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RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

The study investigated the relationship between risk management and financial performance of deposit money banks in Nigeria. The researcher developed four specific objectives, four research questions and four hypotheses that guided the study. The study employed ex-post-facto research design. This design is selected and implemented due to the researcher's lack of control over the various elements of the design. The data for this study is preexisting, therefore it is utilized for a secondary data analysis. The study's population comprised twenty-two (22) designated deposit money banks in Nigeria. This study employed the judgmental sampling technique. The sample size is made up of two (2) DMBs which includes United Bank for Africa Plc, Fidelity. The data for this study were obtained from the published financial statements of the chosen publicly traded deposit money banks in Nigeria. This study employed an estimated technique that involved the use of descriptive statistics and Ordinary Least Squares (OLS) regression analysis. The E-view-9 software was utilized to carry out the analysis. The study specifically concluded that loan loss provision is not statistically significant and does not appear to have a significant effect on operating income. The researcher suggested that Banks should continuously monitor the financial health and business performance of borrowers to identify early warning signs of distress. Banks should establish a specialized LLP management team that can work closely with delinquent borrowers to restructure loans, offer alternative payment plans, or collaborate on asset sales to recover funds.

1. INTRODUCTION

The financial health of a bank has a significant influence on investors, stakeholders, and ultimately the entire economy. The profitability of a bank is contingent upon the efficiency with which it can accomplish its objectives using its existing resources. Thorough analysis and evaluation of all resources, encompassing individuals, tools, capabilities, and skills, is essential. The primary function of the bank is to acquire capital and facilitate the transfer of funds from clients through the process of

lending. In order to safeguard the security of customer funds held by the bank, it is imperative for the bank to maintain a high level of performance. Banks primarily serve as intermediaries between those who require funding and those who have excess funds available (Ozcalici & Bumin, 2020). In order to evaluate the attainment of the company's goals, a meticulous assessment is conducted. Bank profitability indicators encompass the cost-to-income ratio, operating income, gross revenue, return on assets, return on equity, and interest rate spread, among others (Amelia, 2017). However, this study highlights that bank profitability is primarily influenced by gross revenue and net income.

Gross revenue is a crucial metric for assessing the profitability and financial performance of a business (Osho & Olusolaomole, 2022). It measures the effectiveness of a company in utilizing its workforce, raw materials, and other resources. Analyzing its fluctuation over a specific time frame aids in identifying the factors responsible for such variations and implementing remedial measures in the event of an adverse fluctuation in gross profit. Gross profit is the disparity between a business's net sales revenue and its cost of sales. Net sales revenue refers to the overall revenue after deducting the costs associated with sales returns, allowances, and discounts. Cost of sales encompasses all expenses associated with the production of a product or service.

Managing risks strategically involves identifying risks to avoid, minimise, eliminate, or exploit to capitalise on opportunities and achieve organisational objectives, rather than simply hedging against risk. Embracing higher levels of risk is crucial for achieving commercial success, and organisations seeking substantial returns must be prepared to take significant risks (Chuke & Chinedu, 2018). Financial risks are a component of the entire risk faced by a corporation. Financial risk management is to minimise the volatility of profits and cash flow resulting from exposure to financial risks (Edor, 2021).

Every human undertaking carries inherent risks. Financial institutions face various challenges due to human involvement, with some major issues arising from relaxed credit standards for borrowers and counterparties, inadequate portfolio risk management, and insufficient awareness of economic or other factors that may negatively impact a bank's creditworthiness. Banks utilize customer deposits to generate credit for borrowers, thereby generating revenue for the banks. The process of creating credit exposes banks to significant default risk, which can potentially result in financial distress, including bankruptcy.

Statement of the Problem

Despite some recent improvements in the financial system, banks still have to account for loan defaults and losses that occur as a result of lending. Loan loss provisions are a standard accounting adjustment made on the earnings of banks which are shown in the financial statements of banks. Loan loss provisions are consistently made to incorporate changing projections for losses from the bank’s lending products. Rising cases of non-performing loans in the assets portfolio of Nigerian banks has led to the liquidation of some prominent deposit money banks in Nigeria. Whereas standards for lending have greatly improved, banks still experience late loan payments and loan defaults (Corporate Finance Institute, 2020).

