Effect of Non-Performing Loans on the Performance of Deposit Money Banks in Nigeria

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Abstract
This study investigated the effect of non-performing loans on financial performance of listed deposit money banks in Nigeria. Secondary data was obtained from 2012-2023 and the study population comprised all listed deposit money banks, out of which 14 were sampled. Panel data obtained were analyzed using descriptive, regression diagnostic and inferential statistical tools. The fixed random effect panel regression result revealed that non-performing loans (t-value = -3.02; p-value = 0.003 < 0.05%) significantly influence financial performance of the listed deposit money banks in Nigeria. The study recommends that management of deposit money banks should be more equipped with the right skills and experience in ensuring safe and smooth use of provision of loans losses. The study contributes to knowledge by showing that non-performing loan significantly affects performance of deposit money banks in Nigeria. In addition, future studies may consider extending data till 2024 as well as investigating how investments and cash flow decisions can mediate in the relationship between credit risk management and financial performance and value of deposit money banks in Nigeria.

Keywords: *Credit risk management; Financial performance; Banks; Non-performing loans*
JEL Classification: *G32; M10*

1. INTRODUCTION

Deposit money banks (DMBs) are at the core of the Nigerian financial system. They make funds available for distribution to the deficit units by taking deposits from customers. According to Odubuasi, Ofor and Ilechukwu (2022), these funds at the disposal of DMBs are invested at a low risk; however, it appears that even though the invested funds are made within an accepted risk level, DMBs are still exposed to credit risk. Yitayaw (2021) believed that efficient credit management can expand the banking industry and a means of building an economy via effective allocation of capital and wealth. On the other hand, unmitigated risk exposure can be disastrous to the value chain of DMBs via spillover or contagion effects (Odiri, Aruoren & Okoro, 2021).

Researchers have demonstrated evidence that the Nigerian financial system is rife with risk management procedures problems, including the lack of vital control mechanism, corporate governance, extreme credit exposure, financial disclosure and transparency (Egberi, 2020). Similarly, Adegbie and Otitolaiye (2020) asserted that inefficient credit risk management besetting DMBs may result to colossal non-performing loans, interbank debts, violation of supervisory/regulatory provision, lethargic internal control system, insider abuse, persistent distress and failure and macroeconomic instability, etc. Non-performing loan is percentage of loan values that are not serviced for more than three (3) months by deposit money banks' customers.

Supporting the assertion above, Altanashat, Dubai and Alhety (2019) opined that DMBs failure is caused by poor credit management stemming from poor lending decision, inexact credit appraisal, lack of willingness by borrowers to meet up with loans obligations and excessive lending push. Siyanbola and Adebayo (2021) reported that 133 out of the 181 member nations of the International Monetary Fund (IMF) experienced notable banking sector malfunctioning and failures as a result of credit risk management issues. Similar to other countries, the Nigerian banking industry has experienced bank failures as a result of credit risk management problem.

One of the earliest DMBs failures in the country can be traced back to 1930 during the great depression when the Industrial and Commercial Bank Limited (ICBL) established in 1929 was liquidated within 1year of its operation as a result of generous extension of free credit facilities to its directors. From 1929 till the Central Bank of Nigeria (CBN) was established in 1959, numerous DMBs failures have been recorded (Ososuakpor & Okoro, 2023; Udeh, 2015; Adebisi, 2014). In order to cushion DMBs failures, several reforms, laws and regulatory/oversight institutions have been put in place to oversee the Nigerian banking industry; some of which include Basel Accord, Bank and Other Financial Institution Act (BOFIA), and Bank Ordinance and the Nigeria Deposit Insurance Corporation (NDIC).

2. REVIEW OF RELATED LITERATURE

2.1 Non-Performing Loans

The percentage of loan values that are not serviced for more than three months is known as non-performing loans (Ahmad & Ariff, 2016). The definition of NP that is most widely used is found in the Financial Soundness Indicators (FSIs) framework, which is adopted by the Executive Board of the International Monetary Fund (IMF) (Ahmad & Ariff, 2016).. The Financial Compilation Indicators (FCI) of March 2006 stated that a loan is considered non-performing if its principal and interest repayment is overdue by three months or ninety days or more; or if an interest payment equal to three months or ninety days interest or more has been capitalized, refinanced, or rolled over as a result of payment delays caused by arrangement (Ahmad & Ariff, 2016).

The time period that is most frequently utilized by the governments to assess whether or not a loan is non-performing is three months or ninety days. This was further supported by the definition provided by the International Financial Reporting Standards (IFRS), the Institute of International Finance (IIF), and the Basel Committee for Banking Supervision (BCBS) (Gieseche, 2024). More specifically, a default is deemed to have happened with regard to any particular obligation holder when the debtor is past due for a period exceeding 90 days on any significant credit commitment to the banking group, is what BCBS (2006) says in relation to the 90-day rule (Gieseche, 2024).

