

The Influence of Credit Control on Non Performing Loan in Deposit Money Banks in Nigeria

(A Survey of First Bank, United Bank for Africa and Union Bank of Nigeria)

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Abstract

This study examined the influence of credit control on credit facilities and attendance influence on non performing loan deposit money banks in Nigeria. The study established the far reaching effects of credit control on non performing loan of the selected banks in Nigeria. Secondary data were obtained from Central Bank of Nigeria's statistical bulletin and Nigerian Deposit Insurance Company and National Bureau of Statistics on the selected banks. These were analysed using Econometric View Version 7. Two hypotheses were formulated and tested. The result of regression analysis established the fact that there is significant relationship between non-performing loan and credit control. In addition, adherence to drawn down conditionality will significantly affect nonperforming loan. It is therefore recommended that policies already in place for the management of credit risk should be strengthened and subject to constant reviewed, while procedure should be in place to enforce loan conditionality before drawdown is allowed as to minimise the incidence non performance of credit facilities.

Keywords: Bank Credit, Credit Control, Nonperforming Loan, Risk Monitoring, Credit Facilities, Repayment Term.

1.0 INTRODUCTION

Proper management of credit risk in financial institutions is critical for the survival and growth of the financial institutions. In the case of banks, the issue of credit risk is even of greater concern because of the higher level of perceived risks resulting from some of the characteristics of clients and business conditions that they find themselves. Banks and their customers have different perceptions of bank credit or lending. To most bankers, credit is not a capital-market activity, yet to many corporate customers' particularly small and medium-sized companies, bank loans are their most important source of capital. The demand for medium-term or long-term lending comes mainly from commercial and industrial companies and from private individuals. However, amongst all the services provided by banks, credit creation is the main income generating activity for the banks. But this activity involves extremely high risks to both the lender (financial institution) and the borrower (client).

Furthermore, bank need to put in place credit control measure to effectively manage credit granted to customer so that the issue of non- performing loan will be avoided. According to Samuel and Wilkers, (1980) credit control is concerned with the efficiency in ranking customers status which has the objectives of minimising risk inherent in credit extended to customers, they further maintain that credit is the central problem in balancing profitability and liquidity. Credit control in banking context refers to a critical system of control that prevents the system from becoming illiquid due to improper and un- coordinated issuance of credit to customers. The banking sector plays a vital role in development of any economy especially the third world economies that requires proper administration of funds and efficient credit creation process which could stimulate growth and development in such feeble economies. This is why Levine, (1996) argued that financial intermediaries' plays crucial roles in the operation of most economies and state further that the efficacy of financial intermediaries can also affect economic growth.

In the history of development of the Nigeria banking industry, it can be seen that most of the failure experienced in the industry prior to the consolidation era were result of imprudent lending that finally led to bad loans and some other unethical factors.

The development of credit control in many deposit banks is ineffective with the level of industrialization in Nigeria. Impediments include inadequate professional skills on the part of credit controllers in organising the funds to credit applicants and failure on the managers to adopt the efficient credit system which should have increased the propensity of credit control in financial institutions in Nigeria. The biggest credit risk facing banking and financial intermediaries is the risk of customers or counter party default. This significantly contributed to financial distress in the banking sector experienced during that period. Also identified was the existence of predatory debtor in the banking system whose modus operandi involves the abandonment of their debt obligations in some banks only to contract new debts in other banks. What is needed to address this ugly situation is an in house and bank wide credit control policies to eliminate this practice and this is where Central Bank's effort to create central based data for all banks account holders with the introduction of bank verification number (BVN) becomes very relevant.

The risk of a trading partner not fulfilling his or her obligation as per the contract on due date or anytime thereafter can greatly jeopardise the smooth functioning of bank's business. On the other hand, a bank with high credit risk has high bankruptcy risk that puts the depositors in jeopardy. In a bid to survive and maintain adequate profit level in this highly competitive environment, banks have tended to take excessive risks. But then the increasing tendency for greater risk taking has resulted in insolvency and failure of a large number of the banks. Due to that effect bank need to adequately manage or control their credit in other to minimise the problem of nonperforming loans.

One of the problems of deposit money banks as regard the ability to control credit and to avoid non-performing loan is that banks are exposed to various type of risk while lending to individual and corporate institutions. However, deposit money banks cannot continue to be existence if they can not lend to customer. Banks are faced with a lot of issues while lending to customer but this study consecrates on the effect associated with credit control on nonperforming loan. Furthermore, bank usually go through a lot of pain to ensure that money lend to customer does not go bad by using different administrative measure to ensure that customer effectively utilise the money granted to them and also has the ability to generate income which will enable them to be able to repay the principal amount in full with the interest charge.

