IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 14, Issue 1 Ser. II (Jan. – Feb. 2023), PP 67-74
www.iosrjournals.org

Credit Risk and Financial Perfomance of Microfinance Banks in Kenya.

Daniel Mwasa Ishmail[1*] Florence Memba[2] Jane Muriithi[3]

[1] *Corresponding Author; Doctoral candidate, School of Business and Entrepreneurship, Jomo-Kenyatta University of Agriculture and Technology (JKUAT), P.O Box 62000-00200 Nairobi, Kenya. Email: Mwasa68@gmail.com.*

[2] *Ph.D., lecturer, School of Business and Entrepreneurship,Jomo-Kenyatta University of Agriculture and Technology (JKUAT), P.O Box 62000-00200 Nairobi, Kenya. Email: fmemba@jkuat.ac.ke.*

[3] *Ph.D., Lecturer, School of Business and Economics, African International University (AIU), P.O Box 24686-00502, Nairobi, Kenya. Email: Janekimuu@gmail.com*

Abstract
Microfinance banks (MFBs) in Kenya have continued to record huge annual losses contrarily to their counterpart, commercial banks that have been resilient and reported improved financial performance.The aim of the study was to explore the effect of credit risk on financial performance of Microfinance banksin Kenya. The target population was MFBs regulatedby Central Bank of Kenya (CBK). The study employed census method. Secondary data for thirteen (13) MFBs was collected from published annual reports for the period 2011-2019. The study employed explanatory research design. Unbalanced panel regression model was employed to examine the impact of independent variables on dependent variable using unbalanced panel data. The dependent variable, financial performance was measured by Return on Equity (ROE). The independent variable credit risk was measured with following ratios Net non-performing loan ratio, Asset quality ratio, Loan Loss Provision to total Loan ratio and Loan Loss Provision to total equity ratio. The finding depictedCredit risk had negative significant effect on financial performance. The model F statistics indicated a strong statistical significance of credit risk on financial performance of MFBs at 5% level of significance.The study recommends that management of MFBsestablish stringent credit policy and robust credit risk management framework to reduce non-performing loans and default levels.

Keywords: *Financial Performance; credit risk; return on asset; return on equity; Microfinance Bank*

Date of Submission: 15-01-2023 Date of Acceptance: 31-01-2023

I. Introduction

In developing and underdeveloped countries, microfinance sector is considered as a strategic means to the poverty reduction which is promoted by both governments and donors for social and financial being of a society (Founanou&Ratsimalahelo, 2016). Microfinance thrives in economies of developing and transiting countries. There main objective being provision of financial services to poor section of the society excluded by providers of formal financial services or in general consider as an unbankable or undeserving. They are commonly referred as the Undeserved, these segments mainly consist working poor, majority of whom survive on less than US $ 2 per day, they further include self-employed or micro-entrepreneurs, running a micro-business. Majority of these poor people toil in the informal sector, which developing nations constitute up to 80 percent or more (Benedetta, 2015). Availing financial resources to the poor segment is a vital mechanism for poverty alleviation and wealth generation in underdeveloped economies where enormous unmet demand for financial facilities is existent. There exist limited inclusion and use of financial services by underprivileged in commercial banks, which is attributable to high expenses of market agreements and limitations (Demirgüç-Kunt& Klapper2012). The ability of the poor to borrow, pay moderate interest charge and save continuously has been well proved by Microfinance institutions (MFIs), which as a results leads to great improvement in credit markets for developing nations.

The World Bank's survey, The Global Findex (2015) reports impressive progress of financial inclusion of undeserved between 2011and 2014. The survey found substantial number of people approximately 700 million opened an account with a prudential and non-prudential form of financial institutions such as commercial banks, MFBs, credit-only MFIs, cooperatives as well mobile banking providers service providers. It further, reported an increase of adults holding banks accounts from 52% to 61% while the financially excluded people fell by 20%, to 2 billion adults.

