UNDERWRITING CAPACITY OF INSURERS IN NIGERIA: REINSURANCE PRACTICES PERSPECTIVE

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ABSTRACT
The study examined the relationship between reinsurance practices and underwriting capacity, particularly in the context of reinsurance arrangements. It also explored how risk selection by underwriters influences the profitability of Nigerian insurance companies, providing evidence-based recommendations for improving underwriting practices and optimizing reinsurance strategies. The specific objectives of the study sought to; examine the relationship between treaty reinsurance and underwriting profit as presented in the income statements of insurance firms, analyze the influence of treaty reinsurance on claims incurred and claims ratio, evaluates the impact of reinsurance expenses on the profitability of underwriting operations, investigate the extent to which treaty reinsurance affects the retention ratio of insurance companies, and study the variation in gross versus net premium growth in relation to reinsurance utilization. The target population of this study was seven insurance companies in Nigeria. These insurance companies are AIICO Insurance, LeadWay Insurance, AXA Insurance, NEM Insurance, Custodian Insurance, Regency Alliance Insurance, and Lasaco Insurance. The study adopted a longitudinal research design. Regression analysis, correlation, and ANOVA were deployed for the analysis of data. The study concluded that well-structured and efficiently managed treaty reinsurance arrangements, when integrated with sound underwriting practices, can substantially enhance the financial performance and operational stability of insurance companies in Nigeria. It is, therefore, essential for insurers to continuously refine and optimize their reinsurance strategies to boost profitability, improve claims handling, and maintain sustainable retention levels in an increasingly volatile risk environment. The study. The study recommends that since the significant relationship between treaty reinsurance and the claims ratio underscores the need for insurers to improve their claims management frameworks. While reinsurance supports risk-sharing, excessive claims can erode profitability. Insurance firms should adopt robust claims auditing systems, invest in loss prevention programs, and regularly review reinsurance recoveries to minimize inefficiencies among others.

Key words: Underwriting capacity, reinsurance and underwriting profit, claims incurred and claims ratio, gross versus net premium growth.

1.0 INTRODUCTION

The insurance sector is essential to national economic development, serving as a mechanism for risk mitigation and financial stability in the face of unforeseen events. In the Nigerian context, the industry has experienced notable reforms and expansion; however, it still grapples with structural limitations, particularly in providing sufficient coverage for high-risk sectors such as

energy, aviation, and infrastructure. To solve these challenges and improved underwriting capacity, insurers frequently rely on reinsurance arrangements—with treaty reinsurance emerging as a key strategy for systematically managing portfolio risk and enhancing financial resilience (Adebayo & Ogunlana, 2021; NAICOM, 2022).

The insurance sector is an indispensable component of modern economies, offering structured risk management solutions that enhance financial stability and boost investment growth. Insurers take on diverse categories of risk from policyholders in return for premium payments, with the expectation that they will provide remuneration in the event of a covered loss. Nonetheless, an insurer's ability to retain all assumed risks is naturally constrained by its capital base, prompting the need for reinsurance as a critical risk-transfer mechanism to maintain operational sustainability (Vaughan & Vaughan, 2007; Swiss Re, 2011).

In Nigeria's insurance industry, where capital limitations and claim volatility frequently hinder sectoral growth, reinsurance plays an increasingly pivotal role. Its capacity to enhance underwriting ability, however, is contingent upon the structure, terms, and operational efficiency of the reinsurance agreements. Understanding the implications of treaty reinsurance is essential for insurers, regulators, and other key stakeholders seeking to develop a robust and resilient insurance market (Oladunni & Eche, 2022).

The insurance sector is a core component of the financial system, facilitating risk management for individuals, corporations, and governments. As Hughes (2013) notes, insurance serves as a cornerstone for managing financial risks and is vital for fostering sustainable economic development. A strong insurance sector bolsters economic stability by absorbing shocks from loss events and enabling long-term investment through capital accumulation. It also contributes to social welfare by mitigating anxiety, promoting employment, and mobilizing long-term savings for national development (Kazeem, 2015).

Insurance allows individuals and organizations to transfer risk in exchange for premiums, thus safeguarding against unexpected financial setbacks (Vaughan & Vaughan, 2007). This mechanism distributes the burden of losses across a broad base of policyholders, thereby promoting economic resilience. Masci, Tejerina, and Webb (2007) describe insurance as a mechanism that reallocates resources from favorable to adverse outcomes, reducing the societal impact of financial shocks. In Nigeria, non-life insurers cover risks related to property, liability, and other non-life assets. Reinsurance enables these insurers to strengthen their financial positions and assume larger or more complex risks, including those with catastrophic potential (Oladunni & Eche, 2022).

A well-functioning insurance system depends heavily on effective underwriting. Underwriting is the process by which insurers assess risk and set suitable premiums and policy terms. It influences both the financial performance and risk exposure of insurers. Inefficient underwriting practices, such as poor risk assessment or mispricing, can threaten solvency and diminish trust in the insurance sector (Yuvaraj, 2013).

The Nigerian insurance sector faces several constraints that limit the full exploitation of reinsurance and underwriting capabilities. These challenges include inadequate professional expertise, low insurance penetration, and macroeconomic instability. Moreover, capital inadequacies restrict insurers' retention capacities, increasing reliance on reinsurance. As Uche and Chikeleze (2001) observe, reinsurance not only buffers against losses but also ensures long-term financial health by improving operational efficiency and capital adequacy.

