

## **Strategic Importance of Credit Risk Management to Shareholders' Wealth-Sustenance in Nigerian Banks: An Empirical Analysis**

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**Abstract:** This study highlighted the roles and strategic importance of credit risk management in the banking industry vis-à-vis sustenance of shareholders' wealth. The authors examined whether a reduction in the non-performing credits in banks' loan portfolio will reveal a possible correlation between effective credit risk management administration and shareholder's wealth. In testing this, secondary data were sourced from the randomly selected five banks financials (between the period of 2006 to 2010) with the use of relevant ratios. Two hypotheses were tested using multiple regression and correlation method. The result of hypothesis one showed that the calculated  $r$  – statistics ( $r = .429$ ,  $p < 0.05$ ) was greater than the tabulated  $r$  – statistics ( $r = .381$ ) showing that the test was significant at 0.05 alpha level. The result of hypothesis two also showed that the calculated  $r$ -statistics ( $r = .403$ ,  $p < 0.05$ ) was greater than tabulated  $r$ -statistics ( $r = .381$ ) at 0.05 level of significance which implied that, there was a significant relationship between credit risk management and shareholders' wealth. Based on these results, the authors recommended that, the banking sector should strive to employ objective standards of professionalism, experience and high integrity in placement of managers who are responsible for managing the credit portfolios; for this will largely influence the quality of risk assets management and debt recovery which will in-turn engender confidence in the banking industry and ensure the sustenance of shareholders' wealth and investment.

**Keywords:** Non-performing credit; Credit risk management; Shareholders' wealth; Risk asset management and Debt recovery

**JEL Classification:** G11; G21; G32

### **1. Introduction**

The banking system occupies a unique position in the Nigerian financial system. Historically, First Bank of Nigeria Plc; commercial bank, was the first financial institution to start operation in Nigeria, as far back as 1892. Also in terms of assets and liabilities, commercial banking industry is more predominant than any other

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financial institutions in Nigeria (Nwankwo, 1992). Essentially, banks originally emerged as deposit takers and later metamorphosized into intermediates of funds and thereby started assuming credit risks. Credit became "the business of banking, and the primary basis on which a bank's quality and performance are judged" (Mueller, 1976). Empirical studies of banking crises all over the world have shown that poor assets quality (predominantly loan) has been the most frequent factor for the bank failures. Stuart (2005) emphasized that the spate of non-performing loans, is as high as 35%. Risk is a condition in which there exists a quantifiable dispersion in the possible outcomes from any activity (CIMA Official Terminology 2005). It can also be defined as uncertain future events which could influence the achievements of the organization's strategic, operational and financial objectives. (CIMA Official Terminology, 2005). Credit risk Management refers to the process by which all loans, advances, credit facilities or accommodation granted by a bank to a customer are administered to ensure that the facilities run satisfactorily according to the terms governing them and are ultimately repaid on due date. However, risk is defined as the possibility of suffering some harm or loss which means there is the probability of a catastrophe or loss occurring whenever the future is uncertain. When a bank grants credit facility for a project, risk is involved because the future repayment is uncertain.

Modern risk management is the management procedure devised to eliminate or minimize the adverse effects of possible financial loss by identifying all the potential sources of loss; measuring the financial consequences of a loss occurring; and using controls to minimize actual losses or their financial consequences (Irukwo, 1998). According to Irukwo (1998), the most important topic in the business world today is the management and control of risk. Every day we learn about big, small and medium-sized companies that have collapsed or gone into liquidation because their management ignored the risks to which the organisation was exposed due to the absence of an efficient risk management system. A typical example in the international business community was the failure of the old British Merchant Bank; Barings Bank Plc in 1995 which was wrecked by the reckless trading activity of one of its relatively junior staff, Nick Leeson. An efficient financial risk management system could have detected the activities of that young man before the harm was done. In the past six years in Nigeria, more than 30 banks and 50 finance houses have gone into liquidation ruining the lives of several Nigerian depositors in the process. Umoh (1994) traced the rising non-performing loan ratio in banks books to poor loan processing, undue interference in the loan granting process, inadequate or absence of loan collaterals among other things, which are all linked with poor and ineffective credit administration. As noted by Miskovu (2009) there has been a number of fingers pointing at the failure of risk management, banks need to manage the credit risk inherited in the entire portfolio as well as the risk in individual credits. The effective management of credit risk is a

critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

A major function of commercial banks is to deal in the credit market; they perform this function by mobilizing funds from surplus economic units and channeling the same to deficit units for productive activities. This implies that, commercial banks grant loans to customers with the public's funds. These funds, made available to the customers by banks are liabilities in form of deposits. Most banks' deposits constitute assets withdraw-able on demand. The inability of banks to honour customers request, on the one hand could generate instability within the financial system which could retard economic performance (Aja-Nwachukwu, 1993). The advent of the financial services modernization act of 1999 was embraced with a lot of excitement by all in the banking sector. The present possibility for banks to diversify into a broader range of products and services makes life really cool for banking entrepreneurs and managers. But this diversification advantage is a one in a life time opportunity that should be consumed with some caution and prudence as this involves a great deal of risk. The very nature of banking business is so sensitive because about 85% of their liability is deposits from depositors (Saunders and Cornett, 2005). Banks use these deposits to generate credit for their borrowers, which is in a fact a revenue generating avenue for most banks. The credit creation process exposes the banks to high default risk which might lead to financial distress, including bankruptcy. All the same, beside other service, banks must create credit for their clients to make some money, grow and survive stiff competition at the market place. This study is primary concerned with measuring the extent to which banks can manage their credit risks, through appropriate management policies and strategies in order to protect the investments and wealth of their shareholders.

## **2. Relevant Literatures**

In a frictionless economy, risk management is a pointless activity; shareholders can adjust the risk profile of their portfolios by diversifying or shifting their assets. Similarly, unhealthy companies that suffer unwelcome financial shocks can always approach the capital market for funding. However, Rene (2000) argues that, the world is much more complex than friction free theoretical models because, an adverse shock to a company's cash flow typically creates indirect cases. These cases might stem from the threat of costly bankruptcy and financial digress arising from the difficulties of raising funds to finance corporate strategies or the consequences of these shocks to the business owners- especially the shareholders. Risk management- particularly through the use of derivative strategies can help managers lessen their threats and thereby boost and sustain the value of the company. Lawrence (2000S) opined that credit risk management is as old as

banking itself and that today's need for risk management is very similar to the need for customer profitability analysis some 20 years ago. Risk equally means a deviation from the expected and the "possible variation in outcomes" that is; risk is a vital and challenging ingredient of daily lives which makes it a conscious affirmation in the hearts of risk managers that, change is continuous and inevitable and how we respond determines our economic and emotional survival and prosperity in the future.

Naomi (2011) defines credit risk as the potential variation in the net income from non-payment or delayed payment of credit facility granted to customers. The Global Risk Management Group in its report in 1999 defines credit risk as the potential that bank borrower will fail to meet obligation in accordance with agreed terms. It added that, the effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long term success of any banking organization. Lending involves the creation and management of risk assets and it is an important task of bank management. Nwankwo (1992) noted that, in liquidity and portfolio management, effective management of the lending portfolio requires an articulated lending or credit policy. Similarly, it can be said that a credit policy provides a framework for the entire credit management process. Therefore, written credit policies, guidelines and regulations are the ingredients of sound credit management. These will set objective standards and parameters to guide bank officers who grant loans and manage the loan portfolio. Similarly, the guidelines will provide the Board of Directors, regulators, internal and external auditors with a basis for evaluating a bank's credit management performance. Loans most times are the largest and most obvious source of credit portfolio of any bank. Thus, managing the credit risk is significantly important to ensure strategic operational and financial objectives of the bank. Shareholders understand value. They entrust their capital to their Board of Directors because they seek a higher return than they could achieve from a risk free investment apart from government securities. This implies that, they expect boards and management to demonstrate entrepreneurship and dynamism that in taking risks. They will always expect that, the risks will be considered and well managed and that the risk profile of the organization will be understood.

Rene (2000) argues that the only reason a bank ought to manage its risk is that by doing so it makes its owners, the shareholders, better off. She argues that, a well designed credit risk management policy achieves this. She added that in particular, risk management increases the wealth of diversified shareholders. Shareholder value is nothing but the total benefit to shareholders from investing in a company. This includes dividends and perhaps more importantly, capital appreciation of the shareholders investment. Shareholders exercise the ultimate control over their company, they are also the residual claimant to its assets, which means their claims come last after all other shareholders have been paid off, not only do they bare their

risk in respect of their capital, they through their control of the management ultimately drive all strategic decisions.

