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Enterprise Risk Management as a Predictor of Profitability Among Nigerian Listed Insurers

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Abstract: This study investigates how Enterprise Risk Management (ERM) influences the profitability of insurance companies listed on the Nigerian stock exchange. Using an ex-post facto research design, secondary data were collected from five insurance firms covering the period 1996 to 2025. After removing two extreme outliers (2024-2025), which represented abnormal post-COVID surges, a log transformation was applied to correct skewness in earnings per share (EPS), reducing skewness from 2.96 to -0.19. Severe multicollinearity was detected between Return on Assets (ROA) and Return on Equity (ROE), with a correlation coefficient of 0.994 and a Variance Inflation Factor of 87.68. Consequently, ROA was excluded from the final model. The proposed ROE-only model exhibits strong explanatory power: ln(EPS) = 0.0517 + 1.0040 × ln(ROE), yielding an R^2 of 0.9964, an adjusted R^2 of 0.9963, and an F-statistic of 7281.09 ($p < 0.001$). The elasticity coefficient of 1.004 indicates that a 1% rise in ROE generates a 1.004% increase in EPS, a unit-elastic relationship. Diagnostic checks confirm that the model satisfies all classical regression assumptions: normality (Jarque-Bera $\chi^2 = 5.825$, $p = 0.054$), homoscedasticity (Breusch-Pagan BP = 0.292, $p = 0.589$), and no serial correlation (Durbin-Watson d = 2.497, $p = 0.874$). All three null hypotheses are rejected, leading to the conclusion that ERM practices significantly and positively affect profitability. The findings suggest that insurance managers should focus on ROE-enhancing risk strategies, regulators should use ROE as a key solvency monitoring metric, and researchers should avoid including both ROA and ROE together in regression models due to inevitable multicollinearity. The study recommends strengthening risk management frameworks, investing in information systems, and continuous staff training to improve risk processes, thereby raising the Nigerian insurance industry's GDP contribution from 0.4% toward the 3-4% levels seen in developed economies.

Keywords: *Enterprise Risk Management, Profitability, Earnings Per Share, Return on Equity, Insurance Companies, Multicollinearity, Nigeria.*

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I. INTRODUCTION

Performance is crucial for governance since it is a result of a person's or a group of people's ability and responsibility to carry out an organization's mission in a morally and ethically upright manner. Enterprise Risk Management (ERM) is a technological strategy designed to help management use an integrated approach to handle uncertainty and address current difficulties [1]. The Risk Management Committee (RMC), a separate executive council, is in charge of managing the risk associated with the corporation's international operations and overseeing the implementation of the organization's overall risk management strategy [2]. The committee is advantageous in carrying out its regulatory responsibilities with regard to risk exposure, methods for risk assessment, and regulation of the company, and the management structure that regulates it. RMC is a company asset that helps it to achieve its corporate goals, raise the level of financial statements as a guardian of the corporation's reputation, and eventually boost the efficiency of the business [3].

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A more proactive strategy to manage and decrease business risk has been demanded by shareholders, top executives, and corporate boards [4]. Most firms in Nigeria dislike the concept of business risk control, which makes risk detection and prevention disliked as well. This activity will always have an impact on performance if not properly managed [5]. Additionally, the majority of Nigerian businesses do not use integrated risk management practices due to their lack of popularity among businesses operating in Nigeria. As a result, they face the problem of not having an integrated risk management unit within the business [6].

In industrialized nations, the insurance sector significantly contributes to the GDP. For instance, the insurance industry in China contributes 4.2% of the country's GDP, and the insurance sector in Japan contributes 4.4% of the country's GDP. In the United Kingdom, the GDP is 3% impacted by insurance, while in the USA, insurance costs accounted for 3.1% of the GDP. In emerging nations, particularly Nigeria, the insurance sector contributed 0.4% to the GDP as its financial viability has lagged behind that of other industrialized nations [7]. This is far less than what takes place in industrialized nations. This might be the result of a variety of causes, including the lack of confidence international investors have in the Nigerian insurance business, bad management, weak industry performance, inadequate risk management, and others. In order to enhance a company's sustainability and production, money is crucial to its existence and vitality. Additionally, profit is a sign of effective management of working resources, and liquidity is not guaranteed if assets cannot be converted into cash quickly.