According CBK (2013), Credit risk refers to the anticipated risk to bank's earnings and capital as a

result of failure of the obligor to comply with the contract requirements with the financial institution or otherwise the borrower defies contractual agreement. Afriyie and Akotey (2012) observe that level credit risk in bank is performance indicator of financial institution's capital which numerous bank regulatory authority consider. They further notes that effective CRM tools and strategies are key factors to a banks' success or failure as well as future growth. It is a structured approach of uncertainty management through risk assessment, development of strategies to manage it and mitigation of risk using managerial resources. CRM tools and techniques involves risk transfer to other parties or total avoidance of risk and defusing negative eventualities within the bank incases when faced with high credit defaults (Afriyie & Akotey,2012).

A survey on risks facing microfinance industry conducted in 70 countries based on 306 responses by CSFI (2014) reported that top ten ranking risks internationally included over- indebtedness, credit risk, competition, risk management, governance, strategy, political interference, management, regulation and staffing. However, in Africa, they found that credit risk, governance, over-indebtedness, risk management, management strategy, completion liquidity and technology management ranked highest among the 19 risk under consideration. According to FinAccess (2016) report there has been a tremendous increase of uptake of financial products of prudentially governed service providers, supervised and monitored by authorized statutory body in the last ten years to 42.3 % in year 2016 from 15.0% in 2006. Despite the impressive use of financial service, the Central Bank Kenya bank supervision report 2016 reported that MFBs' Earning before tax declined by 169% from Kshs 549 Million for the year ending 2015 to a loss of Kshs. 377 million for the period ended 2016 (CBK, 2016). Addition, CBK Bank supervision report 2017, indicated an overall drop in performance of MFBs with joint loss before tax of Ksh 622 million in 2017 (CBK, 2016; CBK, 2017). It on this background the study intends focus oneffects of credit risk on financial Performance of MFBs.

II. Objectives

To examine the effect of credit risks on the financial performance of Microfinance banks in Kenya.

III. Theoretical Framework

Marashdeh (2014) posit that fundamental argument for agency theory is that corporate interaction between the shareholders and the firm managers cause conflicts of interest dues to divergent interest. The central postulation of agency theory is that managers pursue and maximize their own utility rather than enhancement of shareholder's economic welfare; contracts are expensive when writing and executing; information is disseminated asymmetrically between partners in the agency relationship; and the principal and agent have restricted or confined rationality Marashdeh (2014). However, information asymmetry arises between firm' management and shareholders since the latter cannot accurately determine or quantify the output of managers, who are more knowledgeable on daily operation of the firm. Therefore, due to imperfect information, shareholder's face adverse selection problem since they cannot perfectly evaluate the suitable skills or abilities the managers assert to possess at employment contracting, thus may fail to select well suited applicant to execute responsibilities and duties within the company or improperly gauge their output (Jensen &Meckling, 1976).In microfinance institutions agency problem is likely to arise if the managers have individual vested interests in the organization. Some issues would be that the managers allocate themselves loans at the expense of the members and failure to carryout due diligence before extending credit facilities. This theory has critical link to credit risk and their respective impacts on financial performance of MFBs.

IV. Literature Review

A study on determinants of MFIs profitability in Sub Saharan countries in Africa was conducted by Murui (2011), using Generalized Method of moments (GMM) system on unbalanced panel data of 210 MFIs for periods within year 1997 to 2008. The study used ROA and ROE as indicators of profitability while using PAR-30, write-off ratio(WOR), loan loss reserve ratio (LLR) and risk coverage ratio (RC) as indicators of credit risk. The study did find evidence of negative and significant impact of credit risk on profitability. The study suggested that credit risk exposure results to lower profitability of MFIs. In conclusion, the study recommended for improvement in information capital to enhance better client screening procedures and mitigation of adverse selection problems.

