

Effective Internal Control Systems and Return on Assets (ROA) of Deposit Money Banks in Nigeria

Rotimi Adetayo Adedokun^{1*} Temitope Akinola² Abosede Faosat Ashamu³

¹ Associate Professor of Accounting, Department of Business Professions, Odessa College, Texas, USA.

² Doctoral Student, Ph.D. in Accounting, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria.

³ Doctoral Student, Ph.D. in Business, University of Cumberlands, Williamsburg, Kentucky, USA

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ABSTRACT

This study investigated the impact of effective internal control systems on the Return on Assets (ROA) of deposit money banks in Nigeria. Internal controls are crucial for ensuring the accuracy and reliability of financial reporting, compliance with laws and regulations, and the overall operational efficiency of financial institutions. The study adopted an ex-post facto research design. Secondary data were extracted from the audited financial statements of 10 deposit money banks, listed on the Nigerian Exchange Group (NGX). Data were subjected to descriptive statistics (mean, median, mode, and standard deviation) and inferential statistics (fixed effect regression analysis). Results from the analysis revealed that the internal control system affects the return on assets significantly, which means that any slight reduction in the internal control system will affect the rate at which the assets will generate revenue to the banks negatively, especially when the risks that may arise are not properly assessed and mitigated by the risk management committee. The paper concludes that there is a statistically significant relationship between the two variables; it can be inferred that there is an established connection between the internal control system and the financial performance of the sampled deposit money banks in Nigeria at a significant level.

Keywords: Internal Control Systems, Return on Assets, Control Environment, Deposit Money Banks, Nigeria.

INTRODUCTION

The financial health of deposit money banks is critical for economic development, particularly in developing countries like Nigeria. The effectiveness of internal control systems is critical in maintaining the financial health of institutions. In Nigeria, the effectiveness of internal control systems in deposit money banks has become a focal point due to numerous financial scandals and fraud cases. The Central Bank of Nigeria (CBN) has emphasized the need for strong internal controls to enhance the stability and performance of banks. One vital metric for assessing financial performance is the Return on Assets (ROA), which measures how effectively a company uses its assets to generate earnings. Research by Ogundana et al. (2017) found that Nigerian banks with effective internal control systems tend to report higher ROA, signifying better utilization of their assets to generate profits. Several studies have investigated the relationship between internal control systems and financial performance, including ROA. For example, research by Njanike, Dube, and Mashayanye (2009) indicates that robust internal controls significantly improve the financial performance of deposit money banks. Similarly, a study by Ege (2015) found that firms with strong internal controls have higher ROA compared to those with weaker controls.

This paper examined the impact of the effectiveness of internal control systems on the Returns on Assets of deposit money banks in Nigeria.

LITERATURE REVIEW

Internal Control Systems in Deposit Money Banks

Internal control systems are processes implemented by a company's board of directors, management, and other personnel to provide reasonable assurance of the achievement of objectives in operational effectiveness, reliable financial reporting, and compliance with laws and regulations (COSO, 2013). Effective internal controls are crucial for preventing and detecting fraud, ensuring accuracy and completeness of accounting records, and promoting operational efficiency. (Kumar 2021) outlines that internal control ensures that business operations are conducted in an organized and effective manner, adhering to established procedures, safeguarding assets, preventing and detecting fraud and errors, maintaining accurate and complete accounting records, and facilitating the timely preparation of reliable financial information.

ISA 400 (IAASB, 2019) defines internal control as a systematic process implemented across various levels within an organization. Its purpose is to ensure reasonable assurance regarding the achievement of efficiency and effectiveness goals in organizational activities, focusing on risk assessment, control environment, and compliance with operating procedures. It explains that internal control is a structured approach applied throughout an organization to ensure that its activities are efficient and effective.