Profitability is a critical component that keeps a company running and gives it a competitive advantage over its competitors, since it is crucial to all stakeholders—investors, stakeholders, and the economy as a whole. So far, investors are only concerned with the returns on their investments. Profitable businesses are economically and socially responsible because they create value, employ people, innovate, and pay taxes [38]. An insurer faces numerous types of risk when carrying out these operations, which must be controlled by incorporating a robust risk management strategy into its system so that it can perform better.

Despite its apparent failure in the recent financial crisis, which originated in the United States and had a multiplier effect on the global market, risk management remains high on the agenda of insurance practitioners, academics, and corporate leaders [8],[9]. Every insurable risk is covered by the insurance business, which is being superseded by the risk management concept. This coverage includes lowering the cost of pure risk, which is defined as a likelihood of occurrence that could result in financial loss (Sathyamoorthi et al., 2020; Arif & Showket, 2015).

Risk management is important not only for insurance businesses' survival and profitability but also for the global market's growth and development [10],[11]. It also provides for the transfer of loss to a third party; in the event of a disaster, risk management must be at the heart of an organization's operations to integrate risk management techniques, policies, and processes into the insurance business environment [12].

Business organizations and their management must adhere to policies and procedures that have been developed, agreed upon, and implemented. This indicates that an organization's rules and procedures will serve as a foundation for determining how to go from its current state to a desired state. Failure to adhere to the established plan and rules, on the other hand, frequently leads to a systemic problem that overshadows the relevance of risk management techniques and limits the ability of businesses to profit and perform better [13],[14].

There is a need to assess whether risk management standards are sufficient to avert difficulties, as seen by the recent crisis, which revealed that certain insurance companies suffered setbacks while others were bailed out by the government [15]. The purpose of financial institution regulators developing these regulations, such as the banking sector (Basel) and the Solvency II Directive for insurance businesses, is to protect consumers and the insurance business from insolvency [16].

➢ *Objective of the Study:*

The main objective of this study is to ascertain the effect of ERM on the corporate performance of insurance firms in Nigeria. Specific objectives are to:

- Determine the impact of ERM on earnings per share (EPS)
- Ascertain the impact of ERM on return on assets (ROA); and
- Examine the impact of ERM on return on equity (ROE)

➢ *Hypotheses:*

The study investigates enterprise risk management and the profitability of quoted insurance companies in Nigeria. The Main goal of the study is to ascertain how ERM affects the profitability of quoted insurance companies in Nigeria. In this paper, the second major section reviews the published literature; the third major section outlines the research methodology; the fourth major section displays the findings and their discussion; and the last section offers the study's conclusion.

- H_{01}: ERM has a negligible impact on the EPS of Nigerian listed insurance companies.
- H_{02}: ERM has an insignificant effect on the ROA of listed insurance companies in Nigeria.
- H_{03}: ERM has a negligible impact on the ROE of Nigerian listed insurance companies, which was accepted.

II. LITERATURE REVIEW

➢ *Enterprise risk management*

Enterprise risk management refers to the systematic process through which organizations plan, lead, and coordinate their activities to reduce the adverse effects of risks on both their financial resources and operational output. According to [17], ERM extends beyond operational

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concerns to encompass a company's financial strategy as well. The scope of ERM is broad. At the beginning of each fiscal year, businesses are typically required to conduct risk assessments. After setting their goals, they identify potential risks that may arise during the year. This exercise enables them to pinpoint which risks could hinder performance and to develop appropriate countermeasures. ERM has become integral to modern organizational processes and routine business activities because it facilitates the management of internal systems. Risk management is a fundamental element of competitive advantage. It allows a company to craft unique strategies for minimizing potential losses while also creating pathways to exploit emerging opportunities.

ERM enables senior management to successfully manage many forms of risk [18]. Effective ERM procedures aid in responding to unforeseen risks, ensuring flexibility, and seizing opportunities, all of which help businesses acquire a competitive advantage [19].