### **3. Portfolio Theory and Traditional Method to Credit Risk Management**

#### **Portfolio Theory**

Since the 1980s, banks have successfully applied modern portfolio theory (MPT) to market risk. Many banks are now using earnings at risk (EAR) and value at risk (VAR) models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk remains the largest risk facing most banks, the practical of MPT to credit risk has lagged (William, 2007). Banks recognize how credit concentrations can adversely impact financial performance. As a result, a number of sophisticated institutions are actively pursuing quantitative approaches to credit risk measurement, while data problems remain an obstacle. This industry is also making significant progress toward developing tools that measure credit risk in a portfolio context. They are also using credit derivatives to transfer risk efficiently while preserving customer relationships. The combination of these two developments has precipitated vastly accelerated progress in managing credit risk in a portfolio context over the past several years. However, the portfolio approach involves the following;

- a) **Asset-by-asset Approach:** Traditionally, banks have taken an asset-by-asset approach to credit risk management. While each bank's method varies, in general, this approach involves periodically evaluating the credit quality of loans and other credit exposures, applying a credit risk rating, and aggregating the results of this analysis to identify a portfolio's expected losses. The foundation of the asset-by-asset approach is a sound loan review and internal credit risk rating system. A loan review and credit risk rating system enable management to identify changes in individual credits, or portfolio trends in a timely manner. Based on the outcomes and results of this investigation, loan identification, loan review, and credit risk rating system management can make necessary modifications to portfolio strategies or increase the supervision of credits in a timely manner.
- b) **Portfolio Approach:** While the asset-by-asset approach is a critical component to managing credit risk, it does not provide a complete view of portfolio credit risk, where the term risk refers to the possibility that actual losses exceed expected losses. Therefore, to gain greater insight into credit risk, banks increasingly look to complement the asset-by-asset approach with a quantitative portfolio review using a credit model. Banks increasingly attempt to address the inability of the asset-by-asset approach to measure unexpected losses sufficiently by pursuing a portfolio approach. One weakness with the asset-by-asset approach is

that it has difficulty in identifying and measuring. concentration. Concentration risk refers to additional portfolio risk resulting from increased exposure to a borrower, or to a group of correlated borrowers. Table 1 below summarises the strategies viable for reducing and coping with portfolio credit risk;

**Table 1.**

Technique	Advantages	Disadvantages	Implication
Geographic Diversification	External shocks (climate, natural disasters, etc.) are not likely to affect the entire portfolio if there is spatial diversification.	If the country is small or the Institution is capital constrained, it may not be able to apply this principle. It will become vulnerable to covariate risk, which is high in agriculture	
Loan Size Limits (Rationing)	Prevents the institution from being vulnerable to nonperformance on a few large loans.	Can be carried to the extreme where loan size does not fit the business needs of the client and results in suboptimal use and lower positive impact by clients. Clients could be dissatisfied.	Protects asset quality in the short run but prevents clients retention problems in the long run. Inimical to relationship banking.
Over collateralization	Assures the institution that enough liquidation value will exist for foreclosed assets.	Excludes poor, low-income clients who are the vast majority of the market.	Not a Recommended technique if goal is to better serve the low- and moderate income clients.
Credit Insurance	Bank makes clients purchase credit insurance. In event of default, bank collects from insurer.	Databases and credit bureaus may not exist to permit insurer to engage in this line of business in cost-effective manner.	
Portfolio Securitization	Lender bundles and sells loans to a third party. Transfers default risk and improves liquidity so that it can continue to lend. Allows lender to develop expertise in analyzing creditworthiness in one sector or niche.	Requires well documented loans and long time series of performance data to permit ratings and reliable construction of financial projections.	Requires a well developed secondary market, standardized underwriting practices, and existence of rating companies.

