

## EVALUATING THE IMPACT OF RISK ON FINANCIAL PERFORMANCE OF LISTED INSURANCE FIRMS IN NIGERIA

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### **Abstract**

*This study examined the risk and financial performance of listed insurance firms in Nigeria for the period of ten (10) years from 2015 to 2024. The population of the study consists of 16 insurance firms listed on the floor of the Nigerian Stock Exchange as at 31st December 2024. Secondary data was extracted from the audited financial reports of the sampled insurance firms. The data was analyzed using the regression model. The study findings revealed that solvency risk is positively and significantly influencing the financial performance of listed insurance firms in Nigeria. Conversely, reinsurance risk revealed a statistically insignificant negative impact on financial performance. The study concluded that solvency risk has a strong association with the financial performance of the firms for the period. The study recommends that Insurance firms should strive to maintain adequate net income which can cover their total liabilities as they fall due. Furthermore, policymakers in government should formulate economic and financial policies with due cognizance of factors that can affect an insurance firm's performance. This requires a holistic view to policy formulation to ensure that cost trade-offs are considerably minimized in all strata of the economy.*

**Keywords:** Financial performance solvency risk, reinsurance risk, insurance

### **INTRODUCTION**

Financial performance refers to the degree to which business goals are being achieved. It is the method of assessing the outcomes of firms' strategies and operations in monetary terms. It is used to measure firms' overall economic health over a given period. It can also be used for comparisons of similar firms across the same industry or to compare industries or sectors in aggregate. Profitability relates to the measurement of the operating efficiency of corporations. The profitability ratio evaluates efficiency of organizations using their assets to determine the net earnings, which focuses on the return on equity which focuses on return to the shareholders' wealth of an enterprise. Organizations have various measures of financial performance. However, the common measures of financial performance are the Return on Assets (ROA) and Return on Equity (ROE). Profitability's information is vital for decision making and it is used by stakeholders of the companies, such as managers, investors and financial analysts, as a yardstick for dividends payment, a management efficiency instrument and a mechanism for decision making evaluation (Azam, 2017).

Firm's profitability enables the firm to withstand competition and the challenges emanating from the industry. Profitability is one of the reasons for firm's existence, and it is one of the

most important objectives of the firm. This is true because financial management focuses on the maximization of the owner's wealth, and profitability is employed as one of the parameters to measure firms' performance in this regard. Profit earnings help firms to survive and expand over time (Akpan et al., 2020). The profitability of insurance firms in financial terms is normally expressed in net premium earned, profitability from underwriting activities, annual turnover, return on investment and return on equity. These measures can be classified as profitability measures and investment profitability measures (Akpan, et al 2020).

Insurance plays very important role in the development of the economy, efficient allocation of resources, reduction of transaction costs, creating liquidity, promoting investments and distribution of financial losses. It also plays a prominent role in the country's economy through risk bearing and payment of taxes Hamadu & Mojekwu, (2010). The insurance business is arguably the lead player in the Nigeria's risk management system. Aside from ensuring financial security, the insurance industry contributes significantly to the financial intermediation chain, and offers a ready source of long-term capital for infrastructural projects. Augustine & Nwameka, (2011).

The risk businesses include the insurance companies and as such encompass all sorts of risks ranging from individuals, businesses and companies. In order to avoid losses due to the compensation claims made by the insured, it is necessary that insurance companies manage their likelihood of negative outcomes and conduct the right analysis to avoid losses due to the compensation claims made by the insured. However, Saeed & Khurram (2015) argued that the role of insurance companies and other financial institutions is to create an effective and efficient monetary framework through risk transfer, intermediation and mobilization of savings in the economy.

Burca & Batrinca (2014) elucidated that profitability boosts the solvency of insurance firms which is crucial for encountering financial risk and meeting financial obligations toward potential policyholders. As a result, insurance companies are able to meet both long-term and short-term obligations. As loss reserves signify the largest liability on insurers' balance sheets, under-reserving reduces reported liabilities, increases insurers' surplus, and therefore enables insurers to emerge less risky than otherwise would be the case. Therefore, solvency margin is expected to influence financial performance of firms.

