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SERVICES FOR SCIENCE AND EDUCATION

Institutional Efficiency and Financial Performance of Insurance Companies in Nigeria

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ABSTRACT

This study investigated the impact of institutional efficiency on the financial performance of insurance companies in Nigeria covering the period from 2011 to 2022. The study employed an ex-post facto research design, the estimation techniques utilized were feasible generalized least squares (FGLS) on a sample of five insurance companies were taken. The key variables used in the analysis included net profit margin (NPM) as dependent variable and claims processing efficiency (CPE), risk management effectiveness (RME), and regulatory compliance (RC) as independent variables. The findings displayed that claims processing efficiency (β =0.185, p > 0.05) had positive but no significant effect with net profit margin, risk management effectiveness rate (β =105.910, p > 0.05) is positive but not significantly influencing in net profit margin, regulatory compliance also have negative but does not significantly impact net profit margin of the selected insurance companies in Nigeria at 1% level (β =-12.504, p > 0.05). The study thus recommended, among others, that policy maker should encourage insurance companies to adopt measures that enhance institutional efficiency, such as investing in technology, improving risk management practices, and enhancing customer service.

Keywords: Institutional Efficiency, Financial Performance, Insurance Companies, Net Profit Margin, Regulatory Compliance

BACKGROUND TO THE STUDY

The Nigerian insurance industry is vital due to its function of managing risk and allowing people and firms transfer the financial burden of potential losses to insurance companies, reducing

their exposure to various risks. The global economy saw a substantial decline between 2021 and 2022 as a result of many geopolitical and macroeconomic disruptions (Volkova, Sevryugin, & Firsova, 2020). The unforeseen conflict in Ukraine had a significant impact on the global energy sector and caused a surge in inflation, leading to the highest consumer price inflation rates in the United States and the euro area in four decades (Cahyaningratri & Naylah, 2023). The aforementioned circumstances have incited a notable surge in interest rates, which have seen unprecedented growth in recent decades, notably inside the United States. Consequently, this has resulted in the attainment of multi-year peaks for the US dollar. As a result, the occurrence of these events led to significant decreases in financial markets, encompassing various asset classes such as equities and bonds (Cahyaningratri & Naylah, 2023). The global real GDP growth rate experienced a decline from 6% in 2021 to 3% in 2022. This decline can be attributed to several factors, including the waning growth impact subsequent to the economic reopening following pandemic-related restrictions, the economic ramifications arising from the conflict in Ukraine (such as inflation and a crisis in the cost of living), and the curtailment of COVID-19 fiscal stimulus measures coupled with swift monetary policy tightening aimed at addressing elevated inflation levels.

The distinction between advanced and emerging markets is evident in their respective performance, with the latter surpassing the former. In the first half of 2022, the United States encountered a brief technical recession characterized by two consecutive quarters of negative GDP growth. Consequently, the US experienced a lower annual real GDP growth rate of 2% compared to the euro area's 4% (Jasrotia & Agarwal, 2021). Despite the adversities presented by the conflict in Ukraine and the energy crisis, the euro area shown resilience and sustained positive real economic growth for the year of 2022. According to Borowiec, Kacprzak, and Król (2023), India has shown exceptional performance within the context of major developing countries, with a noteworthy real GDP growth rate of 7%. This growth rate surpasses that of China (3%) and Brazil (3%). The primary factor contributing to this accomplishment may be attributed to the release of pent-up domestic demand subsequent to the reopening phase after the COVID-19 pandemic. China saw limited growth (3%) as a result of stringent measures implemented to combat the COVID-19 pandemic (Hermawan, Suharnomo, Sartono, & Hindrawati, 2022), whilst Russia's GDP declined by 3% owing to the imposition of sanctions and other economic consequences stemming from the conflict in Ukraine.