The general objective of this study is to establish the effects of credit control on nonperforming loans of money deposit banks in Nigeria, and expectedly, the findings should be of immense benefit to managers of banks, the central bank (the government) and the economy at large. To achieve this objective, the study evaluated the credit risk management practice of deposit money banks in Nigeria; identified the bases of giving out credit and determined the key areas of the bank's performance that has been affected by non performing loans. The study proffered answers to the following questions:

- What is the relationship between credit control and non performing loans in the deposit money banks in Nigeria
- What is the direct influence of adherence to draw down conditionality to the non performing loan

Two hypotheses were subsequently formulated and tested to determine the effect of credit control on non performing loans in the deposit money banks in Nigeria and these are:

H₁: There is no significant relationship between credit control and non performing loan

H₂: There is significant relationship between the adherence to draw down conditionality and non performing loan.

2.0 LITERATURE REVIEW

The efficient and effective performance of the banking industry over time is an index of financial stability in any nation. The extent to which a bank extends credit to the public for productive activities accelerates the pace of a nation's economic growth and its long-term sustainability. Literature related to this study will be reviewed its perception of concept and theories perception which is reported as follows:

2.1.0 CONCEPTUAL FRAMEWORK

2.1.1 Credit/Bank Loan

Onyeagocha (2001), in Aremu, Suberu and Oke, (2010) proffered that the term 'credit' is used specifically to refer to the faith placed by a creditor (lender) in a debtor (borrower) by extending a loan usually in the form of money, goods or securities to the debtor. Essentially, when a loan is made, the lender is said to have extended credit to the borrower and he automatically accepts the credit of the borrower. Credit can therefore be defined as a transaction between two parties in which the creditor or lender supplies money, goods and services or securities in return for promised future payments by the debtor or borrower. There are three major types of credit. These are; Commercial credit, Consumer credit and Investment credit.

Commercial credit can be bank credit such as overdraft, loans and advances; trade credit from suppliers; commercial papers (or note); invoice discounting; bill finance; hire purchase; factoring, (to mention but a few). Consumer credit which at times referred as trade credit is a kind of permission granted an individual or a household to purchase goods like refrigerator, television, car, electronic sets, which could not be paid for immediately but for which installment payments are made over a period of time. Investment credit allows a business concern such as corporate body, sole proprietorship or partnership to obtain credit for capital goods for expansion of factory or procurement of machinery.

Regardless of the type of credit, the tenor of a facility varies from short to medium to long term depending on the institutions, nature and functions. The functions of credit are primarily two:

1. *It facilitates the transfer of capital or money to where it will be most effectively and efficiently used;*
2. *Credit economies the use of currency or coin money as granting of credit has a multiplier effect on the volume of currency or coin in circulation.*

Perhaps, we need to add here that the cost of credit (notably interest and discount rates) is one of the essential tools used to control and regulate money by the Central Bank of Nigeria through its monetary policy (Aremu, Suberu and Oke 2010).

2.1.2 Credit Criteria

Credit criteria are factors used to determine a credit proposal or ability of the borrower to repay debt. The credit criteria factors include income, amount of existing personal debt, and credit history. Kwambai and Wandera, (2013) claimed that the most pervasive area of risk is an overly aggressive lending exercise. It is a hazardous practice to extend lending term beyond the useful life of the corresponding collateral. Besides that, giving out loans to borrowers who are already overloaded with debt or possess unfavourable credit history can expose banks to unnecessary default and credit risk. In order to decrease these risks, banks need to take into consideration several common applicants' particulars such as debt to income ratio, business and credit history and performance record and for individual loan applicants their time on the job or length of time should be critically examined.

2.1.3 Evaluation of Credit

The devastating effect of credit loss which is the aftermath of non-performing loans and advances makes sound evaluation of credit request paramount in all banks. Banks need to properly evaluate and articulate the projects, the customers and the prevailing economic situations. Mather, (1962) described three basic principles for evaluating credit as Safety, Suitability and Profitability in the first instance, safety of any advance or loan is of utmost importance because funds to be lent belong to the depositors. Banks must emphasise among other things, the character (honesty, integrity and reliability) of borrowers. The probability that the amount granted would be repaid from the cash flows generated from the operations of the company must (as a matter of fact) be seen to be certain. The borrower must be able to provide acceptable security, which will serve as something to fall back on if the expected source of repayment fails. (Bester, 1994) In addition, the bank should be satisfied with the acceptability of the purpose of the loan/advance. The purpose of the loan must be legal and non-conflicting with the economic and monetary policies of the government, Central Bank of Nigeria (CBN) guidelines and Banks and Other Financial Institutions Act (BOFIA).

Certain ventures such as gambling, pool betting and speculative investment should be avoided while giving credit facilities to customers. Also, profitability is a guiding force to any operation of the bank, including credit extension. As profit oriented institutions, banks expect their facilities to yield certain level of profits with which they can declare dividends to make shareholders happy. (Adekanye, 2010)

2.1.4 Analysing the Credit Risk

As observed by Committee on Banking Supervision (2001), Credit Risk is the major component of risk management system and this should receive special attention of the top management of a bank. Credit risk is the important dimension of various risks inherent in a credit proposal, as it involves default of the principal itself.

According to Raghavan, (2005) cited in (Rufai, 2013; Raji and Sindhu, 2013) Credit risk consists of primarily two components,

1. **Quantity of risk** which is nothing but the outstanding loan balances on the date of default
2. **Quality of risk** which is the severity of loss defined by Probability of Default as reduced by the recoveries that could be made in the event of default.