Nonetheless, there is a lack of comprehensive research on how reinsurance practices influence underwriting capacity within the Nigerian context. While foundational studies (Irekwu, 1985; Chibuike & Chikeleze, 2001) discuss reinsurance conceptually, they often lack empirical rigor. This highlights the necessity of in-depth research to explore the interplay between treaty reinsurance and underwriting effectiveness, especially within developing insurance markets.

Underwriting capacity can be said to be the maximum amount of risk an insurer can assume based on its capital strength, reserves, investment income, and reinsurance arrangements (Oyetayo & Abass, 2020). Onaolapo (2005) describes underwriting capacity as a blend of a firm's retention capability and the risk cover extended through reinsurance. Kerman (2012) further states that it reflects the highest level of risk an insurer is prepared to underwrite. While no universal indicators exist, this study utilizes shareholders' funds, underwriting profits, investment income, reserves, earning asset ratio, gross written premiums, and ceded reinsurance ratios as key measures of underwriting capacity (Osariamen & Anwuli, 2023).

Liberto, Rhinehart, and Kcilhaug (2021) emphasize that underwriting capacity is crucial to ensuring insurers remain solvent and capable of fulfilling their claims obligations. Effective underwriting involves identifying profitable risks and pricing them appropriately. This balance between risk and reward underpins the financial sustainability of insurers.

In a globally competitive environment, both reinsurance and underwriting serve as strategic levers for insurance companies. The Actuary (2014) identifies underwriting excellence as a key differentiator in the industry, enhancing profitability and market leadership. Skilled underwriters play a critical role in minimizing adverse selection, which in turn improves claims experience and strengthens financial outcomes (Yuvaraj, 2013).

1.1 Statement of the Problem

Globally the reinsurance industry—including Nigeria's market—continually face a rapidly changing business environment characterized by prolonged soft pricing cycles, intensifying competition, limited organic growth opportunities, a surge in alternative capital, persistently low interest rates, frequent mergers and acquisitions, and increasingly severe catastrophe losses (Oladinni, 2021). Within this dynamic context, Nigerian insurers are particularly vulnerable due to their relatively weak capital base and operational inefficiencies.

Many insurance firms in Nigeria lack the financial capacity required to underwrite high-risk and large-volume policies, especially in critical sectors such as oil and gas, aviation, and infrastructure. This limitation often results in missed business opportunities and inadequate risk coverage. Treaty reinsurance, which is designed to share underwriting risks with reinsurers, is meant to improve insurers' capacity and mitigate exposure to large losses. However, its effectiveness in Nigeria remains inconsistent and, in some cases, questionable due to operational and structural challenges.

Despite the role of reinsurance as a financial stabilizer, it cannot substitute for sound underwriting judgment. The effective selection and pricing of risk remain pivotal to the profitability and solvency of insurers. Unfortunately, current research does not adequately explore the intersection between effective underwriting, risk selection, and reinsurance utilization in the Nigerian context.

Against this backdrop, this study aims to critically examine the extent to which treaty reinsurance practices influence the underwriting capacity of insurance companies in Nigeria.

1.2 Research Hypotheses

H_{o1}: Treaty reinsurance has no significant effect on underwriting profit or loss.
H_{o2}: There is no significant relationship between treaty reinsurance and the claims ratio.
H_{o3}: Reinsurance expenses do not significantly impact underwriting profitability.
H_{o4}: Treaty reinsurance does not significantly affect the retention ratio of insurers.
H_{o5}: Treaty reinsurance has no significant effect on the variation between gross and net premium growth.

1.3 Significance of the Study

This study holds considerable significance for various stakeholders within the Nigerian insurance industry and beyond. Its findings are expected to contribute meaningfully to both practical and theoretical advancements in the field of insurance and risk management. The study is particularly relevant to insurance companies, regulatory authorities, reinsurance providers, policymakers, academic researchers, and students, each of whom stands to benefit in distinct ways.

Finally, from a broader perspective, the study contributes to the socioeconomic development of Nigeria by promoting the growth of a more resilient insurance sector. A strong and reliable insurance industry is essential for managing economic risks, encouraging investment, and supporting national development goals. By addressing gaps in reinsurance knowledge and practices, this research ultimately supports efforts to strengthen financial inclusion, investor confidence, and economic stability.

1.4 Scope of the Study

This study is confined to examining the impact of underwriting capacity of insurers in Nigeria from reinsurance practices perspective, specifically, the research will focus exclusively on insurance firms that are duly registered and licensed by the National Insurance Commission (NAICOM), the principal regulatory authority for the insurance industry in Nigeria. These companies are considered credible for this research as they operate under established regulatory frameworks, adhere to statutory guidelines, and represent the formal segment of the Nigerian insurance market.

The temporal scope of the study spans a ten-year period, from 2015 to 2024. This decade-long coverage is strategically chosen to capture both short-term and long-term trends in reinsurance practices, including responses to regulatory changes, macroeconomic conditions, and evolving risk environments. The period also encompasses critical industry events such as capital recapitalization efforts, shifts in underwriting strategies, and global reinsurance market dynamics, which may have influenced local reinsurance arrangements and underwriting behavior. Geographically, the study is limited to Nigeria. However, within this national boundary, the research aims to be exhaustive by covering insurance companies across different operational tiers and geographic zones. This ensures that the findings are reflective of the diversity in company size, market penetration, and risk exposure levels within the Nigerian insurance industry.