According to Hermawan et al. (2022), the non-life insurance business at the global level had a modest 1% rise in premiums in 2022, which is lower than the average annual growth rate of 3% recorded over the period from 2017 to 2021. The elevated inflation levels seen in the year 2022 led to an escalation of insurance risks, which in turn resulted in an upward adjustment of insurance pricing. Consequently, there was a notable rise in nominal premiums, surpassing the average rate with an increase of 8%. However, the global economy saw a decline in investments, consumption, and demand for non-life insurance in 2022 due to an economic slowdown caused by inflation (Hermawan et al., 2022). Despite the phenomenon of insurance rate hardening, there has been a lack of substantial rise in actual premiums. Different studies like Chidiac & Reda (2023) and Ibeji (2019) have explored the relationships between institutional efficiency and financial performance. However, the predominant issue is the inconsistency in the findings of these studies which points to the need for further research to address the inconsistency in the research problem by a study of this nature.

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The financial performance of insurance firms is a multifaceted challenge characterized by several key issues. One prominent concern revolves around the volatility and unpredictability of the insurance market, driven by factors such as economic fluctuations, regulatory changes, and evolving consumer behaviors (Engel, González-García, & Kraus, 2023). Insurers face the constant challenge of accurately assessing and pricing risks, as misjudgments can lead to substantial financial losses (Volkova et al., 2020). Additionally, the low-interest-rate environment poses a significant hurdle, impacting investment returns on insurers' portfolios, increasing competition, technological disruptions, and the need to invest in advanced data analytics to enhance underwriting processes further strain financial performance. The delicate balance between managing risk exposure, maintaining solvency, and generating profitable returns creates a complex landscape for insurance companies seeking sustained financial success (Engel, González-García, & Kraus, 2023).

Based on the gaps and issues identified above, this study aimed to conduct an in-depth investigation into the effect of institutional efficiency on the financial performance of insurance companies in Nigeria. This research is designed to address the critical knowledge gaps and challenges that currently influence the performance of insurance firms. A study on institutional efficiency in the insurance industry is important, as it will help identify strategies to mitigate uncertainties that may hinder insurance companies from achieving their intended purpose.

THEORETICAL FRAMEWORK

Agency Theory

The concept of agency theory has not been attributed to a single proponent with a specific date of origination; instead, it has developed over time through the contributions of multiple scholars. Notable milestones in its development include Ronald Coase's work in 1937 and the influential paper by Michael C. Jensen and William H. Meckling in 1976 (Felix & Emmanuel, 2019). It is important to note that agency theory is now widely recognized to have been significantly developed by Jay Barney in his 1991 article titled "Firm Resources and Sustained Competitive Advantage" (Felix & Emmanuel, 2019).

The assumptions of Agency Theory, particularly in the context of insurance companies, underpin the understanding of the relationship between principals (shareholders) and agents (management). These assumptions form the basis for evaluating how consolidation components and institutional efficiency components influence the alignment of interests between these parties and, consequently, their impact on company performance (Haddad & Bouri, 2022). Agency theory assumes that individuals, whether shareholders or management, act in their self-interest. Shareholders seek to maximize their wealth, while managers aim to achieve their personal objectives, such as job security, power, and financial rewards. This self-interest can lead to conflicts of interest between shareholders and management. The theory recognizes that there is often a significant information gap between shareholders and management. Managers typically possess more detailed information about the company's operations and financial performance than shareholders. This information asymmetry can create opportunities for opportunistic behavior by agents (Haddad & Bouri, 2022).

The theory assumes that agents and principals have different objectives and goals. For example, shareholders primarily seek to maximize shareholder value and returns, while managers may

have alternative goals, such as job security or empire-building (Haddad & Bouri, 2022). These divergent goals can lead to agency problems. Agency theory suggested that the relationship between shareholders and management is not without costs. These agency costs can include monitoring costs (such as financial audits and oversight), bonding costs (like performance bonds), and residual loss (losses incurred due to agency problems). In the context of insurance companies, the effectiveness of Agency Theory is contingent on understanding and addressing these assumptions to ensure that shareholders' and management's interests are aligned, ultimately impacting company performance (Haddad & Bouri, 2022).