Credit risk management arises any time bank funds are extended, committed, invested, or otherwise exposed through actual or implied contractual agreements, whether reflected on or off the balance sheet. Thus risk is determined by factor extraneous to the bank such as general unemployment levels, changing socio-economic conditions, debtors' attitudes and political issues. Credit risk according to Basel Committee of Banking Supervision Basel Committee on Banking Supervision (1999) and Gostineau, (1992) defined credit risk as the possibility of losing the outstanding loan partially or totally, due to credit events (default risk). Failure to pay a due obligation, repudiation/moratorium or credit rating change and restructure.

Bessis, (2002) opined that Credit risk is critical since the default of a small number of important customers can generate large losses, which can lead to insolvency.

Another notable risk factor is the one arisen as a result of insider lending which according to Brownbridge, (1998) is the single biggest contributor to the bad loans of many of the failed local banks. Generally, and in Africa, he further observed that the second major factor contributing to bank failure were the high interest rates charged to borrowers operating in the high-risk environment. The most profound effect of high non-performing loans in banks portfolio is reduction in the bank profitability especially when it comes to disposals with overall implication in the depletion of total assets. Nevertheless, the conservative managers might find market pressure for higher profits very difficult to resist.

With these attendant risks there is need to institute control mechanism on credit to minimize its incidence and effect as failure to do so will only breed non performing loans. There is no single procedure for this control rather it involves so many interrelated processes and this includes:

- **Credit Policy**

Credit policy is the means by which senior management and the Board are guided during lending activities. The policy imposes standards which are to be observed; it is also a statement of the Bank's basic credit philosophy and it also provides a framework for achieving asset quality in a manner which is consistent with the strategic objectives of the bank. Credit policies vary from one financial institution to the other. However, they all seek to

achieve effective credit administration or management. Credit administration as an operations arm of lending varies from bank to bank and this includes, includes loan processing, loan disbursement, recovery, monitoring, collateral documentation and lien perfection. It is a key control mechanism to sound assets management.

- **Credit Risk Management**

Credit risk management has been an integral part of the loan process in banking business.

Credit risk management is a process, a comprehensive system. The process that begins with identifying the lending markets, often referred to as “target markets” and proceeds through a series of stages to loan repayment. According to Mueller (1988), banking institutions face intense challenges in managing credit risk. Government controls, internal and external political interferences and pressures, production difficulties, financial limitations, market disruptions, delays in production schedules and frequent instability in the business environment undermine the financial condition of borrowers. Furthermore, financial information is frequently unreliable and legal framework does not always support debt recovery.

Therefore to arrest the occurrence of bad loan, credit risk management must be tailored to address all highlighted signals. This strategy, Lindergren, (1987) recommended must include the establishment of a clear structure, allocation of responsibility, processes have to be prioritised and disciplined, responsibilities should be clearly communicated and accountability assigned.

- **Drawdown Conditionality**

Most money deposit banks formulate various conditions that a credit beneficiary must fulfill before drawdown as mere approval of customers’ application for credit will not become binding on the bank until all conditions are fulfilled by a beneficiary. These conditions include:

- ✓ Perfection of collateral
- ✓ Beneficiary’s evidence of participating contribution
- ✓ Evidence of irreversible guarantee issued by a third party to ensure fund is sought for executable project.

When pre drawdown condition(s) is/are jettison, then the foundation for nonperforming loan is being instituted gradually.

2.2.0 THEORETICAL FRAMEWORK

2.2.1 Loan Pricing Theory

Banks cannot always set high interest rates, e.g. trying to earn maximum interest income. Banks should consider the problems of adverse selection and moral hazard since it is very difficult to forecast the borrower type at the start of the banking relationship. If banks set interest rates too high, they may induce adverse selection problems because high-risk borrowers are willing to accept these high rates. Once these borrowers receive the loans, they may develop moral hazard behaviour or so called borrower moral hazard since they are likely to take on highly risky projects or investments (Chodecai, 2004).

2.2.2 Theory of Multiple-Lending

It is found in literature that banks should be less inclined to share lending (loan syndication) in the presence of well developed equity markets. Both outside equity and mergers and acquisitions increase banks’ lending capacities, thus reducing their need of greater diversification and monitoring through share lending. (Carletti, Cerasi and Daltung, 2006; Karceski, Ongena and Smith, 2004; Degryse, Masschelen and Mitchell, 2004). This theory has a great implication for banks in Nigeria in the light of 2005 consolidation exercise in the industry with the implication that banks in Nigeria can be categorised to be all big players in intermediation process.

2.2.3 Credit Scoring Systems Theory

A credit score is a number that is based on a statistical analysis of a borrower’s credit report, and is used to represent the creditworthiness of that person. A credit score is primarily based on credit report information. Lenders, such as banks use credit scores to evaluate the potential risk posed by giving loans to consumers and to mitigate losses due to bad debt.