*Source: Inter-American Development Bank, (2007): Strategies for Reducing and Coping with Portfolio Credit Risk*

#### 4. Traditional Approach

It is hard to differentiate between the traditional approach and the new approaches since many of the ideas of traditional models are used in the new models. However, the traditional approach comprises of four classes of models namely;

- a) **Expert Systems:** in the expert system, the credit decision is left in the hands of the branch lending officer. His expertise, judgment, and weighting of certain factors are the most important determinants in the decision to grant loans. the loan officer can examine as many points as possible but must include the five “Cs” these are; character, credibility, capital, collateral and cycle (economic conditions). In addition to the 5 Cs, an expert may also take into consideration the interest rate.
- b) **Artificial Neural Networks:** due to the time consuming nature and error- prone nature of the computerized expertise system, many systems use induction to infer the human expert’s decision process. The artificial neural networks have been proposed as solutions to the problems of the expert system. This system simulates the human learning process. It learns the nature of the relationship between inputs and outputs by repeatedly sampling input/output information.
- c) **Internal Rating at Banks:** over the years, banks have subdivided the pass/performing rating category, for example, at each time, there is always a probability that some pass or performing loans will go into default, and that reserves should be held against such loans.
- d) **Credit Scoring Systems:** 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. Using credit scores, financial institutions determine who are the most qualified for a loan, at what rate of interest, and to what credit limits (Wikipedia, 2008).

#### Banks Credit Risk Management in Relationship to Shareholders’ Wealth

Risk asset management constitutes a critical function of the bank and a loss attributable to default in loan repayment and similar non- performance of credit facilities is the most worrisome, especially when interest rates are floating. The prudential guideline of (1990) clearly brought out the need for effective risk management and energized banks to be more conscious of the risk structure in their loan portfolio, the event also created the need to be more rigorous in evaluating applications for loans and advances. Esalomi (1998) added that, in assessing a bank’s performance, risks should not be ignored; he stated that, when assessing a bank’s performance, income statements do not always tell the whole story, for example, new risk loans do not affect a bank’s performance but may affect the banks future performance. Lending decision operates for the future which no one can predict with certainty, the future is imaginable but not certain, hence the element of risk in every decision. According to Dandy (1995) there is no other area of banks operations that could make it suffer sizeable, unanticipated losses as quickly as it can than lending exposure. Though it is possible that commercial banks can incur sizeable losses in its investment

portfolio, but these losses are to some extent predictable and controllable by management of bank, unlike loan defaults which are less predictable and much more difficult to control, and improper assessment of risks associated with loan and advances results in the incident of non- performing credit. However, banks credit portfolio will contain '*Loans and Advances*'. The loans could be term loans, commercial papers or acceptances, etc. The bank also gives guarantee and indemnity. The banks current risk exposure on each of the items in its credit portfolio is classified as performing and non performing depending on the following:

- a). The facilities are performing when both principal and interest are up to date in accordance with the agreed terms.
- b.) A credit facility is demanded as non- performing when any of the following conditions exist;
  - Interest or principal is due and unpaid for 90 days or more.
  - Interest payment equal to 90 days. Interest or more have been capitalized, rescheduled or rolled over to a new loan.

### Methodology

Methodology is a vital process of carrying out empirical study. It forms the background in which the procedures employed in carrying out a research are based. It follows a step after one another of which data gathered for a research is being analyzed. The study population covers enterprises listed on the Nigerian Stock Exchange. Since they are the leading companies of the country, they are able to represent the overall perspective of managing formats and styles especially in business organizations, which have to adjust constantly to keep pace with the changing circumstances. Moreover, the listed enterprises have been transformed into public limited companies with shareholders from many fields. The data used for this study were derived from the Financial Statements of the five selected banks for the period of 2006 and 2010. The five banks were selected using the stratified random technique to choose among the Nigerian 24 banks. The banks and nature of data collated from their financials are represented in table 2 below:

**Table 2**

Bank	Year	ROCE	DPS	EPS	Non – Performing Loan(N000,000)	Performing Loan (N000,000)	Provision For Bad Loans (N000,000)
FIRST BANK	2006	0.25	130	235	6713	1727	15095
	2007	0.41	150	434	4900	2178	14664
	2008	0.28	155	399	17945	21787	26442
	2009	0.27	160	335	12620	774327	22384
	2010	0.25	130	235	727290	217819	24456