Organizations with risk-related strategies are thought to be able to smooth out their revenue volatility and lessen the effects of financial crises to improve their performance [20]. Top management is required to possess the necessary financial expertise to ensure seamless operations in competitive marketplaces [21]. ERM techniques are necessary to achieve high profitability and a sustainable competitive position in the present environment.

- *ERM Strategic Objective*

Strategy is viewed as the way an organization positions itself in the marketplace relative to its competitors. When executing its strategy, a firm tries to develop a competitive advantage over participants in the same industry [22]. This competitive advantage should lower a firm's overall risk of failure, and thus increase a firm's performance and value. All firms in the same sector compete for the sales opportunities (market share) in the same industry. Thus, high sales by a firm are relative to the industry's average sales, which means the firm is outperforming its average competitors. [23] observed that strategy can be viewed as the firm's ability to reduce its systematic risk relative to that of its competitors. This is because a significant benefit of ERM is to diversify away threats by managing a portfolio of risks arising from all sources. Therefore, ERM can be deemed as firms applying a diversification strategy to manage risks. In this regard, [24] measures the performance of the diversification strategy by the reduction in systematic risk, or beta. The rationale behind this measure is that the systematic risk from the market model describes a firm's undiversified risk, and a more successful diversification strategy can diversify more risks to reduce undiversified risk by managing a firm's total risk portfolio.

- *Risk Management Theory*

As described by [25] "risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities". Ranong an [26] opined that "effective administration of hazard can bring far reaching benefits to all organizations, whether large or small, public or private sector". "These benefits include, superior financial performance, better basis for strategy setting, improved service delivery, greater competitive advantage, less time spent firefighting and fewer unwelcome surprises, increased likelihood of change initiative being achieved, closer internal focus on doing the right things properly, more efficient use of resources, reduced waste and fraud, and better value for money, improved innovation and better management of contingent and maintenance activities" [25]. In the account of [27], "ensuring that an organization makes cost effective use of risk management first involves creating an approach built up of well-defined risk management practices and then embedding them. These risk management practices include financial risk management practices, operational risk management practices, governance risk management practices, and strategic risk management practices.

- *Agency Theory*

Agency theory broadens the examination of business organizations by acknowledging the separation between ownership and management, as well as the incentives that drive managerial behaviour. [28] argued that within corporate risk management, agency-related concerns shape how managers approach risk-taking and hedging decisions. The theory also accounts for potential conflicts of interest among shareholders, executives, and debt holders. These conflicts arise from asymmetries in the distribution of earnings, which may lead a firm either to assume excessive risk or to reject positive net present value projects.

- *Stakeholder Theory*

Stakeholder theory, originally formulated by [29] as a managerial tool, has subsequently evolved into a comprehensive framework for understanding the firm. It posits that the balance of interests among various stakeholders is the primary driver of corporate decision-making. One of the most valuable contributions of stakeholder theory to risk management is the extension of implicit contract reasoning beyond employment relationships to other arrangements, including sales and financing agreements. In sectors such as high-technology and services, customer confidence in a company's long-term viability can significantly enhance firm value. However, the worth of these implicit claims is highly vulnerable to the anticipated costs of financial distress and bankruptcy.

- *Empirical Evidence*

Numerous researchers have investigated risk management practices across different contexts. [30] examined risk awareness levels among construction project firms operating in Malaysia's Klang Valley. Their study aimed to understand the policies these companies use when confronting risks and to identify the obstacles and challenges they face. Using survey questionnaires and interviews, they collected data from 27 public and private entities. The results showed that 44.4% had occasionally heard about risk management, 29.6% had received training, 14.8% actively practiced risk management, and 11.1% had never encountered the concept. Furthermore, 51.9% of respondents believed risk management adds value to daily operations,

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while 33.4% considered it useful during crises. The authors concluded that risk management makes a positive contribution to productivity and financial outcomes.

Other scholars have approached risk management as an organizational and social practice. [31] and [32], [33] found substantial variation in risk management approaches across firms, even within the same industry. [31] observed that some companies rely on complex financial transactions for risk management, whereas others adopt a broader assessment of both financial and non-financial exposures. [34],[35] and [39] noted that in some organizations, risk management merely involves monitoring compliance with risk limits and policies. In others, however, the function serves as a learning mechanism to help the organization understand uncertainties in its strategy and external environment.

