomize and Mapharing (2017) looked into the characteristics of commercial banks in Botswana that determine profitability. Reports from the Bank of Botswana provided secondary data. Results found a significant connection between variables. These studies were carried out on banks outside Kenya, and therefore the result does not apply to Kenya. In Kenya, the majority of the study was conducted on commercial banks, Ngungu and Abdul (2020) examined the bank characteristics' impacts on NPLs, and the outcome showed a substantial impact on variables. Nyabaga and Matanda (2020) looked at bank characteristics' effect on non-performing loans, with a focus on commercial banks listed on the NSE from 2010 - 2018. The study found mixed results with the variables used. In

addition, the previous study used a different research design and methodology, Ngaira and Miroga (2018) considered the liquidity effect on the credit risk of 11 Kenyan commercial banks that are publicly traded. The data collection instrument was questionnaires, outcome showed a beneficial impact. However, few studies have concentrated on Kenyan microfinance banking establishments and one thing studies lacked in common was a moderating variable.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

This study seeks to assess the effect of bank characteristics on credit risk of microfinance banks in Kenya

#### **1.3.2 Specific Objectives**

- i. To evaluate the influence of capital level on credit risks of microfinance banks in Kenya
- ii. To investigate the impact of liquidity on credit risks of microfinance banks in Kenya
- iii. To ascertain the effects of bank size on credit risks if microfinance banks in Kenya

## **2. LITERATURE REVIEW**

### **2.1 Theoretical Review**

Agency Theory was initially put out in 1976 by Meckling and Jensen. This idea is widely accepted in the corporate governance literature and is based on sound economic reasons. According to Daily, Dalton, and Canella (2003), two key factors contribute to the prevalence of this hypothesis. The very first is that since the organization is reduced to just two primary participants—executives and stockholders. The self-interestedness hypothesis, which is a generally accepted theory that asserts that people are self-interested, is the second point. This hypothesis suggests that managers who are also agents may put their interests ahead of those of their employers. Agency theory explains the issues that arise when an agent does not prioritize the principal's best interests and disregards their interests, which results in agency problems.

Adverse Selection Theory is prominent in financial literature. In 1993, Pagano and Jappelli proposed a model that information sharing increases the number of debtors while lowering default rates. Additionally, there is now more cash accessible for lending. Nevertheless, lending is occasionally decreased when banks engage in monopolistic behavior. This is so that borrowing to both those who show up to be dangerous debtors and those who show up to be protected debtors increases as a result of the transfer of information, but the upsurge in borrowing to people who seem to be protected borrowers is insufficient to make up for the decline in the percentage of high-risk borrowers. Borrowing markets are more ready to expand when credit markets are competitive because competition increases a bank's ability to collect rents from its clients, which makes the transfer of information across banks more competitive (Jappelli& Pagano, 2003). By enhancing client welfare and boosting profits, banks have figured out how to grow Pareto (Pagano, 2001).

### **2.2 Empirical Review**

#### **2.2.1 Capital Level and Credit Risk**

Oduora, Ngokab, and Odongoba (2017) unraveled the link capital adequacy has with credit risk in Africa. A total of 167 African banks were surveyed from 2000 to 2011, and 145 banks from 23 different African countries did so between 2007 and 2013. The NPL ratio was used as a stand-in for the soundness of the financial position. The results show that small banks, except for major banks, financial stability was directly and significantly impacted by capital adequacy, which means that financial instability in Africa will be caused by small banks' capital. The study's scope was excessively broad, and the countries it examined were not disclosed. The study observed 23 African nations commercialized banks, but this study observed Kenyan Microfinance banking establishments.

The research of Suka, Toby, Momodu, and Imeji (2019) examines how credit risk in Nigeria is impacted by capital adequacy standards. The research used a quasi-experimental approach with Nigeria's 15 publicly traded commercial banks, encompassing the period from 1989 to 2015, as compiled by the Nigerian Stock Exchange (NSE). 5 capital adequacy indicators were used as stipulated in Basel III rules, credit risk. Credit risk and capital adequacy are two important factors to consider. Based on E-views version 9.0, the multivariate regression technique was outlined and results were achieved. The co-integration result reveals that credit risk and capital adequacy have a long-run equilibrium connection. The VAR result demonstrates that capital adequacy measures have a statistically significant impact on changes in credit risk. The research used requirements of capital adequacy binder Basel III, this survey used the requirements under CAMEL. The study also used a multivariate regression technique, this study used a panel regression technique.