Thematically, the study will concentrate on treaty reinsurance arrangements, including but not limited to quota share treaties, surplus treaties, and excess of loss treaties. It will investigate how these reinsurance mechanisms are structured, implemented, and leveraged by insurance companies to enhance their underwriting capacity—defined in this study as the ability of insurers to assume and manage risk exposures effectively without exceeding their solvency limits.

The research will place particular emphasis on the general and commercial insurance segments, which include products such as fire and property insurance, engineering insurance, marine and aviation insurance, motor insurance, and general liability coverage. These segments are selected due to their typically high exposure to large and volatile risks, making them especially reliant on reinsurance support to maintain sustainable operations.

The study will assess key variables such as the volume of risks retained versus ceded, the frequency and severity of claims, capital adequacy, risk appetite, and solvency margins. Data will be gathered through a combination of primary and secondary sources, including financial statements, NAICOM reports, industry publications, and interviews with industry practitioners.

In summary, the study aims to provide a detailed and comprehensive evaluation of how treaty reinsurance arrangements affect the underwriting capacity of Nigerian insurance companies over a defined ten-year period. It will generate insights that can inform strategic decision-making by insurers, guide regulatory oversight by NAICOM, and contribute to the broader academic discourse on reinsurance and risk management in emerging insurance markets.

2.0 LITERATURE REVIEW

2.1 Concept, Theory and Empirical Framework

Reinsurance: Reinsurance is a sophisticated financial arrangement wherein an insurance company, known as the ceding or primary insurer, transfers part of its risk portfolio to another insurance entity, called the reinsurer. The reinsurer, in return for a portion of the premium received by the primary insurer, agrees to indemnify it against specified losses. This practice is essential in the insurance industry as it enables insurers to underwrite more policies and larger risks than they could otherwise handle independently. Reinsurance provides several advantages, including risk diversification, financial stabilization, solvency protection, and regulatory capital relief. It is particularly significant in markets like Nigeria, where local insurers may face limitations in capital base and risk-bearing capacity.

Burcă and Bătrîncă (2014) emphasize that reinsurance is not merely a risk mitigation tool but also a strategic instrument for capital and performance management. By smoothing out fluctuations in claims costs across time and portfolios, reinsurance introduces an element of predictability and stability into insurers' financial performance. This is especially relevant in treaty reinsurance arrangements, where a large pool of risks is reinsured collectively, reducing the impact of random adverse events.

According to Garven and Tennant (2003), facultative reinsurance is typically employed for large, unusual, or hazardous risks that fall outside the scope of an insurer's regular underwriting parameters or treaty arrangements.

Underwriting: Underwriting refers to the technical and analytical process by which insurance companies assess, evaluate, and decide whether to accept or decline an application for insurance coverage. It involves evaluating the nature and magnitude of the risk, the probability of a loss occurring, and determining appropriate premiums, coverage limits, and policy terms. The underwriter uses historical data, actuarial models, and judgment to make these decisions. Effective underwriting is central to an insurer's profitability and sustainability, as it ensures that risks are priced adequately and that the company's risk pool remains balanced and manageable.

Proportional Reinsurance: Proportional reinsurance is a category of treaty reinsurance under which the ceding insurer and the reinsurer agree to share risks, premiums, and claims in

predetermined proportions. In this arrangement, the reinsurer participates in both the gains and losses of the insurance portfolio. For example, in a 70/30 quota share treaty, the ceding company retains 70% of the premiums and losses, while the reinsurer assumes 30%. This form of reinsurance is particularly useful for insurers seeking to build capacity, share risk exposure, and gain underwriting support. It also provides the reinsurer with access to a broader risk pool, often across different geographical or market segments.

Non-Proportional Reinsurance: Non-proportional reinsurance, commonly known as excess of loss reinsurance, is an arrangement in which the reinsurer is liable only for losses that exceed a specified threshold, known as the retention limit, which is borne by the ceding company. This type of reinsurance does not involve proportional sharing of premiums and losses but rather functions as a risk buffer against large or catastrophic claims. For instance, if the retention limit is ₦50 million, the reinsurer will only pay for losses exceeding that amount. This method is most effective for managing volatility and protecting the ceding company from infrequent but severe loss events, such as natural disasters or industrial accidents.

Premium: A premium is the monetary compensation paid by the insured to the insurer in exchange for the promise of financial protection against specific risks. It represents the cost of insurance coverage and is typically determined based on several factors, including the likelihood and potential severity of a loss, the value of the insured item, the insured's claims history, and market conditions. Premiums are a critical source of revenue for insurance companies and are used to fund claim payments, operational expenses, and reserves. In a reinsurance context, premiums are also shared or transferred to reinsurers as part of the risk-sharing agreement.

Solvency: Solvency refers to the financial strength and stability of an insurance company, specifically its ability to meet its long-term obligations, including the payment of claims, return of premiums, and settlement of other liabilities as they fall due. It is a critical indicator of an insurer's financial health and is closely monitored by regulatory authorities. Solvency is typically measured through financial ratios such as the solvency margin and risk-based capital requirements. Maintaining solvency ensures public trust in the insurance system, promotes market stability, and prevents systemic risk in the financial sector.

Treaty Reinsurance: Treaty reinsurance is a binding contractual agreement between an insurer and a reinsurer, whereby the reinsurer automatically accepts a predefined share of all policies falling within a specified class or portfolio of business underwritten by the insurer. Unlike facultative reinsurance, which is negotiated individually per risk, treaty reinsurance applies automatically to all qualifying policies. The agreement outlines key provisions such as covered lines of business, retention limits, cession percentages, and settlement procedures. Treaty reinsurance enhances the insurer's capacity to write more business, smoothens earnings, and reduces administrative burdens, making it a fundamental component of strategic risk management.