The concept of reinsurance was introduced in order to hedge the possible risks of the future which may or may not take place. Scholars and practitioners (Abass & Obalola, 2018; Soye & Adeyemo, 2017; Aduloju & Ajemunigbohun, (2017) established that, reinsurance is antecedents of so many variables, prominent among include, net claim ratio, net commission ratio, net retention ratio and ratio of ceded reinsurance. These proxies of reinsurance have been reported to be correlated with sustainability and financial performance of insurance companies. (Soye et al, 2017). However, these variables of reinsurance have been identified as major determinants of the survival and sustainability of insurance companies. Not only that, these four determinants of reinsurance depend on one another as one of them cannot work independently to influence financial performance. Gradually, it has evolved from a risk management tool to a value-added component of the insurance process. In fact, such financial losses are so substantial that it might cripple an insurance company and compel into bankruptcy. Reinsurance, as such, spread the risk of catastrophic loss, which might bankrupt the ceding insurer.

The insurance industry is based on the principle of trades in risk, Kumar et al (2022). Thus, this study is motivated by the series of reforms in the Nigerian insurance industry on one hand and

the inadequate empirical studies of the determinants of financial results in insurance companies in Nigeria. The insurance industry in Nigeria has undergone a series of reforms since the beginning of this millennium, which includes the recapitalization programs in 2003 and 2007, but despite these reforms aimed at improving industry operations, the Nigerian insurance industry has experienced a slow growth rate compared to its counterpart in other countries.

The insurance industry is based on the principle of trades in risk, [Kumar et al \(2022\)](#), thus this study is motivated by the series of reforms in the Nigerian insurance industry on one hand and the inadequate empirical studies of the determinants of financial results in insurance companies in Nigeria. For example, in 2018, twenty five (25) out of fifty eight (58) registered insurance companies in Nigeria voluntarily sought for recapitalization process due to their inability to play in high risk market especially in the energy and aviation sectors. Inadequate capacity had further been observed by the nation's regulatory body, National Insurance Commission (NAICOM).

The financial reports of the insurance firms suggested that, some of the insurance companies had some challenges bothering inability to declare meaningful profit. Notably among these firms are: Africa Alliance Insurance Plc reported a net loss of ₦7.2 billion naira in 2019, Corner Stone Insurance Plc also recorded a net loss in two consecutive periods of 2017 and 2016 amounting to ₦2.5 billion and ₦1.8 billion naira respectively, and more recently, Guinea Insurance Plc in its 2019 and 2020 financial year declared a net loss of ₦227.073 million naira and ₦795.0422 million naira respective, and finally, Niger Insurance Plc also declared a net loss within the same period of 2019 and 2020 amounting to ₦1.18 billion naira and ₦1.69 billion naira respectively.

Moreover, the Nigeria Bureau of Statistics assessment of the insurance firms revealed a 15.3% contraction in the general financial performance of Nigeria insurance firms, ([NBS, 2021](#)). This forms a practical issue the study intends to investigate. Furthermore, to the best of the researcher's knowledge, most of the studies conducted to measure risk and financial performance of insurance companies were carried out in developed economies, such studies include the works of [Kumar et al \(2022\)](#), [Salaudeen, et al \(2020\)](#), [Alomari & Ozzam \(2017\)](#). The socio-cultural difference between developed and developing countries limit the applicability of findings of these studies to developing countries as recommended by [Li & Gu \(2018\)](#) that differences in economies is a significant gap in literature. Therefore, this constitutes an environmental gap this study will address. To find solution to the research problems, this study intends to answer the questions; does risk influence the financial performance of listed insurance firms in Nigeria? It is premised on the aforementioned problem that this study seeks to ascertain the impact of risk through solvency risk and reinsurance risk in the Nigeria insurance firms' financial performance. The specific objectives are as follows:

- i. To evaluate the impact of solvency risk on the financial performance of listed insurance firms in Nigeria.
- ii. To determine the impact of reinsurance risk on the financial performance of listed insurance firms in Nigeria.

