IMPACT OF REINSURANCE UTILISATION ON THE CLAIMS' EFFICIENCY OF NON-LIFE INSURANCE COMPANIES IN NIGERIA

Olufemi Adebowale Abass;
Department of Insurance, Faculty of Management Sciences,
Lagos State University, Ojo, Lagos State, Nigeria.
(olufemi.abass@lasu.edu.ng).
Corresponding author

Abibat Olubukonla Shomuyiwa;
Department of Insurance, Faculty of Management Sciences,
Lagos State University, Ojo, Lagos State, Nigeria.
(abibat.shomuyiwa@lasu.edu.ng)

Temidayo Jerry Olubusade;
Department of Insurance, Faculty of Management Sciences,
Lagos State University, Ojo, Lagos State, Nigeria.
temidayo.olubusade@lasu.edu.ng)

Rashidat Abiodun Sulaimon:
Department of Insurance, Faculty of Management Sciences,
Lagos State University, Ojo. Lagos State, Nigeria.
(Abiodun.sulaimon@lasu.edu.ng).

ABSTRACT

The study investigated how the use of reinsurance affects the efficiency of claims processing among non-insurance companies in Nigeria. Ex-post facto research design was adopted, using secondary data from the financial reports of non-insurance companies. Data were analyzed using regression analysis through E-views. The study revealed that reinsurance utilisation (reinsurance dependence and reinsurance recoveries) has a significant combined impact on gross claims and net claims ratios with P value of 0.0000. The paper concluded that non-life insurance companies in Nigeria are inefficiently utilising reinsurance arrangements. Hence, claims management is compromised, highlighting the need for proper measures to ensure reinsurance fulfills its intended purpose. Therefore, study recommended that insurers adopt a balanced approach to reinsurance and conduct regular reviews of their reinsurance strategies to ensure they effectively mitigate risks.

Keywords: *Reinsurance utilisation, claims management, gross claims ratio, net claims ratio, reinsurance dependence, reinsurance recoveries.*

1. INTRODUCTION

Insurance is essential for the effective allocation of resources by facilitating risk management (Angima & Mwangi, 201s7). Beyond its fundamental roles in risk pooling, and risk transfer, insurance serves as a major instrument for economic stabilization by facilitating long-term savings, capital accumulation, and productive investments (Nwite et al., 2020). However, relevance of insurance has not translated to its uptake in developing countries like Nigeria. The industry barely achieves an insurance penetration rate of up to 1% due to lack of awareness, and inadequate retention capacity among others. This may not be unconnected to bad insurance claims experience by insuring public. Falade and Oyedokun (2022) assert that the processing of insurance claims mirrors the customer and enables insurers to

improve customer acquisition, expectations, retention, and business insight to enhance products and profitability. Hence, claims processing and payout are core elements of insurance operations. Though, insurance claim is a major expense of an insurance company, there is need to balance claim payment underwriting of risk. Consequently, insurance companies must optimize profitability by effectively managing the risks they accept (Oladunni & Okonkwo, 2022). From a risk management perspective, reinsurance has impact, since it allows insurers to manage their risk exposures and protect themselves against large or catastrophic losses. However, its overreliance may have potential negative effects on insurance companies' operations (Abass, 2018). In essence, recent schools of thought have queried reinsurance usage. This study aims to;

- assess the extent to which reinsurance utilisation variables (reinsurance dependence and reinsurance recoveries) jointly influence the gross claims ratio among non-life insurance companies in Nigeria.
- assess the extent to which reinsurance utilisation variables (reinsurance dependence and reinsurance recoveries) jointly influence the net claims ratio among non-life insurance companies in Nigeria.