According to Ayayi (2011), MFIs that have credit risk management systems resulted to higher profitability measured by ROA in Vietnam. Additionally, the study found due to proper governance structures within the institutions lead to low-credit risk, low loans write-off and higher portfolio quality. Bedecarrats et al (2011) intimated that MFI's quality of service delivery and reasonable interest rates resulted to reduced Portfolio at Risk (PAR-30) and write off ratio which in turn would strengthen customers' reimbursement capacity, which consequently lowers loan delinquency and defaults. The study further concluded improved MFI's portfolio quality would be observed through establishing a good working condition and staff training. Tanui et al (2015) conducted an investigation of the effect of credit risk management practices on profitability of SACCOs Nakuru

east sub-county Kenya. The study was based on descriptive survey that targeted credit officers and credit managers in deposit taking. The study found out evidence of a strong association between credit risk management practices- credit scoring and credit administration- and financial performance.

Gatehum, Anwen and Bari (2015) investigated the correlation between credit risk management and financial performance of Ethiopia's commercial banks for period of five years between 2009 to 2014. Using panel data set from the commercial banks the established there exist a strong relationship between credit risk and performance of commercial banks. Commercial banks performance was measured using ROA and ROE while indicators for credits risk management were capital adequacy ratio (CAR), Non-performing loan ratio (NPLR), loan provision to total loan ratio (LPTLR), loan provision to Non-performing loan ratio(LPNPLR) and loan provision to total asset ratio(LPTAR). Using multiple regression model to carry out analysis on cross sectional data of Pakistan's microfinance banks on relationship between credit risk management practices and loan performance in, Ahmed and Malik (2015) found a that credit terms and client appraisals as indicators of credit risk management practice to have positive and significant influence on loan performance while the collection policy and credit risk control to having positive though insignificant impact on dependent variable

V. Conceptual Framework

According Cooper and Schindel (2008) defines conceptual framework as a graphical representation of constructs of variables studied and their relationship. The conceptual framework consisted of independent variable, credit risk (measured by Net non-performing loan ratio, Asset quality ratio, Loan loss Provision to total loan ratio and loan loss provision to total equity ratio), dependent variable and financial performance (measured by Return on Asset and Return on equity)

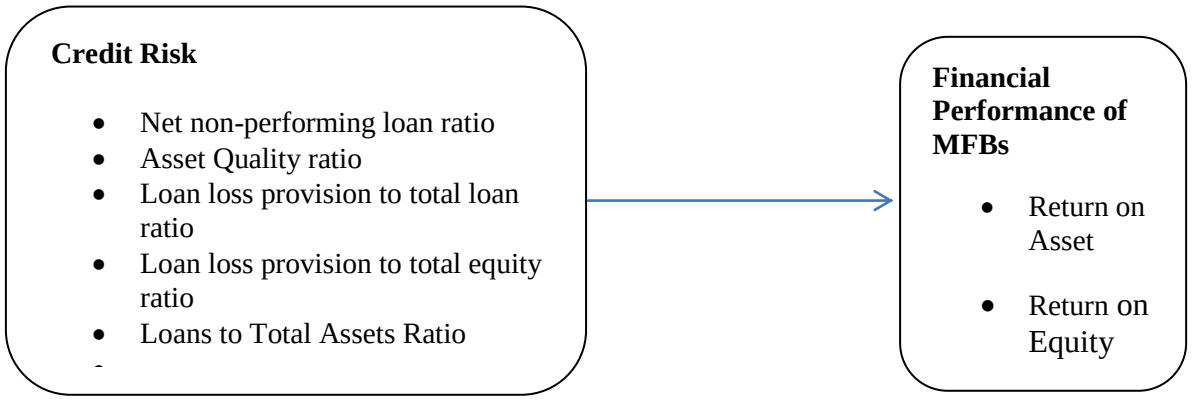

Figure 1 Conceptual Framework

VI. The Study Methodology

The study employed combination ofexplanatory research design and quantitative research design. Panel data regression was used to determine the extent to which credit risk affects financial performance of MFBs in Kenya for the periods 2011-2019. Further, the study examined the moderating effect of firm size on financial performance.Panel data will be considered as appropriate since it measures and demonstrates effects that hardly detectable through use of cross-sectional data or time series data. (Pascal,2012; Gujarati & Porter, 2010). The target population was the thirteen (13) MFBs licensed and regulated by Central Bank of Kenya (CBK) as at December 2019. The study adopted Census method.The census approach enhance validity on data collected by minimizing errors associated with sampling techniques (Saunders, Lewis & Thornhill, 2009). The study was based on secondary datacollected from audited annual financial statements of MFBs between years 2011 and 2019.