## LITERATURE REVIEW

This section presents the definitions and review of extant related studies of other authors in the related topic.

## 2.2. Conceptual Issues

The bank's financial success can be viewed from the shareholders' perspective as the difference between revenue and costs. It demonstrates that the bank's management seeks to increase sales and reduce costs in order to increase profit, [Olufemi & Sunmisola \(2022\)](#). [Bekhet, et al \(2020\)](#) defined financial performance as a process of measuring the results of a firm's policies and operations in monetary terms. They further asserted that, it is used to measure firm's overall financial health over a given period of time and to compare similar firms across the same industry as well as industries or sectors in aggregation.

[Yeasin \(2022\)](#) defined financial performance as an estimate or measurement of money and profit from the continuing operation which means a company's ability to generate more resources, from continuing operations it made over a specific time

**Concept of Risk:** The risk level of an insurance firm is significant in determining its profitability because all firms operate with a level of risk. Following previous research work in this context, the risk level of insurance firms is measured by the proportion of claims paid from the net premium earned per time, and a positive relationship is expected to lie between risk level and profitability of insurance companies. It is captured by the ratio of claims paid over net premium earned [Olawaju, & Odunayo \(2018\)](#).

**Concept of Solvency Risk:** [Dabo, et al \(2018\)](#) described solvency risk as the capability of a corporation to meet its long-term fixed operating cost and to carry out long-term development and growth. They added that, solvency is the ability or capacity of a corporation to meet its long-term fixed expenses and to accomplish long-term expansion and growth. Solvency of greater than 20 percent is considered financially healthy. [Elsayed \(2020\)](#) defined solvency risk as the amount of capital that is measured by net assets over net written premiums. Solvency margin must be sufficiently large to cover all the risks to which the concern is liable, within certain limits. Solvency refers to capability of firms meeting their long-term obligations and sustains continued growth and expansion ([Mukino, 2018](#)). Solvency measures the amount of borrowed capital used

by the business relative to the amount of owner's equity capital invested in the business, ([Ironkwe et al. 2019](#)).

**Concept of Reinsurance Risk** [Oluwaleye et al., \(2023\)](#) Reinsurance risk is an essential mechanism that insurance companies may use in order to mitigate risks and minimize uncertainty. Reinsurance provides ceding companies with the option to achieve a more stable portfolio and mitigate fluctuations in yearly accounts. Reinsurance as such spread the risk of catastrophic loss, which might bankrupt the ceding insurer [Mukherjee et al., \(2020\)](#). The concept of reinsurance was introduced in order to hedge the possible risks of the future which may or may not take place. Scholars and practitioners [Abass & Obalola, \(2018\)](#).

## 2.3. Empirical Review

[Yahiaoui & Mahdi \(2020\)](#) examined the determinants of financial performance of non-life insurance companies in Algeria for a period of nine years (2010- 2018). The analysis of the results is based on a multiple regression model. The findings of this study indicated that the company size, liquidity ratio and solvency ratio has a statistically significant impact on financial performance of non-life insurance companies measured by return on assets (ROA). In which

company size and liquidity ratio showed a positive impact while, solvency ratio indicated a negative impact.

Alomari (2020) explored the effect of liquidity and solvency on the profitability of the pharmaceutical sector of Jordan. Secondary data were collected from Amman Stock Exchange financial reports for the pharmaceutical sector. Linear regression was employed with the help of SPSS software in analyzing the data of the study. The study concluded that profitability calculated by ROA (Return on Assets), has a negative relationship with liquidity calculated by current ratio and a positive relationship with solvency calculated by debt/ equity ratio. The study recommended that companies in the pharmaceutical industries sector should follow policies of liquidity to achieve balance between the performance indicators.