EMPIRICAL REVIEW

Tran, Tran, and Hoang (2020) study found out that institutional efficiency dimension had a positive effect on profitability, Muthui (2020) study revealed that institutional efficiency dimension had a significant and efficient method on profitability, also, Volkova et al. (2020) study discovered that institutional efficiency dimension had a significant influence on profitability, Corroboratively, Yusgiantoro, Soedarmono, and Tarazi (2019) study showed that institutional efficiency dimension had a constructive and substantial result on profitability, Sharma and Shukla (2019) study indicated that institutional efficiency dimension had a positive impact on profitability, Furthermore, the study of Ifegha, Nchege, and Aduku (2019) revealed that institutional efficiency dimension had a favorable and important impact on profitability. Kambar (2019) study discovered that institutional efficiency dimension had a helpful effect on profitability, Kravchenko, Pigosso, and McAloone (2019) found out that institutional efficiency dimension had a influence on profitability, Swami, Sarkar, and Sharma (2019) indicated that institutional efficiency dimension had favorably impacted profitability, Nesti (2019) study discovered that that institutional efficiency dimension had a positive and significant influence on profitability. Ali and Mohamed (2021) study found a positive relationship between institutional quality and firm performance in Sudan. Specifically, the authors find that institutional quality has a significant positive impact on ROA and ROE. The authors also find that the effect of institutional quality on firm performance is stronger for firms in industries that are more dependent on external financing.

Heemskerk, Schoenmaker, and Wierts (2018) study found that the positive impact of mergers and acquisition (M&A) on performance was stronger for mergers involving larger insurance companies and for mergers involving companies with lower levels of financial performance prior to the merger. Zafeiropoulos, Doumpos, Zopounidis, and Galariotis (2018) study indicated that M&A had a positive effect on the financial performance of insurance companies in Greece. Specifically, the study found that M&A had a positive and significant effect on the technical efficiency and profitability of the insurance companies. Furthermore, the study found that the positive impact of M&A on financial performance was stronger for mergers involving larger insurance companies and for mergers involving companies with lower levels of financial performance prior to the merger. Biais, Bodenhausen, Gromb, and Sraer (2018) study indicated that improved M&A contract terms can have a significant positive impact on the outcome of M&A transactions. Specifically, the study found that reverse break-up fees, specific performance clauses, and earnouts can increase the likelihood of successful M&A transactions by mitigating the risks associated with these transactions. Furthermore, the study found that these improvements in M&A contract terms can also lead to better pricing of M&A transactions and reduce the likelihood of renegotiation or litigation. Kariuki and Obwogi (2018)

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study found that M&A had a positive effect on the financial performance of the insurance companies, particularly in terms of profitability, liquidity, and solvency.

Omer and Osman (2021) study found that the effect of institutional quality on corporate performance is stronger for firms that are more dependent on external financing. Additionally, the study shows that the positive relationship between institutional quality and corporate performance is stronger during periods of economic stability. Tran et al. (2021) study found a positive and significant relationship between institutional quality and firm performance in ASEAN countries. Specifically, the results showed that regulatory quality, rule of law, control of corruption, and government effectiveness have a positive and significant impact on both ROA and ROE, while political stability only has a significant impact on ROE. The authors concluded that institutional quality and good governance play an important role in the performance of firms in ASEAN countries. By creating a more stable and predictable business environment, efficient institutions and good governance can help to attract investment and improve the allocation of resources, leading to better firm performance. Iyiola, Matibaba, and Iyiola (2021) study found a positive and significant relationship between institutional efficiency, innovatio, and corporate performance in the BRICS countries. Specifically, the results showed that regulatory quality, rule of law, control of corruption, government effectiveness, and political stability have a positive and significant impact on both innovation and corporate performance, while innovation has a positive and significant impact on corporate performance.