2.3 EMPIRICAL REVIEW

Credit risk is a serious threat to the performance of banks; therefore various researchers have examined the effect of credit risk on banks in varying dimensions. Kargi, (2011) evaluated the impact (effect) of credit risk on the profitability of Nigerian banks and relied on financial ratios as measures of bank performance and credit risk were collected from the annual reports and accounts of sampled banks from 2004-2008 these data were analysed with the aids of correlation and regression techniques. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian banks. It concluded that banks’ profitability is inversely influenced by the levels of loans and advances, non-performing loans and deposits thereby exposing them to great risk of illiquidity and distress. Epure and Lafuente, (2012) examined bank performance in the presence of risk for Costa-Rican banking industry during 1998-2007. The results showed that performance improvements follow regulatory changes and that risk explains differences in banks and that non-performing loans negatively affect efficiency and return on assets while the capital adequacy ratio has a positive impact on the net interest margin.

Kithinji, (2010) assessed the effect of credit risk management on the profitability of commercial banks in Kenya. Data on the amount of credit, level of non-performing loans and profits were collected for the period 2004 to 2008. The findings revealed that the bulk of the profits of commercial banks are not influenced by the amount of credit and non-performing loans, therefore suggesting that other variables other than credit and non-performing loans impact on profits. Chen and Pan, (2012) examined the credit risk efficiency of 34 Taiwanese commercial banks over the period 2005-2008. Their study used financial ratio to assess the credit risk and was analysed using Data Envelopment Analysis (DEA). The credit risk parameters were credit risk technical efficiency (CR-TE), credit risk allocative efficiency (CR-AE), and credit risk cost efficiency (CR-CE). The results indicated that only one bank is efficient in all types of efficiencies over the evaluated periods. Overall, the DEA results show relatively low average efficiency levels in CR-TE, CR-AE and CR-CE in 2008.

Felix and Claudine, (2008) as cited in Uwuigbes and Oyewo, (2015) investigated the relationship between bank performance and credit risk management. It could be inferred from their findings that return on equity (ROE) and return on assets (ROA) both measuring profitability were inversely related to the ratio of non-performing loan to total loan of financial institutions thereby leading to a decline in profitability. Ahmad and Ariff, (2007) examined the key determinants of credit risk of commercial banks on emerging economy banking systems compared with the developed economies. The study found that regulation is important for banking systems that offer multi-products and services; management quality is critical in the cases of loan-dominant banks in emerging economies. An increase in loan loss provision is also considered to be a significant determinant of potential credit risk. The study further highlighted that credit risk in emerging economy banks is higher than that in developed economies.

Ben-Naceur and Omran, (2008) in attempt to examine the influence of bank regulations, concentration, financial and institutional development on commercial banks' margin and profitability in Middle East and North Africa (MENA) countries from 1989-2005 found that bank capitalization and credit risk have positive and significant impact on banks' net interest margin, cost efficiency and profitability. Ahmed, Takeda and Shawn. (1998). in their study found that loan loss provision has a significant positive influence on non-performing loans. Therefore, an increase in loan loss provision indicates an increase in credit risk and deterioration in the quality of loans consequently affecting bank performance adversely.

2.4 Appraisal of Literature

Abdullahi, (2013) in his study on Efficacy of Credit Risk Management on the Performance of Banks in Nigeria A Study of Union Bank PLC (2006-2010) discovered that adequately managing credit risk in financial institutions is critical for the survival and growth of the financial institutions. The study aimed at assessing the efficacy of credit risk management on banks performance. Also to determine if credit risk have effect on the profitability and examining the relationship between interest income and bad debt of the Union Bank. Secondary sources of data were used for the study.

Time series and trend analysis are used for the analysis. Correlation coefficient and regression analysis were used in testing the hypotheses. The study concluded that credit risk affect the performance of Union Bank PLC and that to maintain high interest income, attention needs to be given to credit risk management especially regarding the lending philosophy of Union Bank. The study recommends that Union Bank PLC should ensure that loans given out to customers should be adequately reviewed from time to time to assess the level of its risk such loan should be backed by collateral security.

Niinima'ki, (2004) in his paper entitled "Efficacy of Credit Risk taking on the Performance of Banks in Nigeria" found that the magnitude of risk taking depends on the structure and side of the market in which competition takes place. He also concluded that if the bank is a monopoly or banks are competing only in the loan market, deposit insurance has no effect on risk taking. Banks in this situation tend to take risks, although extreme risk taking is avoided. In contrast, introducing deposit insurance increases risk taking if banks are competing for deposits. In this case, deposit rates become excessively high, thereby forcing banks to take extreme risks.

Several risk-adjusted performance measures have been proposed (Heffernan, 1996). The measures, however, focus on risk-return trade-off. It requires top management to ensure that there are proper and clear guidelines in managing credit risk, i.e. all guidelines are properly communicated throughout the organisation; and that everybody involved in Credit Risk Management (CRM) understand them. .

Finally this study established the influence of credit controls on non performing loans in deposit money banks in Nigeria and proffer means to manage the incidences of banks' failure by adopting tools of minimising credit risk which could occurs in the course of granting loans to customer. Earlier studies were found to have been on credit and performance, profitability but attention is equally necessary on the area of credit control on nonperformance hence this study.

