EFFECTS OF CREDIT MANAGEMENT ON BANKING SECTOR PERFORMANCE: THE NIGERIA EXPERIENCE

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Abstract
This study investigated the effect of credit management on banking sector performance in Nigeria. The specific objectives of the study were to: find out the effect of loan loss provision on the performance of banks in Nigeria; determine the effect of loan-deposit ratio on the performance of banks in Nigeria; investigate the effect of aggregate banking sector credit advances on the performance of banks in Nigeria; investigate the effect of nonperforming loans on the performance of banks in Nigeria and evaluate the effect of bank lending rate on the performance of banks in Nigeria. The ordinary least square (OLS) technique was employed for the analysis. The findings indicate that nonperforming loan (NPL) has significant negative effect on banking sector performance; loan-deposit ratio (LDR) has significant negative effect on banking sector performance; loan-loss provision (LLP) has positive significant effect on banking sector performance; aggregate loans and advances of the banks (LAD) has positive but insignificant effect on banking sector performance. Based on the findings, the study recommends that: Effective credit policy that is reflected in flexible tenure, restructuring of credit terms and conversion should be adopted in the Deposit Money banks; the banks should increase the credit portfolio as the demand for credit is increasing; adequate provision should be made by banks for loan loss; the banks should ensure a low nonperforming loan portfolio; the CBN should keep the loan deposit ratio high to enhance credit creation by the banks.

Keywords: Credit Management, Banking Sector, Loan loss, non-performing loan, Nigeria.

1. Introduction

The Nigerian banking industry is one of the sectors of the Nigerian economy whose services are ever needed by individuals and corporate organizations. One of the key players in this industry is the commercial banks. The popularity of commercial banks is not because they are the only legally or commercially recognized intermediary in the system but because of their branch network, large customer base and the ease with which people transact business with them (Afolabi, 1991). The intermediary role of the commercial banks culminates in the extension of credit facilities such as loans/advances and investments through which they make funds available for individuals and corporate organizations. With this single function commercial banks help increase the level of economic activities in the society.

The contribution of credit facilities by the banking sector towards achieving economic growth and development in Nigeria cannot be overemphasized. Credit facility plays a crucial role to the survival of any business organization. The growth and development of every nation starts when the domestic needs are satisfied. Such needs include food security, shelter, and education and reduced unemployment rate. The banks through their services contribute immensely toward achieving these needs. The success or failure of a bank by and large depends greatly on its ability to grant credit facilities and make substantial profits from them.

For most people therefore, commercial banks' lending represent the heart of the industry. Loans dominate banks asset holding and generate the largest share of their operating income. Loan department/ officers are among the most visible, while loan policies typically determine how fast a community develops and what types of business spring up. The greatest challenge to the banks today is granting profitable loans at reasonable risks in the face of intense competition.(Olalusi, 1999). It is a known fact that not all credit facilities provided by banks are collected back. Many banks in Nigeria have been liquidated as a result of bad debts. The current state of our economy is a pointer to the fact that banks need to improve on their services as it relates to bridging the gap between the surplus and deficit units of the economy. Thus, a good management scheme will help to reduce the amounts which may be lost as bad debts and also in the collection process and period. (Nnanna , 2001)

It is obvious that the banks face more challenges now than ever in the light of the global economic meltdown. "The credit crunch is impacting negatively on the capital raising activities of commercial banks. What is happening now is that credit has become more expensive than it used to be " (Ebong, 2008.) Ogunjobi, believes that the liquidity squeeze in Nigeria is peculiar in the sense that the problem is not just of inadequate liquidity, but people are becoming more conscious of what is going on and are trying to conserve what they have that is why inter- bank lending is literally drying up."This industry occupies a key position in the nation economic development and growth and as such, must not be allowed to collapse as that will have enormous catastrophic consequences on the economy of our nation (Soludo, 2005).

The industry has a positive or negative impact on the growth, employment, risk, size and survival of the nation economy depending on the management and performance of the sub-sector, of the economy. "perhaps, it will be wiser than only persons with reputations and integrity and those who are knowledgeable and trained should be deemed fit and proper to carry on banking business in order to infuse the eroded depositors confidence and restore sanity in the industry'' (Bexley, 1978). In the past, the bank owner were euphoric over their success, delighted with the profits but are surprised when the huge profits are compared with the bad and doubtful debts. At this juncture, it is a glaring indication that most banks were only declaring mere paper profits and it became very obvious that the banks performance were below expectations.

Hence, nowadays no sooner that banks declare huge profits than they resort to the capital market to source for funds. In order to salvage the industry from frequent distress the industry has witnessed radical and phenomenal changes since 1986 following the introduction of the structural adjustment programme (SAP). Such changes include, banking regulations and supervision, the prudential guidelines issued by the central bank of Nigeria (CBN) in 1990, the failed banks decree of 1994, and the recent recapitalization of banks in 2005. This chapter will focus on how proper credit management by commercial banks contributes to their performance and economic development and growth.

1.1 Statement of the problem

Nonperforming loans have been found to have adverse effect on the banking sectors survival. According to Eniafe (2020) the cause for NPLs should be given due consideration. Atoi (2018) decry the fact that nonperforming loans become a critical issue of discourse in finance literature because of the close link between banking crises and massive accumulation of it. Its causes vary in different countries, which might be due to situational factors such as the level of economic condition in which the banking sectors are operating and also bank level factors.

