

Underwriting Operations and Financial Performance: Evidence from Non-Life Insurance Firms in Nigeria

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ABSTRACT

This study investigated the relationship between underwriting operations and the performance of non-life insurance firms in Nigeria. Specifically, the study examined the combined metrics of claim ratio, insurance premium, and re-insurance claims on the return on assets using the non-life insurance firms as bases in Nigeria. The study engaged data within the period of 2011-2020 extracted from the financial statements of five selected non-life insurance firms and analysis of data was conducted with a panel regression procedure. The result showed that insurance premium had a positive significant effect on return on asset, while re-insurance claim and claim ratio had positive but insignificant effect on return on asset. Therefore, this study concluded that underwriting operations contribute to the performance of non-life insurance firms in Nigeria. Hence, this study recommended that non-life insurance firms should put more effort into harnessing strategies and resources that enhances insurance premium in order to improve financial performance.

Keywords: Underwriting Operations; Financial Performance; Non-Life Insurance Firms; Nigeria

INTRODUCTION

For insurance businesses, success in the financial realm is a must. Since the insurance business is a crucial part of the financial system that helps promote economic development and stability, its prosperity is highly correlated with that of the economy as a whole (Hermit, 2021; Pulawska, 2021). Insurance companies need to make a profit to stay operating after catastrophic losses (Yuvaraj, 2013). Policyholders, investors, brokers, regulators, and staff are just some of the many groups with vested interests in insurance firms (Sunil, 2020).

The leader of a small company has a moral obligation to the company's equity investors, who have put their own money at risk by purchasing shares in the company, to ensure the company's success. Insurance business profitability may be affected by a number of factors, including those that are internal to the company, those that are specific to the insurance sector, and those that are macroeconomic in nature (Boadi, Antwi & Lartey, 2013). It is common practice in the field of finance to utilize profitability ratios to verify the existence of a successful business.

Performance indicators including the net premium generated, profitability generated from underwriting operations, yearly turnover, return on investment, and return on equity are closely tied to an insurance firm's underwriting services. Though academics have come to acknowledge financial profitability as a performance

indicator, the topic has seldom been explored in the context of non-life insurance enterprises, especially in Nigeria.

One of the critical aspects of managing a successful non-life insurance firm in today's highly competitive and economically demanding business market is underwriting. Reason being, insurance firms that practice competent underwriting may stand out from the competition and become market leaders and innovators (The Actuary, 2014). That's why insurance firms need efficient claims processing so they can make the most money possible (Augustine & Nwanneka, 2011). Therefore, the success of insurance firms was directly tied to the speed with which they processed claims. Due to this, insurance firms must employ competent underwriters who can assess risks and make appropriate decisions. Nonetheless, the insurance industry is part of the risk sector, which covers safeguarding against a variety of risks faced by people, corporations, and other entities. Insurers need to properly control the risk of a negative result and do the appropriate research to ensure they don't lose money on compensation claims from policyholders.

Similar to how consumers use insurance to shift risk to the market, insurance firms employ reinsurance, an aspect of risk management, to soften the financial shock of policyholder losses. The importance of reinsurance to a country's economic growth, as underlined by Salaudeen, Salm, and Mudashiru, cannot be understated (2021). Abass and Obalola (2018), who point out that reinsurance is frequently employed as a key risk management strategy to prevent financial losses, highlight the importance of reinsurance within the insurance business. Oluoma (2014) thinks that insurance promotes growth since it increases people's propensity to save for the future, increase their wealth, and participate in productive enterprises. There are more applications besides loss indemnity and risk sharing.

Overall, the insurance industry in Nigeria is notoriously disorganized and unsuccessful, and this has been linked to a disregard for fundamental components of the industry (Cenfri, 2018; Abass, 2019). The insurance industry is dominated by a few of huge, secure companies, leaving behind a host of smaller, less formidable rivals. If the claims aren't covering the costs, the company can't turn a profit, and if they are, the customers aren't getting their money's worth. For instance, in 2018, the average profit margin for non-life insurers was 3%. According to a recent report (Cenfri Report 2018). According to the Nigeria Insurers' Digest for 2020, insurance contributed 0.31 percent of GDP in 2019, down from 0.41 percent in 2017. Additionally, by 2020, insurance penetration will fall to 0.6% of disposable income due to the decrease in premiums per person of 30.08. (Salami, 2021)

Series of empirical studies have been conducted on the topic of non-life insurance, including one on underwriting efficiency (Kumari, 2018), another on insurance company financial performance (Bipasha, Suborna, and Rezwanul, 2018; Kamanda and Sibindi, 2021), another on profitability analysis of non-life insurance sector (Sunil, 2020), and yet another on managing underwriting functions and the profitability paradox of insurance companies (Sunil, 2020). (Sunil, 2020). Despite the significance of underwriting to an insurer's bottom line, this research found that little have been conducted on Nigeria's non-life insurers.