Astawa and Rahayu's (2019) goal is to investigate and describe how capital adequacy affects credit risk. A total of 43 people were included in the survey, including 31 commercial banks as a sample that were listed on the Indonesia Stock Exchange. 2012 to 2016 was the scope of the survey. The purposive survey was used to determine data from 155 banking accounting records. Technical capital has a detrimental and substantial credit risk effect. Financial performance is influenced by intellectual capital favorably and importantly. Capital adequacy has a large and favorable impact on credit risk. The research time scope was from 2012-2016 as this survey was from 2015-2021.

Ngungu and Abdul (2020) examine the association of non-performing loans with capital adequacy in Kenyan banks. A causal design was used. The population to be studied consisted of 40 banks that were open from 2013 to 2017. Utilizing core capital to total deposit, the research investigation was conducted using a census method. The secondary data was provided by audited firm statements tests such as multicollinearity, stationarity, and Hausman tests were conducted. To evaluate this data descriptive analysis and panel regression analysis were employed. In Kenya, capital sufficiency had a substantial impact on commercial banks' non-performing loans. The survey employed core capital to total deposit as a unit of measurement, this study utilized total capital/total risk-weighted asset.

### **2.2.2 Liquidity and Credit Risk**

Awuor (2015) conducted a study that utilized secondary data obtained from banks spanning five years from 2010 to 2014. The investigation examined two variables, namely liquidity and nonperforming loans (NPL) of banks. The analytical method used for this research was multiple regression analysis. The investigation also identified liquidity correlation with the level of nonperforming loans. However, in contrast to the previous study, the current research utilized panel regression analysis.

Ngaira and Miroga (2018) analyzed the liquidity effect on credit risk of 11 Kenyan commercial banks that are publicly traded. Questionnaires were used for data purposes. The target population among Kenya's registered commercial banking was 356 employees. The inquiry was supported by a multiple regression model. The study utilized concepts such as the real bills concept of Bank lending channel theory, Financial inclusion theory, systemic risk, Prudential banking reform layout and liquidity management. Liquidity has a significantly beneficial impact on the economic consistency of Kenya's publicly traded banking sector. Between 2011 and 2018, the current study looked at 17 Kenyan commercial banks that were in trouble. This research used a panel regression model.

Mennawi (2020) investigated the liquidity risk impact on the Sudanese performance of Islam banks from 2008 to 2018. Using the panel regression approach of research on 13 banks, the results revealed that leverage, credit, and liquidity risk all had inverse and strong effects on performance. The performance of Sudanese Islamic banks has had little influence. Liquidity risk, in particular, had a favorable and considerable performance impact on Islam banks in Sudan. A study of this nature was carried out on Sudanese commercial banks' performances, and Kenyan MFBs' credit risk served for this investigation.

Religiosa and Surjandari (2021) investigated liquidity impact and corporate risk on Indonesian banks traded on the Stock Exchange from 2014 to 2018. Using multi-regression analysis approaches, the researchers discovered that business risk has a good impact on Indonesian banking liquidity, but has a negative impact on Indonesian banking businesses' earnings management. Because of the specific characteristics of the economies, the results of the study in Indonesia cannot be extended to Kenya.

### **2.2.3 Microfinance Bank Size and Credit Risk**

Mbekomize and Mapharing (2017) looked into the characteristics of commercial banks in Botswana that determine profitability. The data did not indicate any significant statistical correlation between bank size and any of the three profitability metrics. The analysis revealed a direct relationship between profitability, as considered by return on assets, net interest margin and return on assets, and bank size. Conversely, bank size's relationship with return on equity (ROE) was negative.

The goal of Yalanti, Alaimin, and Ibrahim (2018) researched bank size impact and Indonesian public banks' NPLs from 2012 to 2016. The public Indonesian bank's statement provided the secondary data for this study came from Bank Indonesia's Financial Statements. This study is designed as an experimental investigation aimed at testing a specific hypothesis. A purposeful sampling strategy was employed resulting in a final sample size of 81 participants. The findings revealed that nonperforming loans are affected by bank size. As noted, there is partial evidence suggesting that larger bank

size is associated with a decrease in the occurrence of nonperforming loans. The research was conducted on Indonesia Public bank, this research was conducted on Kenyan microfinance banking establishments.

Nyabaga and Matanda in 2020 looked into the impact of business characteristics on nonperforming loans, with a focus on commercial banks listed on the NSE for the 2010-2018 period. The following characteristics of the banks were examined: capital sufficiency, bank size, asset quality, and leverage. The findings from the analysis conducted using STATA 11 indicated an important and direct influence of bank size and capital sufficiency on performance. Nevertheless, the examination of asset quality and leverage's impact on performance produced diverse outcomes. It is worth noting that the analysis was conducted using selected commercial banks listed on the NSE, while the focus of this study was on Kenyan microfinance banks.