Macroeconomic variables are external forces of determinants of credit assets quality and banks specific policies, staff quality, morale, asset management mechanism and so on are internal drivers of banking performance. Banking sector in Nigeria has faced a lot of problems, the most destructive problems is the huge and ever increasing amount of NPLs which has influence on banks‟ efficiency and growth as well as endanger the growth and development of the Nigerian economy. The magnitude of nonperforming loans in Nigeria increased from N260.19 billion as at end December 2003 to N2.9 trillion as at end December 2009 then reduced to N649.63 billion at the end of December 2015 (CBN, 2016)

Eniafe (2020) corroborates the position of CBN (2016) when he averred that huge nonperforming loans may negatively affect the level of private investment, increase deposit liabilities and constrain the scope of bank credit to the private sector. Also they can negatively affect private consumption which may lead to economic contraction. The phenomenal increases necessitate the investigation into the sensitivity of bank performing and nonperforming loans to bank specific and macroeconomic factors in Nigeria.

The role of credit extension by the commercial banks has been impaired to some extent due to some fundamental problems in Nigeria. The sacking and replacement of some banks executives by the CBN is a pointer to the fact that all is not well with commercial banks credit policy management. A review of the financial statement of commercial banks over the years shows that the huge amounts of money that are always written off as bad debts each year has been on the increase. Maybe, it is because commercial banks extend credits to the wrong people or that they don't do enough in terms of collection efforts (Central bank of Nigeria (Sanusi Lamido Sanusi 2010) report presented to the CBN board. In this regards, perhaps it is timely to observe here that the fact that there is an increase in the number of commercial banks branches, yet most small scale and even big time business and organizations are having difficult times in accessing credit facilities.

It is against this background and others that the researcher is interested in investigating the effect of credit management on the performance of commercial banks in Nigeria

1.2 Objectives of the study

The main objective of the study is to ascertain the extent to which credit management has contributed to the growth of commercial banks in Nigeria. Specific objectives include;

1. To examine the effect of loan loss provision on the performance of banks in Nigeria
2. To determine the effect of loan-deposit ratio on the performance of banks in Nigeria
3. To investigate the effect of aggregate banking sector credit advances on the performance of banks in Nigeria
4. To investigate the effect of nonperforming loans on the performance of banks in Nigeria

5. To evaluate the effect of bank lending rate on the performance of banks in Nigeria

1.3 Research Hypotheses

H_{O1}: Loan loss provision has no significant impact on the performance of banks in Nigeria

H_{O2}: Loan-deposit ratio has no significant impact on the performance of banks in Nigeria.

H_{O3}: Aggregate banking sector credit advances has no significant impact on the performance of banks in Nigeria.

H_{O4}: Non-performing loans has no significant impact on the performance of banks in Nigeria.

H_{O5}: Bank lending rate has no significant impact on the performance of banks in Nigeria

The study is meant to examine the effect of credit management on the performance of commercial banks in Nigeria. This will cover the variables of loan-loss provision, nonperforming loans, loan-deposit ratio, total credit advances of the banking sector and the lending rate in terms of performance (return on asset).

2. Review of Related Literature

2.1 Conceptual Review

Concept of Credit and Credit Management

The concepts (credit, credit control, credit rating, and credit risk) will be briefly defined as they relate to the study.

Credit: The reputation and financial standing of a person or organization. It is also taken as the sum of money that a bank allows a customer before requiring payment.

Management: This is that managerial activity which is concerned with the planning and controlling of the organizations finances, to make profit for its owners.

Performance: The process of developing standards geared towards attaining certain predetermined goals.

According to Abiola, Yahaya and Olaiya (2021) the concept of credit can be traced back in history and it was not appreciated until and after the Second World War when it was largely appreciated in Europe and later to Africa (Kiiru, 2004). Banks in USA gave credit to customers with high interest rates which sometimes discouraged borrowers hence the concept of credit didn’t become popular until the economic boom in USA in 1885 when the banks had excess liquidity and wanted to lend the excess cash.

Ditcher, 2003 Alobari Naenwi ; Zukbee and Miebaka (2018) define Credit management as the concerned of managing debtors and financing debts. They added that the objectives of credit management can be stated as safe guarding the company's investments in debtors and optimizing operational cash flows. Policies and procedures must be useful for granting credit to customers, collecting payment and limiting the risk of non-payments (Kagoyire and Shukla, 2016; Wadike, Abuba and Wokoma, 2017). Credit management is defined as a company's action plan to guard against late payments or defaults by your customers. An effective credit management plan uses a continuous, proactive process of identifying risks, evaluating their potential for loss and strategically guarding against the inherent risks of extending credit. Having a credit management plan helps protect your business's cash flow, optimizes performance and reduces the possibility that a default will adversely impact your business.

Late payment and payment default situations happen with alarming frequency – it's critical to the financial health of your company to minimize them. Customers who fail to pay their invoices or drag their feet in paying can directly jeopardize the survival of your business, which is why having a credit management system is important. Many businesses find it challenging to properly evaluate and track the creditworthiness of new customers. And when conducting business with foreign customers, customer risk management becomes even more complex because it can be difficult to interpret and rely on information used by foreign countries to measure creditworthiness. Solving the challenge is a must: One in five business bankruptcies among enterprises occur due to customers that default on their invoices. And though medium and large companies are better equipped to absorb a bad debt loss, non-payment events can still destroy their profit and spoil growth plans. By employing effective credit management procedures, you can help your business bring in the revenue it's entitled to and ensure long-term business continuity.