Therefore, the objective of this research is to determine how underwriting contributes to the performance of Nigeria's non-life insurers. Succinctly, the study specifically examined the:

- Effect of claim ratio on return on asset of non-life insurance firms in Nigeria
- Effect of insurance premium on return on asset of non-life insurance firms in Nigeria
- Effect of re-insurance claim on return on asset of non-life insurance firms in Nigeria

When evaluating whether or not to take on a new risk, insurance firms and reinsurers do what is called "underwriting." Soye and Adeyemo (2018) describe underwriting as the process of assessing the risk offered by the prospective insured with the purpose of providing coverage. The premium is determined by a number of factors, including the policy's terms, conditions, and liability limit (Marcedo, 2009; Vaughan & Vaughan, 2008). Underwriting is the procedure through which a company decides whether or not a prospective insured person may be insured, and, if so, for what premium and for how much coverage (Angima & Mwangi, 2017). More clarification is needed within the scope of this research since insurance premium (or gross written premium) and underwriting profit are so crucial to understanding the underwriting function.

Underwriting is the process through which an insurer determines whether or not to provide coverage to a candidate. Underwriting, as explained by Mwangi (2013), allows insurance companies to categorize risks and set prices appropriately. The ability to take on risk, or "underwrite," is crucial to the success of an insurance company, since taking on inappropriate risks may swiftly result in catastrophic losses that might put the business out of business (Browne & Kamiya, 2012). With this strategy, premiums may be set at a level that adequately covers the expense of providing coverage. Whenever an insurer agrees to cover a new customer, they assume the risk that they would suffer monetary loss as a result of doing so. This uncertainty arises, for example, because disaster

probabilities are difficult to predict accurately in insurance. The sum of all losses that occurred after the policy was in effect might thus end up being far more than the sum of all premiums (Zhangjiwu, 2011).

The method of evaluating company's financial success is as a valuation of its ability to generate revenue and amass assets (Nandan, 2010). The efficiency with which a firm utilizes its resources in relation to its rivals is one indicator of its success. Based on an analysis of company performance, Brealey (2001) concluded that investors gained when their portfolio returned more than their cost of capital. This was highlighted by Morara and Sibindi (2021). Whether or not the returns on assets are sufficient to cover the cost of capital is an always pressing issue for corporate executives (Jacobs & Anil, 2012). When a company's asset return is higher than the return on an investment in a risk-free fixed income instrument, the company might consider itself successful.

Financial performance refers to how well monetary goals are being achieved. An indicator of the company's financial health over a certain time frame (Bhunja, Mukhuti & Roy 2011). Measuring manufacturing performance may provide light on a company's ability to maximize returns on investment for its shareholders. Several ratios may be calculated to evaluate a company's financial status. According to Abate (2012), financial ratios are a group of numbers that compare a company's revenue to its operating expenditures and other related costs over a certain period of time. Profitability and other financial metrics may be used to evaluate whether or not an organization is reaching its financial, management, and even social goals (Okezie, Okezie, and Ogbu, 2017). Business success, therefore, may be defined as the extent to which a company is able to generate a profit from its operations and receive a return on its investment of both money and labor.

Indicators of a company's financial health are easily obtainable and may be used to make educated guesses about its health. In order to calculate financial ratios, businesses must first examine their balance sheet, income statement, and cash flow statement (Engle, 2011). Among the many financial indicators used in the insurance industry, the return on asset, return on investment, and return on equity are the most popular (Carton, 2004; Al-Shami, 2008; Malik, 2011; De Villiers, 2012; Delen, Kuzey & Uyar, 2013; Turley & Robbins 2015). Divide net income by shareholder equity to get return on equity, which is a measure of a company's profitability in relation to its equity capital. ROE is determined by dividing the net profit of the company (less preferred stock dividend, if any) by the total amount of equity the shareholders own (Mankai & Belgacem, 2013). But the rate of return on invested capital is the standard by which investors evaluate businesses. Return on assets (ROA) is one definition of net income after all expenditures are deducted (before interest, taxes, and other deductions) divided by total assets (shareholders' equity plus loans) (Bodie, et al., 2008).

