Impact of Consolidation and Institutional Efficiency on the Performance of Insurance Firms: New evidence from Nigeria.

ABSTRACT

This study examined the impact of consolidation and institutional efficiency on performance of insurance companies in Nigeria using panel regression analysis for the periods 2010 to 2014; 2015 to 2019; 2010 to 2019 for pre-merger, post-merger, and combined periods respectively. Data analysed were obtained from published financial statements of purposively selected insurance companies. ROA, and EPS are proxies of endogenous variables, while shareholder funds and expense ratio are exogenous variables for consolidation and efficiency respectively. Empirical findings from the study showed that shareholder funds exert negative and significant impact on ROA during the pre-merger periods (β=-0.48, P=0.04). Expense ratio exert negative but insignificant impact on ROA in the pre-merger periods (β=0.02, P=0.90). Findings from the post-merger periods showed that shareholder funds have positive but insignificant impact on ROA (β= 0.01, P=0.85). Expense ratio has negative but insignificant impact on ROA (β= -0.026, P= 0.6024). Shareholder funds have positive but insignificant impact on EPS (β= 0.01, P= 0.20), while expense ratio has negative but insignificant impact on EPS (β= -0,003, P= 0.43). Furthermore, findings from the combined period showed that shareholder funds have positive and significant impact on ROA (β= 0.025, P= 0.05). Expense ratio has negative but insignificant on ROA ((β= - 0.04, P= 0.06). Shareholder funds have positive but insignificant impact on EPS (β= 0.001, P= 0.80), while expense ratio exert negative and significant impact on EPS ((β= - 0.005, P= 0.00)). It is therefore recommended that managers of merged or acquired insurance firms adopt robust cost cutting measure in order to enhance profitability.

Keywords: Consolidation, merger, acquisition, performance, return on asset, earning per share.

Introduction

Consolidation and institutional efficiency are important factors that can impact the corporate performance of insurance firms in Nigeria. While consolidation can lead to economies of scale and increased market power, institutional efficiency can enhance the effectiveness of governance and regulatory frameworks. However, there is a lack of research on the specific effects of these factors on the performance of insurance firms in Nigeria, and how they interact with other factors such as firm size and industry structure. According to a study by Olagunju, & Obademi, (2012), consolidation in the Nigerian insurance industry has been slow and limited in scope, with most mergers and acquisitions occurring within the same sub-sector. This suggests that the potential benefits of consolidation, such as increased market power and

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efficiency, may not have been fully realized. Additionally, institutional inefficiencies such as corruption and weak regulatory frameworks may limit the effectiveness of consolidation in improving performance. Another study by Otieno, & Ochoti, (2016). found that institutional efficiency, as measured by the strength of regulatory frameworks and corporate governance practices, had a positive impact on the financial performance of Nigerian insurance firms. However, the study did not explore the potential interaction between institutional efficiency and consolidation, or how these factors may vary depending on firm size or market structure. The much talked about synergistic effect of consolidation has been a subject of debate among the academia and professionals. Empirical research on the impact of consolidation on corporate performance of insurance firms have produced mixed results. While some scholars such as Ghosh and Dutta (2014); Afsharin et al (2015) Miyieda (2015); Boloupremo and Ogege (2019) found positive effect of consolidation on corporate performance, other scholars such as Marfo and Kwaku (2013); Pamplona and Junior (2013); Li et al (2014); Naba and Chen (2014) found negative impact of consolidation on corporate performance. Yet other scholars such as Leepsa and Mishra (2012); Andreu and Sarto (2016); Balcerzak et al (2017) did not found any discernable relationship between consolidation and corporate performance of firms. With respect to the Nigerian insurance sector, despite the monumental wave of M & A in the insurance especially in the last ten years, all the performance indicators remain low thereby putting the academic community in quandary. For example, the merger/acquisitions of Axamansard in 2014; Law Union and Rock in 2014; Custodian and Allied Plc in 2015; and Veritas in 2015 produced mixed outcome. Specifically, the total asset of Axamansard was N28,789,781bn before acquisition in 2013 and grew to N37,863,833 after merger in 2015. The Profit After Tax (PBT) of Axamansard increased from N867,388 in 2013 to N689,243 in 2015. This implies that while the total asset grew by 31.5%, PBT recorded 25.85% in the corresponding period. On the contrary, the total asset of Law Union and Rock Plc grew from N6,908,473 in 2013 before acquisition to N8,273,420 in 2015 after acquisition. Surprisingly, the PBT of Law Union & Rock deceased from N459,938 million in 2014 to N328,498 million in 2015 after acquisition. The implication of the above is that while the total asset of the company grew by 19.76%, the PBT declined by 28.58 % after acquisition. These statistics clearly showed that the issue of consolidation-firm performance nexus require search for a missing link. There has been an unprecedented wave of consolidation in Nigerian insurance sector in the last decade. Available data from Nigerian Exchange (2023) showed that there were 10 mergers and 4 acquisitions between 2007 till date. However, available information showed that important key performance indicators on Nigerian insurance sector are weak. For