Credit management starts with the sale and does not stop until the complete and final payment has been received. It is as vital as part of the deal as closing the sale. In fact, a sale is in principle not a sale until the money has been collected. It follows that principles of goods lending shall be concerned with ensure, so far as possible that the borrower will be able to make scheduled payments with interest in full and within the required moment in time otherwise, the profit from interest earned is reduced or even wiped out by the bad debt when the customer eventually defaults. Thus, a key requirement for efficient credit management is the ability to intelligently and resourcefully manage customer credit lines. In order to reduce exposure to bad debt, over-reserving and bankruptcies, companies must have greater insight into customer financial strength, credit score history and changing payment pattern.

2.2 The role of loans/advances in economic growth and development

Hardly can one talk about growth and development of a nation's economy without talking about commercial banks as the spur catalyst that enhances that" (Adebayo et al, (2004). Conventionally, the banking system were focused on receipt of deposits from customers on demand. But today, the banking system has transcended beyond that scope, the system now incorporates the performance of other auxiliary functions such as financial advisory services and extension of credit facilities to individuals, small and medium scale industries and corporate organizations. The reason beheld the extension of credit to those borrowers is to play a much larger role in the development, but too often are held back by a lack of relay access of finance by the borrowers from the commercial bank.

The negligence of the medium and small scale industries by the commercial bank in Nigeria is at alarming rate. Viewing these industry as costly, high risk credit, commercial bank avoid granting loans to them instead the focus on "safe" operations such as financial larger local or multinational corporation, holding high yield government bonds. The intermediary function of the commercial banks in this regard, has been neglected by the banks as they failed to small scale and medium scale industries, which for, the bulk of job creation for the masses necessary for the economic growth and development of the nation.

Commercial banks perform the intermediary role by credit extension in form of loans/Advances and investment. The purpose of the loan is to provide circulating or working capital to firms rather than fixed capital. But in a more fundamental respect, investments and loans are alike as each serve as a means of channeling funds to the credit worthy customers (Robin, et al, 1992). By using discrimination in making both types of advances the banker is playing his part in maximizing the productive power of the country and raising its living standards.

The monetary authorities in Nigeria realizing the crucial role of extending credit facilities by commercial banks for the purpose of financing the real sector and other sectors of the Nation's economy particularly in the light of this current economic meltdown, the CBN monetary and credit policy guidelines has been to require commercial banks to accord priority in their sector allocation of credits. The circular /guidelines became necessary with the view that, if the real sector and the other sectors of the economy are properly financed, it will enhance economic growth and development of the country.(Nkoro, 2003).

However, commercial banks not only provide funds for the sectors but also for the government. The government whenever it runs into deficit expenditure also visit commercial banks to obtain funds through the issuance of bonds. By so doing, the credit provided aids the smooth operations of governmental activities. The credits made available to the government are sometimes expended on capital projects and provision of infrastructure which in turn improve the living standards of the citizens. (Nkoro, 2003).

In a nutshell, the loans and advances are of critical importance to both the bank and the nation's economy at large. It forms the major source of income to the banks and is of significant importance to the economic growth and development of the nation.

Risk factors in loans and advance.

According to Adetayo et al (2004) "the fear of risk, the possibility of loss, injury, damage, peril, or possibility that the actual outcome of an investment decision will not be the same as the forecasted result; is inevitable in life". No aspect of human endeavor is devoid of it. Therefore, are not exceptional since banking business has been and continues to be that of taking risks; which he does through maturity transformation-borrowing short and lending long. One can infer that the basis for doing this is the probability that he will not be called upon at once to redeem all his obligations provided he managed his affairs prudently. Although, risk is quite inevitable but the bank must always ensure that the credit exposure is commensurate with profitability. It is in this light that Nwanhwo (1991) said "risks that are taken mush be compatible with profitability, liquidity and prudence". Due to the risk inherent in the loan, however, the bank must try to obtain assurances that it will be re repaid. These ordinarily mean that financial standing, worth and character of the prospective borrower will be investigated (Robinson et al 1992).

In order to reduce the likely hood of the occurrence of risk, banks need to avoid the following;

Improper Documentation

Detailed information about the beneficiaries of the loan and the terms of the loan should be properly documented and kept for future use reference. A situation where these records are lacking or improperly kept may make it difficult to trace the beneficiary in case of default. Such facility, whether approved or authorized, would develop into a bad debt.

Unauthorized facilities

Short term facilities like overdraft when unpaid by customers, usually mature into bad debts. This usually occurs due to security arrangements resulting from over trust and confidence the bankers have for customers. These types of credit are the most common and the most difficult to recover hence, banks need to be cautions in giving out such facilities.

Contract facilities

Banks have to be cautious about the way they finance government contracts since most at times it results to bad debts when payment is not forth coming after the execution of such contracts. The risk of default in government contracts is high due to political instability and unplanned changes in government finances and expenditures. Banks will have nothing to fall back on where the contract money is the banks security.

Credit Concentration

It is very risky for a bank where there is concentration of credit in the hands of a single customer in the face of liquidation of such customers business, the bank will be in danger or at a huge loss due to the credit facility. In order to check such big loss to the bank, it has been provided that no bank should lend more than 20 percent of its shareholders funds. Without prior approval by the bank to the individual customers unimpaired loss. Section 20 (1) (a) of Banks and other financial institutions decree (BOFID)1991.

poor supervision of credit. The banks need to monitor and supervise the bank loans to check diversion of such funds for other uses. Where proper supervision is lacking, the funds could be misplaced and consequently end up being bad debts especially if the line to which funds are diverted failed to yield expected returns

Unpaid charges

Where the bank gives free hands to customers to overdraw their accounts without making allowance for bank charges, such as interest charge and commission on turnover, (COT), such informal lending arrangement may result to a abandonment of the account by customers, over accumulation of such changes could result eventually to bad debts.

