Bad Credit Management and Firm Performance: Evidence from Nigerian Banking Sector

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Abstract

The study examined whether bad credit management affects firm performance. *Ex-post facto research design was used in the study. Data was collection from secondary sources. The population for the study consisted of quoted deposit money banks in Nigerian Exchange Group (NSG) as at 31st December, 2020. The sampled size is 12 banks selected using filtering method to select banks that have consistently published annual reports from 2013 to 2020. The empirical results revealed that bad credit management had a significant negative effect on firm performance at 5% level of significance measured by ROA and 1% level of significance measured by ROE and NPM respectively while the control variable, size of the firm had a significant positive effect on firm performance at 1% level of significance measured by ROA, ROE and NPM respectively. The study recommended that money deposit bank managers should maintain reasonable liquidity management to cushion the effect of bad credit management which affects the performance of the banks.*

1.   Introduction

Credit risk management (CRM) is seen as a set of tool and model for measuring and controlling risk in deposit money bank (DMB). In the opinion of Isedu and Erabor (2021), DMBs are vested with optimum utilisation of depositor's fund and vividly improve risks portfolio investments for shareholders' wealth maximization and guiding against risk exposure that brings about bad debts as well incidence of non-performing loans in the system. Bad credit management is a burden of concern to credit managers. Meanwhile, lack of information about borrowers made the Central Bank of Nigeria to set up credit risk management system to cushion the effect of non-performing loan. The objectives of CBN credit risk management system is to provide information, monitor the level of borrowings, and facilitating consistent classification of credit. Omiagbo and Daniel (2021) argued that deposit money banks in Nigeria are known for providing and assisting customers with the service of lending credit and maintain the ability to avoid potential and actual risk of credit risk management.

Bad credit management is a CRM that is proxied by ratio of non-performing loan to total loan. Non-performing loans (NPL) represent loans and advances that are not serviced by a borrower, classified as substandard, doubtful or lost, and hinders bank from achieving their set targets (Kolapo, *et al*, 2012). The risks of incurring losses as a result of the inability of

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borrowers to pay back loans granted to them are faced by DMBs, and inversely influence the performance. In credit lending, maintaining a balance between liquid assets and short-term liabilities is an individual preference that could, however, determine the future of one's financial success. The same principle applies to firms and is referred to as credit risk management. Superior credit risk and working capital management can bring a remarkable competitive advantage, but on the other hand, inefficient working capital management can cause disastrous losses which result to bad and doubtful debts. Credit management and bad debt is the most prominent risk in terms of the level to which it impacts on the quality of risk assets as well as performance of the firm (Psillaki, *et al,* 2010).

The presence of effective CRM in the system exposure banks risks of credit and enhance the viability and performance of the banking industry by contributing to systemic stability for efficient allocation of capital in the economy. The issue of firm performance remains challenging to researchers despite the number of studies on performance connected subjects due to its effects on organisations. Hunninki, *et al* (2017) asserted that several researchers use performance as the dependent variable in management related research nowadays. Yet, it has been major debates on the true measurement of firm performance. Firm performance could be referred to as Return on Equity (ROE), expressed as net profit before tax divided by total shareholder equity. It can be grouped into the human resource type measured in terms of turnover; organisational type measured in terms of productivity, quality, customer satisfaction, and manufacturing flexibility; financial accounting category measured in terms of return on assets (ROA) previously used by Syed (2009) and formulated as profit before income tax (PBIT) in a fiscal year divided by total assets in a fiscal year. Also, performance can be measured as profits, sales, and employee value; while the financial market category could be measured in terms of stock prices or the measure of the ratio of the market value of the firm's assets to their replacement cost in line with the Tobin's Q (Kim, & Rasiah, 2015).

Consequently, bad credit management (BCM) and performance are two sides of the same coin because they work in opposite directions. Increasing the level of BCM will reduce the performance of the firm and vice versa (Hoang, 2015; Hossain, 2020). As such, the dilemma of working capital management and CRM is to achieve an optimal tradeoff between liquidity and firm performance. This study would address the gap in research by using Returns on Asset, Returns on Equity and Net Profit Margin as proxied for firm performance and also conduct empirical evidence whether BCM affects the performance of firm in the Nigerian banking sector.