In Nigeria, treaty reinsurance is predominantly used due to its predictability and regulatory compatibility, especially under the capital and solvency requirements of the National Insurance Commission (NAICOM). According to Akinsulire (2021), most Nigerian insurers maintain automatic treaty arrangements—particularly quota share and surplus treaties—with local reinsurers such as Africa Re, Continental Re, and occasionally with foreign reinsurers for specialized risks.

Underwriting Profit or Loss: Underwriting profit or loss is a financial metric that measures the outcome of an insurer's underwriting operations, exclusive of investment income. It is calculated as the difference between premiums earned and total underwriting expenses, including claims

incurred and administrative costs. A positive figure denotes an underwriting profit, indicating that the company has successfully priced and managed its risk pool. Conversely, an underwriting loss may signal poor pricing strategies, adverse claims experience, or inefficiencies in risk selection and policy servicing. This metric is crucial in evaluating the core profitability of an insurance business.

Claims Ratio: The claims ratio, also known as the loss ratio, quantifies the proportion of earned premiums that is used to pay claims. It is expressed as a percentage using the formula:

Claims Ratio = (Total Claims Paid / Total Premiums Earned) × 100

This ratio helps stakeholders evaluate the insurer's risk exposure, pricing adequacy, and claims management efficiency. A high claims ratio could indicate an underpriced portfolio or elevated claims frequency, potentially threatening the company's profitability. On the other hand, a very low claims ratio may suggest overpricing or low claims incidence, which might raise concerns about competitiveness and market fairness.

Reinsurance Expenses: Reinsurance expenses refer to the total costs incurred by a primary insurer when entering into reinsurance agreements. These costs may include reinsurance premiums paid to the reinsurer, commissions and brokerage fees paid to intermediaries, and internal administrative costs related to managing reinsurance contracts. While reinsurance expenses reduce the insurer's gross profits, they play a pivotal role in enabling risk transfer, protecting solvency, managing earnings volatility, and improving capital efficiency. Effective management of these expenses is essential for optimizing reinsurance strategies and maintaining cost-effectiveness.

Underwriting Profitability: Underwriting profitability is the degree to which an insurance company earns a surplus from its underwriting operations. It is evaluated by comparing the income received from premiums with the expenses related to claims and underwriting operations, excluding investment income. This indicator reflects the effectiveness of the company's risk assessment, pricing, and portfolio management. Sustainable underwriting profitability is a key driver of long-term business viability and investor confidence, and it reflects the insurer's discipline in underwriting, cost control, and claims handling (Cummins & Weiss, 2007).

A key metric in evaluating underwriting capacity and performance is the underwriting profit, which is defined as the surplus of earned premiums over claims incurred, commissions, and underwriting expenses (Rejda & McNamara, 2017). It reflects the profitability of an insurer's core operations, exclusive of investment income. Treaty reinsurance has a direct impact on underwriting profit by modifying both income and expense elements of the income statement. While ceding premiums to reinsurers reduces earned income, the arrangement simultaneously lowers claims liability and minimizes earnings volatility by shifting significant risks away from the primary insurer (Swiss Re, 2020).

Financial Report: A financial report in the context of insurance is a comprehensive document that presents an insurer's financial performance and condition over a specified accounting period, typically quarterly or annually. It contains detailed statements such as the income statement, balance sheet, cash flow statement, and notes to accounts. These reports disclose critical information such as premiums earned, claims paid, reinsurance activity, underwriting results, investment income, reserves, and solvency margins. Financial reports are vital tools for regulators, shareholders, and management in evaluating the insurer's operational effectiveness, financial integrity, and compliance with statutory requirements.

Retention Ratio: The retention ratio is a key financial indicator that measures the proportion of total premiums an insurance company retains after ceding part of its risks to reinsurers. It is calculated as: Retention Ratio = (Net Premiums Written / Gross Premiums Written) × 100
This ratio reflects the insurer's risk appetite and capacity. A higher retention ratio suggests the insurer is retaining more business and assuming greater risk, which can lead to higher profitability if well-managed. However, it may also increase exposure to large losses. Conversely, a lower retention ratio indicates a conservative approach with more risk transferred to reinsurers, thereby reducing potential volatility but also limiting earnings from premium income.