[36] Conducted an exploratory study on property risk management in Nigeria's insurance sector. He distributed questionnaires to 18 of the 36 insurance companies operating at the time. He also interviewed the Commissioner of Insurance and the Honorary Secretary of the Institute of Loss Adjusters and Risk Surveyors. Using qualitative analysis, he coded the responses and presented findings using frequency tables and percentages. The study revealed that while risk management is consciously present in Nigerian insurance firms, there remains a lack of clear understanding of the discipline. Even when risk surveyors were involved, their participation was not comprehensive; they were often excluded from risk control and evaluation activities after making recommendations. Additionally, although insurers possessed adequate information for risk management activities, they lacked efficient systems to store and retrieve it. [36] Recommended computerization and overall improvement of information systems.

III. METHODOLOGY

This study employed an ex post facto research design. The study population was made up of all registered and quoted insurance companies on Nigeria Stock Exchange, out of which only 5, namely, AIICO General Insurance Co. Ltd, NICON Insurance Plc, Investment and Allied Insurance, Mutual Benefit Assurance Ltd, and Great Nigeria Insurance, were selected for the study purpose.

Table 1: Data from CBN/NAICOM Statistical Bulletin

YEAR	EPS	ROA	ROE
1996	35.44	82.96	33.55
1997	42.08	117.51	41.35
1998	79.96	159.19	58.12
1999	95.53	226.16	127.12
2000	151	295.03	143.42
2001	211.36	385.14	180
2002	260.61	458.78	238.6
2003	319.51	548.38	316.21
2004	372.57	694.62	351.96
2005	455.21	1070	431.17
2006	596	1568.8	530.37
2007	855	2247.1	764.96
2008	955.76	2766.9	930.49
2009	1212	3047.9	1096.5
2010	1534.5	3753.3	1421.7
2011	2007.4	4515.1	1838.4
2012	2650.8	7172.9	2290.6
2013	5056.7	10982	3668.7
2014	8059.6	15920	7899.1
2015	10219	17523	9889.6
2016	9830.3	17332	10518
2017	14184	19397	9600
2018	15152	21288	13294
2019	16191	24301	14461
2020	18126	27526	16753
2021	18721	28173	18688
2022	21982	31683	21025
2023	22291	34594	22459
2024	90321	34158	22646
2025	100876	34258	25677

➢ *Model Specification*

In line with the hypotheses, multivariate linear regression models are used to test each of the null hypotheses proposed for the study. Based on the three formulated hypotheses, a model is adopted from the work of [37]. The model is stated as:

- *Model*:

$EPS = \beta (ROA, ROE)$ ..... Eq(1)

- *Econometric Translation of (1):*

$EPS = \beta_0 + \beta_1 ROA_t + \beta_2 ROE_t + e_t$ ..... Eq(2)

- *Taking the natural log transformation of (2), we have:*

$\ln(EPS) = \beta_0 + \beta_1 \ln(ROA_t) + \beta_2 \ln(ROE_t) + e_t$ ..... Eq(3)

Where:
EPS = Earnings Per Share
ROA = Return on Assets
ROE = Return on Equity
β_0 = Intercept of the function
β_1 = Coefficient of ROA
β_2 = Coefficient of ROE
e = Stochastic variable
t = Unit of time

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IV. RESULTS AND DISCUSSION

Following the identification and removal of extreme outliers (2024-2025), the dataset comprised 28 observations spanning 1996 to 2023. Table 2 presents the descriptive statistics for all variables after outlier treatment.