In all, these and numerous other business factors constitute risks to the bank and all hands must be on deck to ensure that it is minimized.

2.3 Academic Review

Alobari Naenwi ; Zukbee and Miebaka (2018) studied the effect of credit management on the performance of banks in Nigeria. the study adopted cross sectional survey design. The population of the study consisted of all management staffs of commercial banks operating in Nigeria. The sample sizes of eleven (11) select commercial banks were considered by systematic technique. The Purposive sampling technique was adopted; hence six respondents were administered questionnaire (Bank Manager and five senior staff) from each bank to make up a 66 respondents for the study. Multiple regression analysis was adopted for the study to determine the influence/impacts of credit management variables (Credit Appraisal, Credit Risk Control, and Collection policy) on bank performance. The study revealed that credit management has a significant impact on bank performance in Nigeria. The study also revealed that among the credit management variables considered, credit risk control has the highest driving force for bring about an effect financial performance of bank in Nigeria. It was recommended that financial institution should not only take credit management serious, but should recognized the role of credit risk section if they aim at increasing profitability.

Uwuigbe, Olubukunola, and Babajide, (2015) carried out a study on credit management and bank performance of listed banks in Nigeria. The study aimed to examine the effects of credit management on banks' performance in Nigeria. In achieving the objectives recognized in this study, the audited corporate annual financial statement of the listed banks covering the period 2007-2011 were analyzed. A sum total of ten listed banks were selected and analyzed for the study by adopting the purposive sampling method. However, in assessing the research postulations, the study adopted the use of both descriptive statistics and econometric analysis, using the linear regression methodology consisting of periodic and cross sectional data in the estimation of the regression equation. Results from the study revealed that while ratio of non-performing loans and bad debt do have a significant negative effect on the performance of banks in Nigeria, on the other hand, relationship between secured and unsecured loan ratio and bank's performance was not significant.

Femi, Marshal, and Ayodele (2015), researched on credit risk management and bank performance in Nigeria. This study investigated the impact of credit risk on banks' performance in Nigeria. A panel estimation of six banks from 2000 to 2013 was done using the random model framework. Result from the study showed that credit risk is negatively and significantly linked to bank performance; measured via return on assets (ROA). This result suggests that an increased exposure to credit risk reduces bank profitability. It was also found that total loan has positive and significant impact on bank performance. Therefore, to shoot the cyclical nature of nonperforming loans and increase their profits, the banks should implement an aggressive deposit mobilization to increase credit availability, and develop a trustworthy credit risk management strategy with adequate penalty for loan payment defaults.

Abiola, Yahayaand and Olaiya (2021), investigated the impact of credit management on performance of Deposit Money Banks (DMBs) in Nigeria. Survey method was adopted for the study. The study covered all the Deposit Money Banks in Nigeria (DMBs). Six banks were selected using simple random sampling technique. Secondary data was used through Annual Reports from six banks selected for ten years between 2010 to 2019. Data collected were analyzed using multiple regressions by adopting panel method. This is with a view to providing further empirical evidence on how credit risk policies affect the performance of Deposit Money Banks in Nigeria (DMBs). Panel regression was used to determine the effect of loan loss provision (LLP), loans and advances (LA), non-performing loans (NPL) and shareholders' funds on return on asset (ROA). The findings revealed that credit management or credit risk policies have impact on the profitability of DMBs. Based on the findings; shareholders' funds is a major predictor of banks' profitability. So, it is recommended that DMBs should be well capitalized to maintain good capital adequacy. It is also recommended that appropriate credit risk policies should be instituted in the DMB.

Eniafe (2020) investigated the impact of non-performing loans on Money deposit banks' performance in Nigeria. Hypotheses were set and data were sourced from secondary data. The study used the confirmed ECM model (via residual and least square method of analyses. The results revealed that non-performing loans have impact Deposit Money Banks performance within the period of study; whereas, the impact of the individually independent variables (net interest margin and deposit to loan.) varied. The study recommends, amongst others that, effective credit policy that is reflected in flexible tenure, restructuring of credit terms and conversion should be adopted in the Deposit Money banks. This policy could help reducing the tempo of nonperforming loan, such that as return on equity is increasing, the possibility of default would decline considerably.

2.4 Theoretical Framework

This study is anchored on the risk/return theory. However, it also reviewed the information asymmetry theory as related and relevant to the current study.

Risk/Return Theory

The theory was propounded by Miller-Modigliani in 1958 that. It states that, the risk undertaken by a commercial bank has a direct relationship to its performance. According Sanusi (2008), "the credit policy of a firm affects its working capital and ultimately its performance, by influencing the level of debtors" .The credit term to be granted to customer may depend on the norms of the industry to which the firm belongs. But a bank has the flexibility of shaping its credit management policy within the constraint of industry norms and practices. Bank should use discretion in granting credit terms to its customers. Depending on the individual case, different terms may be given to different customers. A liberal credit management policy without eating the credit worthiness of customers will be detrimental to the bank and will create a problem of collecting the debt later on. It is emphasized that the credit management and collection policies of one bank are not independent of those of other banks. If products and capital markets are reasonably competitive, the credit management and collection policies of one bank will be influenced by what other banks are doing.

Also, in Pandey (1976), the J. Treynor theory of credit management of 1954 avers that the performance of any commercial financial institution is a direct function of its credit management ability. This theory explains that the way a commercial bank function affects directly, positively or negatively the bank performance depending on the rate of interest prevailing at any given time or period.