The study of collective risk, which forms the basis for ruin theory, presupposes that insurance companies would take ruin into consideration when making policy choices. A discrete-time stochastic process with continuous steps and a single absorbing barrier is used to model insurance business activities (Cummins & Nye, 1981). The application of cautious judgments and the pursuit of utility maximizing within constraint are two external manifestations of catastrophic probability. Both the constraint utility maximization rule and the safety-first maximization rule advocate for raising one's projected net income and expected utility of net wealth (Cummins & Nye, 1981). This inquiry centers on the concept of "ruin." Stochastic processes are the focus of ruin theory, which analyzes the dynamical growth of a non-life insurer's excess over time (Gerber & Loisel, 2012). Based on this theory, an insurance firm's cash premiums and claims are at odds with one another. When money supply drops to zero, businesses and governments fail.

Mid-century businesses of 1900's began explicitly incorporating the idea of risk management into their decision-making procedures. However, when financial and insurance concerns were combined, enterprise risk management was born. When discussing the process of detecting, evaluating, and reducing all possible hazards to an organization, the phrase "Enterprise Risk Management" is often used. Enterprise risk management (ERM) was first presented by Tseng (2007) to provide a unified strategy for mitigating a business's exposure to risk. It's a way of thinking about a company that takes into account things like the people who work there, the services they provide, the knowledge they have, the values they uphold, and the rules and regulations they must follow. Enterprise risk management provides executives with up-to-date and accurate information on the hazards affecting their firm, allowing them to effectively react to such threats. Mistakes are more likely to occur because of factors such as human error (especially in decision making), collusion between two or more people in control, the costs and benefits of responding to risks and establishing controls, and management's decision to reject the recommendations of the risks management team.

H1: claim ratio has no effect on return on asset of non-life insurance firms in Nigeria

Claim ratio is one of the financial indicators of insurance company's performance (Roy & Ibrahim, 2020). It entails dividing the amount of claims paid by the insurance company to policyholders by the net premium collected by the firm during the same fiscal year. Malik (2011) indicated that Return on assets (RoA) serves as a metric to assess the profitability of a firm in relation to its overall assets. This demonstrates the effectiveness with which the management utilises its assets. As asserted by Evans (2020) a non-life insurance firm should maintain a low claim ratio to maintain profit because higher claim ratio indicates that the company is making loss.

H2: insurance premium has no effect on return on asset of non-life insurance firms in Nigeria

Oyetayo and Abass (2020) established that the underwriting capacity of insurance firms in Nigeria seems to be rather inadequate when compared to the magnitude of gross premiums produced. This is seen in their limited capacity to undertake substantial unforeseen risks, particularly within the highly risky sectors like energy and aviation. According to Akindipe and Isimoya (2022) premium income of non-life insurance companies is inevitably associated to claims payment and sustainability of the company performance. The provision of a significant amount of premium revenue has a positive impact on the promptness of claims payment and return on investment in assets (Olusegun, 2019).

H3: re-insurance claim has no effect on return on asset of non-life insurance firms in Nigeria

Reinsurance is an essential mechanism that insurance companies may use in order to mitigate risks and minimise uncertainty. Reinsurance provides ceding companies with the option to achieve a more stable portfolio and mitigate fluctuations in yearly accounts. According to Kaya (2016) prudent underwriting practices will help non-life insurance companies to maintain profitable growth and pay claims as at when due. However, Salaudeen, Salam, and Mudashiru (2021) avowed that claim ratio have inconsequential impact on the financial performance of insurance companies in Nigeria.

Mwangi (2013) conducted research on what makes Kenyan insurance firms profitable. Researchers employed frequency, bar graphs, and pie charts to assess the data acquired from the questionnaires filled by two upper-level managers and three lower-level managers at 23 insurance businesses. This study's findings demonstrated that insurance firms' bottom lines are sensitive to changes in interest rates. Insurance firms need to set aside sufficient cash since liquidity is a factor in determining their bottom line. Insurance companies might boost their profits by speculating on future declines in interest rates, thanks to the study's results informing the suggestions of financial experts.