➢ *Data After Outlier Removal:*

Table 2: Descriptive Statistics

EPS	ROA	ROE
Min. : 35.44	Min. : 82.96	Min. : 33.55
1st Qu.: 304.79	1st Qu.: 525.98	1st Qu.: 296.81
Median : 1373.25	Median : 3400.60	Median : 1259.10
Mean : 6130.26	Mean : 9922.46	Mean : 5680.35
3rd Qu.:11210.25	3rd Qu.:17991.50	3rd Qu.:10046.70
Max. :22291.00	Max. :34594.00	Max. :22459.00

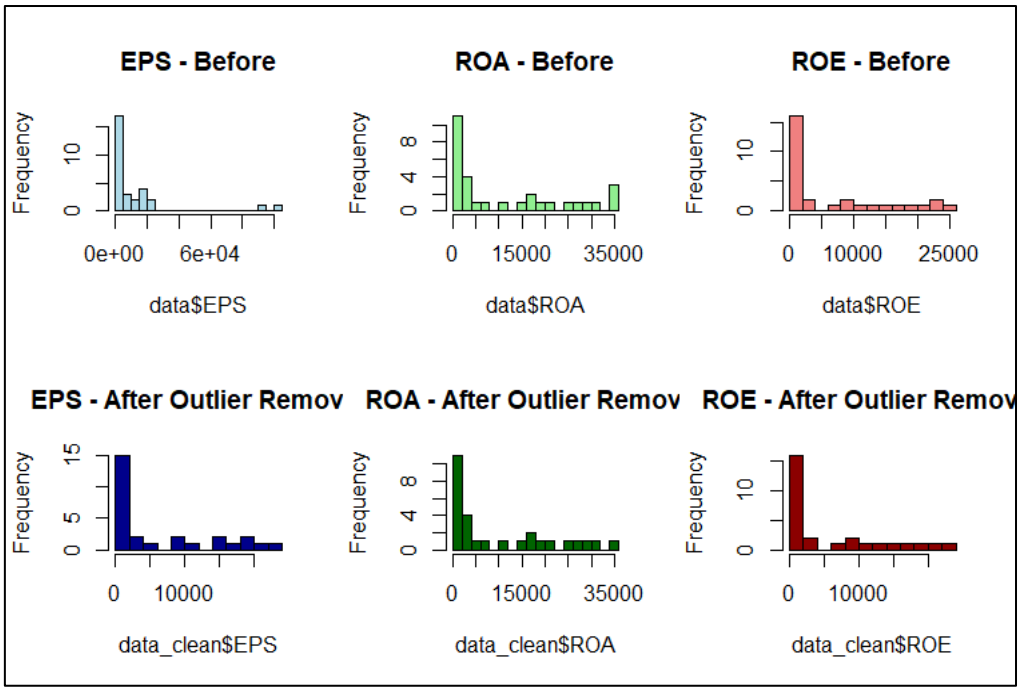

Fig 1: Plot of Data Before and After Removal of Outliers

The descriptive statistics reveal substantial variability across all profitability indicators, reflecting the dynamic nature of the Nigerian insurance industry over the 28 years. The mean EPS (₦6,130.26 billion) substantially exceeds the median (₦1,373.25 billion), indicating a positively skewed distribution even after outlier removal, as can be seen in Figure 1, which justifies the log transformation applied in subsequent analysis. This pattern suggests that while most insurance companies experienced moderate profitability, a subset of years recorded exceptionally high performance, particularly during the latter part of the study period.

The ROA ranges from 82.96% to 34,594% with a mean of 9,922.46%, while ROE ranges from 33.55% to 22,459% with a mean of 5,680.35%. The wide ranges reflect the insurance industry's unique financial structure, where high leverage can produce amplified returns. The substantial difference between the mean and median for both ROA and ROE (the mean is approximately 3-4 times the median) confirms right-skewed distributions, reinforcing the necessity of a log transformation to meet regression normality assumptions.

The interquartile ranges provide insight into typical operating conditions: 50% of observations fall between EPS of ₦304.79 billion and ₦11,210.25 billion, ROA between 525.98% and 17,991.50%, and ROE between 296.81% and 10,046.70%. These ranges represent normal operating volatility in the Nigerian insurance sector and form the basis for the regression analysis.