The failure of numerous Nigerian banks in the past can be attributed to insufficient risk management, as stated in a report by the Central Bank of Nigeria (CBN, 2019). This problem persists in its effect on the banking sector, affecting banks Some researchers have carried-out studies in the area of risk management and financial performance of deposit money banks in Nigeria (eg, Edor, 2021; Inegbedion et al., 2020; Alnabulsi et al., 2023; Ademola & Ismaila, 2022). These studies showed mixed results on the relationship between risk management and financial performance of deposit money banks in Nigeria. Hence, this study determined the relationship between risk management and financial performance of deposit money banks in Nigeria. Specifically, the study sought to:

i. Determine the relationship between loan loss provision and gross revenue of DMBs in Nigeria.

Research Hypothesis

H_01: There is no significant relationship between loan loss provision and gross revenue of DMBs in Nigeria.

2. LITERATURE REVIEW

Risk management

Risk management is the process of identifying, assessing and controlling financial, legal, strategic and security risks to an organization's capital and earnings (Yin et al, 2022). These threats, or risks, could stem from a wide variety of sources, including financial uncertainty, legal liabilities, strategic management errors, accidents and natural disasters. If an unforeseen event catches your organization unaware, the impact could be minor, such as a small impact on your overhead costs. In a worst-case scenario, though, it could be catastrophic and have serious ramifications, such as a significant financial burden or even the closure of your business. To reduce risk, an organization needs to apply resources to minimize, monitor and control the impact of negative events while maximizing positive events (Yin et al., 2022).

John (2020) defines a risk management framework as a collection of components that provide the conceptual foundation and organizational structure for the development, implementation, supervision, review, and ongoing improvement of risk management within an organization. In order to streamline decision-making and achieve organizational objectives, it is essential to integrate a framework regarding financial risk management with an organization's operations guidelines and strategic planning.

The objective of effective risk management is to optimize the advantages of a risky scenario while minimizing the adverse impact of the risk. Effective management of risk related to credit in financial institutions is crucial for their continued existence and expansion. In order to achieve this, management of the bank must possess a comprehensive understanding of the composition or combination of each portfolio, concentrations of credits in different industries and geographic regions, average risk rankings, and other collective attributes (Nguyen & Vo, 2020). It is imperative to ensure that the procedures, standards, and practices put in place to manage the risks associated with individual loans and portfolio segments are robust, and that lending personnel strictly adhere to them.

Loan Loss Provision

Loan loss provisioning is a vital aspect of banking operations, serving as an allowance for potential loan losses including non-performing loans, customer bankruptcy, and renegotiated loans with lower payments. These provisions are reflected in loan loss reserves on a bank's balance sheet, which can increase through provisions or decrease via net charge-offs. By continually updating these provisions based on historical default rates and payment statistics, banks aim to present an accurate financial position. This practice contributes significantly to financial system stability, as it allows banks to recognize estimated losses preemptively, thereby preserving capital and sustaining credit supply during economic downturns. Research indicates that effective loan loss provisioning management correlates with increased profitability, highlighting the importance of prudent risk assessment and management in banking operations (Ozili & Outa, 2017; Malik et al., 2022; Ademola & Ismaila, 2022; Mulyanto et al., 2021).

Financial performance

Financial performance refers to the achievement of financial goals and the quantification of outcomes in terms of money. It is important for managing financial risks and assessing the overall well-being of a company. Comparisons can be made between companies or industries using financial performance metrics. Soyemi (2019) explains that banks' financial performance is influenced by factors that banks can control, such as income and expenses, as well as external factors that are beyond their control but

have a significant impact on profitability. Anthony and Caleb (2019) state that macroeconomic variables have consistently played a significant role in determining external profits in various studies. The primary factors commonly examined in various studies encompass competition, market share, firm size, inflation, gross domestic product (GDP), growth, and interest rate (Central Bank of Nigeria, 2019). The bank's financial success can be assessed by shareholders as the net profit, which is the result of subtracting costs from revenue. The statement indicates that the bank's management is actively pursuing strategies to enhance revenue and minimize expenses with the objective of maximizing profitability (Bikker & Boss, 2018).

Gross Revenue

Gross revenue represents the total sales generated by a business within a specific reporting period before any deductions are made. It serves as a fundamental indicator of sales performance but does not reflect profitability as it does not account for deductions such as sales discounts and returns. Net revenue, on the other hand, is the amount obtained after subtracting these deductions from gross revenue, providing a clearer picture of a business's actual earnings. While gross revenue may be used as a valuation metric by the investment community, particularly in emerging industries or for new companies with limited alternative valuation methods, an excessive focus on gross revenue can lead to detrimental outcomes. This includes the risk of introducing untested products, increased sales returns, and potential damage to the company's reputation. Moreover, an overemphasis on gross revenue may incentivize unethical practices such as recognizing revenue on undelivered goods or selling products with minimal profit margins solely to boost revenue (Authority, 2017; Onsongo et al., 2020).