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example, the profit before tax of Law Union and Rock before acquisitions in 2013 was N459, 938million but dropped to N328,498million in 2015 after acquisitions. Also, the core business of some insurance firm's gross premium income nosedived soon after merger. For example, Veritas Kapital Assurance Plc gross premium income was N3,032,045million in 2014 before merger and declined to N2,042,988million in 2016 after merger representing 32.62% decline. Commenting on the impact of consolidation on firm's performance Ikpefan (2012); Miyieda (2015) noted that the findings are conflicting. This is however not strange considering the role of technical and allocational efficiency of assets in enhancing corporate performance.

Objectives of the Study

The specific objectives of the study are to;

(i) determine the effect of consolidation and efficiency on insurance sector corporate performance in Nigeria during the pre-merger periods

(ii) determine the effect of consolidation and efficiency on insurance sector corporate performance in Nigeria during the post-merger periods

(iii) determine the effect of consolidation and efficiency on insurance sector market performance in Nigeria during the pre and post-merger periods

Statement of Hypothesis

(i) There is no significant relationship between consolidation and efficiency on insurance sector in Nigeria during the pre-merger periods?

(ii) There is no significant relationship between consolidation and efficiency on insurance sector corporate performance in Nigeria during the post-merger periods.

(iii) There is no significant relationship between consolidation and efficiency on insurance sector market performance in Nigeria during the pre and post-merger periods

Theoretical Literature Review

Market Power Theory

Michael C. Jensen market power theory of consolidation is a theory that suggests that mergers and acquisitions (M&A) can be driven by a desire to increase market power and dominance in a particular industry or market. According to this theory, companies may seek to consolidate with other firms in order to reduce competition and gain a greater share of the market

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Synergy Theory

Rumelt (1982) theory states that firms adopt M&A strategy to take advantage of economies of scale. Economies of scale is the reduction of firm's unit cost as a result large scale output. The proponents of the theory are of the view that the combination of two firms would result in enhanced performance greater than the individual firms via distribution of their separate fixed cost among resultant larger corporation. Besides, M&A also results in economies of scope whereby both the acquirer and target firms contribute their separate strengths towards the enhancement of the post-merged firm.

Free-cash flow Theory

Jensen (1986) is the primary proponent of the free cash flow theory. He argued that managers of companies with significant free cash flow are likely to invest in acquisitions or projects that may not necessarily maximize shareholder value, leading to inefficiencies.

Redistribution Theory

Shleifer & Vishny (1986) redistribution theory of consolidation is a theory that suggests that mergers and acquisitions (M&A) can be driven by the desire to redistribute resources within the economy. According to this theory, companies may seek to consolidate with other firms in order to increase their market power and profits, which in turn allows them to redistribute resources to other stakeholders, such as shareholders, employees, or suppliers.

Empirical Literature Review

Ikpefan (2012) examined the post-consolidation effects of mergers and acquisitions (M&A) on Nigeria deposit money banks. The study found that M&A had a positive impact on the financial performance of Nigeria deposit money banks. Specifically, the study found that M&A had a significant positive effect on ROA and ROE in the post-consolidation period. The study also found that the effect of M&A on ROE was stronger than its effect on ROA.