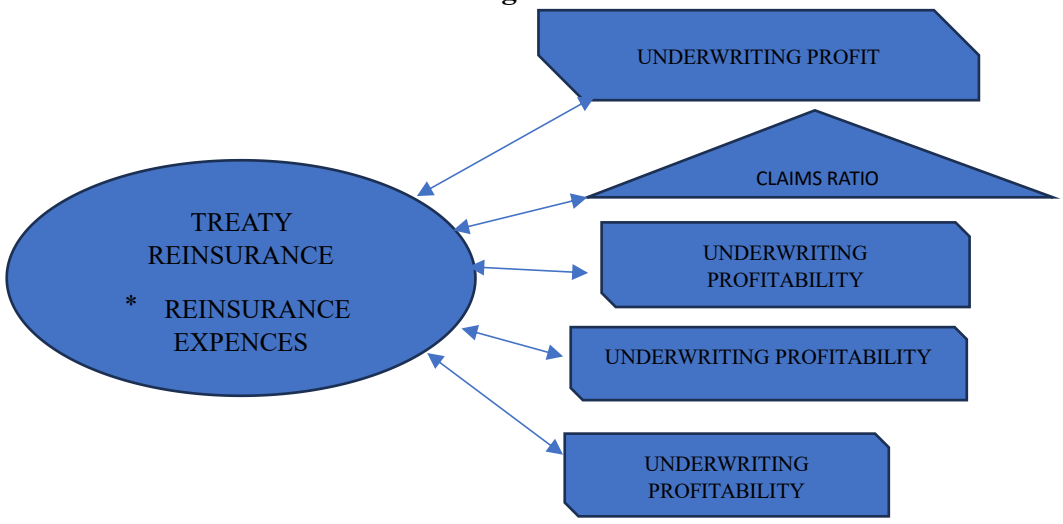
This study is fundamentally anchored on Ruin Theory and supported by Capacity Theory. Ruin Theory serves as the theoretical underpinning theory for examining the dynamics between reinsurance and the underwriting capacity of insurance companies. Ruin theory, a key concept in actuarial science and risk management, provides a probabilistic framework for evaluating the likelihood that an insurance company will become insolvent over a given period. It models the financial surplus of an insurer as a stochastic process, in which capital increases continuously through the collection of premiums but decreases unpredictably as claims arise. Ruin theory, a cornerstone of actuarial science, was originally propounded by Swedish actuary Filip Lundberg in 1903 through his foundational work on the classical risk model. Harald Cramér later republished and expanded Lundberg's ideas in the 1930s, leading to the model now known as the Cramér-Lundberg model. Therefore, the relevance of ruin theory to this study lies in its explanatory power for understanding how reinsurance impacts the financial dynamics of underwriting. It allows for a rigorous analysis of how insurers can manage their risk exposure, optimize capital allocation, and maintain solvency through strategic use of reinsurance arrangements.

Capacity Theory in insurance relates to the ability of an insurer to underwrite policies, which is fundamentally constrained by its capital base and reinsurance support. According to this theory, an insurer's underwriting capacity is not solely determined by its internal financial resources but can be significantly augmented through access to external capital via reinsurance (Adams, Hardwick & Zou, 2008).
Capacity theory in actuarial science refers to the framework for assessing an insurer's maximum underwriting capacity, often tied to surplus limits and risk exposure models to prevent overextension. It was primarily propounded by American actuary Alfred A. Joske in the 1970s, with key developments in his work on capacity loading and regulatory guidelines for property-casualty insurers. Treaty reinsurance arrangements play a critical role in this context by expanding the effective capacity of insurers, allowing them to write higher volumes of business or insure larger, riskier portfolios without breaching regulatory solvency thresholds. This is particularly crucial in emerging markets like Nigeria, where insurers often face limited access to capital markets and where regulatory frameworks may impose strict solvency requirements (Akinlo & Apanisile, 2014).
Moreover, enhanced underwriting capacity through treaty reinsurance supports greater market participation, enabling insurers to underwrite industrial, infrastructural, and catastrophe-related risks that would otherwise be unfeasible due to capital constraints (Lee & Lee, 2012). This extended capacity not only improves competitive positioning but also promotes overall market stability and insurance penetration in developing economies.

In essence, Capacity Theory underscores how reinsurance functions as a leverage tool that enhances an insurer's operational scope, market reach, and resilience by supplementing internal financial strength with external support.

Aduloju and Ajemunigbohun (2017) adopted a survey-based descriptive approach combined with secondary data analysis for the period 2014–2015. They used ROA and ROE as performance proxies and found a positive correlation between reinsurance use and profitability, attributing this to better risk spreading and increased gross premium generation.
Beyond Nigeria, Choi and Weiss (2005) analyzed U.S. property-liability insurers and found that reinsurance reduced the volatility of loss ratios, improved solvency margins, and ultimately contributed to financial performance. They employed simultaneous equations models and incorporated endogeneity controls, strengthening their empirical validity.
Dansu and Obalola (2018) employed a quantitative research design with data from 2004 to 2013 for a sample of Nigerian insurers. Using reinsurance reliance ratios such as the Reinsurance Recoverable to Policyholders' Surplus (RRPHS) and Ceded Reinsurance Ratio (CRR), they applied fixed-effects regression analysis and found a significant positive association between reinsurance and premium underwriting growth.
Oladinni (2021) adopted a mixed-method approach to explore the relationship between reinsurance and internal asset optimization. Using primary data through structured questionnaires and secondary financial records, the study concluded that robust reinsurance practices improve underwriting and asset management synergy.
Osariamen and Anwuli (2023) used dynamic panel Generalized Method of Moments (GMM) estimation on data from 45 insurers in eight African countries between 2011 and 2020. Their findings indicated that underwriting profit was consistently associated with improved financial outcomes, while high levels of ceded reinsurance were not significantly correlated with performance—suggesting the need for a balanced internal risk retention strategy.

Conceptual framework of Reinsurance Practices and Underwriting Capacity of Insurers in Nigeria



Source: Author's Compilation, 2025

3.0 METHODS

The selection of this target population is both strategic and justified. It includes the full range of underwriters operating in Nigeria—spanning life, non-life (general), composite companies thereby ensuring that the study captures the diverse experiences and operational realities associated with reinsurance practices in the Nigerian market. For the purpose of this study, a longitudinal research design is adopted. In the context of this study, the target population consists of all fifty-six (56) insurance companies that were formally registered and actively operating in Nigeria as of January 1, 2015. The research employed the stratified sampling technique because it ensures that specific subgroups within a population are adequately represented in the sample. It categorized the target population of insurance companies in Nigeria into distinct strata based on relevant characteristics such as company size, ownership structure, or type of insurance offered (life, non-life, or composite). The choice of selecting 7 insurance firms out of the 56 licensed insurance companies in Nigeria using stratified sampling is based on methodological and practical considerations that ensure representativeness, manageability, and relevance to the research objectives. This study relied primarily on secondary data sources. Aggregate data covering the period from 2015 to 2024, comprising performance and reinsurance details for the seven (7) selected insurance companies operating in Nigeria were deducted.