2.   Literature Review

2.1   Firm Performance

Scholars and researchers had considered performance of the firm as a vital construct of strategic management research with no uniform definition (Selvam, *et al,* 2016). In the opinion of Armstrong (2017), firm performance is the extent of the effective and efficient utilization of resources to achieve objectives for which managers are responsible. Al-Juboori, *et al.,* (2021) defined firm performance as the extent to which revenue, profit, cost reduction, return on sales, and return on assets as a indicator of firm performance. Hunninki *et al.,* (2017) further asserted that there had been a lasting brawl to coin a meaningful definition for the concept of performance that will be accepted as the general definition. The struggle cut across all fields of human endeavour. Therefore, firm performance is concerned with work related activities, especially those activities expected of an employee and how well such were executed. Lampe and Hilgers (2015) asserted that firm performance is a

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medium of approach for enhancing scare firm resources, productivity and economic value growth.

Firm performance can be generally seen as a measure in determining a firm's overall financial health over a given period. It can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. It can also be referred to as the independent business criterium to assess its overall outcomes concerning its own goals (Vladimir, *et al.,* 2016). According to Goh (2009), firm performance is seen as the measurement of the outcomes of an organization's policies and operations in monetary terms to ascertain its overall financial stability over a given period. The returns on assets is a commonly used financial measurement of firm performance adopted by most organisations to measure relationships between profits received on investment in assets to know if it will bring about more profit (Lindo, 2008).

2.2 Bad Credit Management

Bad credit management (BCM) is defined as a credit risk that occurs as a result of the inability of the borrower to made as at when due (Noman, *et al.,* 2015). BCM is very volatile in dynamic business environment. DMBs are interested in giving out loans and advances to numerous customers on the basis of the principles of profitability, liquidity and solvency. Bad debt management is associated with CRM commonly found among money deposit banks especially in Nigeria. A debt is said to be bad which is not performing. BCM is usually seen as non-performing loan because of the borrower's inability to pay interest on loan regularly at the agreed period. DMBs undergo restructuring of corporate governance structures to improve bank performance. Oluyombo (2007) opined that MDBs have continued to record growth in bad debts and loan arrears which has made bank performance vulnerable. Collaku and Aliu (2021) claimed that the level of interest rates determine the presence of non-performing loans. Arko (2012) added that bad credit management occurs as a result of non-performing loans associated with high volume of loan disbursement. However, the presence of bad debt affects the overall stability of DMBs in Nigeria. Annor and Obeng (2018) asserted that CRM is very vital to the soundness of DMBs for ensuring smooth operation of the firm for improve performance of the banking industry. In this study, BCM was proxied by the ratio of non-performing loan to total loan. NPL is a major measurement of BCM or CRM in dealing with risk.

2.3 Size of the Firm

In most cases, size of the firm is mainly used as moderating/control variables in management related empirical studies. It is generally believed that expansion of the firm might brought about illiquidity in the firm especially in a financial sector. This implies that increase in the size of the firm had the tendency of bringing about bad debt/credit management. Credit management is regulated by Central Bank of Nigeria (CBN). According to Kaitibi, et al., (2018), credit management is simply the creation and control cash liquidity collected from customers in terms of deposit. CBN helps to checkmates the activities of money deposit Banks (MDBs) in Nigeria to improve the performance of the firm and minimise the problem of financial risk/bad debt. Size of the firm is a critical factor of credit risk management because as MDBs expand without mechanism to minimize the risk of default that results in financial distress as well as BCM. This invariable affects the performance of the firm in a negative direction (Mirach, 2010). In the opinion of N'jai (2000), DMBs are exposed to the risks size and complexity of the business activities. This shows that size of the firm is very critical in CRM to avoid the management of bad credit.

2.4 Empirical Review

In Nigeria, Omiagbo and Daniel (2021) used panel regression to investigate the nexus between credit and liquidity risk, operational risks and profitability of Nigerian commercial banks and found out that credit risk management and viability of the DMBs is significantly and positively related. This implies existence of credit risks lead to increase in bad debts. Kirimi, *et al.,* (2021) conducted a study on the moderating effect of bank size on the nexus between financial soundness and performance of commercial banks in Kenya. Secondary data were collected from 39 commercial banks for ten years from 2009 to 2018 while panel regression and found out that bank size and financial soundness performance measured by net interest margin (NIM) and return on assets (ROA) is significantly related. Tanveer, *et al.,* (2016) studied the impact of working capital management on the financial performance of 50 listed non-financial companies in Pakistan. The study employed cash conversion cycle, debtors' collection period, creditors' payment period, and firm size as proxies for working capital management and control variable respectively. Financial performance was measured by return on asset and return on investment. The regression result revealed that the cash conversion cycle, and creditors' payment period, as well as firm size, have a significant positive relationship with financial performance while the debtors' collection period has a significant negative relationship with financial performance.