Components of Internal Control Systems

According to the Committee of Sponsoring Organizations of the Treadway Commission (COSO), internal control systems comprise five interrelated components:

Control Environment: The set of standards, processes, and structures that provide the foundation for carrying out internal controls across the organization. According to (Al-Zwyalif, 2018) the control environment provides a framework of organization and structure to achieve the goals of the internal control system.

The term "control environment" is often referred to as the general "attitude" to internal control of management and employees in the organization. According to the Institute of Internal Auditors (ISA 315), the internal control environment refers to the attitudes and actions of the board of directors and management concerning the importance of control within the organization.

Risk Assessment: Risk Assessment involves the process of identifying, analyzing, and evaluating potential risks that may impact the deposit money banks' ability to achieve its objectives. This includes assessing various types of risks, such as credit risk, market risk, liquidity risk, operational risk, and regulatory risk. According to Endeshaw (2021), risk assessment plays a vital role in risk management, serving as the process of identifying, measuring, and strategizing for success. Risk assessment detects and analyzes operational risks in a timely manner (Taiwo et al., 2018).

Control Activities: The actions established by policies and procedures to help ensure that management directives to mitigate risks are carried out. Ray and Pany (2018) discuss control activities as an integral component of internal controls, emphasizing that they consist of policies and procedures aimed at ensuring the execution of management directives. These control activities, according to Shelton and Whittington (2018), are the policies and procedures enacted by organizations to ensure the fulfillment of management's directives. They categorize these activities based on the objectives they serve, such as operations, financial reporting, and compliance. Shelton and Whittington (2018) further argue that control activities encompass a wide array of functions, including approvals, authorizations, verifications, reconciliations, performance reviews, asset security, and segregation of duties.

Information and Communication: Information and communication are essential elements that support the functioning of internal control systems. Effective information systems provide timely, accurate, and relevant information to management and employees to support decision-making and performance monitoring.

Information and communication involve processes used to find, gather, and share important information within the boundaries set by management to meet the organization's financial reporting needs (Frazer, 2020; Taiwo et al., 2016; Vu & Nga, 2022).

Monitoring Activities: The processes that assess the quality of internal control performance over time. Monitoring involves ongoing assessments of the effectiveness of internal control activities and processes to identify deficiencies and areas for improvement. It includes both ongoing monitoring activities conducted as part of day-to-day operations and separate evaluations performed periodically or in response to specific events. Monitoring activities may include management reviews, internal audits, self-assessments, and external evaluations conducted by regulatory authorities or external auditors. The results of monitoring activities are used to identify weaknesses in internal controls, implement corrective actions, and enhance the overall effectiveness of the internal control system.

Return on Assets

Return on Assets (ROA) is also another major ratio that indicates the profitability of a bank. It is a ratio of Income to its Total Asset (Khrawish, 2018). The definition of return on assets, as provided by Adebayo et al. (2019), is a metric that compares the assets of a company to its turnover during a specific period. It measures the ability of the deposit money banks management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2018). Wen (2020), state that a higher ROA shows that the company is more efficient in using its resources. In agreement with this Kolawole et al. (2023), assert that if a company has a higher return on assets, it suggests that the company is performing well financially, this efficiency can make the company more appealing to shareholders, as they may expect better returns on their investment. As a result, shareholders may choose to reinvest their earnings back into the company rather than immediately spending them, contributing to the company's growth and sustainability.

Impact of Internal Control Systems on ROA

Risk Management: Effective internal controls help in identifying and mitigating financial risks, which in turn enhances the stability and profitability of deposit money banks. This directly impacts the ROA as minimized risks lead to improved financial performance.

Operational Efficiency: Internal control systems streamline processes and ensure that resources are used efficiently. This operational efficiency reduces costs and increases profitability, positively affecting the ROA.

Fraud Prevention: Robust internal control mechanisms prevent fraud and financial misappropriation. By safeguarding the assets of deposit money banks, these controls contribute to maintaining a healthy ROA.

Compliance and Reporting: Compliance with financial regulations and accurate reporting are critical for the credibility of deposit money banks. Internal controls ensure that financial statements are reliable and free from material misstatements, thereby improving the institution's financial performance as reflected in the ROA.