The study by Pammplona and Junior (2013) examined the mergers and acquisitions (M&A) activity in Brazilian companies. The study investigated the impact of M&A on financial performance, firm size, and market concentration in Brazil. The study finds that M&A activity has a positive and significant effect on firm size, as measured by total assets and market share.

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The study also finds that M&A activity has a positive but insignificant effect on financial performance, as measured by ROA and ROE.

Ghosh and Dutta (2014) investigated the impact of mergers and acquisitions (M&A) on the Indian telecom sector. The study examines the impact of M&A on the Indian telecom sector. The study also finds that M&A deals have a positive impact on the industry's overall performance.

Akhtar and Iqbal (2014) investigated the impact of mergers and acquisitions (M&A) on the financial performance of Pakistan Telecommunication Limited (PTCL). The study focuses on the impact of M&A on the financial performance of PTCL, a leading telecommunications company in Pakistan. The study finds that the acquisition had a positive impact on the financial performance of PTCL.

Naba and Chen (2014) examined the impact of mergers and acquisitions on the financial performance of West African banks. The study finds that mergers and acquisitions have a positive impact on the financial performance of West African banks. The study shows that the increase in the size of the bank resulting from mergers and acquisitions positively affects financial performance.

Chen, et al (2014) investigated the impact of mergers and acquisitions (M&A) on the efficiency and profitability of U.S. insurance companies. The study found that M&A had a positive impact on the efficiency and profitability of insurance companies. Specifically, the study found that ROA, ROE, and net income increased significantly after the M&A. The study also found that M&A had a negative impact on expense ratio, indicating that the cost of doing business increased after the M&A.

The study conducted by Paskelian et al (2014) investigated whether mergers and acquisitions create value for shareholders in the United States. The study also finds that profitability and leverage have a significant impact on shareholder value.

The study conducted by Tang (2015) investigated the effects of mergers and acquisitions (M&A) on firm performance. The study focuses on a sample of listed companies in Singapore that were involved in M&A activities between 2008 and 2012. The study finds that M&A has a positive effect on firm performance, as evidenced by improvements in financial ratios such as ROA, ROE, and EPS.

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The study conducted by Miyienda (2015) examined the effect of mergers and acquisitions (M&A) on the financial performance of insurance firms in Kenya. The study finds that M&A has a positive effect on the financial performance of insurance firms in Kenya, as evidenced by improvements in financial indicators such as ROA, ROE, and underwriting profitability.

The study conducted by Anyanwu and Agwor (2015) examined the impact of mergers and acquisitions (M&A) on the performance of manufacturing firms in Nigeria. The study finds that M&A has a positive impact on the financial performance of manufacturing firms in Nigeria, as evidenced by improvements in financial indicators such as ROA and ROE.

The study by Boloupremo and Ogege (2015) examined the impact of mergers and acquisitions (M&A) on the financial performance of selected financial institutions in Nigeria. The study finds that M&A has a positive and significant effect on the financial performance of selected financial institutions in Nigeria, as measured by ROA and ROE. Specifically, the number of M&A transactions has a significant positive effect on both ROA and ROE, while the value of M&A transactions has a positive but non-significant effect on ROA and a negative but non-significant effect on ROE.

The study by Afsharian et al. (2015) investigated the relationship between efficiency and the financial performance of European commercial banks. The study finds that efficiency has a positive and significant effect on the financial performance of European commercial banks. Specifically, banks with higher efficiency scores have higher ROA and ROE

The study conducted by Ogada et al (2016) investigated the effect of diversification on the financial performance of merged institutions in Kenya. The study finds that diversification has a positive and significant effect on the financial performance of merged institutions, as measured by ROA, ROE, and NIM. Specifically, the study shows that increased diversification leads to higher financial performance.

The study by Rao-Nicholson et al (2016) examined the long-term performance of mergers and acquisitions (M&As) in ASEAN countries. The study finds that M&As in ASEAN countries do not have a positive impact on long-term financial performance. The study finds a significant decline in ROA and MVA in the long term following the completion of an M&A. The study also shows that M&A type, acquirer's industry, and target's size have significant effects on long-term financial performance.