VII. Model Specification

7.1 Empirical Model

$ROA_{it} = \beta_0 + \beta_1 NNPLR_{it} + \beta_2 AQR_{it} + \beta_3 LLPTLTR_{it} + \beta_4 LLPTER_{it} + \beta_5 LTAR_{it} + \mu_{it} + \varepsilon_{it}$…(7.1)

$ROE_{it} = \beta_0 + \beta_1 NNPLR_{it} + \beta_2 AQR_{it} + \beta_3 LLPTLTR_{it} + \beta_4 LLPTER_{it} + \beta_5 LTAR_{it} + \mu_{it} + \varepsilon_{it}$….(7.2)

Where;

ROA_{it} is Return on Asset for MFBi at time t

ROE_{it} is Return on Equity for MFBi at time t

β_0 is the constant or intercept

$\beta_i; (i = 1,2,3,4)$ is coefficient of regression
$NNPLR_{it}$ is independent variable, Net Non-performing loan ratio of MFB*i* at time *t*
AQR_{it} is independent variable, Asset Quality Ratio for MFB*i* at time *t*
$LLPTLR_{it}$ is independent variable, Loan Loss Provision to Total Loan Ratio of MFB*i* at time *t*
$LLPTER_{it}$ is independent variable, Loan Loss provision to Total Equity ratio for MFB*i* at time *t*$LTAR_{it}$ independent variable, Loans to Total Asset Ratio for MFB *i* at time *t*
μ_{it} is the individual level effect.
ε_{it} is the idiosyncratic error

VIII. Empirical Results and Discussion

Descriptive statistics were used to summarize data and to identify patterns. Though descriptive statistics doesn't allow coming up with conclusion, the nature of data was presented in terms of their mean, maximum and minimum, standard deviation, Jacque-Bera (JB) statistic in Table 1.

Variable	min	max	Mean	St.Dev	JB	P-value(JB)
Credit risk (CR)	*-18.569*	*207.58*	*23.296*	*21.672*	*1.673*	*0.450*
NNPLR	-50	57.246	8.116	12.152	1.548	0.497
AQR	0	65.942	17.222	15.323	1.115	0.564
LLPTLR	0	61.538	8.653	9.813	1.257	0.459
LLPTER	-177.778	900	25.037	96.223	1.285	0.781
LTAR	5.914	88.392	57.452	17.571	1.914	0.781
Dependent variable						
Financial Performance	*-764.338*	*165.748*	*-19.106*	*86.794*	1.233	*0.834*
ROA	-54.217	3.804	-6.898	-54.217	1.563	0.915
ROE	-1487.5	355.556	-31.314	-1487.5	0.968	0.678

Source: Study Data (2023)

The outcome in table 1 shows the mean value of financial performance of microfinance banks for the years 2011-2019 was negative 19.106% depicting that the overall sector of microfinance was incurring losses. The results showed that the return on equity as key measure of financial performance, having minimum value of -1487.5% and maximum value of 355.556% with a mean value of -31.314%. The results depict on average that banks earned -31.314% return on equity with standard deviation of -1487.5% indicating that banks were not utilizing owner's equity appropriately, likewise the mean value of Return to Asset was -6.898%, implying that that MFBs asset were not utilized optimally. As indicated in the table above the overall credit risk mean for the microfinance banks was 23.296% implying high customer defaults. As shown from the table 1, the mean value of net non-performing loss ratio was 8.116%, Asset quality ratio 17.222%, Loan loss provision to total loan ratio 8.653% and Loan Loss provision to total equity ratio 25.037%, the positive mean indicates existence of high exposure of credit risk.