1.1 Statement of the Problem

The payment of claims represents the largest single cost for insurers, and 80.0% of all premiums are spent on payment of claims and related handling charges (Falade & Oyedokun, 2022). However, due to the inverse cycle nature of insurance business, insurance companies need to hedge against risks through adequate reinsurance coverage (Soye et. al., 2022). However, as good as reinsurance is, some scholars have queried its over dependence by insurance companies. A higher level of reinsurance dependence means that the insurer cedes a larger portion of its premiums to reinsurers in exchange for assuming a proportionate share of its risks. Delays or disputes in reinsurance recoveries may also affect the timing of reimbursements by an insurer. In such cases, the insurer's liquidity and financial strength may be impacted, especially if it relies heavily on reinsurance reimbursements. This on a long run may affect claim efficiency. Thus, this study aims to explore the combined effect of reinsurance utilization factors—specifically reinsurance dependence and reinsurance recoveries—on the efficiency of claims (both gross and net claims) among non-life insurance companies in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Review

Claim efficiency may be conceptualized into the effectiveness and productivity of the claims management process within an insurance entity (Yusuf & Ajemunigbohun. 2015). It entails optimizing various facets of claims handling to achieve prompt and accurate claim resolution, while concurrently minimizing expenses and enhancing customer satisfaction. (Adejuwon & Falana). Gross claims ratio represents the percentage of premiums (excluding reinsurance) earned that are utilised for claims payments (excluding reinsurance) (Financial Conduct Authority (FCA), 2022). It evaluates all incurred losses, encompassing claims payments and adjustment expenses, relative to earned premiums without accounting for reinsurance. Hasibuan et al. (2022) indicate that the claim ratio has a significant negative effect on profitability, which influences performance of insurance companies. While net claims ratio considers incurred losses net of reinsurance recoveries and ceded premiums, in relation to earned premiums, providing a more precise evaluation of an insurer's risk exposure and profitability post-reinsurance (Cytonn Investments, 2017).

Reinsurance Utilisation (RU) refers to the decision to seek reinsurance not just for present risk conditions but also for anticipated future scenarios. It reflects the proportion of an insurance company's

written policies that are ceded to a reinsurer (Abass, 2018). Reinsurance utilisation not only ensures streamlined cash flow, and reduced bankruptcy risks for insurance companies, it also functions as a financial instrument enabling insurers to mitigate fluctuations in loss ratios, manage cash flow, and diminish underwriting risks (Soye et al., 2022). Reinsurance utilisation can be conceptualized into reinsurance dependence and reinsurance recoveries. Reinsurance Dependence (RD) emphasizes the vulnerability of insurance companies to potential challenges related to the collectability of reinsurance contracts, both in the short term and the long term (Cummins & Weiss, 2012; Iqbal & Rehman, 2014). It serves as a metric indicating the extent to which an insurance business relies on its reinsurers to settle claims. Lee and Lee (2012) and Burca and Batrinca (2014) propose that reinsurance dependence can be measured using indicators like the Ratio of Ceded Reinsurance (RCR) and Reinsurance Dependence Ceded Premium (RDCP) (Iqbal & Rehman, 2014; Abass & Olubusade, 2023). Reinsurance recoveries refer to the process where an insurance company receives payment from a reinsurance company after transferring risk, as outlined in reinsurance treaties and slips (Wehrhahn, 2009). Edelman and Burns (2021) describe it as the payments made by a reinsurer to a reinsured entity to cover losses in accordance with the terms outlined in the reinsurance contract. It is the amount reclaimed by insurers from reinsurers to cover a portion of the losses sustained, reducing the financial impact of insurance claims (Schwepcke & Vetter, 2022).

2.2 Theoretical Review

The study is anchored on ruin theory, initially proposed by Lundberg in 1907 and further developed by Cramer in 1930. Ruin theory revolves around analyzing stochastic processes representing the time trajectory of the surplus of a simplified non-life insurance company. Rooted in collective risk theory, ruin theory posits that insurance company decision-making integrates ruin probabilities, employing models to depict an insurer's susceptibility to insolvency (Loisel & Gerber, 2012). The theory offers the most reliable and suitable framework for analyzing the impact of reinsurance utilization on the claims efficiency of non-life insurance companies. Where reinsurance is adopted as a risk mitigating device to lessen the probability of ruin for a direct insurer, it must be such that is capable of enhancing the claims efficiency of the firm for it to serve its purpose. A continuous use of reinsurance without its adequate contribution to the claims efficiency of the ceding company will prevent optimal utilisation of reinsurance by the insurance company thereby increasing the probability of ruin.