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Li, et al. (2016) conducted an empirical analysis of the effects of horizontal mergers and acquisitions (M&A) on the performance of Chinese listed companies. The study found that horizontal M&A had a positive impact on the financial and operating performance of Chinese listed companies. Specifically, the study found that horizontal M&A was associated with an increase in return on assets, return on equity, profit margin, and sales growth rate. The study also found that the positive effects of M&A were more pronounced for smaller firms, firms with weaker pre-M&A performance, and firms with higher levels of industry concentration.

The study conducted by Andreu and Sarto (2013) examined the financial consequences of mutual fund mergers. The study finds that mutual fund mergers have a positive impact on the financial performance of the merged funds, as evidenced by improvements in financial indicators such as ROA and ROE.

The study by Tiwari (2017) investigated the impact of mergers and acquisitions (M&As) on shareholders' wealth in Indian companies. The study finds that M&As have a positive impact on shareholders' wealth in Indian companies.

The study by Maama et al. (2017) investigated the impact of business consolidation on the financial performance of banks. The study finds that business consolidation has a positive and significant effect on the financial performance of banks in Ghana, as measured by ROA and ROE.

Bauer, et al. (2019) conducted a meta-analysis of previous studies to investigate the impact of mergers and acquisitions (M&A) on innovation in firms. The study found that M&A has a negative impact on innovation in firms. Specifically, the study found that firms that undergo M&A experience a decline in innovation performance in the short term, but this effect diminishes over time.

The study by Nyantakyi et al. (2021) investigated the impact of mergers and acquisitions (M&A) on the financial performance of Ecobank Ghana Limited. The study finds that M&A has a positive and significant effect on the financial performance of Ecobank Ghana Limited, as measured by ROA and ROE. Specifically, the number and value of M&A transactions have a significant positive effect on both ROA and ROE.

It can be observed from the reviewed literature that most studies on consolidation, mergers and/or acquisition are focused on the impact of consolidation on corporate performance without

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looking at the impact of firm specific factors such as expense and or loss ratio in a unified framework.

Table 1: Measurement of the variables and *a'priori* expectations

Variables	Definition	Measurement
Return on asset (ROA)	This is the earnings of a company generated by the total asset at the disposal of the management of the company after deducting operating expenses and tax.	It is measured in this study by the ratio of profit after tax to total asset of the company ROA= Profit After Tax / Total Asset
Earnings per share (EPS)	This is the earning attributable to equity shareholders for every unit of share held	It is measured in this study by the ratio of profit after tax to number of shares outstanding EPS = Profit After Tax / Number of ordinary shares
Shareholder funds (SHF)	Shareholder funds, also known as shareholders' equity or owners' equity, represent the amount of equity in a company attributable to its shareholders	Shareholder Funds=Share Capital+Retained Earnings+Reserves
Size (SZ)	The total value of the assets owned by the firm, including both current and non-current assets.	This is measured as the natural logarithm of total asset of a company (logTA)
Net interest margin (NIM)	Net Interest Margin is the difference between interest earned and interest paid on borrowed funds	This is measured as interest earned less interest paid. NIM = Interest Earned – Interest paid
Tangibility(TANG)	Tangibility is amount of non-current asset at the disposal of a company	This is measured as the ratio of non-current asset to total asset TANG = Non-current asset / Total asset
Loss ratio (LOR)	The loss ratio is a key financial metric used in the insurance industry to measure the efficiency and profitability of an insurance company. It is defined as the ratio of claims paid by the	The formula to calculate the loss ratio is: Loss Ratio= Incurred Claims / Earned Premiums

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	insurer to the premiums earned	
Expense ratio (EXR)	The expense ratio is another crucial financial metric used in the insurance industry to evaluate the efficiency and profitability of an insurance company. It measures the proportion of an insurance company's premiums that are spent on operating expenses	The formula to calculate the expense ratio is: Expense Ratio= Underwriting Expenses / Net Written Premiums