Correlation Matrix

Table 2: Correlation Matrix of ROE and Credit risk components.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) ROE	1.000					
(2) NNPLR	-0.059	1.000				
(3) AQR	-0.096	0.421***	1.000			
(4) LLPTLR	-0.127	-0.214**	0.439***	1.000		
(5) LLPTER	-0.952***	0.055	0.127	0.199*	1.000	
(6) LTAR	-0.038	0.271***	0.057	-0.283***	0.157	1.000

**** p<0.01, ** p<0.05, * p<0.1*

Source: Study Data (2023)

The table 2 depicts correlation of explanatory variable and return on equity as on measure of the financial performance of microfinance banks. It is observed that all credit risk indicatorsare inversely correlated with return of equity for MFBs. The Loan loss provision to total equity ratio is negatively and significantly correlated to ROE, with a correlation coefficient values of -0.952.

Table 3: Correlation Matrix of Credit risk components, Firm Size and ROA.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) ROA	1.000					
(2) NNPLR	0.230**	1.000				
(3) AQR	-0.054	0.421***	1.000			
(4) LLPTLR	-0.405***	-0.214**	0.439***	1.000		
(5) LLPTER	-0.229**	0.055	0.127	0.199*	1.000	
(6) LTAR	0.602***	0.271***	0.057	-0.283***	0.157	1.000

**** p<0.01, ** p<0.05, * p<0.1*

Source: Study Data (2023)

The results in table 3 depicts positive and significant correlation between Net Non-performing loan ratio and firm size with Return on Assets (ROA). The indicate that as the rate of NNPLR and firm size assets increases, the ROA increases with a correlation coefficient values of 0.230 and 0.544. Further, as observed from the above table 3, Loan loss provision to total loss ratio (LLPTLR) and Loan loss provision to Total Equity Ratio (LLPTER) is negatively and significantly correlated with ROA.

Table 4: Correlation Matrix of Credit riskand ROE

Variables	(1)	(2)
(1) ROE	1.000	
(2) CR	-0.884***	1.000

**** p<0.01, ** p<0.05, * p<0.1*

Source: Study Data (2023)

From the outcome of table 4, the independent a variable, credit risk is strong negatively and significantly correlated with the Return to Equity (ROE) at correlation coefficient value of -0.884.

Table 5: **Correlation Matrix of Credit riskand ROA**

Variables	(1)	(2)
(1) ROA	1.000	
(2) CR	-0.125	1.000

**** p<0.01, ** p<0.05, * p<0.1*

Source: Study Data (2023)

From the results of table 5, the independent a variable, credit risk is weakly correlated and insignificantly correlated with the Return to Assets (ROA) at correlation coefficient value of -0. 125. On the other hand, the firm size has a fairly moderate, positive and significant correlation coefficient with ROE (r = 0.544).

Model Determination and Regression analysis.

Test of Normality

Table 6: Kolmogorov-Smirnov goodness of fit test, Shapiro-Wilk test, Jacque-Bera (JB)

Variable	**KS**	**P (KS)**	**SW**	**P(SW)**	**JB**	**P-value(JB)**
Credit risk (CR)	*.039*	*.200*	*.973*	*.058*	*1.673*	*0.450*
Dependent variable						
ROA	.088	*.071*	.956	.187	1.563	0.915
ROE	.048	*.200*	.977	.101	0.968	0.678

Source: Study Data (2023)

The results in table 6 indicate that the p-values were greater than 5% of all three methods employed and therefore signifying that the data followed a normal distribution.

Serial Correlation Test
Table 7: Wooldridge test for autocorrelation in panel data

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation

Test	F	Prob > F	Conclusion
Wooldridge test for autocorrelation	3.4787	0.065	Autocorrelation not present

Source: Study Data (2023)

The results presented in table 7above indicated that serial correlation test has not been violated since the Wooldridge test was insignificant at 0.05.