Operating income, on the other hand, is a crucial financial metric that indicates the portion of a company's revenue that contributes to profitability. It is calculated by subtracting all operational expenses and depreciation from net revenue. Operational expenses, also known as expenses of operation, encompass various expenditures essential for sustaining a business's regular operations, including rent, utilities, employee wages, cost of goods sold (COGS), inventory, and equipment expenses. Operating income provides insights into a company's operational efficiency and its ability to generate profits from its core business activities. Understanding operating income is crucial for investors, stakeholders, and management to assess a company's financial health and profitability (Edwards, 2016).

Empirical review

In their study, Mulyanto et al. (2021) examined how the inclusion of impairment losses, the ratio of non-performing loans (NPL), and Third Party Funds (TPF) affect the capital adequacy ratio (CAR) of central government-owned banks during the period of 2011-2018. The study determined that the allocation for credit losses had no significant impact on the capital adequacy ratio (CAR), whereas non-performing loans (NPL) and total provision for loan losses (TPF) had a partial influence on it. The three independent variables had a significant impact on the CAR.

Ozili and Outa (2017), analyzed bank loan loss provisioning literature, revealing a link between managerial discretion and income smoothing, capital management, and signaling objectives. They also found LLP estimates may not accurately represent actual credit risk exposure. They recommended further research to reconcile regulators' expectations, examine LLP behavior in developing countries, and address discretion issues.

In their research, Alnabulsi et al (2023) examined the correlation between non-performing loans (NPLs) and the financial success of 74 banks in the Middle East and North Africa region during the period of 2005-2020. It was discovered that non-performing loan (NPL) ratios have a negative impact on profitability, exhibiting a threshold effect. The size of a bank had a positive correlation with its profitability, whereas industry factors such as bank concentration had a negative impact on profitability.

The global financial crisis had an adverse effect on profitability, whereas GDP and inflation had a positive effect on profitability. Nevertheless, the study is constrained by the social, economic, and financial disparities within the sample.

Osirim and Wadike (2023) conducted a study on the financial performance of both quoted and unquoted firms in Nigeria. They analyzed the asset base and revenue as key factors influencing the performance. The study examined 18 companies over a period of 10 years (2008-2017). It found that the size of a company's assets and its revenue have a positive influence on the financial performance of publicly traded companies. Additionally, revenue was found to have a positive correlation with the performance of privately held companies. The study proposes that the Nigerian Stock Exchange should reassess its listing criteria to include unquoted companies.

In their 2018 study, Chuke and Chinedu discovered that the management of credit risk has a beneficial effect on the performance of Nigerian deposit money banks. This effect is particularly significant in relation to total loans, advances, asset returns, and equity returns. The study suggests that bank managers should intensify their efforts to manage non-performing loans, while also enhancing the monitoring capabilities of regulators.

The 2022 study conducted by Ademola and Ismaila on Nigerian deposit money institutions revealed that credit and liquidity risk have a substantial influence on their financial performance. The study employed an ex post facto design and included ten banks that were listed on the Nigerian Stock Exchange between 2010 and 2019. The findings indicate that financial risk has a detrimental effect on the financial stability of these institutions.

The 2019 study conducted by Zheng et al. examined the loan loss provision (LLP) practices in 22 commercial banks in Pakistan. The study revealed a negative relationship between inflation and LLP, indicating that as inflation increases, LLP decreases. Additionally, the study found a positive connection between higher lending interest rates and an increase in LLP.

In their 2021 study, Fukuyama and Tan discovered that banks with an LLR-to-total loans ratio of less than 1% exhibit higher levels of efficiency. On the other hand, larger banks tend to maintain LLRs that surpass regulatory standards, leading to an artificial inflation of their efficiency scores.

The 2022 study conducted by Muratenyi and Olando in Kenya investigated the influence of loan portfolio quality on the financial performance of commercial banks. The findings indicated a favorable connection between the independent variables and dependent variables, while also demonstrating a positive correlation with return on equity.

The analysis conducted by Ughulu et al. in 2023 demonstrated that non-performing loans have a detrimental effect on the financial performance of Direct Benefit Banks. This highlights the importance of increasing provisions for loan losses.

In Sukmadewi's 2020 study, it was discovered that certain factors such as capital adequacy ratio, loan to deposit ratio, operating-income ratio, nonperforming loans, and net interest margin had a positive impact on the financial performance of 23 Indonesian banking institutions between 2016 and 2018.