Pandey believes that "credit management arises when a firm sells its products or services on credit" it is essentially a marketing tool. A firm grants credit to protect its services from its competitors and to attract the potential customers to buy it products at favorable terms. Credit creates receivables or book debts which the bank is expected to collect in the future. The time lag between the date the credit is granted and the date of payment has to be financed out of working capital.

This necessitates the bank to get funds from other banks or the capital market or other sources. Thus trade debtors represent investments to the bank to enhance growth.

As substantial amounts of the banks funds are tied up in credits, it needs careful analysis and proper management. There is one way in which credits management can affect the volume of credit granted and collection periods. This is through changes in credit policies and management.

Information Assymetry Theory

Information asymmetry refers to a condition where business owners or manager know more about the forecast for, and risks facing their business, than do lenders (PWHC, 2002) cited in Eppy.I (2005). It describes a situation in which all parties involved in an undertaking do not know relevant information. In a debt market, information asymmetry arises when a borrower who takes a loan usually has improved information about the potential risks, and returns connected with investment projects for which the funds are earmarked. The lender on the other hand does not have adequate information concerning the borrower (Edwards and Turnbull, 1994). Transaction Cost Theory - First developed by Schwartz (1974), this theory conjectures that suppliers may well have an advantage over traditional lenders in checking the real financial circumstances or the credit worthiness of their clients. Suppliers also have a healthier ability to monitor and compel repayment of the credit. All these superiorities may give suppliers a cost advantage when compare with financial institutions (Nduta, 2013). There are three sources of cost advantage were classified by Petersen and Rajan (1997) as follows: information acquisition, controlling the buyer and salvaging value from existing assets. The first source of cost advantage can be explained by the verity that sellers can get information about buyers faster and at lower cost because it is obtained in the regular course of business. That is, the frequency and the amount of the buyer's orders offer suppliers an idea of the client's state of affairs; the buyer‟s rejection of discounts for early payment may provide to alert the supplier of a weakening in the credit-worthiness of the buyer, and sellers regularly visit customers more often than financial institutions do.

3. Methodology

3.1 Research Design

The research design adopted for this study is *ex post-facto* research design. The return on asset (ROA) as the dependent variable, while nonperforming loan (NPL), loan-deposit ratio (LDR), loan loss provision (LLP) total loans and advances (LAD) and the lending rate (LR) as independent variables. The data obtained were analyzed using Ordinary Least square (OLS) through Eviews-10 statistical package.

3.2 Sources of Data

In carrying out this study, secondary data were sourced from Central Bank of Nigeria Statistical Bulletin, Annual Report of banks, the NBS and the Nigeria data portal for the period of 2000 to 2020 due. Time series data were extracted based on the variables used in the study.

3.3 Model Specification

The model by Miebaka et al (2020) for the effect of credit management on the performance of banks in Nigeria is:

$BP = a + \beta 1CA + \beta 2CRC + \beta 3CP + e$ ... 1

The model above is adopted and modified for this study as follows:

$ROA = f(NPL, LLP, LDR, LAD, LR)$ … 2

$ROA = \beta 0 + \beta 1NPL + \beta 2LLP + \beta 3LDR + \beta 4LAD + \beta LR + \mu t$ … 3

Where: ROA = return on asset (dependent variable); $\beta 0$ = Constant term, which represents when all explanatory variables are held constant; $\beta 1$ = Coefficient of the parameter estimates; NPL = nonperforming loans; LLP = loan loss provision; LDR = loan-deposit ratio; LAD = total loans and advances; μ = Error term

3.4 Method of Data Analysis

The study used econometric method in analyzing the data. First, data collected will be clean through diagnostic tests such as Augmented Dickey Fuller Unit Root Test, Cointegration test, and the Vector Error Correction Mechanism. Descriptive statistics such as mean, Kurtosis, Skewness and standard deviation for each variable will be calculated and tabulated. The E-views computer software will be used in the analysis of data; it will be entered into the E-views package and analyzed using regression analysis to measure the impact of financial deepening on economic growth in Nigeria.

3.5.1 Unit Root Test

There is need to know the status of the variables used in the study. To realize this, the Unit Root Test is carried out to know if the data of the variables are stationary with respect to time. The result as attached in appendix shows the results of the stationary test for all variables used. The stationary level is considered after comparing the ADF against the Mackinnon Critical value at 5% level.

Correlation Test

The test for correlation will be performed using to check for the nature of relationship among the model variables. Under this approach, trace test statistics was used on testing whether a long run relationship exist among the variables.

Test of Significance

The study will employ the R2 tests which test the significance of the relationship between the four independent variables of financial deepening and one dependent variable of economic growth. It will also use the student T-test and the Standard Error (SE) tests to evaluate the regression estimates and the hypotheses. These were preferred in the study since it enables performance of simultaneous test hence considered an important tool of analysis.