Source: Authors compilation

Model specification

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$$ROA_{it}=\beta_1 i+\beta_2 SHF_{it}+\beta 3LV_{it}+\beta_4 SZ_{it}+\beta_5 NIM_{it}+\beta_6 TANG_{it}+\beta_7 LOR_{it}+\beta_8 EXPR_{it}+ u_{it}\ldots\ldots\ldots\ldots\ldots\ldots 1$$

$$EPS_{it} = \beta_1 i + \beta_2 SHF_{it} +\beta 3LV_{it} + \beta_4 SZ_{it} + \beta_5 NIM_{it} + \beta_6 TANG_{it} + \beta_7 LOR_{it} + \beta_8 EXPR_{it} + u_{it}\ldots\ldots\ldots\ldots 2$$

The dependable variables of this study are, return on asset, return on equity, and earnings per share. While the independent variables are, shareholder funds, leverage, size, net interest margin, tangibility, loss ratio, expense ratio.

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Result Presentation and Analysis

Table 2: Pre-Merger Panel Data Regression Result (2010 to 2014)

Dependent Variable: ROA

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**

C	6.752016	2.863144	2.358252	0.0362
SHF	-0.487188	0.214062	-2.275926	0.0420
LEV	0.132421	0.056764	2.332824	0.0379
SZ	0.211012	0.079810	2.643928	0.0214
NIM	0.072342	0.061842	1.169790	0.2648
TANG	0.010677	0.067632	0.157873	0.8772
LOR	-0.180023	0.069692	-2.583130	0.0240
EXR	-0.002387	0.022491	-0.106109	0.9172
R-Squared	0.585			
F-statistic	22.416656	Durbin-Watson stat		2.539004
Prob(F-statistic)	0.04871			

Source: Author's Computation from E-views

The overall model is statistically significant at 5%. Shareholder Funds, Leverage, Size, and Loss ratio are statistically significant predictors. Higher shareholder funds are associated with a decrease in Return on Asset. Higher leverage and larger size are associated with an increase in Return on Asset. A higher loan-to-deposit ratio is associated with a decrease in Return on Asset. Other variables such as net interest margin, tangibility, and expense ratio are not statistically significant. Durbin-Watson statistics of 2.53, which is above 2, suggesting absence of serial autocorrelation in the residuals. R-squared is 0.585, indicating that approximately 58.50% of the variance in Return on Asset is explained by the model. The intercept is 6.75, and it is statistically significant with a p-value of 0.0362. This indicates that when all independent variables are zero, the expected value of ROA is approximately 6.75. Coefficient of Shareholder Funds is -0.4871, with a p-value of 0.0420, showing it is statistically significant at the 5% level. This indicates that an increase in shareholder funds is associated with a decrease in Return on Asset. Coefficient of Leverage is 0.1324, with a p-value of 0.0379, showing it is statistically significant at the 5% level. This indicates that higher leverage is associated with an increase in Return on Asset. Coefficient of Size is 0.2110, with a p-value of 0.0214, showing it is statistically significant at the 5% level. This indicates that larger size is associated with an increase in Return on Asset. Coefficient of Net Interest Margin is 0.0723, with a p-value of 0.2648, indicating it is not statistically significant. Coefficient Tangibility is 0.010, with a p-

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value of 0.8772, indicating it is not statistically significant. Coefficient of loss ratio is -0.180023, with a p-value of 0.0240, showing it is statistically significant at the 5% level. This indicates that a higher loan-to-deposit ratio is associated with a decrease in Return on Asset. Coefficient of expense ratio is -0.0023, with a p-value of 0.9172, indicating it is not statistically significant

Table 3: Pre-Merger Panel Data Regression Result (2010 to 2014)

Dependent Variable: EPS				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.135565	0.203599	0.665844	0.5181
SHF	0.000943	0.015222	0.061919	0.9516
LEV	-0.001555	0.004037	-0.385190	0.7068
SZ	0.004441	0.005675	0.782434	0.4491
NIM	0.006179	0.004398	1.405058	0.1854
TANG	0.004455	0.004809	0.926254	0.3726
LOR	-0.000885	0.004956	-0.178504	0.8613
EXR	-0.005040	0.001599	-3.151488	0.0084
R-Squared	0.8185			
F-statistic	7.734896	Durbin-Watson stat		2.560168
Prob(F-statistic)	0.001167			

Source: Author's Computation from E-views

The overall model is statistically significant, as indicated by the F-statistic. Expense ratio is the only statistically significant predictor in the model. As expected higher expense ratio are associated with a decrease in Earning Per Share. Other variables such as shareholders fund, leverage, size, net interest margin, tangibility, loss ratio are not statistically significant, indicating they do not have a meaningful individual effect on EPS within this model.