In order to determine the financial soundness of the non-life insurance businesses listed on the Borsa Istanbul stock exchange, Kaya (2016) used grey relational analysis. Key financial characteristics such as capital adequacy, liquidity, operational efficiency, and profitability were calculated using data gathered between 2010 and 2014. It was found that the profitability ratios were the most important indicator of the overall financial performance of BIST-listed non-life insurance businesses. The capacity of a non-life insurer to maintain profitable growth and stand out from the crowd may rely on elements such as prudent underwriting practices, reasonable pricing policies, vigilant management of claims expenditure, and the reduction of overhead expenses.

Research conducted by Angima and Mwangi (2017) looked at how underwriting and claims management affected the bottom lines of East African property and casualty insurers. We utilized pooled regression to analyze information from 82 insurance companies in Kenya, Uganda, and Tanzania. Even though there was no statistical significance, there was a favorable link between several indicators of performance and the adoption of efficient underwriting and claims administration by businesses. This research suggests that general insurance firms might boost their bottom lines by paying more attention to activities other than underwriting and claims.

In their research, Bipasha, Suborna, and Rezwanul examined the effects of a wide range of firm-level variables on the profitability of Bangladesh's non-life insurance sector (2018). The age of the firm, tangibility, liquidity, premium growth, loss ratio, investment ratio, and leverage were the independent factors, while return on assets and return on equity were the dependent variables. Through the use of static and dynamic panel data analysis methods, they studied the records of 16 non-life insurance providers spanning the years 1999-2014. They found that all factors had substantial impacts over the long run, but only the investment ratio has any noticeable impact over the short run. The research concluded that the non-life insurance sector in Bangladesh would benefit monetarily from stricter rules aimed at reducing inefficient underwriting practices.

As a case study, Kusi, Alhassan, Ofori-Sasu, and Sai (2019) looked at the Ghanaian insurance market to see how rules and regulations affected the connection between risk and insurer profits. OLS and random effect estimates were applied to a combined dataset covering the years 2009-2015 from 30 insurance providers. The

findings indicated that the minimum capitalization and required credit premiums had a little impact on insurance company profits. The study's findings, however, show that these measures help reduce underwriting risk's negative impact on profits. The results imply that the chilling impact of risk insurance on profits has been mitigated by the presence of rules and regulations. The results of the research imply that in order for insurers in Ghana to become more efficient, lawmakers and regulators in the nation need to propose, enact, and adopt regulations that aid to minimize risk.

Roy and Ibrahim found that the non-life insurance sector in Bangladesh was lucrative (2020). Financial indicators included claim ratio, expenditure ratio, underwriting result ratio, investment income ratio, net retention ratio, and return on equity ratio. From 2003 to 2014, they used the means, standard deviations, correlations, regressions, and Mann-Whitney U test to examine data from 45 non-life insurers. Public sector non-life insurers were shown to be more lucrative than private-sector insurers due to greater investment revenue and reduced administrative expenditures, despite having a higher claim ratio. Due to the public sector's lower claim ratio and greater investment income ratio, the private sector was virtually as lucrative as the public sector, despite having a higher management cost ratio. Profits in both the public and private sectors were shown to increase as a result of decreased claim and administration costs and increased investment.

Akpan, Nnamdi, Etuk, Edema, and Ekanem (2020) examined the financial success of insurance firms Utilizing secondary data of a panel structure collected from the audited financial statements of 20 insurers operating in Nigeria between 2010 and 2019, a pooled ordinary least square (OLS) model was created. The findings demonstrated that insurance premiums and underwriting profit considerably and favorably contribute to the after-tax profit of insurers. Overall, it was discovered that insurers benefited greatly from insurance premiums and underwriting profits, but that the profit margins of the latter had no appreciable effect on the insurers' bottom lines. Therefore, it was suggested that insurers prioritize underwriting efficiency in order to raise underwriting profit to a point where it substantially and positively contributes to insurance profitability.

Researchers Salaudeen, Salam, and Mudashiru (2021) examined the effects of net claims ratios and net retention ratios on insurance company's financial performance. The data of ten different insurance firms that are traded on public exchanges was aggregated and evaluated using a regression model. The period covered was 2009-2018. The findings suggest that the net claim ratio somewhat improved the financial output of insurance companies in Nigeria. However, the data show that the net retention ratio didn't have a major impact on the financial performance of Nigeria's insurance firms. According to the results, reinsurance is not a waste of money but rather an important tool for risk management that insurance company managers should be aware of.