In the Nairobi Securities Exchange, Baiuti and Ngaba (2022) wanted to know what effect bank size has on bank credit risk. The study's conclusions, which were based on a causal design, were supported by the theory of optimal bank size. The target population consisted of the 11 NSE banks that were operational for the 2012- 2017 periods and were studied using a census method. Panel regression investigation was conducted. The findings revealed that the size of Kenya's publicly traded commercial banks had a limited impact on nonperforming loans, suggesting that banks could implement measures to streamline their operational processes. In addition, to manage their rising assets, they should implement an effective operational monitoring system. The study used publicly traded banks to examine bank size and credit risk, but this study focused on microfinance banks.

### **3. RESEARCH METHODOLOGY**

#### **3.1 Research Design**

The framework for conducting research is the research design, utilizing the data gathered during the analysis phases. It ensures the relevance of the survey to the observed phenomena while employing a cost-effective approach (Churchill & Iacobucci, 2005). The investigation was conducted using a causal research approach. This design establishes the reasons for the current state of the phenomenon under investigation. Its factors of interest cannot be modified in the same way that they can in an experimental study (Cooper & Schindler, 2009). The study was able to determine the intended nexus through a causal research design (Ginsburg, 2011). Given the aim of establishing a causal relationship between bank characteristics and credit risk, employing a causal research methodology would be advantageous.

#### **3.2 Target Population**

Based on the research findings, the population under consideration includes all MFBs operating in Kenya, considering the lending-related risks associated with their operations. For the study period spanning from 2015 to 2021, a total of thirteen (13) licensed microfinance banks were included in the analysis. The credit risk of microfinance banks was determined using information from their central bank's records and financial statements.

#### **3.3 Empirical Model**

The model reveals a strong link between the research variables. The empirical investigation aims to establish the impact of bank characteristics on the microfinance banks' credit risk. The mathematical model incorporates data from microfinance institutions that were used to reach the study's results. This is written as follows:

$$CR_{it} = \beta_0 + \beta_1 CL_{it} + \beta_2 LQ_{it} + \beta_3 BS_{it} + \epsilon_{it}$$

Where:

CR = Credit Risk

CL = Capital Level

LQ = Liquidity

BS = Bank Size

T = Time

I for Bank

E for the Error term

$\beta_1/\beta_2/\beta_3$ , = Coefficients

#### 4. RESEARCH FINDINGS AND DISCUSSIONS

##### 4.1 Descriptive Statistics

These terms are utilized to characterize the qualities of the study's data. By estimating individual parameters that held the data utilized in the research, the descriptive technique can explain the survey's factors.

**Table 4.1 Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
Credit Risk	91	3.304921	.0004328	3.304275	3.305566
Capital Level	72	.2696342	.2456862	-.52041	.83645
Liquidity	72	.5432411	.1715692	.0591398	.829588
Bank Size	67	2.464054	.6549238	.845098	3.650308

**Source: Study Data (2023)**

Credit risk had a mean of 3.30492 and a deviation from the standard mean of 0.00043, as per Table 4.1 descriptive data. The median score for credit risk is between the minimum and maximum values of 3.30427 and 3.30556. According to this, credit risk varied inconceivably little from one microfinance bank in Kenya to another. As a result, in Kenya, the normal credit risk faced by these microfinance banks differs by 0.00043%. The capital level exhibited an average score of 0.26963 and a deviation from the standard mean of 0.24568, with the lowest and highest values of -0.52041 and 0.83645. According to the results, the capital level of the microfinance banks shows relatively little variance because each number is within the acceptable range of 0.24568.

Liquidity, on the other hand, displayed a score mean of 0.54324 and a mean deviation from the standard of 0.17156, respectively. The output demonstrated that the mean core and deviation from standard mean values are within an interval of 0.05913 and 0.82958 respectively for both the minimum and highest values. This suggests that, given the standard deviation value, the liquidity of microfinance institutions varies from each other to a comparatively small degree. Additionally, a mean of 2.46405 with a deviation from the standard mean of 0.65492 for bank size was found. Due to the competitive environment in which microfinance banks operate, the deviation from the standard mean showed that the size of these institutions varies to a quite significant degree. The values 0.84509 and 3.65030, respectively, were the minimum and maximum.