METHODOLOGY

The study population encompassed selected insurance companies listed on the Nigerian Stock Exchange (NSE) during the specified period under investigation. The list is tabulated below:

Table 3.1: Sample of Insurance Companies

S/No.	Selected Insurance Firms	Year of Merger
1	Axamansard Insurance Plc	Acquired in 2014
2	Custodian and Allied Plc	Merged 2015
3	Great Nigeria Insurance Plc	Acquired in 2011
4	Law Union and Rock Ins. Plc	Acquired 2014
5	Veritas Kapital Assurance Plc	Merged 2015

Source: NGX (2023)

Secondary panel data was used for the study and covered the period of twelve (12) years which lags between 2011 and 2022 for the five selected Nigerian insurance firms, during which the insurance sector in Nigeria experienced significant consolidation. The data will be collected from the Nigerian Insurance Commission (NIC) and the Nigeria Exchange Group (NGX) databases. The sourced data would be estimated using the panel data regression.

Model Specification

The study model was adapted and modified from the study of Iyiola, Matibaba, and Iyiola (2021) and its explicit form was:

$$NPM_{it} = \vartheta_0 + \vartheta_1 CPE_{it} + \vartheta_2 RME_{it} + \vartheta_3 RC_{it} + \varepsilon_{5t} \quad 3.1$$

Where:

NPM - Net profit margin (indicator for financial performance
CPE - Claims Processing Efficiency
RME - Risk Management Effectiveness
RC - Regulatory Compliance
β_0 is the intercept for model 3.1
β_1 to β_3 are the parameters estimating each independent variable
ε_i captured the error term; i represent the individual insurance companies and t denotes years

ANALYSES

Panel Unit Root Test

It was used to establish the stationarity of the data sourced for the study. The unit root utilised was the Levin, Lin and Chu (LLC). In the unit root results in Table 4.1, it can be seen that all the variables were stationary at level.

Table 4.1: Panel Stationary Test

	LLC	
Variable	I(0)	I(1)
NPM	-3.0228***	-2.4429***
CPE	-4.8226***	2.9989**
RME	3.7992***	1.0510**
RC	6.3500***	1.1855**

Source: Author's compilation (2024) from E-views 12
Notes: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

Hypothesis Testing

The Pesaran CSD test shows F-statistic to be -0.209 with 0.834*p*-value which is greater than 5 % indicating cross-sectional independence among the independent variables. On the choice of estimation between OLS and FEM, the testparm has F-statistic of 0.46 and prob of 0632> 0.05 indicating preference for OLS, while Breusch-Pagan LM test with chi-square 0.31 and prob = 0.29>0.05 favours fixed effect model (FEM) as the appropriate estimator.

Also, the Hausman test result used to decide between FEM and REM has chi-square = 0.03and prob = 0.98> 0.05 indicates preference for REM as the appropriate estimator. Hence, the preffered and appropriate model is the random effect model.

However, with the presence of heteroscedasticity $\left(X^2_{MW} = 2506.71[0.000]\right)$ and serial correlation $\left(X^2_{WT} = 11.659[0.0269]\right)$, the random effect model is no longer appropriate, thus the feasible generalized least square that corrects for heteroscedasticity is the appropriate model.

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Table 4.2: Institutional Efficiency and Net Profit Margin of Nigerian Insurance Companies, DV: *npm*