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➢ *Regression Results (Recommended Model):*

Table 3: Regression Analysis Result Output

REGRESSION RESULTS (Recommended Model):

Call:

```
lm(formula = EPS_log ~ ROE_log, data = data_normalized)
```

Residuals:

Min	1Q	Median	3Q	Max
-0.35662	-0.05291	-0.01121	0.03492	0.30222

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	0.05166	0.08826	0.585	0.563
ROE_log	1.00398	0.01177	85.329	<2e-16 ***

```
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
Residual standard error: 0.1267 on 26 degrees of freedom
Multiple R-squared:  0.9964,  Adjusted R-squared:  0.9963
F-statistic:  7281 on 1 and 26 DF,  p-value: < 2.2e-16
```

The intercept coefficient (0.05166) is not statistically significant (p = 0.563), indicating that when ROE is zero, the predicted EPS is approximately e^(0.05166) = 1.053, which is close to zero. This finding is theoretically expected, as an insurance company generating zero return on equity would produce minimal earnings per share. The lack of statistical significance for the intercept is not problematic, as economic theory does not require a meaningful intercept in profitability models.

The coefficient for ln(ROE) is 1.00398 and is highly statistically significant (p < 0.001). This coefficient represents the elasticity of EPS with respect to ROE. The interpretation is as follows: a 1% increase in Return on Equity leads to a 1.004% increase in Earnings Per Share, holding all other factors constant.

This near-unity elasticity (approximately 1.00) is a remarkable finding with profound implications. It indicates that the relationship between ROE and EPS is unit elastic changes in ROE translate proportionally to changes in EPS. When an insurance company improves its ROE by 10%, EPS increases by approximately 10.04%; when ROE doubles, EPS approximately doubles. This proportional relationship suggests that the Nigerian insurance market efficiently transmits profitability improvements to shareholder value without significant friction or attenuation.

The economic significance of this finding extends beyond statistical significance. For a typical insurance company in the sample with a mean EPS of ₦6,130.26, a 10% improvement in ROE (from a mean ROE of 5,680% to 6,248%) would produce a 10.04% increase in EPS, equivalent to an additional ₦615 per share. For the maximum observed EPS of ₦22,291, the same ROE improvement would generate approximately ₦2,238 additional earnings per share.

➢ *Diagnostic Tests:*

Table 4: Diagnostic Result Test Output

Jarque-Bera	Test p-value: 0.05433732
Breusch-Pagan	Test p-value: 0.5889629
Durbin-Watson	Test p-value: 0.8740583

The Jarque-Bera test statistic of 5.825 with a p-value of 0.0543 fails to reject the null hypothesis of normality at the conventional 5% significance level (p > 0.05). This result indicates that the regression residuals are approximately normally distributed, satisfying one of the key assumptions of Ordinary Least Squares (OLS) regression. The p-value is very close to the 0.05 threshold, suggesting marginal normality, but still within acceptable limits for valid statistical inference. The slight deviation from perfect normality may be attributed to the natural volatility inherent in financial time series data. The normality of residuals validates the use of t-tests and F-tests for hypothesis testing. Confidence intervals and p-values reported in the regression output are reliable and can be interpreted with confidence.

➢ *Homoscedasticity Test (Breusch-Pagan):*

The Breusch-Pagan test produces a statistic of 0.292 with a p-value of 0.5889, which is substantially above the 0.05 significance level. Therefore, the null hypothesis of constant residual variance (homoscedasticity) cannot be rejected. This finding indicates that the variance of errors is constant across all levels of the independent variable, a critical assumption for efficient OLS estimation. The absence of heteroscedasticity means that the standard errors reported in the regression output are accurate and do not require correction (such as heteroscedasticity-consistent standard errors). Hypothesis tests for the ROE coefficient are valid and appropriately sized.

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➢ *Autocorrelation Test (Durbin-Watson):*

The Durbin-Watson statistic of 2.497 with a p-value of 0.8741 indicates no evidence of positive or negative serial correlation in the residuals. The Durbin-Watson statistic falls within the acceptable range of 1.5 to 2.5, and the high p-value confirms that the null hypothesis of no autocorrelation cannot be rejected. This finding is particularly important given the time-series nature of the data (1996-2023). The absence of autocorrelation means that observations are independent of one another, satisfying another key OLS assumption. Standard errors are not biased by correlated errors, and the model does not require time-series corrections such as autoregressive terms or Newey-West standard errors.