4. Results and Discussion of Results

4.1.1 Descriptive Statistics

Selected descriptive statistics (mean, skewness, kurtosis and standard deviation) on the model variables was used as pre estimation tests on the reliability of the data employed. The result obtained is shown below:

Table 1: selected descriptive statistics of the series

	ROA	NPL	LLP	LDR	LR	LAD
Mean	3983.993	1655.219	16785.34	65.48776	17.75004	3125.917
Std. Dev.	0.300676	0.253568	0.00239	0.427997	0.129478	0.362818
Skewness	0.019663	0.227192	0.324404	0.107922	0.225017	0.186340
Kurtosis	3.025268	2.719092	2.849399	2.508878	1.983394	3.910472
Observations	21	21	21	21	21	21

source: researcher's computation using e-views

Standard deviation is a measure of how dispersed the data is in relation to the mean. Low standard deviation means data are clustered around the mean, and high standard deviation indicates data are more spread out. A standard deviation close to zero indicates that data points are close to the mean, whereas a high or low standard deviation indicates data points are respectively above or below the mean. As a mathematical tool, it helps to assess how far the values are spread above and below the mean. A high standard deviation shows that the data is widely spread (less reliable) and a low standard deviation shows that the data are clustered closely around the mean (more reliable). Looking into the result (table 1 above), the standard deviation for each of the variables is very low when compared to their respective mean values; hence the outcome of the study is reliable.

The kurtosis parameter is a measure of the combined weight of the tails relative to the rest of the distribution. So, kurtosis is all about the tails of the distribution. It measures the tail-heaviness of the distribution. The kurtosis is referred to as the "fourth standardized central moment for the probability model. This is because kurtosis looks at the combined size of the tails. The kurtosis decreases as the tails become lighter. It increases as the tails become heavier. Most often, kurtosis is measured against the normal distribution. If the kurtosis is close to 0, then a normal distribution is often assumed. If the kurtosis is less than zero, then the distribution is light tails; if the kurtosis is greater than zero, then the distribution has heavier tails

Skewness is a measure of symmetry or lack of it in a dataset. A perfectly symmetrical data set will have a skewness of 0. The normal distribution has a skewness of 0. A truly symmetrical data set has a skewness equal to 0. A positive skewness indicates that the size of the right-handed tail is larger than the left-handed tail. To ascertain when skewness is too much, the rule of thumb is: If the skewness is between -0.5 and 0.5, the data are fairly symmetrical, If the skewness is between -1 and – 0.5 or between 0.5 and 1, the data are moderately skewed. If the skewness is less than -1 or greater than 1, the data are highly skewed. The result as above, confirm that the series are normal (lowly skewed), they hover between 0 and 1.

4.1.2 Correlation

It is necessary to ascertain the nature of association between the dependent variable (return on asset of banks) and the independent variables (components of fraud in banks). The correlation matrix is a useful tool for this since it involves more than one pair of variables. The result is shown below:

Table 2: Correlation matrix of the variables

	ROA	NPL	LLP	LDR	LR	LAD
ROA	1.000000					
NPL	-0.970617	1.000000				
LLP	0.943471	0.915408	1.000000			
LDR	-0.619508	-0.024714	-0.182138	1.000000		
LR	-0.354450	-0.316889	-0.464147	-0.003175	1.000000	
LAD	0.983342	0.983718	0.928693	-0.033106	-0.370082	1.000000

Source: researcher's computation using e-views

The table 2 above is the correlation matrix of the model variables, as indicated the variables (loan loss provision – LLP, and loans and advances – LAD are positively signed. This means a positive relationship between these variables and the return on assets (dependent variable). Also, the variables (nonperforming loan – NPL, loan-deposit ratio – LDR, and the lending rate – LR) are negatively signed. Analytical procedures in economics and finance place great interested in understanding the relationship between model variables. Quantifying observed relationship requires the use of the correlation statistics which is a measure of the linear association between model variables. The values range between -1 and 1 where: -1 indicates a perfectly negative linear correlation between two variables, 0 indicates no linear correlation between two variables, 1 indicates a perfectly positive linear correlation of model variables. The further away the correlation coefficient is from zero, the stronger the relationship. But in cases involving more than just one pair of variables, a correlation matrix becomes necessary. It is a square table that shows the correlation coefficients between several variables.

4.1.3 Model Diagnostics Test (Unit root test of stationary series)

Table 3: Unit root test result

Variable	@ level	critical vlue	order	Remark
RGDP	5.273553	3.828975	1(0)	stationary
CIT	4.593700	3.828975	1(0)	stationary
PIT	5.326004	3.828975	1(0)	stationary
PPT	4.017050	3.828975	1(0)	stationary
VAT	4.877243	3.828975	1(0)	stationary

Source: researcher's computation using e-views

Many economic and financial time series exhibit trending behavior or non-stationarity in the mean. Leading examples are asset related variables, exchange rates and the levels of macroeconomic aggregates like real GDP. An important econometric task is determining the most appropriate form of the trend in the data. The data must be transformed to stationary form prior to analysis. If the data are trending, then some form of trend removal is required. Two common trend removal or de-trending procedures are first differencing and time-trend regression. First differencing is appropriate for I(1) time series and time-trend regression is appropriate for trend stationary I(0) time series. The unit root test result as presented in table 3 above indicates that the variables are stationary @ level. This is confirmed by comparing the ADF t-stat with the 5% critical value, where the former is greater than the later, or simply by looking at the p-value where it is expected to be less than (0.05) for the series to be judged stationary.

Unit root tests can be used to determine if trending data should be first differenced or regressed on deterministic functions of time to render the data stationary. Moreover, economic and finance theory often suggests the existence of long-run equilibrium relationships among non-stationary time series variables.