UBA BANK	2006	0.24	65	109	7978	15095	10464
	2007	0.3	120	144	1303	14664	32072
	2008	0.44	159	250	5987	16199	10196
	2009	0.11	10	34	4942	58798	26418
	2010	0.05	20	14	13480	429288	25428
UNION BANK	2006	0.15	0.08	27.00	354290	97200	35095
	2007	0.19	0.05	25.00	391778	97691	19664
	2008	0.31	0.06	40.00	223845	96361	18199
	2009	0.42	0.08	40.00	325851	26442	58798
	2010	0.29	0.07	25.00	322075	22384	12928
CTB BANK	2006	0.12	0.04	12.00	3038795	104648	14648
	2007	0.20	0.06	25.00	1862707	320727	32072
	2008	0.30	0.09	30.00	2844328	101966	15196
	2009	0.37	0.12	40.00	1788756	445496	21258
	2010	0.36	0.12	0.00	501028	419658	21421
INTERCONTINENTAL BANK	2006	0.11	0.06	31.00	12872	264183	25012
	2007	0.09	0.06	40.00	16589	439681	19763
	2008	0.09	0.08	45.00	15030	264183	18199
	2009	0.12	0.08	57.00	12381	254284	38798
	2010	0.11	0.07	82.00	1010	320832	22918

Source: Companies Annual Reports and NSE Fact Book (2006 – 2010); Industrial Performance of Selected Banks

Regression and Correlation analysis were used as tools of analyses to determine the relationship between financial risk management styles and firm performance measures. Bivariate correlation procedures' using the Statistical Package for Social Sciences (SPSS) was employed in computing the Pearson's coefficients. The correlation coefficient denotes the strength of the relationship on a scale, ranging from -1 to +1. A positive value close to +1 indicates a strong positive relationship, vice versa. The correlation coefficient was tested at the 0.05 level of significance.

### Hypotheses

This study tested these two hypotheses;

**Hypothesis 1: (H<sub>0</sub>);** There is no significant relationship between credit risk management and share holders wealth (dividend per share)

**Hypothesis 2: (H<sub>0</sub>);** There will be no significant relationship between firm credit risk management and profitability (earnings per share)

### Model Specification

Regression models were developed to test these formulated hypotheses. Firstly to examine the relationship between credit risk management and shareholders wealth (dividend per share) of selected banks in Nigeria between 2006 – 2010. Hence we have:

**DPS – f(ROCE, PFL, EPS)**

**DPS = b<sub>0</sub> + b<sub>1</sub>ROCE + b<sub>2</sub>PFL + b<sub>3</sub>EPS + U<sub>i</sub>                      Where:**

**DPS** = Dividend per share (proxy for wealth shareholder); **ROCE** = Return on capital employed

**PFL** = Performing Loan; **EPS** = earnings per share and **U<sub>i</sub>**= Stochastic Error Term

Secondly, for hypothesis 2 which is to measure the significant relationship between credit risk management and profitability (earnings per share); Hence, the model was formulated thus:

**EPS= f(ROCE, PFL, ) Hence we have;**

**EPS = b<sub>0</sub> + b<sub>1</sub>ROCE + b<sub>2</sub>PFL+ U<sub>i</sub>    Where**

**EPS**= Earnings per share;                      **ROCE** = Return on capital employed

**PFL** = Performing Loan;                      and                      **U<sub>i</sub>**= Stochastic Error Term

**RESULTS**

**Table 3. Regression Analysis showing the relationship between credit risk management and shareholders wealth**

Model	Co-efficient	Std. error	T	Sig.t
Constant	-11.368	14.035	-.810	.427
Return on Capital Employed	29.261	50.408	.580	.568
Earnings per share	.460	.044	10.469	.000
Performing Loan	0.000006643	.000	-.247	.808

Dependent variable: Dividend per share

DPS = -11.368+ 29.261ROCE + .460EPS +0.000006643PFL + U<sub>i</sub>

Std error = (14.035) (50.408) (.044) (.000)

T = (-.810) (.580) (10.469) (-.247)

Sig. t= (-.810) (.568) (.000) (.808)

R = .933, R<sup>2</sup> = .871, R = .853, f=47.272, DW =1 .062

**Table 4: Regression Analysis Showing the Relationship between Credit Risk Management and Profitability**

Model	Co-efficient	Std. error	T	Sig.t
Constant	-3.409	68.094	-.050	.961
Return on Capital Employed	475.646	222.567	2.137	.044
Performing loan	0.000004186	.000	.032	.975