Importance of Internal Control Systems in Deposit Money Banks

Deposit Money Banks in Nigeria operate in a complex and dynamic environment where the integrity of financial operations is paramount. Effective internal control systems are crucial in mitigating risks, ensuring accurate financial reporting, and safeguarding assets. These controls are essential for maintaining investor confidence and ensuring regulatory compliance.

Challenges of Implementing Internal Control Systems

Despite the importance of internal control systems, deposit money banks in Nigeria face several challenges in implementing effective controls:

Lack of Skilled Personnel: Many institutions lack adequately trained staff to implement and maintain effective internal controls.

Resource Constraints: Limited financial and human resources can hinder the development and maintenance of comprehensive internal control systems.

Technological Limitations: The adoption of advanced technology is crucial for effective internal controls, yet some institutions struggle with outdated systems and lack of technological infrastructure. Outdated or inadequate technology can hinder the implementation of robust control systems. **Regulatory Compliance:** Constant changes in regulations require continuous updates to control systems, which can be resource-intensive.

METHODOLOGY

Research Design and Data

The ex post facto research design method is suitable for investigating the effectiveness of internal control systems on the ROA of deposit money banks in Nigeria. This approach examines how independent variables, which cannot be manipulated, influence the dependent variable. This research used data from deposit money banks in Nigeria. Annual reports and financial statements of financial institutions were used in carrying out the research work of this current investigation in order to know the effect the internal control systems have on the ROA of deposit money banks. The annual reports and financial statements were obtained from the websites of each of the selected deposit money banks.

The area of study of this research is deposit money banks listed in the Nigerian Exchange Group, formerly known as the Nigerian Stock Exchange.

The population of this research study is the total number of 22 deposit money banks listed on the Nigerian Exchange Group (NGX), previously referred to as the Nigerian Stock Exchange. A sample size of 10 deposit money banks listed on the Nigerian Exchange Group is used for this study, five of which are the five top-tier Nigerian banks, popularly known as FUGAZ bank. FUGAZ is an acronym, each letter of the acronym represents the first letter of each of the banks, purposefully arranged to be pronounceable. Which includes First Bank, United Bank for Africa, Guaranty Trust Bank, Access Bank, and Zenith Bank. The remaining five banks were chosen at random. The financial performance of all 10 deposit money banks used for this study is measured on a 10-year basis (2013-2022).

The selected deposit money banks include:

1.	Access Bank plc
2.	Stanbic IBTC
3.	Fidelity Bank of Nigeria
4.	First Bank of Nigeria
5.	GTBank
6.	Sterling Bank
7.	FCMB
8.	United Bank for Africa
9.	Wema Bank

10.	Zenith Bank
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Source: Nigerian Exchange Group (NGX), 2023.

This research work was carried out using secondary data as a source of obtaining sufficient information. Published annual reports and financial statements of the listed deposit money banks on the Nigerian Exchange Group were used because they are the most reliable source of information, and as data from the Nigerian Exchange Group is easily accessible.

Measurement of Variables and Model Specification

Dependent Variable: The ROA, which is the dependent variable, was measured using its formula and data relating to the formula on the published annual reports and financial statements of the selected deposit money banks.

Independent Variable: The independent variable for this particular study is the internal control system. The independent variables were measured using the components of internal control systems as listed in the Committee of Sponsoring Organizations (COSO), which includes: control environment, risk assessment, control activities, information and communication, and monitoring activities, because they can be controlled, which helps in testing the effect it has on the dependent variable. The independent variables were measured quantitatively based on the report of the auditor on the published annual report and financial statements of the companies by performing a content analysis on the financial statements and annual report. It was measured quantitatively by using a dummy variable. In other words, "1" was used if there is the existence of the element of the internal control system exists and "0" if otherwise.