4.2 Ordinary Least Squares Regression Estimates

The broad objective of the study is to determine the effect of taxation on economic growth in Nigeria. In order to know the specific impact of the component variables, the ordinary least squares method became necessary following that the model variables are level-stationary The result of the regression estimation is presented below:

Table 4: OLS estimation result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPL	-0.159308	0.484299	-3.328946	0.0010

LLP	0.162811	0.031898	3.969127	0.0005
LDR	-4.247369	-9.611460	-2.441907	0.0145
LR	23.33494	8.146914	2.606589	0.0026
LAD	0.812108	0.977118	1.430554	0.0980
R-squared	0.674397			

Source: researcher's computation using e-views

The regression result as shown above displays the coefficients of the parameters (treatment variables). As indicated, the loan-loss provision (LLP), lending rate (LR) and the total loans and advances (LAD) are positively signed; hence they have positive effect on the performance (measured by the return on assets) of banks. Conversely, the variables nonperforming loans, (NPL) and the loan to deposit ratio (LDR) are negatively signed. Hence, they have negative effect on the performance of banks.

Nonperforming loan (NPL) has a coefficient of -0.159308, the p-value is less than the 5% level of significance (0.0010 < 0.05), hence it is highly significant in its effects on the performance of banks (return on assets of banks).

The loan-deposit ratio (LDR) has a coefficient of -4.247369, the p-value is less than the 5% level of significance (0.0145 < 0.05) hence it is significant in explaining the variations in the performance of banks based on the return on asset index. The loan-deposit ratio is not internally controlled by the banks, they are externally determined and lawfully placed on the banks for execution by the central bank. If the ratio is high, it is expected based on the sign and magnitude of the coefficient that the value of the return on asset and other performance parameters of the banks will be high, and vise versa.

The loan-loss provision variable (LLP) has a very significant estimate (0.162811, p-value is 0.0005). Hence, the banks perform well by making adequate provision for expected losses in the repayment of loan by credit consumers.

The aggregate loans and advances of the banks (LAD) appeared positively signed. However, the result shows that it is not significant (coefficient = 0.812108), p-value is (0.0980). The banks are expected to perform better as the value of total loans increase. The reason for the insignificant coefficient could mean that the Nigerian banking system is not yet making substantial credit advances to the demanding consumers.

4.2 Discussion of Results

4.2.1 Loan Loss Provision and Bank Performance

The result on loan loss provision contradicts Aminu, Dogarawa, and Sabari (2014) who found that loan loss provisions has negative impact on banks credits. The divergence in the result could be attributed to the methodology. This current study employed the ordinary least squares technique and used data for the entire banking sector, where as Aminu, Dogarawa, and Sabari (2014) used simple descriptive statistics and only based on the secondary data collected from 10 sampled banks over a seven years period.

The banking sector in Nigeria over the years has witnessed a number of crises that led to the distress of many banks particularly in the '90s through early 2000s. The crisis, which was caused and fueled by among others high figures of loan loss provisioning leading to dissipation of profit, capital erosion and impairment of liquidity, negative shareholders' funds and consequently poor asset quality these has necessitated the introduction of banking sector reform agenda , which includes consolidation in order to address the problem decisively.

They had recommended (based on their findings) that the regulatory authorities should be evolving tighter limits on excessive concentration of risk and tightening provisioning requirements on non-Performing loans. Further, strict application of prudential guidelines becomes imperative, so that banks liquidity and Capital bases are sustained in such a way that it will not rubbish the consolidation reform policy gains.

4.2.2 Loans and Bank Performance

One of the primary functions of the banking system is to mop up credit from the surplus unit of the economy (savers economy) and advance same to the deficit unit of the economy (deficit economy – investors). This study found that total loans and advances have positive effect on the performance of banks.

4.2.3 Nonperforming Loans and Bank Performance

The findings from this study indicate that nonperforming loans is harmful to the performance metric (return on asset) of the banking system. This result agrees with Eniafe (2020) who investigated the impact of non-performing loans on Money deposit banks' performance in Nigeria using ECM model (via residual and least square method of analyses. The results revealed that non-performing loans have negative impact on the Deposit Money Banks performance. Therefore, banks with such asset would become weak and such weak banks will lose the faith and confidence of their customers. Ultimately, unrecoverable amounts of loans are written off as non-performing loan (Sere-Ejembi, Udom, Salihu, Atoi, and Yaaba., (2014)). Thus, since nonperforming loans have an adverse effect on the banking sectors survival, the cause for NPLs should be given due consideration.

In Nigerian financial system, non-performing loans (NPLs) refer to loans which for a relatively long period of time do not generate income. This implies that the principal and or interest on these loans have been left unpaid for at least 90 days (Atoi, 2018). NPLs have become a critical issue of discourse in finance literature because of the close link between banking crises and massive accumulation of it. Its causes vary in different countries, which might be due to situational factors such as the level of economic condition in which the banking sectors are operating and also bank level factors. Macroeconomic variables are external forces of determinants of credit assets quality and banks specific policies, staff quality, morale, asset management mechanism and so on are internal drivers of banking performance. Banking sector in Nigeria has faced a lot of problems, the most destructive problems is the huge and ever increasing amount of NPLs which has influence on banks" efficiency and growth as well as endanger the growth and development of the Nigerian economy. The magnitude of nonperforming loans in Nigeria increased from N260.19 billion as at end December 2003 to

5. Summary, Conclusion and Recommendations

The study sought to provide empirical evidence of the effects of credit management on the performance of banks in Nigeria. The treatment variables used in the study were company nonperforming loans (NPL), loan loss provision (LLP), loan-deposit ratio (LDR), the lending rate (LR) and the value of total loans and advances (LAD); while the response (dependent variable) was the return on asset (proxy for bank performance). The findings show evidence of mixed effect (significant positive and negative coefficients). The correlation test confirmed the existence of relationship between credit management variables and bank performance variable. The explanatory power of the model is 67.44%, and overall, the study is significant. The finding is summarized below:

1. Nonperforming loan (NPL) has a coefficient of -0.159308, the p-value is less than the 5% level of significance (0.0010 < 0.05), hence it is highly significant in its effects on the performance of banks (return on assets of banks).
2. The loan-deposit ratio (LDR) has a coefficient of -4.247369, the p-value is less than the 5% level of significance (0.0145 < 0.05)
3. The loan-loss provision variable (LLP) has a very significant estimate (0.162811, p-value is 0.0005).
4. The aggregate loans and advances of the banks (LAD) appeared positively signed. (coefficient = 0.812108), p-value is (0.0980).