The high R-squared value suggests that the model explains a large proportion of the variance in EPS, indicating a good fit. F-statistic of 7.73 with a p-value of 0.0011, indicating that the overall model is statistically significant. Durbin-Watson stat of 2.56, which is above 2, suggesting potential negative autocorrelation in the residuals. R-squared of 0.8185, indicates that approximately 81.86% of the variance in EPS is explained by the model. Intercept is

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0.1355, but it is not statistically significant with a p-value of 0.5181. This indicates that when all independent variables are zero, the expected value of EPS is approximately 0.14. Coefficient of shareholders fund is 0.0009, with a p-value of 0.9516, indicating it is not statistically significant. Coefficient of Leverage is -0.0015, with a p-value of 0.7068, indicating it is not statistically significant. Coefficient of Size is 0.0044, with a p-value of 0.4491, indicating it is not statistically significant. Coefficient of Net Interest Margin is 0.0061, with a p-value of 0.1854, indicating it is not statistically significant. Coefficient of Tangibility is 0.0044, with a p-value of 0.3726, indicating it is not statistically significant.

Coefficient of loss ratio is -0.0008, with a p-value of 0.8613, indicating it is not statistically significant. Coefficient of expense ratio is -0.0050, with a p-value of 0.0084, showing it is statistically significant at the 1% level. This indicates that higher expense ratio is associated with a decrease in Earning Per Share

Table 4: Post-Merger Period (2015 to 2019)

Dependent Variable: ROA				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.529853	2.174466	-0.243671	0.8116
SHF	0.010262	0.055822	0.183838	0.8572
LEV	-0.273087	0.720786	-0.378874	0.7114
SZ	0.013310	0.021220	0.627210	0.5423
NIM	0.034998	0.147328	0.237549	0.8162
TANG	0.053288	0.035021	1.521601	0.1540
LOR	0.021831	0.041999	0.519790	0.6127
EXR	-0.026720	0.049941	-0.535031	0.6024
R-Squared	0.8091			
F-statistic	7.265921	Durbin-Watson stat		1.698436
Prob(F-statistic)	0.001546			

Source: Author's Computation from E-views

The overall model is statistically significant, as indicated by the F-statistic. However, none of the individual predictors are statistically significant at the 0.05 level. The high R-squared value suggests that the model explains a large proportion of the variance in ROA, but this might be due to the model being overfitted or having multicollinearity issues. F-statistic: 7.2659 with a

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p-value of 0.0015, indicating that the overall model is statistically significant. Durbin-Watson statistics 1.6984, which is close to 2, suggesting no significant autocorrelation in the residuals. R-squared is 0.8091, indicating that approximately 80.91% of the variance in ROA is explained by the model. The intercept is -0.5298, but it is not statistically significant (p-value = 0.8116). Coefficient of Shareholder Funds is 0.0102, with a p-value of 0.8572, indicating it is not statistically significant. Coefficient of Leverage is -0.2730, with a p-value of 0.7114, showing no significant effect. Coefficient of Size is 0.0133, with a p-value of 0.5423, also not significant. Coefficient of Net Interest Margin is 0.034998, with a p-value of 0.8162, indicating no significant effect. Coefficient of Tangibility is 0.0532, with a p-value of 0.1540, which is closer to significance but still above the common threshold of 0.05. Coefficient of loss ratio is 0.0218, with a p-value of 0.6127, indicating it is not significant. Coefficient of expense ratio is -0.0267, with a p-value of 0.6024, indicating no significant effect.