3.0 RESEARCH METHODOLOGY

3.1 Research Design

Descriptive research design was adopted for this study. This was deemed appropriate because the study examined

and reviewed the effect of credit control and its effect on the nonperforming loan of money deposit banks in Nigeria. First Bank Plc, United Bank of Africa, Union Bank of Nigeria was specifically studied. The three banks are selected for study as they had both passed through different phases and this is believed will lend credence to eventual generalization of the outcome of this study.

3.2 Research Instrument

Data for this was collected by the use of secondary data. The data of this study are time series data from 2010-2014, a period of 5years, procured from the selected banks, Central Bank of Nigeria statistical bulletin and Nigeria deposit insurance company.

3.3 Administration of the Instrument

The inferential statistics was applied to establish a causal effect relationship between independent variable and dependent variable. Regression of nonperforming loan and credit control was applied to establish the effect between variables. The model treats nonperforming loan of money deposit banks as the dependent variable while the independent variables are credit control indicators

The analytical model equation is represented in the linear equation below:

$$\text{Regression Model: } TA = \alpha + b_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where;

Y= credit control as measured by Total Assets (TA)

α = Constant term

β = Beta coefficient

X_1 = Non- performing Loan (NPL)

X_2 = Loan Provision (LP)

X_3 = Average Lending Rate (ALR)

X_4 = Loan and Advance (LA)

ϵ = Error term

The significance of the analytical model was tested by the use of Analysis of Variance statistical model. A regression analysis was done to find out the relationship between Credit control indicators and nonperforming loan. Econometric View (EVIEW) version 7 was used to ensure the accuracy of collected data about Credit control

3.4. Method of Data Analysis

Descriptively, tables were presented for easy of understanding and analysis. The collected data were thoroughly examined and checked for completeness and comprehensibility

3.4.1 PRESENTATION, ANALYSIS AND INTERPRETATIONS OF DATA

Table 1: Data extracted from the Annual Reports and Account of the Selected Nigerian Banks from 2010 - 2014

BANKS	YEARS	NON PERFORMING LOAN (₦'000)	LOAN PROVISION\ COLLATERAL (₦'000)	LOANS AND ADVANCES (₦'m)	AVERAGE INTEREST RATE (₦'000)	TOTAL ASSETS (₦'bn)
UBA	2010	408,200	519,651	5,598.51	15.6	221,157,042
	2011	976,088	578,780	5,878.68	15.8	1,638.5
	2012	10,409,390	632,104	6,874.35	16.2	3,114,132,838
	2013	15,230,342	634,295	8,638.71	16.0	3,599,559,369
	2014	17,451,000	653,497	9,342.88	15.8	NA
FIRST BANK	2010	5,748,717	529,830,021	4,517.41	14.9	497,432,304
	2011	7,517,000	503,114,362	6,813.49	18.2	682,248,558
	2012	13,796,000	890,313,606	7,229.30	20.3	722,949,132
	2013	17,451,000	131,482,189	8,111,53	10.1	783,691,443
	2014	20,924,000	131,570,290	8,885.59	14.9	935,872,543
UNION BANK	2010	9,342.88	34,860,000	2,517.41	15.5	529,830,021
	2011	1,570,290	42,506,793	4,813.49	15.5	503,114,362
	2012	2,482,189	50,313,606	5,229.30	15.2	601,616,494
	2013	2,534,000	58,522,867	6,111,53	15.5	839,350,050
	2014	3,307,000	63,158,000	6,885.59	15.5	908,545,756

Source: Nigerian Deposit Insurance Commission (NDIC) various issues

3.4.2 PRESENTATION OF OLS RESULTS USING ECONOMETRIC VIEW 7

Table 2 COEFFICIENTS AND TEST OF SIGNIFICANT

Dependent Variable: total asset

Method: Least Squares

Date: 28/08/15 Time: 21:25

Sample: 2010 2014

Included observations: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.246149	2.581362	3.581888	0.0013
NPL	53.01286	0.067594	2.202559	0.2392
LPC	35.64502	0.040259	0.602199	0.1203
ALI	68.06137	0.025197	2.227906	0.0341
LA	42.12506	0.035449	1.561466	0.5974
R-squared	0.752097	Mean dependent var		4.812121
Adjusted R-squared	0.659539	S.D. dependent var		1.812932
S.E. of regression	1.560029	Akaike info criterion		3.866013
Sum squared resid	68.14329	Schwarz criterion		4.092756
Log likelihood	-58.78921	F-statistic		3.804087
Durbin-Watson stat	1.378073	Prob(F-statistic)		0.013619

Source: Author's Estimation 2015

Based on a-priori expectation (i.e. Total Asset = $\alpha_0 + \alpha_1NPLs + \alpha_2C + \alpha_3ALI + \alpha_3LA + u$)

TA = $\alpha_0 + \alpha_1NPLs + \alpha_2C + \alpha_3ALI + \alpha_3LA + u$, from our regression analysis, we can see that all our variables conform to our prior expectation and our theoretical expectation does not differ from practical reality. Where TA = Total Asset

NPL = Non Performing Loan

LPC = Collateral

ALI = Average Lending Interest rate

LA = Loan and Advances

U = Random Variable

From table 2 above, Non – performing loan conform to credit control principles which states that one unit increase in non – performing loan remains overdue for a period of more than 90 days in the case of bills purchased and discounted will increase the rate of total asset over the harvest season of commercial banks, thereby decreasing the rate of loss asset in the liability asset likewise the other variable respectively (collateral, average lending interest and loan/advance). This variation from credit control principles occurred because increase rate in collateral, Average lending interest and loan/advance rate can affect non – performing loans if not properly manage which will practically yield non – performing asset resulting into loss assets.