Test for Heteroscedasticity

Breusch-Pagan test and Levene test were used to carry out heteroscedasticity test of the study variable.

Table 9: Breusch-Pagan test and Levene Test

	Breusch-Pagan test		**Levene test**	
Variable	**Chi-square**	**Prob > Chi2**	**Statistic**	**Pr> F**
Credit risk (CR)	**2.176**	***.140***	**1.891**	***0.072***
ROA	**2.364**	***.122***	**1.709**	***0.1484***
ROE	**1.170**	***.568***	**1.119**	***0.3412***

Source: Study Data (2023)

The results of the Breusch-Pagan test and Levene test in table 9 indicate there was no evidence of Heteroscedasticity in the variables data since the Breusch-Pagan statistics and Levene statistics for all attributes of the study variables were higher than the threshold (p>0.05)

Unit Root Testing
Table 10: Unit root test
Assumptions:
Unit root test

Augmented Dickey-Fuller (ADF) Panel Unit Root test

Ho: Panels contain unit roots — Number of panels = 117

Ha: Panels are stationary — Number of periods = 5

	At levels			first difference			Order of integration
Variables	Tstat	prob	remarks	Tstat	prob	remarks	
ROA	-2.116	0.088	Non stationary	-3.997	0.0001	stationary	I(1)
ROE	-2.087	0.091	Non stationary	-3.523	0.0006	stationary	I(1)
CR	-2.219	0.077	Non stationary	-3.691	0.0003	stationary	I(1)

Source: Study Data (2023)

The test results in table 10 indicate that the Augmented Dickey-Fuller (ADF) test showed that all variables have unit roots, therefore were Non- stationary At levels and became stationary after first differencing. The finding implies that the alternative hypothesis be rejected and variables were used in their first difference

Hausman Specification Test.

Hausman test for specification was conducted to determine whether to use the random effects model or the fixed effect model. Hausman tests the null hypothesis that the preferred model is random effects versus the alternative to the fixed effects. The test rejects the null when the p-value is less than 0.05. Table 11 shows that Hausman specification test favors Fixed effect model for ROA and ROE which have chi-square test value of 10.4787 and 5.678 respectively with$P<0.05$, at 5% level of significance the diagnostic tables and the conclusion are all based on the fixed effect panel regression model.

Table 11**: Hausman specification test**

Hausman (1978) specification test (model)	Chi-square test value	P-value	**Comment**
ROA	**10.4787**	**0.0012**	**Fixed effect model**
ROE	**5.678**	**0.0171**	**Fixed effect model**

Source: Study Data (2023)

Fixed effect panel regression estimates of Credit risk on ROA.

Table 12**:Fixed effect panel regression estimates of Credit risk components on ROA.**

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
NNPLR	-0.023	0.081	-0.28	0.780	-0.183	0.138	
AQR	0.026	0.061	0.44	0.665	-0.095	0.148	
LLPTLR	-0.008	0.093	-0.09	0.931	-0.193	0.177	
LLPTER	-0.036	0.008	-4.55	0.000	-0.051	-0.020	***
LTAR	0.089	0.064	1.39	0.170	-0.039	0.217	
Constant	-11.314	3.677	-3.08	0.003	-18.638	-3.989	***
Mean dependent var		-6.898	SD dependent var			12.034	
R-squared		0.222	Number of obs			94.000	
F-test		4.346	Prob > F			0.000	
Akaike crit. (AIC)		589.900	Bayesian crit. (BIC)			605.160	

**** p<0.01, ** p<0.05, * p<0.1*

Source: Study Data (2023)

The fixed effect panel regression estimates provided in table 12 shows that model R^2 explains 22.22percent of the variability in ROA as result of credit risk. The remaining percentage of variation in ROA may be as a result of Variables not included in the model. The model F statistic indicated a strong statistical significance at 5% level of significance (F-statistic =4.346, P<0.05). This implies that the Credit risk affects the financial performance (ROA) ofMFBs in Kenya.