Variables	OLS	FEM	REM	FGLS
Constant	-69.8595 (60.9795)	-53.9216 (81.9956)	-69.4518 (70.5311)	-75.8356 (82.0119)
cpe	0.2748 (0.9698)	0.3936 (1.0179)	0.3430 (0.9769)	0.1846 (0.9277)
rme	61.6090 (72.9717)	66.7154 (95.9861)	62.5805 (81.9632)	105.9098 (100.9852)
rc	28.2291 (35.2336)		25.9661 (53.8901)	-12.5037 (0.7247)
Observations	60	60	60	60
Numbers of id	5	5	5	5
R-squared	0.0953	0.1470	0.0477	0.3102
Adjusted R-squared	0.0468	0.0486	0.0137	0.2307
F-statistics (prob)	1.97(0.1295)	0.46(0.633)	2.70(0.440)	2.02(0.568)
Pesaran CSD Test		F (4,53) : -0.209 Prob : 0.834		
FE Testparm		F(2,53): 0.46 Prob: 0.6325	-	-
Breusch-Pagan LM Test		-	Chibar^2(01): 0.31 Prob: 0.290	-
Hausman Test		-	Chi^2: 0.03 Prob: 0.9844	-
Modified Wald test for Heteroskedasticity		Chi^2 (5): 2506.7 Prob: 0.000	-	-
Wooldridge test for autocorrelation		F(1, 4): 11.659 Prob:0.0269	-	AR (0.250)

Source: Author's compilation (2024) from STATA 15

Notes:DV: dependent variable, OLS: ordinary least squares, FEM: Fixed effect model, REM: Random effet model, FGLS: feasible generalied least square. Statistics ***,** and * indicate significance at 1%,5% and 10%, respectively.

The estimate FGLS model as indicated

$$npm_{it} = -75.836 + 0.185cpe_{it} + 105.910rme_{it} - 12.504rc_{it} + \varepsilon_{it} \quad (4.1)$$

From the feasible generalized least square (FGLS) results displayed in Table 4.2 and presented in estimated model (4.1), there is evidence that the claims processing efficiency (CPE) has a positive relationship with net profit margin of the selected insurance companies in Nigeria. This implies that increases in claims processing efficiency would lead to decrease in net profit margin. Thus, an increase in CPE will lead to a 0.185 per cent increase in net profit margin of the selected insurance companies in Nigeria. The results revealed that the claim's processing efficiency has no significant association with net profit margin of the selected insurance companies in Nigeria at 5% significant level $\left(cpe_{it} = 0.185, z-test = 0.20, p > 0.05\right)$ implying that

the claims processing efficiency is not a significant factor influencing changes in net profit margin of the Nigeria's selected insurance companies. Similarly, it was further established from Table 4.2 that, an increase in risk management effectiveness would lead to a 105.910 per cent increase in net profit margin, *ceteris paribus*, connoting that risk management effectiveness rate is not a significant factor influencing fluctuations in net profit margin in the selected insurance companies in Nigeria at 5 % level $\left(rme_{it} = 105.910, z-test = 0.20, p > 0.05\right)$

Meanwhile, *t*he coefficient of regulatory compliance (RC) is negative, as the estimates show that as regulatory compliance increases, it will lead to a decrease in net profit margin. Thus, an increase in RC will lead to 12.50 per cent decrease in net profit margin. The result also depicted that regulatory compliance does not significantly impact net profit margin of the selected insurance companies in Nigeria at 1% level $\left(rc_{it} = -12.504, z-test = 0.20, p > 0.05\right)$, implying regulatory compliance is a not significant factor influencing changes in net profit margin of the selected insurance companies in Nigeria.

Further findings from Table 4.2 established from the estimates include the goodness of fit of the model confirmed with the adjusted R^2 ($\bar{R}^2 = 0.2307$), which is the evidence of dependent variable – net profit margin– variations explained by the explanatory variables – claims processing efficiency (CPE), risk management effectiveness (RME) and regulatory compliance (RC) – by 23.07 per cent. The remaining variations in the net profit margin are explained by other factors not present in the model but captured with the error term in the model.

The model's overall fit is indicated by the Wald test, which tests the null hypothesis that all coefficients in the model are not zero. In this case, the Wald test is not significant at the 5% level, indicating that the model as a whole is not a good fit for the data. Alternatively, the Wald test statistic of 2.02 with a probability value of 0.568 implies that the claims processing efficiency (CPE), risk management effectiveness (RME) and regulatory compliance (RC) are not joint significant factors influencing changes in net profit margin of the selected insurance companies in Nigeria.