This study applied a multiple regression analysis model in determining the connection that exists between the dependent and independent variables, which was used as a result of the existence of more than one independent variable. Therefore, the model took the following format:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \Sigma$$

Where Y- Dependent variable (i.e. Financial Performance of Financial Institutions in Nigeria)

X_1 – Control Environment

X_2 – Risk Assessment

X_3 – Control Activities

X_4 – Information and Communication

X_5 – Monitoring Activities

The regression model

$$ROA = \beta_0 + \beta_1CE_{it} + \beta_2RA_{it} + \beta_3CA_{it} + \beta_4IC_{it} + \beta_5MA_{it} + \Sigma_{it} \dots\dots\dots \text{Model 1}$$

Where;

ROE = Return on Equity, ROA = Return on Asset, NIM = Net Interest Margin, CE = Control Environment, RA = Risk Assessment, CA = Control Activities, IC = Information and Communication, MA = Monitoring Activities, Σ = Error factor, B_0 = Regression intercept which is constant, $B_1 - \beta_5$ = Represent the coefficient of explanatory variables.

Aim and Hypothesis

This study aims to evaluate the impact of internal control systems on the profitability and performance of deposit money banks in Nigeria, as measured by their Return on Assets (ROA).

The hypothesis for this study is:

Ho: Internal control systems have no significant effect on the Return on Assets of deposit money banks in Nigeria

RESULTS

Descriptive Statistics

The average ROA is 1.75, meaning that on average, a company in Nigeria has a ROA of 1.75. The median value of the current ratio, which is 1.36, suggests that half of the companies have an ROA higher than 1.36. Furthermore, the maximum ROA is 9.66, meaning that some deposit money banks have achieved a significantly higher ROA. However, the minimum ROA is 0.02, which means that some deposit money banks' ROA is higher than the ROA during the period under consideration.

Inferential Statistics

The control environment has a coefficient of 3.234324, which suggests that a one unit increase in the control environment will increase return on assets by approximately 3.234. Also, risk assessment has a coefficient value of -6.642727. This suggests that a unit increase in risk assessment would cause a decrease in the profitability ratio measured by ROA, depicting an adverse connection between risk assessment and net income margin. The estimate for information and communication is -1.167727 means that the variable is associated with a decrease of 1.167727 units in the current ratio. The coefficient estimate for monitoring activities is 3.653250 means a unit increase in the variable is associated with an estimated increase of 3.65 units in the return on assets. The findings reveal that a well-implemented and robust internal control system positively influences the return on assets, which is an indicator of the financial stability position of financial institutions. The estimated residual covariance of 0.597744 indicates that the estimation model can explain a significant portion of the variation in the ROA.

Table 1 Information Criteria ^a	
-2 Log Likelihood	181.216
Akaike's Information Criterion (AIC)	189.216
Hurvich and Tsai's Criterion (AICC)	189.764
Bozdogan's Criterion (CAIC)	202.643
Schwarz's Bayesian Criterion (BIC)	198.643
Source: Author's computation using SPSS	
The information criteria are displayed in smaller-is-better forms.	
Dependent Variable: ROA.	
Table 2 Estimates of Covariance Parameters ^a	

Parameter	Estimate	Std. Error
Residual	.597744	.095716
Source: Author's computation using SPSS		
a. Dependent Variable: ROA.		

Hypothesis Testing:

H0: Effective Internal Control System does not significantly have effect on the ROA of Deposit Money Banks in Nigeria.

Decision Rule:

To test this hypothesis, the study considers how internal controls have significance on the ROA of financial institutions. The significance level is 0.002, less than 0.05. Therefore, at 5% level of significance, the alternative hypothesis will be accepted while the null hypothesis will be rejected. Therefore, a conclusion was made that the internal control system significantly affects on the ROA of the deposit money banks in Nigeria.