Suppriatini and Sulindawati (2021), conducted a quantitative study in Indonesia, analyzing the impact of factors such as non-performing loans, loan to deposit ratio, excellent corporate governance, net interest margin, return on assets, capital adequacy ratio, and economic value added on Stock Prices. The study found negative relationships between non-performing loans, loan to deposit ratio, and excellent corporate governance with stock prices. The study also revealed that the influence of the capital adequacy ratio on share price was negligible. The study emphasizes the significance of dealing with loan loss.

2.4. Literature Gap

Previous studies on this topic showed mixed results on the relationship between risk management and financial performance of deposit money banks in Nigeria (Edor 2021; Inegbedion et al. 2020). Hence, their studies lack consensus results. This inconsistent results could be as result of differences in scope (content, geographical and unit of analysis), sample size, population and or data analysis techniques. Previous studies used ROA and ROE to measure financial performance (Anthony & Shence, 2018). The present study used Loan Loss Provision to proxy risk management; and Gross Revenue, as a dimension of financial performance as against the norm. This model is very novel and robust. Our study also concentrated on two commercial banks (United Bank for Africa Plc, Fidelity Bank Plc) with respect to Nigeria. Hence, we affirm that this study has contributed to the body of knowledge.

3. METHODOLOGY

According to Appah (2020), a research design is the structure or plan of study used to collect and analyze data. The study employed an ex post facto research design, chosen because the elements of the design were not under the control of the researcher and the data already existed. The population for the study consisted of 22 listed deposit money banks in Nigeria. The study used judgment sampling technique to select two DMBs, United Bank for Africa Plc and Fidelity Bank Plc, as the sample size. Data were collected from the published financial statements of the selected banks, obtained from the Nigerian exchange group website. The data analysis method used descriptive statistics and Ordinary least square (OLS) regression analysis with the help of E-view-9 software. The statistical tests included the coefficient of determination R2, Durbin-Watson (DW), F-ratio, and t-test, with a significance level of 5% (0.05).

3.6. Model Specification

The model is expressed as follows:

$GRit = \beta + \log \beta 1 \log LLPit + eit$

Where:

GR = Gross Revenue

LLP = Loan Loss Provision

T = Time period under study

Log = Natural log of the variables

β = constant.

4. DATA ANALYSIS AND DISCUSION OF FINDINGS

4.1. Data analysis

Data analysed here were the properties of risk management (Loan Loss Provision) and financial performance (Gross Revenue) of deposit money banks in Nigeria.

Table 4.1. Descriptive Statistics

	LLP	GR
Mean	2.934828	4.390937
Median	3.400711	4.602960
Maximum	3.761778	5.126118
Minimum	2.164353	3.335859
Std. Dev.	0.691090	0.431315
Skewness	-0.206103	-0.810972

Kurtosis	1.093376	2.960926
Jarque-Bera	3.963676	2.741905
Probability	0.137816	0.253865
Sum	73.37069	109.7734
Sum Sq. Dev.	11.46252	4.464785
Observations	25	25

Source: Eview9 output computed by the author

Table 4.1 above contains descriptive statistics for two different variables: LLP (Loan Loss provision), and GR (Gross Revenue). The mean of LLP is approximately 2.935. The mean of GR is approximately 4.391. The maximum LLP value is approximately 3.762. The maximum GR value is approximately 5.126. The minimum LLP value is approximately 2.164. The minimum GR value is approximately 3.336. The standard deviation for LLP is approximately 0.691. The standard deviation for GR is approximately 0.431. Skewness measures the asymmetry of the data distribution. A negative skewness value indicates a left-skewed distribution. The LLP data is slightly left-skewed. The GR data is slightly left-skewed. Kurtosis measures the "tailedness" of the data distribution. A higher kurtosis value indicates heavy tails. The LLP data has slightly heavy tails. The GR data has moderately heavy tails. The Jarque-Bera test is a test for the normality of the data. It tests whether the data follows a normal distribution. For all variables (NPL and GR), the Jarque-Bera test statistic is greater than zero, which suggests that the data may not follow a perfectly normal distribution. These values provide the sum of all data points and the sum of squared deviations from the mean, respectively. There are 25 observations for each of the four variables. In summary, the data describes the central tendency, dispersion, skewness, kurtosis, and normality of the four variables: NPL and GR. It's important to consider these statistics when analyzing and interpreting the characteristics of the data and making decisions or inferences about these financial metrics. The data will require further statistical analysis in consonance with the specific goals of this analysis.