2.3 Empirical Review

Abass and Obalola (2018) explore the utilisation of reinsurance and its impact on the performance of the non-life sector within the Nigerian insurance industry using a mixed methods approach. The study investigated the relationship between reinsurance utilization and the performance of non-life businesses in Nigeria using a mixed methods approach. It revealed a significant correlation between reinsurance dependence ceded premium (RDCP) and performance indicators, indicating that greater reliance on reinsurance is linked to enhanced performance metrics.

Ogunlami (2021) examined the substantial influence of reinsurance on the performance of insurance companies and the growth of the Nigerian economy. Utilizing an ex post facto research design, the study found a positive correlation between reinsurance and the profitability of insurance firms.

Soye et al. (2022) examined reinsurance as a risk management tool for enhancing the profitability of insurance companies in Nigeria. Conducted over a twelve-year period from 2007 to 2018, the research employed a quantitative approach. The findings indicated that reinsurance can lower the equity cost for cedants, provided that the cost of reinsurance is less than the reduction in frictional costs achieved through reinsurance.

The paper titled "The Effect of Claim Ratio, Operational Ratio, and Retention Ratio on the Profitability Performance of Insurance Companies in the Indonesia Stock Exchange" by Hasibuan, Sadalia, and Muda (2020) investigated the influence of the claim ratio, operational ratio, and retention ratio on the profitability of insurance companies listed on the Indonesia Stock Exchange from 2011 to 2018. Their findings indicated that the claim ratio has a negative and significant impact on return on assets (ROA), suggesting that an increase in the claim ratio leads to a decrease in company profitability.

Obalola and Ukpong (2022) examined reinsurance and the factors influencing the ceding decisions of life insurance companies in Nigeria. Utilising an ex post facto design, they analyzed data from 16 registered core life insurance companies over a nine-year period from 2011 to 2019. The study found that underwriting risk is positively correlated with ceded reinsurance, indicating that insurers experiencing higher levels of risk are more likely to purchase reinsurance.

Having perused several studies on reinsurance utilisation and claims efficiency (Abass & Olubusade, 2023; Abass, 2019; Obalola & Ukpong, 2022; Lei, 2019; Yusuf & Ajemunigbohun, 2015; Angima & Nwangi, 2017) it appears to be no study that has examined the joint influence of reinsurance dependence and reinsurance recoveries on the gross claims ratio and net claims ratio of insurance companies in Nigeria.

3. RESEARCH METHODS

The study adopted an ex post facto research design. Secondary data from the financial reports of insurance companies and the Nigerian Insurers Digest was collected and analyzed for a ten (10) year period of 2013 to 2022. The study used all the thirty-seven (37) non-life insurance through a census survey.

Table 1: Measurement of Variables Indicators, description and Measurement

Variable	Indicators	Definition	Measurement	Source(s)
Reinsurance Utilisation	Reinsurance Dependence	A metric indicating the extent to which an insurance business relies on its reinsurers to settle claims (Lee & Lee, 2012).	Ceded/Net Premium Written; Reinsurance Dependence Ceded Premium= Ceded Premium/ Total Asset	Iqbal et. al. (2014); Abass (2019); and Obalola & Ukpong (2022)
	Reinsurance Recoveries	Situation where insurer receives payment from a reinsurance company after transferring risk, as outlined in reinsurance treaties and slips.	The ratio of reinsurance recoverables to ceded premiums	Lei (2019)
Claims Efficiency	Gross Claims Ratio	A metric reflecting the proportion of paid claims compared to the premiums received.	The proportion of gross claims to gross premiums.	Pertiwi, et. al. (2023)
	Net Claims Ratio	The ratio of incurred claims to net premiums received by insurance companies, reflecting their efficiency in managing claims and premiums	Net claims divided by Net Written Premiums	Ngunguni, Misango, & Onsiro (2020)