The loan loss provision to total equity ratio (LLPTER) of microfinance banks in Kenya was found to be negatively related to financial performance of microfinance banks in Kenya. The coefficient was 0.036 and significant at 5% level of significance. This implies that a unit increase in the loan loss provision to total equity ratio (LLPTER)would result in 0.036 units decreasefinancial performance (ROA) of MFBs in Kenya.The results were agreement with Alshatti (2015)

The Net non-performing loan ratio (NNPLR) and Loan Loss Provision to Total loan Provision (LLPTLR)of MFBs in Kenyawere found to be negatively related to financial performance ofMFBs in Kenya.The asset quality ratio (AQR) was found to be positively related to financial performance of microfinance banks in Kenya. The coefficient was 0.026 and insignificant. The results were consistent with results from previous study Al-khouri (2011)&Ogboi&Unuafe (2013)

Fixed effect panel regression estimates of Credit risk components on ROE.

Table13:**Fixed effect panel regression estimates of Credit risk components on ROE**

ROE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
NNPLR	-0.264	0.460	-0.57	0.567	-1.180	0.652	
AQR	-0.249	0.347	-0.72	0.476	-0.940	0.443	
LLPTLR	2.965	0.532	5.58	0.000	1.906	4.024	***
LLPTER	-1.735	0.045	-38.98	0.000	-1.824	-1.647	***
LTAR	0.930	0.366	2.54	0.013	0.200	1.659	**
Constant	-60.509	21.004	-2.88	0.005	-102.343	-18.675	***
Mean dependent var		-31.314	SD dependent var			169.013	
R-squared		0.957	Number of obs			94.000	
F-test		338.998	Prob > F			0.000	
Akaike crit. (AIC)		917.491	Bayesian crit. (BIC)			932.750	

**** p<0.01, ** p<0.05, * p<0.1*

Table 13 reveal that the Loan Loss Provision to Total Loan Ratio (LLPTLR) had a positive and statistically significant effect on the financial performance of microfinance banks in Kenya. The coefficient of LLPTLR was β=2.965 with a p value of 0.000 and significant at 1% level of significance. Therefore, when holding other factors constant, a unit increase in the LLPTLR would result in 2.965 units increase of financial performance (ROE) of microfinance banks in Kenya. Similarly, the results from table 13 show that the Loan to Total Assets ratio (LTAR) of microfinance banks had a significant and positively related to financial performance of microfinance banks in Kenya. The coefficient of LTAR was β=0.930, p=0.013 and significant at 5% level of significance. This implies that a unit increase in the LTAR would result to 0.930 units increase in MFBs financial performance (ROE), holding other factors constant.

The Loan Loss Provision to Total Equity Ratio (LLPTER) of microfinance banks in Kenya was found to be significant and negatively related to financial performance of microfinance banks in Kenya. The coefficient of LLPTER was β= -1.735, p=0.000 and significant at 1% level of significance. This implies that a unit increase in the LLPTER would result in 1.735 units decrease of financial performance (ROE) of microfinance banks in Kenya.

Further, the results in table 13 indicate that Net Non-Performing Loan Ratio (NNPLR) and Asset Quality Ratio (AQR) had a negative and insignificant impact on the financial performance of MFBs. The coefficient of NNPLR and AQR was β=-0.264 and β=-0.249, respectively. The NNPLR and AQR were statistically insignificant at 1 per cent, 5 per cent and 10 per cent level of significance. The results are inconsistent with the finding byMillion, et al (2015);Ekinci and Poyraz (2019), who employed panel regression model in evaluating the effect of credit risk on financial performance of deposit banks in turkey, found out that credit risk proxied by NPL, AQR had negative and statistically significant relationship with ROE. The results were attributed to the fact that as Non-performing loan increase, asset quality deteriorates and thus ROE plunges (Ekinci&Poyza, 2019).