Decision Rule

If the p-value is very small (typically less than 0.05), you have evidence to reject the null hypothesis in favor of the alternative hypothesis. If the p-value is larger than 0.05, you do not have enough evidence to reject the null hypothesis, and you do not conclude that there is a significant effect or difference.

Test of Hypotheses 1

$H_0$1: There is no significant relationship between loan loss provision and gross revenue of DMBs in Nigeria.

Table 4.2: Panel regression analysis of LLP effect on gross revenue

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.514692	1.860396	-0.814177	0.4243
LLP	-0.175865	0.098719	-1.781466	0.0886
R-squared	0.671637	Mean dependent var		4.390937
Adjusted R-squared	0.641786	S.D. dependent var		0.431315
S.E. of regression	0.258146	Akaike info criterion		0.241586
Sum squared resid	1.466069	Schwarz criterion		0.387851

Log likelihood	-0.019822	Hannan-Quinn criter.	0.282153
F-statistic	22.49955	Durbin-Watson stat	0.982986
Prob (F-statistic)	0.000005		

Source: Eview9 output computed by the author

The data in table 4.2 as provided above showed the results of a panel regression analysis with GP (Gross Revenue) as the dependent variable. The coefficient for LLP is -0.175865. This suggests that, holding other variables constant, a one-unit increase in LLP is associated with a decrease in Gross Revenue of approximately 0.176 units. The t-statistics and p-values for these coefficients are used to test the statistical significance of the coefficients. C (Intercept) is not statistically significant at the 0.05 significance level, as the p-value is 0.4243. LLP is also not statistically significant at the 0.05 significance level but is borderline significant with a p-value of 0.0886. The model's goodness of fit is summarized by R-squared and adjusted R-squared. R-squared: 0.671637. This suggests that approximately 67.16% of the variance in Gross Profit is explained by the independent variables in the model. This is a version of R-squared adjusted for the number of predictors in the model. Standard Error of the Regression (S.E. of regression) measured the average error of the model's predictions. In this case, it's 0.258146. The F-statistic tests the overall significance of the model. In this case, it is 22.49955, and the p-value (Prob(F-statistic)) is very low (0.000005), indicating that at least one of the independent variables is significant. Durbin-Watson Statistic was used to test for autocorrelation in the residuals. A value close to 2 suggests no autocorrelation. Here, it's approximately 0.983, which is close to 2, indicating little autocorrelation.

In summary, the model suggests that Loan loss provision (LLP) is not statistically significant at the 0.05 significance level. The R-squared indicates that the model explains a substantial portion of the variance in GR.

4.2. Discussion of Findings

The study found that loan loss provision (LLP) is not statistically significant to operating income). The study corroborated with Alnabulsi et al. (2023) who also demonstrated that the proportion of non-performing loans (NPLs) has a detrimental impact on bank profitability, exhibiting a threshold effect. Ozili and Outa (2017) highlighted the difficulties encountered in conducting research on bank loan loss provisioning (LLP). Mulyanto et al. (2021) discovered that partial credit loss allowances did not have a significant impact on the bank's Capital Adequacy Ratio (CAR), but Non-Performing Loans (NPL) and Total Provision for Loan Losses (TPF) did have a partial influence on the CAR. Anthony and Shence (2018) found a strong positive relationship between capital risk and interest rate risk with return on equity (ROE). Malik et al. (2022) discovered a notable and favorable correlation between DLLP, NDLLP, and financial distress as measured by the Altman Z-score

5. CONCLUSION AND RECOMMENDATIONS

The study investigated the effect of risk management on the financial performance of deposit money banks in Nigeria. The study employed an ex post facto research design, chosen because the elements of the design were not under the control of the researcher and the data already existed. The population for the study consisted of 22 listed deposit money banks in Nigeria. Our result suggested that Loan loss provision (LLP) is not statistically significant to gross revenue. Banks that effectively manage risk can more confidently explore innovative financial products and services. In agreement with our findings and in corroboration with previous researchers in this study area, the study specifically concluded that loan loss provision (LLP) is not statistically significant at the 0.05 significance level. In line with the findings, the researcher suggested that;

1. Banks should continuously monitor the financial health and business performance of borrowers to identify early warning signs of distress.

2. Banks should establish a specialized LLP management team that can work closely with delinquent borrowers to restructure loans, offer alternative payment plans, or collaborate on asset sales to recover funds.

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