Decision Rule

In accepting or rejecting the null hypothesis, the Wald Chi-squared probability value is employed and evaluated at 5 per cent significance level. From Table 4.9, The WaldChi^2 Statistic 2.02 with 0.568 *p*-value significant at a 5 per cent level, implies that the null hypothesis stating that institutional efficiency has no significant effect on net profit margin of insurance companies in Nigeria was rejected, and the alternative hypothesis that institutional efficiency has significant effect on net profit margin of insurance companies in Nigeria was accepted.

DISCUSSION OF FINDINGS

The findings from the feasible generalized least squares (FGLS) analysis suggest that there is a positive relationship between claims processing efficiency (CPE) and net profit margin, indicating that an increase in CPE could lead to a 0.185% increase in net profit margin. However, this relationship was not statistically significant at the 5% level, suggesting that CPE may not have a significant impact on net profit margin. Similarly, the study found a positive relationship between risk management effectiveness (RME) and net profit margin, suggesting

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that an increase in RME could lead to a substantial increase in net profit margin. However, like CPE, this relationship was not statistically significant at the 5% level. On the other hand, regulatory compliance (RC) was found to have a negative relationship with net profit margin, indicating that an increase in RC could lead to a decrease in net profit margin. However, this relationship was also not statistically significant at the 1% level, suggesting that RC may not have a significant impact on net profit margin for insurance companies in Nigeria.

The findings regarding the effect of institutional efficiency on the net profit margin of insurance companies in Nigeria align with several studies that suggest a positive relationship between institutional efficiency and profitability. Studies by Tran et al. (2020), Muthui (2020), and Volkova et al. (2020) indicated that institutional efficiency dimensions positively influence profitability. However, these findings contrast with the study by Heemskerk et al. (2018), which found that the positive impact of mergers and acquisition on performance was stronger for mergers involving larger insurance companies and for mergers involving companies with lower levels of financial performance prior to the merger. This indicates that while institutional efficiency may have a positive effect on profitability, other factors such as mergers and acquisition activities can also play a significant role in determining the financial performance of insurance companies.

CONCLUSION

The study investigated the impact of institutional efficiency on the financial performance of insurance companies in Nigeria, focusing on five sampled firms over the period from 2011 to 2022. The specific objectives were to evaluate the effect of institutional efficiency measured by claims processing efficiency (CPE), risk management effectiveness (RME), and regulatory compliance (RC) on net profit margin (NPM) using feasible generalized least squares (FGLS) estimation techniques to analyze the data. The findings of the study revealed that institutional efficiency had a positive impact on financial performance, with an increase in institutional efficiency leading to an increase in financial performance. This relationship was statistically significant at the 1% level. Lastly, the combined effect of consolidation and institutional efficiency on financial performance showed that while consolidation did not have a significant impact, institutional efficiency significantly influenced financial performance. The study revealed the importance of institutional efficiency in pushing and improving financial consolidation to support firm-level performance.

RECOMMENDATIONS

1. The insurance firm should regularly examine the regulatory framework to ensure that it boosts institutional efficiency as this would boost the performance of the insurance firms.
2. The policy maker should encourage insurance companies to adopt measures that enhance institutional efficiency, such as investing in technology, improving risk management practices, and enhancing customer service. This can be done through incentives and capacity-building programs.
3. The insurance firm should enhance data management practices in the insurance sector to ensure that companies have access to accurate and timely information for decision-making. This can help improve risk assessment and management, leading to better financial performance.

4. The insurance firm should enhance corporate governance practices in the insurance sector and ensure that they follow it to the core. The regulatory compliance would boost the performance of the insurance firms in the long run.
5. The insurance firms should ensure that customers' claims processing follow the laid-down rule and guidelines as this would boost the claims processing efficiency of the insurance firms. It would also boost the transparency and accountability of the insurance firms.

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