Typically, NP falls into three (3) categories: substandard (where interest and/or principal are past due by more than 90 days), doubtful (where interest and/or principal are past due by more than 180 days), and loss loans (where the loan is virtually uncollectible; interest and/or principal are past due for more than a year). The Working Group on Loan Quality, 1999 Report by the IIF provided recommendations for classifying loans as standard, watch, substandard, doubtful, and loss (Gieseche, 2024). As interest in understanding the factors causing financial vulnerability has grown over the past few years, so too has the body of research on non-performing loans. Previous studies have frequently included non-performing loan as one of the indicators of financial/economic distress in macroeconomic studies of East Asian countries (e.g. Japan and China).

Kithinji, (2010) used NPL as a strong economic indicator, with its amount serving as a barometer of growing insolvency and failure threat. While Kithinji (2010) measured credit risk management by comparing the ratio of loans and advances on total assets and the ratio of non-performing loans to total loans and advances, Hosna, Manzura, and Juanjuan (2019) used the ratio of non-performing loans to total asset as a proxy for credit risk management. The ratio of NPL to gross loans (NPLGL) is another metric used by Kolapo, et al., (2012) to measure credit risk. It determines the proportion of gross loans in a bank's credit portfolio that are dubious or non-performing (Hosna, et al., 2019). It is thought to be one of the most important indicators of the bank's credit risk and the quality of its loans. A smaller ratio indicates a small amount of questionable loans, better asset quality, and reduced credit risk (Hosna, et al., 2019). In this study, ratio of non-performing loans to total outstanding loans was employed

2.2 Financial Performance

Financial performance refers to the profits/returns arising from companies shares, operations and functioning; financial performance are measurable in terms of money and in the forms of ratios such as return on assets, return on equity, gross profit ratio, gross profit margin, among others. There are diverse views on the link between non-performing loans and performance of DMBs, ranging from risk theory of profit to financial intermediation theory (Abiola & Olausi, 2024). According to Kolapo et al. (2012), financial intermediation is seen as process of gathering revenues from the public and extending them to users of funds under commercial terms, hence exposing commercial banks to non-performing loans.

In this study, we measured financial performance using profit to gross profit margin. Profit to gross profit margin ratio is a ratio of gross profit divided by gross profit margin; gross profit margin is obtained by dividing gross profit by turnover. Notably, gross profit divided by gross profit margin is a profit ratio which indicates how successful an organisation is at generating revenues, reducing expenses and increasing profit margins.

2.4 Theoretical Framework

Theory of Shiftability was developed by Harold G. Moulton in 1915. According to Viskari, Ruokola and Pirttil, (2011) the theory underline that in order for an asset to be completely shiftable, it must be able to be transferred directly, without incurring any capital loss, in the event that liquidity is required. Viskari, et al., (2011) presented this theory and developed it and the idea holds that the amount of a bank's assets that can be easily transferred to another bank determines how well it can meet the liquidity needs of its clients. This theory dictates how banks should set up their portfolios to get the appropriate level of liquidity (Viskari, et al., 2011). The theory has lessened the need to keep a sizable reserve of cash on hand.

According to this hypothesis, assets can also be held in other movable open-market assets, including government securities, rather than just self-liquidating bills. It is important to remember that the shiftability hypothesis did not disprove or replace the commercial loan idea. Rather, by expanding the list of assets considered appropriate for bank ownership, the shiftability hypothesis adopted a more comprehensive perspective of the banking industry. Shiftability theory does not say that commercial loan are inappropriate bank assets, it does say that commercial loans are not the only appropriate asset (Hosna, et al., 2019). The thrust of the shiftability theory holds that the liquidity of a bank depends on its ability to shift its assets to someone else at a predictable price (Kargi, 2021). Thus, for example, it would be quite acceptable for a bank to hold short-term open market investments in its portfolio of assets. It is difficult to dispute the shiftability theory's significant influence on banking procedures (Hosna, et al., 2019).

In essence, it redirected bankers' and regulators' focus from loans to investments as a means of supplying bank liquidity. In fact, the theory's proponents contended that short-term, commercial loans' supposed liquidity was essentially untrue to begin with. Kargi (2021) claimed that shiftability theory had a serious flaw, similar to the commercial loan theory; however, this flaw was more likely to be in the bank management practices that the theory led to than in the theory itself, as it was well understood by the various writers on the subject

3. METHODOLOGY

Ex-post facto design and secondary data was the major data collection instrument. The study population consist 23 DMBs on Nigerian Exchange Group (NGX). Using national, regional and international grouping as a basis of sampling, 14 DMBs with national and international groupings were sampled. Descriptive, regression diagnostics and inferential statistical tools were employed in analyzing data obtained in the study. Based on the variables of the study, the following regression models were formulated.