##### 4.2 Model Specification Test

The determination of the suitable model for the investigation as pertained to panel regression estimators must weigh the models of random and fixed effect (Baltagi, 2005). Both the random and fixed model effects were estimated via the test for Hausman to choose the suitable analytical frame. The null hypothesis supports coefficients inconsistent thus favouring the effect of the random model otherwise the fixed effect model becomes the choice. Table 4.2 displays the outcome of the test.

**Table 4.2: Model Specification Results**

	(b)	(B)	(b-B)	Sqrt (diag(V <sub>b</sub> -V <sub>B</sub> ))
	Fixed	Random	Difference	S.E.
Capital Level	-.0021339	-.0006086	-.0015254	.000264
Liquidity	-.0010247	-.0002914	-.0007333	.0003004
Bank Size	.0009616	-6.34e-07	.0009622	.0002161
chi2(3)	35.49			
Prob>chi2	0.0000			

**Source: Study Data (2023)**

Table displays that the fixed model is favored above the random model. The P-value of 0.0000 is less than 0.05 significance cutoff. As a result, it is decisive that the inquiry used the fixed effect model.

### 4.3 Regression Analysis

The experiment employed the multivariate fixed effect regression model to assess research hypotheses. To evaluate the effect of microfinance characteristics (capital level, liquidity, and bank size) and microfinance credit risk, the survey fitted a panel regression model. The investigation's output is displayed in Table 4.3.

**Table 4.3: Regression Results**

Credit Risk	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Capital Level	-.0021339	.0003603	-5.92	0.000	-.0028573	-.0014106
Liquidity	-.0010247	.0004293	-2.39	0.021	-.0018866	-.0001629
Bank Size	.0009616	.0002333	4.12	0.000	.0004933	.0014299
_cons	3.303719	.0005132	6437.78	0.000	3.302689	3.30475
R <sup>2</sup>	0.4285					
F(3,51)	12.74					
Prob>F	0.0000					

**Source: Study Data (2023)**

The model's significance was assessed via the F statistical value of 11.66 with a matching p-value of 0.0000, in light of the outcome of the direct fixed effect model. This proved that the model was fitted for estimating how microfinance characteristics affected Kenyan microfinance institutions' credit risk. The results showed that the model possessed a goodness of fit, which further suggests that Kenyan microfinance characteristics strongly influenced microfinance credit risk. To support this, the R<sup>2</sup> depicts credit risk variability resulting from the explanatory changes and shows that 42.85% of microfinance credit risk changes are related to microfinance characteristics. A positive credit risk value is present in Kenya's microfinance banks, given the model's intercept of 3.30371.

The regression findings shown in Table 4.3 exposed that the capital level coefficient of -0.00213 corresponded with 0.000 p-values, significant at 5 percent significant criterion. Therefore, the findings showed that there is a significantly inverse effect of capital level on microfinance banks in Kenya's credit risk, indicating that credit risk would decrease with an increase in capital level. Particularly, at the 5% threshold significance, liquidity exhibited a negative (-0.00102) coefficient with a significant (0.021) effect on Kenya's microfinance institutions' credit risk. The microfinance banks' credit risk would reduce as liquidity increased as discovered. The survey's outcomes also unravelled that bank size had a positive (0.00096) and statistically significant (0.000) effect on the credit risk of Kenya's microfinance institutions, suggesting that credit risk would rise as bank size increased.

### 4.4 Hypotheses Testing

#### 4.4.1: Effect of Capital level on the credit risk of microfinance banks in Kenya

The investigation intended to analyze the effect capital level has on Kenya's risk of credit of microfinance banks. Outcomes are shown in Table 4.3. A 0.05 significance criterion was performed on the appropriate null statement. The output indicated that the capital level coefficient was  $\beta = -0.00213$  and  $P = 0.000 < 0.05$ . The output demonstrated that capital level had negative microfinance banks' credit risk that is significantly affected in Kenya. The findings suggested that raising capital levels would reduce the institutions' credit risk. The null hypothesis—according to which capital level has an insignificant effect on the risk of credit of microfinance banks—was rejected. The survey's product indicated that Kenya's microfinance banks' credit risk is significantly negatively affected by their capital levels. The output aligned with Astawa and Rahayu (2019) who discovered that adequacy of capital has a large affected on the credit risk of commercial banks. Affirmation of the findings was also noted by Ngungu and Abdul (2020) that sufficiency of capital had a substantial impact on commercial banks' non-performing loans in Kenya.