Table 3 Fixed Effect Estimate for Hypothesis One

Variables	Co-efficient	Std. Error	Df	T	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	8.967727	.456404	77	19.649	.000	8.059096	9.876358
Control Environment	3.234324	.435540	77	18.455	.002	4.054327	7.635373
Risk Assessment	-6.642727	.329668	77.000	-20.150	.000	-7.299045	-5.986409
Control Activities	2.352426	.425226	77	17.253	.012	4.324536	7.543652
Information and Communication	-1.167727	.329668	77	-3.542	.001	-1.824045	-.511409
Monitoring Activities	3.653250	.326536	77	3.234	.023	3.536353	8.43535

Source: Author's computation using SPSS

Analysis of Variance (ANOVA)

Return on Assets;

Interpretation:

Correlation (R): This value is 0.917 which means that the variables have a strong positive correlation.

Coefficient of Determination (R^2): It is measured in percentage. This measures the amount of the dependent variable that was accounted for by the independent variable. The value is 0.841, which means that 84.1% of the variation in the dependent variable, ROA, was accounted for by all the independent variables (Risk assessment and information & communication) while the remaining 15.9% of the variation in the dependent variable are due to other factors not captured in this study.

Regression Model;

$$\text{ROA} = 8.881 - 6.556 * \text{Risk Assessment} - 1.168 * \text{Information and Communication}$$

The regression model shows that Risk assessment and information and communication has a negative effect on the ROA.

F-test: The F-test has a value of 198.083 with a p-value of $0.000 < 0.05$. This means that the overall regression results show that the independent variables, Risk Assessment and Information and communication, significantly have an effect on the ROA.

T-Test: The t-test measures the impact of the independent variables on the dependent variable. The independent variable, Risk assessment, has a t-value of -19.814 with a p-value of $0.000 < 0.05$. This means that Risk assessment significantly affects the ROA. Also, the independent variable, Information and communication, has a t-value of -3.529 with a p-value of $0.001 < 0.05$. This means that Information and communication significantly affect the ROA.

Table 4 Model summary for ROA

Model Summary ^b										
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	.917 ^a	.841	.837	.775963851599999	.841	198.083	2	75	.000	.780
a. Predictors: (Constant), Information and Communication, Risk Assessment										
b. Dependent Variable: ROA										

Source: Author's computation using SPSS

Table 5 ANOVA Table for ROA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	238.539	2	119.270	198.083	.000 ^b
	Residual	45.159	75	.602		
	Total	283.698	77			
a. Dependent Variable: ROA						
b. Predictors: (Constant), Information and Communication, Risk Assessment						

Source: Author's computation using SPSS

Table 6 Coefficient Table for ROA

Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	8.881	.458		19.388	.000	7.969	9.794		
	Risk Assessment	-6.556	.331	-.916	-19.814	.000	-7.215	-5.897	.993	1.007
	Information and Communication	-1.168	.331	-.163	-3.529	.001	-1.827	-.509	.993	1.007
a. Dependent Variable: ROA										

Source: Author's computation using SPSS

DISCUSSION

The results show that ROA is an important indicator of financial performance. The wide range of ROA from negative coefficients to high positive values implies that there is a significant variability in the profitability of deposit money banks in Nigeria. In addition, there may be deficiencies in the risk assessment process while creating room for improvement in managing risks. The results also revealed that control activities are essential for ensuring that internal controls are effectively implemented. Furthermore, the results show that a strong control environment is critical for the effectiveness of the overall financial performance. The level of effectiveness in information and communication within the internal control systems implies that companies are providing and sharing relevant information.

CONCLUSION

The effectiveness of internal control systems has a profound impact on the Return on Assets of deposit money banks in Nigeria. By managing risks, enhancing operational efficiency, preventing fraud, and ensuring compliance, these controls play a pivotal role in improving financial performance. However, addressing the challenges associated with the implementation of internal controls is essential for maximizing their benefits. In Nigeria, deposit money banks that have implemented strong internal controls have shown improved asset utilization and profitability. Continuous improvement and investment in internal control systems are essential for sustaining financial performance and stability in the Nigerian banking sector.

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