The fixed effect panel regression estimates provided in table 4.11 shows that credit risk components jointly explain up 95.7 per cent of variations in the ROE of MFBs in Kenya. This is based on the resultant coefficient of determination (R^2) value equivalent to 0.957. The remaining percentage of 4.3 percent variation in ROE may be as a result of variables not included in the model. The model F statistic indicated a strong statistical significance at 5% level of significance with a corresponding F statistic of 338.998

IX. Conclusion And Recommendations

The study found that thereexists relationship between credit risk and financial performance. The regressions results reveal that credit risk metrics are highly statistically significant with adverse effect on financial performance of MFBs in Kenya. Credit risk metric, LLPTLR, LLPTER and LTARhad statistically significant on ROE of MFBs.

The study recommends that MFBs to manage their credit risk through adopting effective credit policy and diversify investment portfolio. Additionally, MFBs should establish stringent credit policy and robust credit risk management framework to reduce non-performing loans and default levels.

References

[1]. Afriyie, H. O., &Akotey, J. O. (2012).Credit risk management and profitability of selected rural banks in Ghana : Catholic University College of Ghana.

[2]. Ahmed, S. F., & Malik, Q. A. (2015). Credit Risk Management and Loan Performance: Empirical Investigation of Micro Finance Banks of Pakistan. International Journal of Economics and Financial Issues, 5(2).

[3]. Al-Khouri,R. (2011), Assessing the Risk and Performance of the GCC Banking Sector. International Journal of Finance and Economics.

[4]. Alshatti, A.S.(2015). The effect of credit risk management on Financial Performance of Jordannian Commercial Banks. Investment Management and Financial Innovation.

[5]. Ayayi, A. G. (2011). Credit risk assessment in the microfinance industry. Economics of Transition, 20(1), 37-72.

[6]. Batinge, B. K. (2014). An Assessment of the Impact of Microfinance on the Rural Women in North Ghana (Doctoral dissertation, Eastern Mediterranean University (EMU)-DoğuAkdenizÜniversitesi (DAÜ)).

[7]. Di Benedetta, P., Lieberman, I. W., &Ard, L. (2015). Corporate Governance in Microfinance Institutions. World Bank. Washington DC.

[8]. Centre for the study of Financial Innovation (2014). Microfinance Banana Skins 2014:Facing Reality. Heron & Dawson. United Kingdom

[9]. Central Bank of Kenya (2013). Risk Management Guidelines. Nairobi. Central Bank Of Kenya.

[10]. Cooper, D.R. and Schindler, P.S. (2008). Business research methods.10th(edt.). McGraw-Hill publishers. Singapore.

[11]. Demirgüç-Kunt, A., &Klapper, L. F. (2012).Measuring financial inclusion: The global findex database.

[12]. Getahun. L,Anwen,T., & Bari, M. S.(2015). Credit Risk Management and Its Impact on Performance of Commercial Banks: In of Case Ethiopia.

[13]. Ogboi, C., &Unuafe, O.K.,(2013), Impact of Credit risk Management and Capital Adequacy on the Financial Perfomance of Commercial Banks in Nigeria. Journal of Emerging Issues in Economics, Finance and Banking.

[14]. Misman, F.N., & Bhatti, M.I. (2020). The Determinants of Credit Risk:An Evidence from ASEAN and GCC Islamic Banks. Journal of risk and Financial Management.

[15]. Million,G., Matewos,K., & Sujata, S., (2015), The impact of Credit risk management on the profitability performance of commercial banks in Ethiopia. African Journal of Business Management.

[16]. Muriu, P. (2011). What Explains the Low Profitability of Microfinance Institutions in Africa?.

[17]. Saunders, M. L., Lewis, P &Thornhill, A.(2009). Research methods for business students, (4th ed). Harlow: FT. Prentice Hall.

[18]. Tanui, P. J.(2016) Asset management practices as a boon for a successful business a case of Kenya's businesses.European journal of accounting, auditing and finance research.Vol 4, No.6, pp. 81-95,