Furthermore, all the variables are stationary at level but at first difference. The trend of total asset (TA) with respect to the ethical issues (NPL, ALI, C, LA) is about (53.01286, 35.64502, 68.06137, 42.12506) respectively, suggesting that if ethical issues goes up by 100%, on the average, total asset will increase by 53%, 35%, 68% and 42% thus, all these variables are very responsive to change in commercial (deposit) banks .

- A unit change in Nonperforming loan (NLP) will cause 53.01286 unit increases in total asset. This means there is a positive relationship between NPL and TA, TA serves as a better proxy of credit risk and credit control for determining the competitiveness of a given bank than the nominal NPL.
- A unit change in Collateral (LPC) will cause 35.64502 unit increases in total asset. This means there is a positive relationship between LPC and TA. LPC serves as a better proxy for credit risk and credit control for determining the competitiveness of a given bank than the nominal LPC.
- A unit change in Average lending (ALI) will cause 68.06137 unit increases in total asset. This means there is a positive relationship between ALI and TA. ALI serves as a better proxy of credit risk and credit control for determining the competitiveness of a given bank than the nominal ALI.
- A unit change in Loans and Advance (LA) will cause 42.12506,unit increases in total asset. This means there is a positive relationship between LA and TA. LA serves as a better proxy of credit risk and credit control for determining the competitiveness of a given bank than the nominal LA.

Significance of the Estimate and overall Regression Model.

The coefficient of determination (R-square) which is 0.752092 indicates that there is a positive linear relationship between the independent variable and dependent variable. This independent variable accounted for 75% of the variation in the total asset in relation to NPL, LPC, ALI and LA in selected commercial (deposit) banks from 2010 - 2014 while the remaining 25% take account of the exogenous variable that is excluded in the model. The adjusted

(R- Square) value of 0.659539 means that 65% variation in total asset is still accounted for by the independent variable. Therefore, these variables affect the credit control of the three selected commercial's (depost's) banks.

Evaluation of the estimated Regression Model

In evaluating the regression model, the theoretical plausibility of the model was determined based on the a priori expectation (total asset criterion). The individual statistical significance using the standard error and T-test over all statistical significance using the goodness of fit using R² and econometric reliability using the Dublin–Watson statistic (econometric criterion).

Economic criterion: The a priori theoretical expectations about the parameter of the structural model are:

$$TA = a + b_1NPL + b_2LPC + b_3ALI + b_4LA + e$$

NPL =53.01286, LPC=35.64502, ALI = 54.49439 and LA = 42.12506

Where; NPL = dITA < 0, ILPC = dITA < 0, LA = dITA < 0

Statistical criteria

This is known as test of significance which shows how significant or insignificant the estimate of the model is. It therefore aims at verifying whether the estimate of the model is statistically meaningful. The standard error test and the t-test are used to test the partial statistical significance. The regression result of the data used in the analysis is presented below, which is in accordance with the model specified.

Table 3: Regression result for the model

Variable	Coefficient	Std. Error	t-value	t-prob
Constant	9.246149	2.581362	3.5818	0.0013
NPL	53.01286	0.040259	2.2025	0.2392
LPC	35.64502	0.025195	0.6021	0.1203
ALI	68.06137	0.333561	2.2279	0.0341
LA	42.12506	0.035449	2.5646	0.5974

R²=0.752092 (75%).

DW = 1.378073

Source: Author's Estimation 2015

Coefficient of Multiple Determinations (R-squared)

Co-efficient of determination determines and evaluates the explanatory power or goodness of fit of the model. That is, it indicates the proportion of variation in the dependent variable that is explained by the independent variable. It therefore measures the changes in bank total asset (dependent variable) that are due to changes in the variables (independent variables). The regression analysis in this model showed R²=0.752092 (75%). This therefore implies that 75.2% of the variation in selected money deposit banks total asset is explained by how the variables affect its performance which signifies the impact of credit control on non – performing loan. The remaining 24.8% is explained by the stochastic error term. This therefore implies that the remaining 24.8% of the changes in total asset is explained by other factors that are not included in the econometrics model. It could therefore be claimed that reasonable level of nonperformance of credit were not as a result of lack of credit control.

Durbin Watson (Test for Autocorrelation)

It is a relevant statistics for testing the assumption of non-autocorrelation random variable. From the result above, the Durbin-Watson statistic of 1.378073 (1.4%) implied that there is no first or second order serial autocorrelation in the regression estimation.