#### 4.4.2: Effect of Liquidity on Credit Risk of Microfinance Banks in Kenya

The inquiry's goal was to ascertain how Kenya's microfinance institutions' credit risk was affected by liquidity. Regarding this goal, the 0.05 threshold significance was used to test the null hypothesis. According to Table 4.3, liquidity negatively (-0.00102) and a corresponding p-value of  $0.021 < 0.05$  were recorded. The microfinance banks' credit risk in Kenya was negatively and significantly affected by the banks' liquidity. Given these results, the investigation was unable to support the null hypothesis, according to which the risk of credit of Kenyan banks is not significantly affected by liquidity. The risk of

credit of Kenya's banks can therefore be predicted by liquidity. The product is consistent with Awuor (2015) who ascertained that liquidity correlated significantly with the level of non-performing loans. Ngaira and Miroga (2018) found that liquidity has a considerable beneficial impact on the economic consistency of Kenya's publicly traded banking sector. Mennawi (2020) realized that the risk of liquidity affected the Sudanese performance of Islamic banks. Religiosa and Surjandari (2021) established that liquidity had a good impact on Indonesian banking sector risk.

#### **4.4.3: Effect of Bank Size on Microfinance Banks' Credit Risk in Kenya**

The study additionally delves into how Kenyan microfinance banks' credit risks were affected by bank size. The null hypothesis' effectiveness was assessed at a 5% criterion significance. The output demonstrated that the bank size value was 0.00096 with a matching p-value of  $0.000 < 0.05$ . The products demonstrated that bank size had an effect that is positive and significant on Kenyan microfinance banks' risk of credit. The null statement that bank size insignificantly affected the banks' risk of credit, was dismissed in light of these outputs. This entails that the predictability of microfinance banks' risk of credit is affected significantly by bank size. There was agreement on the outcomes with Yalanti, Alaimin, and Ibrahim (2018) who revealed that nonperforming loans are affected by bank size. Nyabaga and Matanda (2020) indicated an important and direct influence of bank size on non-performing loans. At variance with the investigation's outcome was the outcome of Baiuti and Ngaba (2022) who established that the size of Kenya's publicly traded commercial banks had a limited impact on nonperforming loans. These opposing viewpoints illustrated a scenario in which varied locations where the studies were conducted as well as the particular size of the banks contributed to the varying results with the latest research.

## **5. CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Conclusion**

Utilizing an analysis of how microfinance characteristics affected Kenyan microfinance banks' credit risk, the study reached many different conclusions. As shown in the investigation, microfinance banks' level of capital had an effect of significant on the risk associated with credit in Kenya. Capital level as posited is a mechanism for lowering bank default rates, which in turn lowers the rate of credit risk in the banks. Findings showed that liquidity had significantly affected the risk of credit of microfinance banks. The indication is that there is a significant liquidity effect on Kenya's credit risk of microfinance banks. Therefore, variations in liquidity have significance on the risk of credit of microfinance banks.

The experiment's outputs also showed that the size of the bank is influenced significantly by the risk of credit Kenya's microfinance banks have. The investigation found a significantly affected size of banks on the risk of credit associated with Kenyan microfinance banks. Thus, changes in bank size significantly affected the risk of credit of Kenyan microfinance banks.

### **5.2 Policy Recommendations**

Regarding the microfinance characteristics that were employed in the investigation and their effects on the microfinance banks of Kenya's credit risk, recommendations were offered. As per the study's outputs, the capital level had inversely affected in a significant way, the Kenyan microfinance banks' credit risk. To lower the risk connected with credit for Kenyan banks, the research advises the management of microfinance banks to enhance their capital levels.

The study discovered that Kenyan microfinance banks' credit risk was significantly and negatively affected by liquidity. The investigation advised that the management of microfinance banks in Kenya should strengthen banks' liquidity measures to allow for loans that are non-performing hence, lowering the risk associated with such intermediation function of the microfinance banks in Kenya.

Owing to the inquiry's output, the significantly effect of the size of the bank positively affected the risk of credit of microfinance institutions in Kenya. As a result, the management of microfinance banks should seize every chance at their disposal to grow the size of the banks by diversifying their resources into businesses that can generate returns.

### **5.3 Suggestion for Further Research**

The survey presented evidence of the assessment of microfinance characteristics' effect on the risk of credit of Kenyan microfinance banks. In contrast to expectations, the study discovered that every aspect of microfinance had a meaningful effect on the risk of credit of the banks. A broader time horizon and alternate approaches should be used for future research on Kenyan industries other than microfinance banks in light of this finding.



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