Saleh and Afifa (2020) sampled commercial banks in Jordan covering 2010 to 2018 to the examine effect of credit risk, liquidity risk and bank capital on bank profitability and found out that credit risk, liquidity risk, and bank capital exert a significant impact on financial stability prosy by bank profitability. Suyanto (2021) sampled listed banking institutions in Indonesia covering 2011 to 2019 to examine the relationship between bad credit and liquidity, and performance and capital adequacy serving as a moderating variable. The regression results revealed that liquidity has insignificant negative effect on bad credit and bank performance while capital adequacy has a significant positive effect on bad credit and bank performance. Mustapha, *et al.,* (2020), used a "sample of fifteen (15) banks listed in the Nigeria Stock Exchange for the period of 2013 to 2015 to examine the relationship between corporate governance and performance measured by ROA". "The results of random effect regression revealed firm size had a significant positive relationship with performance". Okoye, *et al.,* (2020), studied the "effect of corporate governance on the financial performance of commercial banks in Nigeria. The results revealed that firm size impact positively on financial performance measured by Return on Assets.

2.5 Theoretical Review

The modern portfolio theory is propounded by harry Markowitz. MPT also applies to BCM as DMBs managers should avoid concentration of risk by granting loans to struggling business, SMEs without survival base and individuals. Besides, managers of money deposit have to put measures in place to cushion effect of credit concentrations which might adversely affect the performance of the firm. As a result, many banks are using quantitative methods to measure credit risk, but lack of data remains a challenge. Credit derivatives are also been used to efficiently transfer risk while preserving customer relationships (Felix & Claudine, 2008). The assumption and application of the theory is that it is based on meeting the interest of stakeholders especially the deposit owners in the financial institution. The theory is applied in this study because it helps to address of the issues of customer relationship and the deposit owners through credit derivatives measures and practices in the

operation of the institution to ensure that there is efficiency in risk transfer, transparent and able to steer sustainability.

3. Data and Methods

The study adopted expo-facto research design to examine whether bad credit management affects firm performance in Nigeria banking sector. The study population consisted of all the quoted money deposit banks in the Nigerian Exchange Group (NSG) for the period of 2013 to 2020. The sample size was based on the population of nineteen (19) quoted banks in Nigeria Stock Exchange as at 31 December, 2020 (NSG, 2020). The filtering method was used to select 12 banks. The multivariate regression technique was used to analyse the data while firm performance was proxied by Returns on Asset, Returns on Equity and Net Profit Margin and bad credit management was proxied by the ratio of non-performing loan to total asset.

3.1 Model Specification

The modern portfolio theory was applied to buttress the multivariate regression model in order to investigate the relationship between BCM and firm performance. The theory stressed that DMBs managers should avoid concentration of risk by granting loans to struggling business, SMEs without survival base and individuals. The regression econometric models are specified below;

$$ROA = \alpha_0 + \alpha_1 BCM + \alpha_2 TA + \mu \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

$$ROE = \alpha_0 + \alpha_1 BCM + \alpha_2 TA + \mu \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$

$$NPM = \alpha_0 + \alpha_1 BCM + \alpha_2 TA + \mu \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3)$$

Where;
ROA = Returns on Asset proxy for firm performance
ROE = Returns on Equity proxy for firm performance
NPM = Net profit margin proxy for firm performance
BCM= Bad credit management measured by the ratio non-performing loan to total loan
TA = Size of the firm proxy by logarithms of total asset
α_0 =Constant Coefficient
$\alpha_1 - \alpha_4$ = Explained coefficient of the independent variables
μ = Error term.

4. Data Analysis and Discussion of Findings

4.1 Descriptive Statistics

The descriptive statistics result in Table 1 revealed firm performance measured by returns on asset (ROA), returns on equity (ROE) and net profit margin (NPM) on the average was N1.71, N13.08 and N21.60 with a corresponding standard deviation value of 1.85, 8.05 and 17.13 respectively. This means that money deposit banks in Nigeria Exchange Group witness higher level of performance when measured by NPM. Bad credit management (BCM) measured by ratio non-performing loan to total loan on the average was N7.45 with a corresponding standard deviation value of 0.68. This means that the level of bad credit management was high with average value of N7.45. The control variable, size of the firm

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(TA) measured logarithms of total asset on the average was 9.22 and a standard deviation value 0.39. However, the Doornik-Hansen test of normality showed that the variables were normally distributed with probability value of 0.00. The result was presented in the Table 1.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ta	71	9.225977	.3951543	8.1302	9.8541
roa	71	1.71177	1.857776	-9.5318	5.6167
roe	71	13.08251	8.052491	-1.2132	32.0796
npm	71	21.60615	17.13777	-17.2204	67.4988
bcm	71	7.450028	.6821179	5.7067	9.4641

Test for Multivariate Normality

Doornik-Hansen chi2(10) = 753.148   Prob>chi2 = 0.0000

Source: Authors' computation, 2022

4.2 Correlation Matrix

The result of the correlation matrix revealed that bad credit management (BCM) is positive and moderately corrected with firm performance (ROA=0.1559) and weakly correlated with firm performance (ROE=0.0904) and NPM (0.0494). Size of the firm (TA) was positive and moderately correlated with firm performance proxied by ROA=0.4652, ROE=0.4967 and NPM 0.4721. The result of the correlation matrix is presented in Table 2.