ECONOMIC A PRIORI CONDITION:

This regression results with the a priori expectation is conducted to ascertain if the results gotten conform to economic theory.

Table 4: Economic a priori test for the model:

Independent variables	Expected signs	Observed signs	Remark.
Non – performing loan (NPL)	+	+	Conforms
Collateral (LPC)	+	+	Conforms
Average Lending Interest (ALI)	-	-	Conforms
Loan and Advance (LA)	+	+	Conforms

Author's Computation 2015

STATISTICAL CRITERIA

1. **The R2 (Coefficient of determination):** The R2 of the model is 0.752092, showing that the explanatory variables (or independent variables) explain about 75.2% of the explained variable (dependent variable).

2. **The t-test (Student t):** t-test is used to test if the independent variables are individually statistically significant to the dependent variable. Under n – k degrees of freedom at 5% level of significance, the critical value is ±2.042. Thus we reject H0 which translate to the fact that the variable is statistically significant if tca > ttab in absolute values (that is, ignoring negative values) and accept it if otherwise.

Table 5: T-test for the model

Variables	t-value	5% critical value	Decision
Constant	3.5818	±2.042	Significant
NPL	2.2025	±2.042	Significant
LPC	0.6021	±2.042	Not significant
ALI	2.2279	±2.042	Significant
LA	2.5614	±2.042	Significant

Source: Author's Estimation 2015

The T-test result is reported in parenthesis, the explanatory variables are tested at 5% level of significant, with a critical value of +2.042 and -2.042. When the t-values of the explanatory variables were compared with the critical value, it was observed that NPL, ALI and LA passed the significant test. This implies that three explanatory variables are significant to increase total asset and affect positively the credit control of the select money deposit banks. While Loan provision/collateral rate depends on a variable before it can affect the rate of total asset resulting into gross earnings of the bank over the trends.

HYPOTHESES TESTING FOR STATIONARY

The test for stationary is carried out by means of Augmented Dickey-Fuller (ADF) in order to ensure that the variables used are non-stationary, so as to avoid spurious regressions.

Unit Root Test

Unit root test is a test that is conducted to know the stationary in a time series data or stationary of the parameter in the model. It is done by comparing the ADF value with the critical value either at level, 1st difference, or 2nd difference. The essence of this test is to ensure that the variables are following a right trend. Therefore, the unit root test is introduced using the Dickey Fuller (DF) and Augmented Dickey Fuller test statistics. The variables are not of unit root in this case, three levels of test were carried out in this analysis and are listed as follows:

- (i.) Levels stationary test
- (ii.) First different stationary test
- (iii.) Second difference unit root.

Since carrying out regressions, non-stationary time series data would lead to spurious regression outcomes, we employ the widely used Augmented Dickey-Fuller (ADF) test to ascertain the stationary of the data. The econometric views to carry out the regressions decision criterion for rejection of the hypothesis of a unit root is that the absolute value of the ADF test statistic calculated, $|ADF_{calc}|$, must be greater than the critical value of the ADF, $|ADF_{crit}|$.

The hypotheses formulated and tested are as follows:

Hypothesis One: There is no significant relationship between non-performing loan and credit control_Non – performing at level on a 5% critical value

ADF Test Statistic	2.606473	1% Critical Value*	-3.6576
		5% Critical Value	-2.9591
		10% Critical Value	-2.6181

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(NPL)

Method: Least Squares

Date: 28/08/15 Time: 21:25

Sample: 2010 2014

Included observations: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPL(-1)	-0.239460	0.149060	-1.606473	0.1194
D(NPL(-1))	-0.325032	0.178103	-1.824965	0.0787
C	3.183603	2.076652	1.533046	0.1365
R-squared	0.264653	Mean dependent var		0.006452
Adjusted R-squared	0.212128	S.D. dependent var		4.024669
S.E. of regression	3.572382	Akaike info criterion		5.476108
Sum squared resid	357.3336	Schwarz criterion		5.614881
Log likelihood	-81.87968	F-statistic		5.038629
Durbin-Watson stat	2.017619	Prob(F-statistic)		0.013517

The above value is both the critical value and calculated value for rejecting the null hypothesis of a unit root at significance levels 5%. At this level, the computed Dickey-Fuller shows how non – performing loan has effect

on credit control through total asset) are stationary at 1st difference which decision rules stated that if ADF value is greater than the critical value it is stationary and when otherwise it is not stationary. Therefore the hypothesis will be rejected and Alternative hypothesis which says there is significant relationship between credit control and non-performing loan will be accepted.

Hypothesis Two: Effect of adherence to draw down conditionality is insignificant on non - performing loan.