Dependent variable: Earning per share

$$EPS = -3.409 + 475.646ROCE + .000004186PFL + U_i$$

$$\text{Std error} = (68.094) (222.567) (.000)$$

$$T = (-0.50) (2.137) (.032)$$

$$\text{Sig. t} = (.961) (.044) (.975)$$

$$R = .427, R^2 = .182, R = .108, f=2.448, DW = .272$$

### 5. Discussion of Findings

Table 3 above presents the relationship between credit risk management and shareholders wealth. The result shows that the calculated r – statistics ( $r = .933$ ,  $p < 0.05$ ) is greater than the tabulated r – statistics ( $r = .381$ ) at 0.05 level of significance. It showed that there is significant relationship between credit risk management and shareholders’ wealth hence, the null hypothesis ( $H_0$ ) is rejected and the alternate hypothesis ( $H_1$ ) accepted. ‘T’ – statistic was used to test the effect of each of the parameters of credit risk management on shareholders’ wealth. The result revealed that the effect of each parameter on shareholders’ wealth is not statistically significant at 0.05 alpha level except EPS. i.e. return on capital employed ( $t = .568$ ,  $p > 0.05$ ), performing loan ( $t = -.000$ ,  $p > 0.05$  and earnings per share ( $t = -.808$ ,  $p > 0.05$ ). However, the coefficients were of positive values which implied that, increase in each of the parameters will lead to corresponding increase in shareholders’ wealth. The coefficient of determination ( $r^2$ ) was .871 which implied that, 87% of the variation in shareholders’ wealth is caused by variations in the explanatory variables (return-on-capital employed, performing loan and earnings per share). The Durbin-Watson statistics was 1.062 which shows that autocorrelation exist in the regression model. The overall regression model was statistically significant in terms of its goodness of fit ( $f = 47.272$ ,  $p > 0.05$ )

In order to determine quantitatively and more precisely the relationship between credit risk management and profitability, the second hypothesis was tested (see

table 4). Earnings per share was used as proxy for profitability. The result showed that calculated  $t$ -statistics ( $t=.427$ ,  $p<0.05$ ) was greater than tabulated  $t$ -statistics ( $t=.381$ ) at 0.05 level of significance. Therefore, the null hypothesis ( $H_0$ ) was rejected to accept the alternate hypothesis ( $H_1$ ). This implied that there is significant relationship between credit risk management and profitability. However, the coefficient of determination ( $r^2$ ) was .182 which indicated that 18% of the variation in earnings per share (proxy for profitability) is explained by variations in indices of credit risk management. The remaining 82% unexplained variation in credit risk management is largely due to variation in other variables outside the regression model which are otherwise included in the Stochastic Error Term. The effect of return-on-capital employed ( $t = .044$ ,  $p>0.05$ ) and performing loan ( $t=-.975$ ,  $p>0.05$ ) on earnings per share was not statistically significant in each case at 0.05 level, but showed a positive relationship between the dependent and independent variables. The Durbin – Watson statistics was .272 which means that autocorrelation exists in the regression model. The regression model was not statistically significant in terms of its overall goodness of fit ( $f=2.448$ ,  $p>0.05$ ).

## 6. Conclusion

A common attitude among Nigerians is to regard bank loan as a share of the National Cake. This situation is not helped by some bank officials who act fraudulently and the reluctance of the bank in prosecuting them as a result of the fear of negative publicity on the image of the bank. The culture of honoring repayment obligation to banks has not been fully embraced as frequent diversion of loan to other uses has become the norm. The declaration of huge profits by banks in the face of the economic recession and banking distress has also given an impression of exploitation by banks of their customers. Available statistics have shown that banks' profitability is affected by the high incidence of bad and doubtful debts, as revealed by the upward trends in the provisions in their annual report. Bank lending constitutes the core of banking and is responsible for a sizeable proportion of bank revenue. This study has shown that there is a significant relationship between bank performance (in terms of profitability) and credit risk management (in terms of loan performance). Better credit risk management results in better bank performance. Thus, it is of crucial importance that banks practice prudent credit risk management and safeguarding the assets of the banks and protect the investors' interests. Apart from the tested hypotheses, the study equally found out that banks with good or sound credit risk management policies have lower loan default ratios (bad loans) and higher interest income (profitability). Similarly, the study revealed that banks with higher profit potentials can better absorb credit losses whenever they crop up and therefore record better performances.

Thus, it is of crucial importance that banks practice prudent credit risk management to safeguard the assets of the banks and protect the investors' interests. In the course of this study, it was equally discovered that, bad and doubtful debts are on the increase and that recoveries were insignificant. In some cases, bad debts were obvious from the defective appraisal procedure and excessive reliance on collateral. In others, it seems unavoidable due to poorly focused credit policies and regulatory procedures. It was however obvious that all banks have had a share in the scourge of bad debts, which figured prominently in the current compulsory recapitalization and Government taking over some of these banks as a result of over-burdened debts and huge non-performing loans in the industry.