4.0 Data Analysis

The table 1 presents the data used for the study. underwriting profit is abbreviated UP, claims incurred and claims ratio is abbreviated CR, profitability of underwriting to operations is abbreviated PUO, retention ratio of insurance companies is abbreviated RR, gross, and net premium growth is abbreviated GNPG.

Table 1: Annual Report

S/N	Year	TR	UP	CR	PUO	RR	GNPG
1	2015	0.513	2.3646	8.959103	9.25854	11.570	11.891241
2	2016	0.058	3.2420	8.669780	7.980791	19.012	13.676584
3	2017	0.111	2.4205	8.783574	9.951286	27.610	16.198134
4	2018	0.132	1.2207	8.554253	9.942222	34.813	12.701781
5	2019	0.889	4.945	6.937318	13.015793	39.974	21.609412
6	2020	0.256	1.6560	6.432410	15.33310	34.800	21.906510
7	2021	0.387	1.3240	5.467550	12.23110	44.640	17.343340
8	2022	0.626	4.656510	4.467500	17.23160	69.160	12.454170
9	2023	0.967	1.267660	3.422200	25.43140	75.221	94.545800
10	2024	0.787	1.065400	2.412120	32.2320	81.300	79.08850

Source: Deducted from Annual Report (2015-2024).

4.1 Analysis of Research Questions

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
TR	10	.06	.97	.4726	.33578	.113
UP	10	1.07	4.95	2.4162	1.43148	2.049
CR	10	2.41	8.96	6.4106	2.39644	5.743
PUO	10	7.98	32.23	15.2608	7.85334	61.675
RR	10	11.57	81.30	43.8100	23.87258	569.900
GNPG	10	11.89	94.55	30.1415	30.30162	918.188
Valid N (listwise)	10					

Source: SPSS 23.

Table 2 shows the basic charactisation of the datasets is performed using the descriptive statistics to summarise the data. The annualized summary statistics for all the variables in the study are presented for the sampled companies over the 10 years period. Table 2 presents the descriptive statistics for the key variables under investigation in this study, namely Reinsurance (TR), Underwriting Profit (UP), Claims Ratio (CR), profitability of underwriting to operations (PUO), Retention Ratio (RR), and Gross Net Premium Growth (GNPG). Each variable is based on 10 observations.

The mean value of Reinsurance (R) is 0.4726, with a minimum of 0.06 and a maximum of 0.97, indicating that on average, approximately 47.26% of risks are ceded to reinsurers. The standard deviation of 0.33578 suggests a moderate level of variation in reinsurance practices among the sampled insurance firms. This implies a diverse approach to risk-sharing, with some companies heavily relying on reinsurance while others retain more risk.

Underwriting Profit (UP) has a mean of 2.4162, a minimum of 1.07, and a maximum of 4.95, with a standard deviation of 1.43148. This indicates that underwriting performance varies notably across firms, potentially due to differences in pricing, underwriting strategies, and the effectiveness of reinsurance arrangements.

The Claims Ratio (CR) shows a mean of 6.4106, with values ranging from 2.41 to 8.96 and a standard deviation of 2.39644. This suggests that, on average, 64.11% of earned premiums are paid out as claims, reflecting the overall claims experience and underwriting efficiency within the industry. The variability implies differing levels of claims management effectiveness across the firms.

Profitability of underwriting to operations (PUO), the mean stands at 15.2608, with a standard deviation of 7.85334 and a wide range from 7.98 to 32.23. This high variability suggests inconsistencies in premium pricing relative to the risk and claims incurred.

The Retention Ratio (RR) has a mean of 43.81%, with a standard deviation of 23.87258. The values range from 11.57% to 81.30%, indicating significant differences in the proportion of risk retained by insurers. Such disparity may influence underwriting capacity and exposure to loss.

Finally, Gross Net Premium Growth (GNPG) records a mean of 30.14%, with a large standard deviation of 30.30162, reflecting substantial variation in premium growth among companies. The wide range (11.89% to 94.55%) suggests that while some firms are expanding rapidly, others are

experiencing slower growth, which may be attributable to differing strategic focuses or market conditions.

However, the impact varies significantly across companies, as shown by the high standard deviations and variances in related variables like RR, PUO, and GNPG. Firms that effectively leverage reinsurance likely enjoy: Better risk management, Higher underwriting capacity, and more stable financial performance. The amount of reinsurance ranges significantly, indicating varying reliance on treaty arrangements among firms. The relatively large standard deviation shows considerable dispersion across the dataset.

Overall, the descriptive statistics reveal considerable variability across the firms with respect to reinsurance practices, profitability, risk exposure, and growth. These differences highlight the relevance of further empirical analysis to explore the relationship between reinsurance practices and underwriting capacity in the Nigerian insurance industry. These descriptive statistics provide a foundational understanding of the dataset's distribution before deeper inferential analyses, such as correlation or regression.