Solvency, underwriting risk, and profits were the focus of Morara and Sibindi's (2021) analysis of the Kenyan insurance sector. The study adopted descriptive statistics and correlation analysis to examine the information gathered between 2009 and 2018. Solvency and profitability were shown to be positively related among Kenyan insurers. There was also shown evidence of an inverse correlation between underwriting risk and returns. According to the findings, insurance firms in Kenya would benefit financially by placing a higher focus on solvency.

What affects insurance companies' financial performance was dissected by Morara and Sibindi (2021). The pooled OLS; fixed effects and random effects models' estimation method were used to get the results for 2009- 2018. An additional 16 life insurers were also included in addition to the 37 general insurers in the research sample. Larger insurance companies outperformed their smaller competitors financially, according to the research. According to the results, insurers' bottom lines suffer as policyholders become older. Our additional analysis of the data confirmed that highly leveraged insurance firms outperformed their less leveraged competitors. Insurers can sustain long-term performance, according to the report, provided government and insurance regulators collaborate to set laws restricting insurers' use of leverage, creating reinsurance procedures and floors, and legislating particular investment strategies for each kind of insurer.

Kiptoo, Kariuki, and Ocharo (2021) looked at the connection between risk management and financial performance. The research used regression analysis to demonstrate that being exposed to credit risk has a significant and unfavorable impact on financial results. There was a statistically significant and favorable correlation between risk management and financial returns. The research concluded that law-makers and regulators should enact laws and regulations compelling enterprises to use effective risk management methods in order to increase output.

METHODS

This research model was established based on the three hypotheses discussed above as follows:

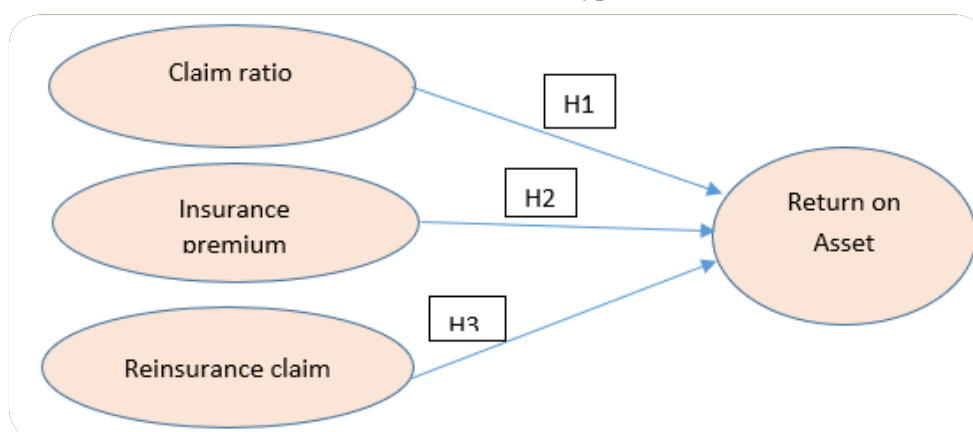


Figure 1. Research Model

This study adopted the model of Salaudeen, Salam and Mudashiru (2021) on the effect of net claim ratio and net retention ratio on financial performance of insurance companies in Nigeria. The model include return on asset (ROA) as proxy for dependent variable, performance, with net claim ratio (NCR) and net retention ratio (NRR) as explanatory variable, and then specified as thus:

Linear Form

$$ROA = a_0 + a_1 NCR + a_2 NRR + u \quad (i)$$

This study modified the above model by using claim ratio (CR) instead of net claim, adding insurance premium (INSP) and re-insurance ratio (RINSR) to the model while net retention was excluded from the independent variables, the study retained return on asset (ROA) as dependent variable. In addition, this study includes firm size (FZ) to the model as control variable. Hence, model for this study

$$ROA = a_0 + a_1 CR + a_2 INSP + a_3 RINSC + a_4 FZ + u \quad (ii)$$

Sources of Data and Method of Analysis

Secondary data sourced from the annual reports of five major Nigerian non-life insurance providers from 2011 to 2020 were used for this study. Both descriptive and inferential statistics were used for data analysis. Means, standard deviations, minimum, and maximum are all shown for each variable through descriptive analysis. The inferential statistics apply panel data estimation techniques which include pooled OLS estimation, fixed effect estimation, and random effect estimation as well as an f-test and a Hausman post-estimation test.