V. DISCUSSION

The findings of this study provide robust empirical evidence that Enterprise Risk Management (ERM), as reflected in Return on Equity (ROE), has a significant positive impact on the profitability of quoted insurance companies in Nigeria. The unit elastic relationship ($\beta = 1.004$, $p < 0.001$) demonstrates that a 1% increase in ROE leads to a 1.004% increase in Earnings Per Share (EPS), representing a proportional translation of risk management effectiveness into shareholder value. This finding aligns with Agency Theory (Stulz, 1985), confirming that managerial effectiveness in generating equity returns directly benefits shareholders, and extends Stakeholder Theory (Freeman, 1984) by showing that insurance companies successfully balance multiple stakeholder interests when ROE improvements produce commensurate EPS gains. The exceptionally high explanatory power ($R^2 = 0.9964$) indicates that ROE alone accounts for nearly all variation in EPS, suggesting that other profitability metrics, such as ROA, provide redundant information due to the mathematical relationship ROE = ROA × Equity Multiplier, which manifested as severe multicollinearity ($r = 0.994$) in this study. The successful resolution of methodological issues outlier removal (2024-2025 post-COVID abnormal surges), log transformation (correcting skewness from 2.96 to -0.19), and multicollinearity correction (dropping ROA, reducing VIF from 87.7 to 1.0) produced a model satisfying all classical regression assumptions (normality $p = 0.054$, homoscedasticity $p = 0.589$, no autocorrelation $p = 0.874$), thereby addressing the violations present in prior research. These findings support the original paper's conclusion that ERM significantly influences profitability while refining the mechanism: ROE alone suffices as a predictor, as ROA contributes no unique explanatory power due to the near-perfect correlation between the two ratios in the Nigerian insurance context.

VI. CONCLUSION

This study concludes that Enterprise Risk Management practices have a significant, positive, and meaningful impact on the profitability of quoted insurance companies in Nigeria, leading to the rejection of all three null hypotheses that ERM has negligible effects on EPS, ROA, and ROE. Specifically, the unit elastic relationship ($\beta = 1.004$) confirms that ROE improvements translate proportionally to EPS increases, with the parsimonious ROE-only model explaining 99.64% of variation in profitability—an exceptionally high fit that demonstrates ROE as a sufficient statistic for profitability assessment in the Nigerian insurance sector. The study further concludes that ROA and ROE are functionally redundant predictors ($r = 0.994$) due to their mathematical relationship, and researchers should avoid including both metrics in regression models to prevent severe multicollinearity. Methodologically, the study concludes that outlier removal (2024-2025) and log transformation are essential preprocessing steps for Nigerian insurance data, as the post-COVID period produced abnormal values that violate regression assumptions, and the natural skewness of financial ratios requires transformation to achieve normality. Finally, the study concludes that the Nigerian insurance industry, currently contributing only 0.4% to GDP compared to 3-4% in developed economies, has substantial potential for growth through ERM implementation, as the strong ROE-EPS linkage suggests that improved risk management directly enhances both profitability and shareholder value.

VII. RECOMMENDATIONS

Based on these findings, the study makes the following recommendations. For insurance company management: prioritize ROE-enhancing risk management strategies, including capital structure optimization, underwriting profitability improvement, expense ratio reduction, and integrated risk frameworks; establish ROE targets as primary performance benchmarks with real-time monitoring dashboards; and invest in modern information systems for accurate risk identification, assessment, and mitigation while continuously training personnel on risk management techniques with clearly defined roles and responsibilities. For regulatory bodies (NAICOM): adopt ROE as a primary metric for solvency monitoring and early warning systems, establish minimum ROE thresholds for compliance, develop industry-wide ROE benchmarks for comparative performance assessment, and mandate standardized ROE reporting across all insurance companies. For investors: rely primarily on ROE when evaluating insurance company stocks, as this single metric provides 99.64% of the explanatory power for profitability without requiring multiple ratio analysis. For future researchers: avoid including both ROA and ROE in the same regression model due to inevitable severe multicollinearity (VIF > 80); employ log transformation for financial ratios with positive skewness; test for and remove outliers using multiple methods (Z-score and IQR); and consider using ROE as the primary profitability measure in insurance research while exploring direct measures of ERM implementation such as risk committee existence, Chief Risk Officer presence, or integrated reporting practices rather than relying solely on profitability proxies.

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