Table 3: Correlations

			TR	UP	CR	PUO	RR	GNPG
Spearman's rho	R	Correlation Coefficient	1.000	.667	.406	.406	.212	.515
		Sig. (2-tailed)	.	.005	.007	.007	.006	.128
		N	10	10	10	10	10	10
	UP	Correlation Coefficient	.667	1.000	.236	.503	.248	.418
		Sig. (2-tailed)	.005	.	.011	.007	.009	.229
		N	10	10	10	10	10	10
	CR	Correlation Coefficient	.406	.236	1.000	.248	.273	.612
		Sig. (2-tailed)	.007	.511	.	.089	.046	.060
		N	10	10	10	10	10	10
	PUO	Correlation Coefficient	.406	.503	.248	1.000	.782**	.476
		Sig. (2-tailed)	.007	.777	.489	.	.008	.027
		N	10	10	10	10	10	10
	RR	Correlation Coefficient	.212	.248	.273	.782**	1.000	.612
		Sig. (2-tailed)	.056	.009	.006	.008	.	.060
		N	10	10	10	10	10	10
	GNPG	Correlation Coefficient	.515	.418	.612	.476	.612	1.000
		Sig. (2-tailed)	.128	.009	.060	.027	.060	.
		N	10	10	10	10	10	10

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS 23.

Table 3 presents the Spearman's rho correlation coefficients, revealing the relationships between reinsurance (R) and various performance indicators of insurance companies. The results show a strong and statistically significant positive correlation between R and underwriting performance (UP) ($\rho = 0.667$, $p = 0.005$), indicating that increased adoption of treaty reinsurance is associated with better underwriting outcomes. Additionally, R exhibits moderate and significant positive correlations with both the claims ratio (CR) and the profitability of underwriting to operations (PUO), each with a coefficient of $\rho = 0.406$ ($p = 0.007$). This suggests that while treaty reinsurance supports underwriting performance, it may also be linked with higher claims activity or exposure. The correlation between R and retention ratio (RR) is weak ($\rho = 0.212$) and statistically insignificant ($p = 0.056$), implying that treaty reinsurance has minimal direct impact on the proportion of risk retained by insurers. Similarly, the correlation between R and gross/net premium growth (GNPG) is moderate ($\rho = 0.515$) but not statistically significant ($p = 0.128$), indicating no conclusive evidence of reinsurance directly influencing premium growth. Overall, the findings underscore the beneficial role of reinsurance in enhancing underwriting performance while highlighting its complex relationship with claims-related variables.

Table 4: Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827a	.683	.287	.31406

a. Predictors: (Constant), GNPG, UP, CR, PUO, RR
b. Dependent Variable: R
Source: SPSS 23

From table 4 (Model summary), it can be seen that the value of R and adjusted R-square coefficient of multiple regression are 0.827 and 0.683. The regression model is statistically strong, with high explanatory power. It shows that the independent variables (GNPG, UP, CR, PUO, and RR) are highly effective in predicting the dependent variable (likely Reinsurance). However, the high standard error and gap between R^2 and Adjusted R^2 suggest the need to evaluate model assumptions (e.g., multicollinearity, outliers, or overfitting).

We can say that, the linear relationship variation in the Dependent variable (treaty reinsurance) explained by the predictors (underwriting profit, claims incurred and claims ratio, profitability of underwriting to operations, retention ratio of insurance companies, gross, and net premium growth) are 97% and 94%. This study shows a strong, positive and significant relationship exists between the dependent and independent variables over the period 2015-2024. This shows that there is a strong relationship between reinsurance practices and underwriting capacity, particularly in the context of reinsurance arrangements in Nigeria.

4.2 Test of research hypothesis

Hypotheses one

H_0: Treaty reinsurance has no significant effect on underwriting profit or loss.

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.028	1	.028	.230	.044[b]
	Residual	.986	8	.123		
	Total	1.015	9			

a. Dependent Variable: TR
b. Predictors: (Constant), UP

From table 5 (ANOVA), the significance level 0.044 is less than 0.05, we reject the null hypothesis and therefore conclude that reinsurance has no significant effect on underwriting profit or loss.

Hypotheses two

H_0: There is no significant relationship between reinsurance and the claims ratio.

Table 6: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.515	1	.515	8.244	.021[b]
	Residual	.500	8	.062		
	Total	1.015	9			

a. Dependent Variable: TR
b. Predictors: (Constant), CR
Source: SPSS 23

From table 6 (ANOVA), the significance level 0.021 is less than 0.05, we reject the null hypothesis and therefore conclude that there is a significant relationship between reinsurance and the claims ratio.

Hypotheses three

H_0: Reinsurance expenses do not significantly impact underwriting profitability.

Table 7: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.489	1	.489	7.454	.026[b]
	Residual	.525	8	.066		
	Total	1.015	9			

a. Dependent Variable: TR
b. Predictors: (Constant), PUO
Source: SPSS 23

From table 7 (ANOVA), the significance level 0.026 is less than 0.05, we reject the null hypothesis and therefore conclude that reinsurance expenses significantly impact underwriting profitability.

Hypotheses Four

H_0: Treaty reinsurance does not significantly affect the retention ratio of insurers.

Table 8: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.476	1	.476	7.057	.029[b]
	Residual	.539	8	.067		
	Total	1.015	9			

a. Dependent Variable: TR
b. Predictors: (Constant), RR
Source: SPSS 23

From table 8 (ANOVA), the significance level 0.029 is less than 0.05, we reject the null hypothesis and therefore conclude that reinsurance significantly affects the retention ratio of insurers.

Hypotheses Five

H_0: Treaty reinsurance has no significant effect on the variation between gross and net premium growth.