The adopted model specification is;

$CE = f(RU)$

$GCR = \beta 0 + \beta 1RD + \beta 2RR + E$ Equation 1

$GCR = \beta 0 + \beta 1RD + \beta 2RR + E$ Equation 2

CE = F(RU)

4. DATA ANALYSIS AND INTERPRETATION

Table 2: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.
RD	0.9103	0.7201	12.8070	-1.2672	0.9711	6.2464	68.6448	68096.05	0.0000
RR	0.7546	0.5368	8.0069	-0.0738	0.9109	3.9892	26.6799	9521.989	0.0000
NCR	0.3706	0.3277	2.3478	-0.7533	0.2975	2.4636	16.3061	3070.27	0.0000
GCR	0.3436	0.2855	1.7063	0.0136	0.2401	2.1771	10.1866	1076.748	0.0000

***Source**: Researchers' computation, 2024 using E-Views 9*

Table 2 shows that the standard deviations for Reinsurance Dependence and Reinsurance Recoveries are higher than their respective averages, indicating moderate dispersion in the values over the sampled period. In contrast, the standard deviations of Gross Claims Ratio (GCR) and Net Claims Ratio (NCR) are lower than their averages, suggesting lower dispersion and more consistent values. All the variables display positive skewness, indicating distributions with long right tails. The series follow a normal distribution process, implying that Reinsurance Dependence (RD), Reinsurance Recoveries (RR), Gross Claims Ratio (GCR), and Net Claims Ratio (NCR) adhere to the normality assumption throughout the sampled period.

Tests of Hypotheses

H_0: Reinsurance utilisation variables (reinsurance dependence and reinsurance recoveries) do not have a joint significant influence on the gross claims ratio of the Nigerian non-life insurance sector.

Table 3: Estimated Panel Regression coefficients
Sample Structure: *T* = 10 (2013 – 2022), *N* = 40 Insurance Firms in the Non-life Sector

	Response Variable
	GCR
Co-efficient Estimates	
c_{t-1}	0.225175 (0.0000)
Regression Estimates	
RD	0.017757 (0.2890)
RR	0.119254 (0.0000)
Model Diagnostic ;	

Overall Test (Wald Test)	
F-Stat.	38.15109 (0.0000)
Chi-square	76.30218 (0.0000)
Cross-sectional Dependence (CD) Test	
Breusch-Pagan LM	741.5923 (0.0291)
Pesaran scaled LM	1.057422 (0.2903)

Source: *Researchers' computation, 2024 using E-Views 9*

Table3 shows a measure of adjustment speed, the coefficient estimate of (0.225175) is positive and also statistically significant (p = 0.0000 < 5%). This lag between the periods as claims efficiency of Nigerian non-life insurance sector measured using GCR responds to reinsurance utilisation variables (Reinsurance Dependence and Reinsurance Recoveries). This suggests that reinsurance utilisation has a positive coefficient estimate that is a positive relationship and also statistically significant on the Claims Efficiency of the Nigerian non-life insurance sector.

H_0: Reinsurance utilisation variables (reinsurance dependence and reinsurance recoveries) do not have a joint significant influence on the net claims ratio of the Nigerian non-life insurance sector.

Table 4.: Estimated Panel Regression coefficients

Sample Structure: *T* = 10 (2013 – 2022), *N* = 40 Companies in the Nigerian Non-life Insurance Sector

	Response Variable
	NCR
Co-efficient Estimates	
c_{t-1}	0.147731 (0.0000)
Regression Estimates	
RR	0.098469 (0.0000)
Model Diagnostics	
Overall Test (Wald Test)	
F-Stat.	60.22664 (0.0000)
Chi-square	120.4533 (0.0000)
Cross-sectional Dependence (CD) Test	
Breusch-Pagan LM	782.7338 (0.0012)
Pesaran scaled LM	2.184693 (0.0289)

Source: *Researchers' computation, 2024 using E-Views 9*

Table 4 shows the coefficient estimate of 0.147731, representing the speed of adjustment is statistically significant ($p = 0.0000 < 0.05$), indicating a lag between periods as the claims efficiency of the Nigerian non-life insurance sector, measured by the Net Claims Ratio (NCR), responds to reinsurance utilisation variables (Reinsurance Dependence and Reinsurance Recoveries). This suggests that reinsurance utilisation has a positive and statistically significant relationship with claims efficiency of non-life insurance companies.