## **7. Recommendations**

Based on the findings from this empirical investigation, the following recommendations are made for improving risk analysis and management that will sustain shareholders' wealth. That:

- for any bank to survive and continue on a path of profitability, a clearly formulated policy is required. Therefore, credit policies that will ensure operational consistency, adherence to uniformity and sound practices should be henceforth adopted by the banks.
- training of credit officers should be given high priority. Credit officers should be exposed to both internal, external and in-plant courses and thorough grooming in banking operations to aid effective performance of their sensitive jobs.
- banks should strive to employ objective standards of professionalism, experience and high integrity in placement of managers who are responsible for managing the credit portfolio. This will largely influence the quality of risk assets management and engender confidence in the banking industry.
- visitation and follow-up on loans are indispensable issues in guiding against bad debts. This should be entrenched into the credit administration and control procedure to confirm utilization of funds, managerial ability of customers and the safety of assets financed by the bank. Follow-up could confirm the deviation from agreed conditions of the loan and this can always be quickly checked before the loan goes bad.

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**APPENDICES**

**Regression**

**Coefficients <sup>a</sup>**

Model	Unstandardized Coefficients		t	Sig.	95% Confidence Interval for B		Correlations			Co linearity Statistics	
	B	Std. Error			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	-11.368	14.035	-.810	.427	-40.555	17.820					
VAR00003	29.261	50.408	.580	.568	-75.570	134.091	.445	.126	.045	.766	1.305
VAR00005	.460	.044	10.469	.000	.369	.551	.932	.916	.821	.818	1.223
VAR00007	6.643E-6	.000	-.247	.808	.000	.000	-.135	-.054	-.019	.925	1.081

a. Dependent Variable VAR00004:

**Collinearity Diagnostics**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	VAR00003	VAR00005	VAR00007
1	1	2.994	1.000	.01	.01	.03	.03
	2	.629	2.181	.00	.01	.27	.43
	3	.304	3.139	.07	.12	.64	.28
	4	.073	6.420	.92	.86	.05	.26

a. Dependent Variable: VAR00004

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-6.32	200.27	44.00	60.819	25
Residual	-50.272	56.441	.000	23.404	25
Std. Predicted Value	-.827	2.569	.000	1.000	25
Std. Residual	-2.009	2.256	.000	.935	25

a. Dependent Variable: VAR00004

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88774.708	3	29591.569	47.272	.000 <sup>a</sup>
	Residual	13145.822	21	625.992		
	Total	101920.530	24			

a. Predictors: (Constant), VAR00007, VAR00005, VAR00003

b. Dependent Variable: VAR00004



**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.933 <sup>a</sup>	.871	.853	25.020	.871	47.272	3	21	.000	1.062

a. Predictors: (Constant), VAR00007, VAR00005, VAR00003

b. Dependent Variable: VAR00004

**Regression**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.427 <sup>a</sup>	.182	.108	121.396	.182	2.448	2	22	.110	.272

a. Predictors: (Constant), VAR00007, VAR00003

b. Dependent Variable: VAR00005

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72165.976	2	36082.988	2.448	.110 <sup>a</sup>
	Residual	324211.464	22	14736.885		
	Total	396377.440	24			

a. Predictors: (Constant), VAR00007, VAR00003

b. Dependent Variable: VAR00005

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	-3.409	68.094		-.050	.961	144.627	137.809					
VAR00003	.475646	.222567	.428	2.137	.044	14.070	937.222	.427	.415	.412	.925	1.081
VAR00007	4.186E-6	.000	.006	.032	.975	.000	.000	-.111	.007	.006	.925	1.081

a. Dependent Variable: VAR00005

**Collinearity Diagnostics<sup>a</sup>**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	VAR00003	VAR00007
1	1	2.448	1.000	.02	.02	.05
	2	.476	2.268	.01	.11	.66
	3	.076	5.678	.97	.87	.29

a. Dependent Variable: VAR00005

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	22.17	205.94	108.32	54.835	25
Residual	-169.580	269.137	.000	116.227	25
Std. Predicted Value	-1.571	1.780	.000	1.000	25
Std. Residual	-1.397	2.217	.000	.957	25

a. Dependent Variable: VAR00005