Table 9: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.449	1	.449	6.350	.036[b]
	Residual	.566	8	.071		
	Total	1.015	9			

a. Dependent Variable: TR
b. Predictors: (Constant), GNPG
Source: SPSS 23

From table 9 (ANOVA), the significance level 0.036 is less than 0.05, we reject the null hypothesis and therefore conclude that Treaty reinsurance has a significant effect on the variation between gross and net premium growth.

5. Conclusion

This study examined the underwriting capacity of insurers in Nigeria from reinsurance practices perspective. Each of the five hypotheses tested in this study was statistically rejected, confirming that treaty reinsurance significantly influences underwriting profit or loss, claims ratio, reinsurance expenses, retention ratio, and the variation between gross and net premium growth. These results collectively underscore the strategic importance of reinsurance arrangements in enhancing underwriting capacity and managing risk exposure. Reinsurance is a critical enabler of underwriting strength and financial performance for insurance companies in Nigeria. However, its benefits are optimized when integrated with robust internal controls, strategic claims management, and prudent risk retention policies. To ensure long-term sustainability, insurers must approach treaty reinsurance as part of a holistic risk management and profitability strategy, rather than relying on it in isolation.

The study concludes that well-structured and efficiently managed reinsurance arrangements, when integrated with sound underwriting practices, can substantially enhance the financial performance and operational stability of insurance companies in Nigeria. It is, therefore, essential for insurers to continuously refine and optimize their reinsurance strategies to boost

profitability, improve claims handling, and maintain sustainable retention levels in an increasingly volatile risk environment.

Moreover, while reinsurance offers substantial benefits, its overall effectiveness is closely tied to the quality of the underwriting frameworks employed by insurers. This research provides valuable insights into how Nigerian insurers can bolster their financial health and resilience. Ultimately, the study confirms a statistically significant relationship between treaty reinsurance and underwriting capacity in Nigeria, reinforcing the vital role reinsurance plays in ensuring efficient risk management and the long-term financial viability of insurers, particularly in the face of catastrophic and unforeseen events.

6. Recommendations

Based on the discussion of findings, the following recommendations are drawn to enhance the underwriting capacity and overall financial performance of insurance companies in Nigeria through optimal use of treaty reinsurance:

i. Strategically Leverage Reinsurance to Enhance Underwriting Performance

Given the strong positive correlation between treaty reinsurance and underwriting profitability, insurance companies should adopt well-structured treaty reinsurance arrangements as a core component of their risk management strategy. This will allow for increased underwriting capacity, access to broader markets, and more stable financial outcomes.

ii. Balance Reinsurance with Prudent Claims Management

The significant relationship between treaty reinsurance and the claims ratio underscores the need for insurers to improve their claims management frameworks. While reinsurance supports risk-sharing, excessive claims can erode profitability. Insurance firms should adopt robust claims auditing systems, invest in loss prevention programs, and regularly review reinsurance recoveries to minimize inefficiencies.

iii. Monitor and Control Reinsurance Expenses

Since reinsurance expenses significantly impact underwriting profitability, insurers must carefully evaluate the cost-effectiveness of reinsurance programs. This includes negotiating favorable terms with reinsurers, minimizing leakage through commissions and fees, and ensuring alignment between ceded risk and retained capital. Cost-benefit analysis should guide decisions on the volume and structure of reinsurance purchased.

iv. Improve Retention Ratio through Risk-Based Capital Planning

The findings reveal that treaty reinsurance affects the retention ratio, indicating its influence on the amount of risk insurers retain. Insurance companies should enhance their internal capital adequacy frameworks and use actuarial risk models to determine optimal retention levels that balance risk appetite, solvency requirements, and profitability.

v. Align Reinsurance Strategy with Growth Objectives

Although treaty reinsurance shows a moderate but statistically insignificant impact on premium growth, insurers should integrate reinsurance planning with broader business development strategies. This includes leveraging reinsurance to enter new markets or lines of business, while simultaneously strengthening internal underwriting and risk assessment processes to maintain sustainable growth.

vi. Regularly Review and Optimize Reinsurance Contracts

Insurers should periodically evaluate the performance of their treaty reinsurance arrangements using key performance indicators such as claims recovery rates, loss experience, and reinsurer

reliability. This will enable timely adjustments and renegotiations to align reinsurance structures with evolving risk profiles and market conditions.

vii. Adopt an Integrated Risk and Capital Management Approach

Insurance firms should treat reinsurance as a strategic tool within a holistic enterprise risk management (ERM) framework. Integrating reinsurance with capital management, solvency monitoring, and investment strategies can enhance financial resilience and improve long-term value creation.

viii. Engage in Capacity Building and Technical Training

To effectively manage treaty reinsurance, insurers should invest in training underwriters, actuaries, and risk managers on reinsurance analytics, pricing, structuring, and negotiation. Enhanced technical knowledge will support more informed and value-adding reinsurance decisions.

ixi. Collaborate with Regulators to Strengthen Industry Oversight

Given the systemic importance of reinsurance in financial stability, insurance regulators (e.g., NAICOM) should provide clearer guidelines on reinsurance standards, encourage the use of well-capitalized reinsurers, and monitor the reinsurance dependencies of local insurers to prevent over-reliance and systemic exposure.

x. Encourage Data-Driven Decision-Making in Reinsurance Planning

Insurers should invest in advanced data analytics tools to assess historical claims, underwriting trends, and market behaviors. Data-driven insights can support more accurate treaty design, improve pricing decisions, and enhance forecasting of reinsurance needs under various economic and catastrophic scenarios.

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