5. DISCUSSION OF FINDINGS

The first hypothesis indicates that the Gross Claims Ratio (GCR) has a weak negative relationship with Reinsurance Dependence, while exhibiting a positive correlation with Reinsurance Recoveries. This implies that an increase in reinsurance dependence among non-life insurance companies is associated with a decrease in their gross claims ratio. However, as their recoveries from reinsurance companies' increases, their gross claims ratio also increases. This implies that as claims increase, the insurer taps into its reinsurance arrangements more heavily. This result supports Lei (2019)'s assertion that while the premium-based measure of reinsurance focusing on ceded reinsurance and reinsurance premium provides insight into the extent of reinsurance an insurer desires, it overlooks the claims aspect of reinsurance transactions. This implies that as insurance companies rely more on reinsurance and recover more from them, they tend to have an increase in their gross claims cost. Despite this reliance, the gross claims ratio still increases, indicating that claims are rising faster than premiums or that reinsurance is not fully offsetting the claim costs. The outcome of this result further aligns with the view of Dansu and Obalola (2018) and Abass (2019).

The second hypothesis shows a positive but relatively weak relationship between the Net Claims Ratio (NCR) and the reinsurance utilisation variables (Reinsurance Dependence and Reinsurance Recoveries). This means that as an insurance company becomes more dependent on reinsurance, its net claims ratio (the ratio of claims incurred after reinsurance recoveries to premiums earned) also tends to increase. This is a notable observation, as reinsurance is typically expected to reduce the financial burden on an insurer. The positive relationship suggests that the company's reinsurance is not sufficiently offsetting the claims retained by the insurer. Though the insurance companies are ceding more risk to reinsurers, it is still facing higher net claim costs. This indicates that reinsurance isn't enough to manage the rising claims or that claims are so significant that the insurer still bears a substantial burden. This result conforms to the finding of Dansu and Obalola (2018); and Schwepcke and Vetter (2022).

6. CONCLUSION AND RECOMMENDATIONS

The study provided the importance of reinsurance utilisation in claims efficiency. Typically, insurance companies utilise reinsurance to reduce their net retention after accounting for recoveries from reinsurers and to lower their overall gross claims ratio when effectively implemented. The however concludes that if this reduction is not observed, non-life insurance companies may either not be efficiently utilising their reinsurance arrangements or may not have adequate reinsurance agreements in place. Consequently, their claims cannot be managed efficiently indicating a need to implement proper measures to ensure that reinsurance serves its intended purpose. However, beyond inadequate reinsurance utilisation, claims efficiency can also be affected by broader economic and operational challenges

The study therefore recommended that non-life insurance companies adopt a balanced approach to reinsurance. Non-life insurance companies should tailor their reinsurance programmes to effectively distribute risk while maintaining profitability, ensuring that reinsurance enhances their overall risk

management strategy rather than replacing it. To achieve this, insurers can analyze their historical claims data to identify patterns. The study also recommended that reinsurance strategies should be periodically reviewed to ensure they are effectively mitigating risks. This includes evaluating the design and structure of reinsurance programmes to prevent financial distress in case of major claims events and ensuring that they align with the company's overall risk appetite and financial goals. Insurers should also consider external economic factors such as inflation and interest rates when developing reinsurance strategies. By proactively adjusting their risk management policies to account for these variables, they can avoid potential increases in claims. Finally, although insurance companies in Nigeria rely largely on traditional reinsurance structures, it is important that they begin to consider exploring additional risk management tools like diversification and investment beyond reinsurance.

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