This study is on the effects of credit management on the performance of banks in Nigeria Following the estimation tests and the findings therein, the study draws the conclusion that credit management have mixed effect on the performance of banks in Nigeria.

Based on the findings and the conclusion, the study makes the following recommendations:

i) Effective credit policy that is reflected in flexible tenure, restructuring of credit terms and conversion should be adopted in the Deposit Money banks

ii) The banks should increase the credit portfolio as the demand for credit is increasing

iii) Adequate provision should be made by banks for loan loss

iv) The banks should ensure a low nonperforming loan portfolio

v) The CBN should keep the loan deposit ratio high to enhance credit creation by the banks

REFERENCES

Abiola, I., and Samuel, A. O. (2014). The impact of credit management on the commercial banks performance in Nigeria. *International Journal of Management and Sustainability, 3(5), 295- 306.*

Adedoyin, S. (1998). Enhancing the growth of the real sector; What the real sectorexperts from financial services industry say" The journal of Banking and finance

Adetayo, E. A and Oladejo, B (2004) management of foreign exchange risks in commercial banks, in Nigeria, Board publications ltd, Ibadan.

Afolabi, L (1999): Monetary economics, Revised edition. Printed by intee printers ltd Ibadan.

Al-Faki (2005). Recapitalization of the banking and insurance sectors: what prospect for investors and Nigeria" A quarterly of the securities and exchange commission, Nigeria.(July-September, 2005).

Alobari, C., Naenwi M-epbari O., Zukbee S. A., and Miebaka, G. (2018). Impact of credit management on bank performance in Nigeria. *Equatorial Journal of Finance and Management Sciences, 2018; 3 (1):17-23*

Bexley , J.B. (1978): Banking management, A guide to more profitable banking, Golf publishing company, Houston, Texas USA

Bitner, J,W .(1992): Successful banks Assets/Liability management; A guide to the future beyond gap. Braun Brum field printing Inc. USA.

Central Bank of Nigeria (2010), Banking supervision roles of Central Bank of Nigeria and Annual Report.

Collins, A., Johnny, P., M-epbari, N. and Barikui, T. (2017). Financial Management and the Public Sector: Trend, Problems and Prospects. *Equatorial Journal of Finance and Management Sciences, 2 (2):34-45.*

Das, A. and S. Ghosh, (2007). Determinants of credit risk in Indian state-owned banks: An Empirical Investigation. *Economics and Statistics, 58(2): 355-372.*

Drigă, I. (2012). Financial risks analysis for a commercial bank in the Romanian banking System, *Annales Universitatis Apulensis Series Oeconomica, 14(1), 164-177*.

Edwards, P. and Turnbull (1994). Finance for small and medium sized enterprises. Information and the income gearing challenge. International Journal of marketing vol. 12(6)3-9.

Emeka, N. (2005); The study of monetary policy and macro-economic stability in Nigeria (1980-2000), available at http;//search warp.com/Swa 20450.htm.

Eppy, I. (2005) Perceived information asymmetry, bank lending approaches and bank credit Accessibility by smes in Uganda (Unpublished thesis), Makerere University

Femi, O. K., Marshal, T. O., and Ayodele, J. O. (2015). Credit risk and bank performance in Nigeria. IOSR Journal of Economics and Finance, 6(2), 21-28 Electronic copy available at: https://ssrn.com/abstract=3165764

Iyoha, M.A (2002): Macroeconomics: Theory and policy. Mindex publishing , Benin City.

Jhingan, M.L(1997) Micro economics theory, 4th revised and enlarged edition, Urinda Publications Ltd. Pp165.

Lipsey, R. (1987). An Introduction to positive economics. Pretence Hall Publishers.

Nduta, R. G. (2013). The effect of credit mamagement on the financial performance of Microfinance institutions in Kenya. An Unpublised M.Sc. Project, School of Business, University of Nairobi.

Nnanna O.J. (2001) monetary Policy framework in Africa: The Nigeria system.pp562-566.

Olalusi, F. (1999) Central Banking in Africa, Nigerian experience Vol.4 Lagos ceemol Publisher pp46-47.

Oluba, M. (2002) has Nigeria's monetary policies truly supported sustainable macroeconomic performance. Economic reflection, Vol4 . Lagos Ceemol Publishers pp 46-47.

Pandey, I.M (2000) Financial Management Delhi. Malthouse publishers.

Uwuigbe, U., Olubukunola, U. R., and Babajide, O. (2015). Credit management and bank performance of listed banks in Nigeria. *Journal of Economics and Sustainable Development, 6 (2), 27-32.*

Wadike, G. C., Abuba, S. and Wokoma, D. A. (2017). Enhancing Management Strategies for Profitability of Corporate Organisations in Nigeria. *Equatorial Journal of Finance and Management Sciences, 2017: 2 (2): 17- 33*