$DPerf = f(Dnpl)$ - Eq. 1

$DPerf_{it} = \beta_0 + \beta_1 Dnpl_{it} + u_{it}$ - Eq. 2

Where:
β_0 = Constant of observations; β_{1-5} = Slope coefficient; ε = Stochastic term; i = cross − section data; $t = Time\ period$. DPerf=DMBs performance; Dnpl=Non performing loans. To ascertain the effect of non-performing loans on the level of financial performance, fixed and random panel regression was employed.

4. RESULTS

Table 1: Summary Statistics

Statistics	Dperf	Dnpl
Mean	0.9529	9.710
Std. Dev.	0.1269	16.27
Skewness	0.8698	2.696
Kurtosis	6.7271	10.50

Compiled by the Researcher (2025)

Table 1 showed that Dnpl had a mean score of 9.710; this is an indication that DMBs in Nigeria had significant numbers of non-performing loans particularly during the period under investigation. Also, financial performance (Dperf) had the least dispersion with a standard deviation of 16.27. The skewness values revealed that Dnpl and Dperf were positively skewed. The kurtosis value for variable Dnpl and Dperf is a platykurtic curve.

Table 2: Ramsey REST Test

Ho: Mode has no Omitted Variables		
F(3, 158)	=	6.33
Prob. > F	=	0.0004

Compiled by the Researcher (2025)

Table 2 is the Ramsey regression specification-error test (RESET) for omitted variables and fitted values of the response variables (dependent variable – financial performance). The result revealed that F(3, 158) is = 6.33 and Probability F is 0.0004, indicating that the alternate hypothesis was rejected while the null hypothesis was accepted, suggesting that the powers of

the fitted values have no relationship which serves to explain the response variables (i.e. the model has no omitted variables).

Table 3: Fixed/Random Effects Results

Dependent Variable: Return on Assets (Dperf)				
Estimator(s)	Fixed Effect (FE)		Random Effect (RE)	
Variable(s)	Coefficient	Probability	Coefficient	Probability
Dnpl	-0.0017 (-3.02)	0.003	-0.0013 (-2.25)	0.025
_Cons.	1.1177 (15.02)	0.000	1.1505 (14.41)	0.000
F-value	(4, 151) = 6.74			
F-Probability	0.0001			
R-Squared (overall)	0.1473		0.1568	
Wald Ch2(4)			30.13	
Prob. Ch2			0.0000	
Hausman Test	Chi2(2) = 23.40		Prob>Chi2= 0.0001	

Compiled by the Researcher (2025)

In Table 3, we found that Dnpl is significant at 5% level in explaining Dperf. Using the fixed effect (FE) result, the coefficient is -0.0017 (Dnpl), indicating that when DMBs in Nigeria engage in effective non-performing loans management, it would lead to approximately 0.17% changes in their level of financial performance.

Besides, when random effect (RE) result is used, the coefficient is -0.0013(Dnpl), indicating that when DMBs in Nigeria engage in effective non-performing loans management, it would lead to approximately 0.13% changes in their level of financial performance. The z-scores for Dnpl (-2.25; p-value = 0.025) was found to be statistically significant. Z-scores confirmed that Dnpl is statistically significant in explaining financial performance. R^2 value offers evidence that non-performing loan explained about 14.7% of the variation in financial performance.

The t-value for non-performing loans (Dnpl) is -3.02 with a probability value (p-value) of 0.003 signify that it is less than 0.05%; this implies that Dnpl is statistically significant, indicating that non-performing loans ratio has significant negative impact on the performance of deposit money banks in Nigeria. The results agree with the findings of Hosna, Manzura and Juanjuan (2019); Atoi (2018); Greenidge and Grosvenor (2018), Ekanayake and Azeez (2015) who found that non-performing loans significantly influence DMBs performance. On the other hand, our results disagree with the findings of Talata (2015); Tracey and Leon (2014) who found insignificant influence of non-performing loans on DMBs performance.

5. CONCLUSION AND RECOMMENDATIONS

This study examined the extent to which non-performing loans affects financial performance of listed deposit money banks in Nigeria. Secondary data was obtained from 2012-2023 and the data obtained were analyzed via descriptive, regression diagnostic and inferential statistics. The fixed random effect panel regression result revealed that non-performing loans significantly influence financial performance of the listed deposit money banks in Nigeria. The study recommends that management of deposit money banks should be more equipped with the right skills and experience in ensuring safe and smooth use of provision of loans losses.

The study contributes to knowledge by showing that non-performing loan significantly affect performance of deposit money banks in Nigeria. In addition, future studies may consider extending data till 2024 as well as investigating how investments and cash flow decisions can mediate in the relationship between credit risk management and financial performance and value of deposit money banks in Nigeria.

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