RESULTS AND DISCUSSIONS

Descriptive Analysis of Variables

Table 1. Descriptive Statistics
(Sources: Author's Computation, (2022))

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	50	2.00069	3.737372	-13.13122	13.09935
CR	50	.4942046	.2776711	.1217932	1.698964
INSP	50	20.55622	20.50219	3.112	71.122
RINSC	50	10.61404	16.48594	.173	58.391
FZ	50	3.81708	1.29503	2.052517	6.259952

NOTE: ROAR=Return on Asset (%) CR=Claim ratio (ratio); INSP=Insurance premium (Billion naira); RINSC=Re-insurance Claim (Billion naira); FZ= Firms Size (natural log)

Table 1 presents descriptive statistics of mean, standard deviation, minimum and maximum value for the set of variables engaged in the study for the five non-life insurance firms sampled over the period of ten years. Table 1 reports that the return on asset on the average stood at 2.00069 with minimum and maximum value of -13.13122% and 13.09935% respectively for the five non-life insurance firms sampled over the period of ten years. Claim ratio, insurance premium, re-insurance claim and firm size on the average stood at 0.4942046, 20.55622 billion naira, 10.61404 billion naira and 3.81708 respectively with minimum and maximum values of 0.1217932 and 1.698964 for claim ratio, 3.112 billion and 71.122 billion naira for insurance premium, 0.173 billion and 58.391 billion for re-insurance claim, 2.052517 and 6.259952 for firm size for the five non-life insurance firms in Nigeria sampled over the period of ten years.

Table2. Correlation Matrix

	ROA	CR	INSP	RINSC	FZ
ROA	1.0000				
CR	0.0520	1.0000			
INSP	0.2394	0.2803	1.0000		
RINSC	0.1199	0.3818	0.8167	1.0000	
FZ	0.1962	0.5731	0.8800	0.8208	1.0000

Sources: Authors' Computation, (2022)

Table 2 displays the sample non-life insurers and the ten-year correlation coefficients for the sample's variables. Return on asset is positively correlated with claim ratio, insurance premium, re-insurance claim, and firm size ($r = 0.0520$, $r = 0.2394$, $r = 0.1199$, $r = 0.2962$). Thus, the claims-to-premiums ratio is strongly correlated with both the number of reinsurance claims and the size of the firm. CR tends to rise in tandem with insurance costs, reinsurance payouts, and enterprise size (correlation coefficients of 0.2803, 0.3818, and 0.5731, respectively). To put it another way, claim ratios tend to increase in tandem with insurance costs, reinsurance payments, and company growth. Coefficients of 0.8167 for INSC and RINSC, 0.8800 for INSP and FZ, and 0.8208 for RINSC and FZ show a robust relationship between insurance premiums and re-insurance claims and firm size, respectively.

Table 3. Panel Estimation Result

Source: Authors' Computation, (2022)

Coefficient	Pooled	Prob	Fixed	Prob	Random	Prob
C	.5562332	0.643	1.393122	0.305	.5562332	0.641
CR	.161722	0.729	-.3355501	0.505	.161722	0.727
INSP	1.474428	0.003	.7724378	0.165	1.474428	0.001
RINSC	.1614167	0.464	.1189542	0.697	.1614167	0.461
FZ	-.9783472	0.068	-.7013488	0.234	-.9783472	0.061
R-square = 0.3236		R-square = 0.7911		R-square = 0.7236		
Adj R-square = 0.2635		Adj R-square = 0.7918		Wald chi2(5) = 21.53		
F-statistics = 5.38		F-statistics = 4.95		Prob> chi2 = 0.0002		
Prob(F-stat) = 0.0013		Prob(F-stat) = 0.0003				
Restricted F-test = 4.37 (p=0.0178 < 0.05)						
Hausman Test = 1.08 (P = 0.7109 > 0.05)						

Wald test= 1.0818 (p= 0.4567); Pesaran test=-1.625 (p= 0.1041); Wooldridge test=1.6339 (p= 0.2012)

NOTE: * connote significance at 5% level of significance.