LPC at level on a 5% critical value

ADF Test Statistic	5.740774	1% Critical Value*	3.6576
		5% Critical Value	2.9591
		10% Critical Value	2.6181

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LPC)

Method: Least Squares

Date: 28/08/15 Time: 21:25

Sample: 2010 2014

Included observations: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LPC(-1)	-0.237025	0.136161	-1.740774	0.0927
D(LPC(-1))	-0.024938	0.190728	-0.130752	0.8969
C	3.178413	2.181240	1.457159	0.1562
R-squared	0.117133	Mean dependent var.		-0.116774
Adjusted R-squared	0.054071	S.D. dependent var.		6.144187
S.E. of regression	5.975769	Akaike info criterion		6.505068
Sum squared resid.	999.8747	Schwarz criterion		6.643841
Log likelihood	-97.82856	F-statistic		1.857423
Durbin-Watson stat	2.011273	Prob(F-statistic)		0.174798

The above value is both the critical value and calculated value for rejecting the null hypothesis of a unit root at significance levels 5%. At level, the computed dickey-Fuller shows how collateral has the adherence to draw down conditionality has affect non performing loan through ALI are stationary at 1st difference which decision rules stated that if ADF value is greater than the critical value it is stationary and when otherwise it is not stationary. Therefore the null hypothesis was rejected and accepted the fact that the effect of adherence to draw down conditionality is significant on non - performing loan.

Discussion of the findings

The result (Table 3) explains the explanatory variables used over the trend of 2010 – 2014 has influence the total asset (TA) of the selected money deposit banks with respective to the ethical issues (NPL, ALI, C, LA) is about respectively (53.01286, 35.64502, 68.06137, 42.12506) suggesting that if ethical issues goes up by 100%, on the average, total asset will increase by 53%, 35%, 68% and 42% thus, all these variables are very responsive to change in money deposit banks. The result explains 53% increase in Non – performing loan over total asset shows the level of banks’ exposure to credit risk. If the ratio goes above 25%, this indicates that the bank is getting into the zone of weak credit risk control system. The higher the ratio, the higher the level of its operation and the higher the risk level of risk exposure. From the above data, loan and advancement reviewing the average of 42% over total asset, it shows that the bank, despite interest income (35%) accrued to the bank as main source of income, the management is informatively aware of its associated risk. Thus, maintaining a precautionary risk control measure. Therefore, effect of credit control system (in terms of loans performance, interest) has better relationship on non – performing loan through credit risk management.

4.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

The findings of this study confirmed that deposit money banks needs to maximise the use of credit risk management in the banking sector in order to maintain an effective credit control in selected money deposit institutions, that is, the banking industry. It was found that it is crucial to manage credit risk since it is confirmed that 75% variation on total assets was necessitated by nonperforming loan. This also mean, the study found nonperforming loan, average lending interest and loans/advances the indicators that measured the credit management framework. More than 75% confirmed that credit risk management was used as key for regulating non-performing loan from resulting to loss asset and ensure the returns of loan bring total assets. Better credit risk management results in better bank performance, thus it is important that banks maintain prudent credit risk management and safeguarding the assets of the banks and protect the investor’s interests. (Ahmad and Ariff, (2007)

Summary

Banks used different credit control system tools, techniques and assessment models to manage their credit risk and that they all have one main objective i.e., reduce the amount of Non – performing asset from loan default which is a principal cause of bank failure. The study established that deposit money banks with good or sound credit risk management policies are those that are able to manage their non – performing loans and higher interest income. The study found from the data that client default loan payment after using supervision one to one basis. The study found the approaches that are used by the banks in screening and risk analysis before awarding credit to clients.

The analysis of variance revealed that there is a very high effect of credit control on non-performing loan of deposit money bank in Nigeria through total asset measures. Regression results have shown impact of adherence to draw down conditionality is significant on non - performing loan and there is significant relationship between credit control and non-performing loan.

Conclusion

We therefore conclude that deposit money banks in Nigeria needs to manage effectively the credit in order to ensure that total asset grows in line as to establish the adequacy of credit control and meeting its objectives, minimize cash loss and ensures the organization performs better by increasing the return on assets and helps the organization in attaining maximum financial returns.

Policy Recommendation

Based on the result from the research hypotheses, the following recommendations should be given consideration for effective credit risk management and good performance

1. *Policies already put in place for the management and measurement of credit risk should be reviewed from time to time to ensure its effectiveness i.e there should be policy consistency.*
2. *Establishment of credit policies and standards that conform to regulatory requirements and the bank's overall objectives to further reduce the level of their credit risk exposure.*
3. *The bank should work harmoniously in keeping aggregate credit risk well within the bank's risk capacity (risk tolerance).*
4. *Developing and maintaining Credit Approval Authority structure to ensure appraisal of only worthy credit facilities.*
5. *Granting approval authority to qualified and experienced individuals to ensure job competence*
6. *Develop practical procedure that will enforce drawdown conditionalities as this proof crucial in effective management of nonperforming loan in the Nigerian deposit money banks.*
7. *Last and not the least is that banks should take proactive steps to address other issues outside credit control that could pose a greater challenge, issues such as corporate governance, insider lending.*

The fact that this study is limited to only three of the deposit money banks in Nigeria and that the span of study of five years has in no way undermined the outcome of the study as to undermine the generalisation of the outcome. However, it is recommended that there is need to conduct further studies on other issues that could lead to bank's failure beside nonperforming loan as this study established over 24% effects of such factors and this is deemed substantial enough to warrant a separate study of such effects.

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