Table 2: Correlation Matrix

	roa	roe	npm	bcm	ta
roa	1.0000				
roe	0.7132	1.0000			
npm	0.8386	0.9275	1.0000		
bcm	0.1559	0.0904	0.0494	1.0000	
ta	0.4652	0.4967	0.4721	0.6650	1.0000

Source: Authors' computation, 2022

4.3 Bad Credit Management and Financial Performance

The results of multivariate regression analysis revealed that firm performance measured by ROA, ROE and NPM with R^2 values of 0.2586, 0.3500 and 0.3484 that about 26%, 35% and 35% systemic variations were jointly explained by bad credit management and size of the firm. This means that the model overall is good for statistical forecasting and prediction. The F values of 11.85, 18.30 and 18.17 with p-values of 0.00, 0.00 and 0.00 showed that there was a significant linear relationship was found between variables. The empirical results revealed that bad credit management (BCM) had a significant negative effect on firm performance at 5% level of significance measured by ROA and 1% level of significance measured by ROE and NPM respectively. This implies that the negative direction of the variable significantly lead to a decrease in firm performance of money deposit banks in Nigeria. Size of the firm (TA) as a control variable had a significant positive effect on firm performance at 1% level of significance measured by ROA, ROE and NPM respectively. This therefore means that changes in the size of the firm would significantly to an increase in firm performance. The results of the analyses were presented in the Table 3.

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Table 3: Multivariate Regression

Equation	Obs	Parms	RMSE	"R-sq"	F	P
roa	71	3	1.622974	0.2586	11.8597	0.0000
roe	71	3	6.586962	0.3500	18.30681	0.0000
npm	71	3	14.0361	0.3484	18.1776	0.0000

	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
roa						
bcm	-.7494067	.3807901	-1.97	0.053	-1.509262	.0104482
ta	3.047226	.6573224	4.64	0.000	1.73556	4.358893
_cons	-20.81877	4.6883	-4.44	0.000	-30.17413	-11.46341
roe						
bcm	-5.079262	1.545465	-3.29	0.002	-8.163189	-1.995334
ta	15.95318	2.667792	5.98	0.000	10.62969	21.27668
_cons	-96.26055	19.02781	-5.06	0.000	-134.23	-58.29114
npm						
bcm	-11.91835	3.293218	-3.62	0.001	-18.48986	-5.346835
ta	34.15638	5.684774	6.01	0.000	22.81259	45.50016
_cons	-204.7278	40.54619	-5.05	0.000	-285.6364	-123.8191

Source: Authors' computation, 2022

4.4 Discussion of Findings

The empirical results revealed that bad credit management had a significant negative effect on firm performance at 5% level of significance measured by ROA and 1% level of significance measured by ROE and NPM respectively. The result was supported by the findings of Saleh and Afifa (2020) and contrary to the findings of Suyanto (2021) that no relationship between liquidity, bad credit and performance. The study therefore suggested the hypothesis should be rejected that bad credit management has no significant effect on firm performance. Size of the firm had a significant positive effect on firm performance at 1% level of significance measured by ROA, ROE and NPM respectively. The result supported the findings of Tanveer, (2016), Okoye, *et al.* (2020) and Kirimi, *et al,* (2021) that size of the firm positively influence firm performance.

5. Conclusion and Recommendations

The aim of the study is to examine whether bad credit management affects firm performance. High level of non-performing loan by money deposit banks in Nigeria leads to bad credit management. The findings showed that bad credit management had a significant negative effect on firm performance at 5% level of significance measured by ROA and 1% level of significance measured by ROE and NPM respectively while the control variable, size of the firm had a significant positive effect on firm performance at 1% level of significance measured by ROA, ROE and NPM respectively.

Based on the findings, the following recommendations were made:

(i)   Managers of DMBs should set up a credit policy to reduce the level of non-performing loan so as to improve the performance of the banks.

(ii)   Management of DMBs should develop a flexible credit risk management policy to enhance loan performance and minimize presence of non-performing loan and bad credit management.

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