The estimates from the pooled OLS, fixed effect, and random methods, as well as the results of the limited F-test and the Hausman test, are shown in Table 3. During the evaluation process, random impact estimate emerged as the preferred method, thus which is the route that will be used to frame the discussion of the findings in this research. Among the independent variables tested, claim ratio ($p = 0.727 > 0.05$), insurance premium ($p = 0.001 > 0.05$), and re-insurance claim ($p = 0.461 > 0.05$) all have a positive effect on return on asset of the sampled non-life insurance firms. However, only the effect of insurance premium remains significant when heterogeneity is incorporated into the model as error term (Table 3). When heterogeneity is included as an error component in the model, the coefficient and probability for FZ are -0.97833472 ($p = 0.061 > 0.05$), indicating that company size has a

negative non-negligible influence on ROA. Variations in claim ratio, insurance premium, re-insurance claim, and company size may account for 72.36 percent of the systematic variance in ROA (using $R^2=0.7236$) if we include firm heterogeneity as an error factor.

Table 2 shows that the probability statistics for rejecting the null hypothesis of panel homoscedasticity ($0.4567 > 0.5$), null hypothesis of no cross-sectional dependency ($0.1041 > 0.5$), and null hypothesis of no AR (1) panel autocorrelation ($0.2012 > 0.5$), respectively, are all more than 0.5. Thus, it is shown that the estimated panel-based model satisfies the criteria of cross-sectional independence, the lack of serial autocorrelation, and the equal variance of residual components.

Table 4. Results of Hypotheses

Hypotheses	Prob	Decision
H1: claim ratio has no effect on return on assets of non-life insurance firms in Nigeria	$p= 0.727 > 0.05$	Claim ratio has no positive significant effect on the return on assets of non-life insurance firms in Nigeria.
H2: insurance premium has no effect on return on assets of non-life insurance firms in Nigeria	$p= 0.001 < 0.05$	Insurance premiums has positive significant influenced on return on assets of non-life insurance firms in Nigeria.
H3: re-insurance claim has no effect on return on assets of non-life insurance firms in Nigeria	$p= 0.461 > 0.05$	Re-insurance claim has no positive significant effect on return on assets of non-life insurance firms in Nigeria.

Source: Authors' Computation, (2022)

Discussion of Findings

Using the study's preferred estimating method, the random effect estimate, researchers revealed that the claim ratio significantly and positively influenced the return on asset of the non-life insurance businesses in Nigeria that were analyzed. As a result, one may assume that the performance indicator of return on asset would rise in tandem with the claim ratio, nevertheless, there was no statistically significant change. Similar findings were made by Salaudeen, Salami, and Mudashiru (2021) and Animal and Mwangi (2017), both of which found that claim management had a positive, statistically insignificant influence on insurance company earnings.

Further, the results demonstrated that insurance premiums influenced ROA positively and statistically significantly. A higher return on assets may be achieved by a non-life insurer if it can generate more income from the risks it accepts. The results of Akpan, Nnamdi, Etuk, Edema, and Ekanem (2020) and Abass, Dansu, and Oyetayo (2019) are consistent with the idea that a rise in premiums has a substantial and positive impact on the financial performance of insurance organizations (2021).

In addition, result showed that re-insurance claim has a beneficial influence on the return on equity of Nigeria's non-life insurers. If one insurance company's claim rises at the expense of another, the industry's performance, as measured by return on asset, is predicted to improve; nevertheless, this improvement is not anticipated to be very large. However, the findings are consistent with the concept stated by Salaudeen, Salam, and Mudashiru (2021), which is that re-insurance claims impact insurance firms' financial performance.

CONCLUSION

This study demonstrates the significance of underwriting to Nigeria's non-life insurance sector. So, underwriting is a vital instrument for the growth of non-financial businesses in Nigeria. Increasing premium prices may be the only way for companies' underwriting divisions to increase profits. Using traditional metrics like claim ratios and reinsurance claims did not ensure a significant increase in revenue. This might be the result of poor leadership, inaccurate risk assessment, untimely responses to customer complaints, or collaboration with an unreliable insurance company.

Based on these findings, it is recommended that in order to remain competitive in the financial markets, businesses of all sizes make a concentrated effort to implement strategies and allocate resources that increase their insurance premium, that non-insurance firms adopt and implement policies that increase their claim ratio, and that re-insurance firms pick their insurance providers with great care and work to minimize any potential for loss.

Considering the study limitation which is based on the non-life insurance sector in Nigeria covering ten years, we suggest that further study should be carry out on both life and non-life insurance sectors, giving special consideration to a longer study period above ten years. Further study could also investigates comparative analysis of underwriting operations and financial performance of insurance industry among developed and developing countries.

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