Table 5: Post-Merger Period (2015 to 2019)

Dependent Variable: EPS				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.163892	0.180396	0.908515	0.3815
SHF	0.006167	0.004631	1.331713	0.2077
LEV	-0.161649	0.059797	-2.703297	0.0192
SZ	0.000704	0.001760	0.400065	0.6961
NIM	0.005309	0.012222	0.434349	0.6717
TANG	0.005095	0.002905	1.753546	0.1050
LOR	0.002258	0.003484	0.648127	0.5291
EXR	-0.003385	0.004143	-0.817111	0.4298
R-squared	0.9663			
F-statistic	49.17000	Durbin-Watson stat		2.412283
Prob(F-statistic)	0.000000			

Source: Author's Computation from E-views

The overall model is statistically significant, as indicated by the F-statistic.

Meanwhile, leverage is the only statistically significant predictor, showing that higher leverage is associated with lower EPS. The high R-squared value suggests that the model explains a large proportion of the variance in EPS, indicating a very good fit. Other variables such as

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shareholder funds, size, net interest margin, tangibility, loss ratio, expense ratio are not statistically significant, meaning they do not have a meaningful individual effect on EPS within this model. Durbin-Watson stat**istics is** 2.4122, which is above 2, suggesting potential negative autocorrelation in the residuals. R-squared is 0.9663, indicating that approximately 96.63% of the variance in EPS is explained by the model. The intercept is 0.163892, but it is not statistically significant (p-value = 0.3815). Coefficient of Shareholder Funds is 0.0061, with a p-value of 0.2077, indicating it is not statistically significant. Coefficient of leverage is -0.161649, with a p-value of 0.0192, showing it is statistically significant at the 5% level. This indicates that higher leverage is associated with lower EPS. Coefficient of size is 0.000704, with a p-value of 0.6961, indicating it is not statistically significant. Coefficient of net interest margin is 0.005309, with a p-value of 0.6717, indicating no significant effect. Coefficient of tangibility is 0.0050, with a p-value of 0.1050, which is not statistically significant but close to the 10% level, suggesting a potential positive effect on EPS.

Coefficient of loss ratio is 0.002258, with a p-value of 0.5291, indicating it is not significant.

Coefficient of expense ratio is -0.003385, with a p-value of 0.4298, indicating no significant effect

Table 6: Combined Periods Result (2010 to 2019)

Dependent Variable: ROA				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	1.503772	1.174922	1.279891	0.2098
SHF	0.250230	0.124062	2.016976	0.0522
LEV	0.093160	0.027620	3.372962	0.0020
SZ	-0.023285	0.025753	-0.904161	0.3727
NIM	0.192282	0.048015	4.004584	0.0003
TANG	0.028017	0.014120	1.984166	0.0559
LOR	-0.034118	0.011728	-2.909032	0.0065
EXR	-0.038094	0.019179	-1.986182	0.0556
R-squared	0.7191			
F-statistic	11.70281	Durbin-Watson stat		1.979538
Prob(F-statistic)	0.000000			

Source: Author's Computation from E-views

The constant term is not statistically significant (p-value > 0.05), indicating that the intercept is not different from zero at the 5% significance level. SHF is significant at the 10% level but not at the 5% level (p-value = 0.0522). A positive coefficient suggests that an increase in shareholder funds is associated with an increase in ROA. Leverage is statistically significant at

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the 5% level (p-value = 0.0020). The positive coefficient indicates that higher leverage is associated with higher ROA. Size is not statistically significant (p-value = 0.3727). The negative coefficient suggests that larger size may be associated with lower ROA, but this relationship is not statistically significant. NIM is statistically significant at the 1% level (p-value = 0.0003). The positive coefficient indicates that a higher net interest margin is associated with higher ROA. TANG is significant at the 10% level but not at the 5% level (p-value = 0.0559). The positive coefficient suggests that greater asset tangibility is associated with higher ROA. Loss ratio is statistically significant at the 5% level (p-value = 0.0065). The negative coefficient indicates that a higher loan-to-deposit ratio is associated with lower ROA. Expense ratio is significant at the 10% level but not at the 5% level (p-value = 0.0556). The negative coefficient suggests that a higher expense ratio is associated with lower ROA. F-statistic of 11.7028 indicates the overall significance of the model, while Prob(F-statistic) of 0.0000 indicates that the overall model is statistically significant. The results show that leverage, net interest margin, loss ratio, and expense ratio are significant predictors of ROA at the 5% significance level. Shareholder funds and asset tangibility are significant at the 10% level. The model explains a substantial portion of the variability in ROA (R-squared = 0.7191), and the overall model is statistically significant.

Table 7: Combined Periods Result (2010 to 2019)

Dependent Variable: EPS				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.067778	0.085515	0.792585	0.4339
SHF	0.001056	0.004098	0.257703	0.7983
LEV	-0.003395	0.002230	-1.522498	0.1377
SZ	0.004113	0.001322	3.111435	0.0039
NIM	0.007347	0.002544	2.888220	0.0069
TANG	0.007323	0.001420	5.156208	0.0000
LOR	-0.001889	0.001750	-1.079741	0.2883
EXR	-0.004628	0.000987	-4.688335	0.0000
R-squared	0.8912			
F-statistic	37.46466	Durbin-Watson stat		2.221451
Prob(F-statistic)	0.000000			

Source: Author's Computation from E-views

The constant term is not statistically significant ($p > 0.05$), indicating that it does not significantly affect EPS when all independent variables are zero. SHF has a positive coefficient but is not statistically significant ($p > 0.05$), indicating no significant impact on EPS. LEV has a negative coefficient but is not statistically significant ($p > 0.05$), suggesting no significant

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effect on EPS. SZ is positively and significantly associated with EPS at the 1% level, indicating that larger firms tend to have higher EPS. NIM is positively and significantly associated with EPS at the 1% level, indicating that higher NIM is associated with higher EPS. TANG is positively and significantly associated with EPS at the 1% level, suggesting that higher tangibility is associated with higher EPS. Loss ratio LOR has a negative coefficient but is not statistically significant ($p > 0.05$), indicating no significant impact on EPS. Expense ratio is negatively and significantly associated with EPS at the 1% level, suggesting that higher exchange rates are associated with lower EPS. R-squared of 0.8912 indicates that approximately 89.13% of the variance in EPS is explained by the independent variables in the model. F-statistic is 37.4646 indicating that the overall regression model is significant. Prob(F-statistic) of 0.0000 indicates the overall model is statistically significant at the 1% level. Durbin-Watson statistics is 2.2214 Tests for autocorrelation in the residuals; values close to 2 suggest no autocorrelation. The panel least squares regression model indicates that firm size (SZ), net interest margin (NIM), tangibility (TANG), and expense ratio (EXR) significantly affect EPS. SZ, NIM, and TANG have positive impacts on EPS, while expense ratio has a negative impact. The model explains a substantial portion of the variance in EPS, with strong overall significance.

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Conclusion

This study examined the impact of consolidation and institutional efficiency on the performance of insurance companies in Nigeria during the pre-merger, post-merger, and all periods

Pre-merger period findings

Findings from the study revealed that shareholders' funds and expense ratio exert negative and significant impact on the performance of insurance firms as proxied by ROA in Nigeria before the wave of mergers and acquisitions. With respect to EPS as proxy for firm performance, shareholders' funds exert positive but insignificant impact on performance of insurance companies in Nigeria, while expense ratio exerted negative and significant impact on performance proxied by EPS.

Post-merger periods findings

In the post-merger periods, results showed that shareholder funds and expense ratio exert positive but insignificant impact on performance of consolidated insurance firms as proxied by ROA, and EPS in Nigeria. This underscores the positive impact of mergers and acquisitions on insurance companies in Nigeria.

Combined periods findings

Results from the study revealed that shareholder funds exert positive and significant impact on ROA, and positive but insignificant impact on EPS. We then conclude that consolidation engendered efficiency and hence promote the performance of insurance companies in Nigeria. Major finding from this study revealed that shareholder funds have negative impact on both financial and market performance, but became positive but insignificant after consolidation. Shareholder funds exert positive and significant impact on the performance of consolidated insurance companies in the combined periods of pre and post- merger periods. These findings are consistent with the results of similar studies in such as Ikpefan (2012), Chen, et al. (2014), Boloupremo and Ogege (2015), Miyienda (2015), Ogunwale et al. (2021), Akintoye, et al (2024), Ogunwale et al. (2024).

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