Deyganto & Alemu (2019) analyzed the factors affecting the financial performance of insurance companies in Hawassa City Administration of Ethiopia. The sample of the study consisted of six general insurance companies out of a population of 17 insurance companies for 10 years, from 2008 to 2018. The result of the study showed that underwriting, premium growth rate, solvency ratio, GDP growth rate, and inflation rate, have a significant impact on the financial performance of the sample insurance companies. Whereas reinsurance dependency, company size and interest rate do not influence financial performance significantly.

Dabo, et al (2018) conducted a research on solvency risk and financial performance: Evidences from listed firms in Nigeria covering the period seven (7) years from 2010 to 2016. Census sampling design was used to determine the sample size and simple regression analysis was employed to analyze the data. The study found that solvency risk is significant and positively influence on the listed insurance firm's performance (return on asset) in Nigeria. The study focused on all listed insurance firms using only solvency risk variable but the current study is on all the listed insurance companies using six variables. The seven years chosen for this study is not enough to give a generalize findings of the study and if they could have used ten years the result might have been better than that.

Li & Gu (2018) in their study on factors affecting the solvency of property insurance companies in China, did not find a significant correlation between the net profit margin of property - liability insurance companies and solvency and pointed out that property - liability insurance companies should reduce the loss ratio and asset-liability ratio, rather than excessively pursue the improvement of profitability to enhance solvency

Salaudeen, et al (2021) examined hedging risk through reinsurance in the Nigerian insurance companies. Ten insurance companies out of the fifty eight registered companies were randomly selected for this study. Data was analyzed via regression analysis. The results revealed that, the net claim ratio, net commission ratio, net retention ratio and ratio of ceded reinsurance all have significant impact on performance of insurance companies in Nigeria. The study concluded that, hedging through reinsurance has an effect on the profitability of insurance companies in Nigeria. Recommendations were proffered in line with the findings of the study.

Cummins, et al (2021) analyzed empirically the costs and the benefits of reinsurance for a sample of U.S. property-liability insurers (554 insurers between 1995 and 2003). The results show that reinsurance purchase increases significantly the insurers' costs but reduces significantly the volatility of the loss ratio. With purchasing reinsurance, insurers agree to pay higher costs of insurance production to reduce their underwriting risk.



Fali, et al (2020) investigated the effect of insurance specific risks on profitability in Nigeria using a sample size of 19 firms. The study used Ex-Post Facto Research Design and secondary data was collected. The results showed that the technical provision and the underwriting risk had a negative and significant impact on profitability. In contrast, the reinsurance risk had a negative and insignificant impact on profitability. The study concluded that an increase in technical provision and risk underwriting will lead to a poor profitability of the insurance companies listed in Nigeria. The study recommended that insurance companies in Nigeria should make sufficient provision for outstanding claims by conducting an adequate assessment of their liabilities and also taking into account past experience to develop a comprehensive procedure for effectively monitoring and controlling their outstanding claims.

Hafez (2020) did a study to determine the effect of reinsurance operations on the financial performance of non- life insurance companies in Egypt using secondary data of 9 non- life insurance companies during the period from 2008 until 2016. The study found significant and negative relationship between financial performance of insurance and reinsurance debt, foreign reinsurer premium, the ratio of reinsurance, the ratio of retention, size and financial leverage by the fixed effect model, and significant and positive relationship between size and ROE, and significant and negative relationship between age and ROE by the random effect model.

Abass & Ojikutu (2019) investigated the nexus between capital and demand for reinsurance by non-life insurance companies in Nigeria. The study employed longitudinal descriptive research design using stratified sampling technique. The study adopted structural equation mode using panel vector autoregressive framework and Granger causality test. The results showed that demand for reinsurance by non-life insurance companies in Nigeria is highly dependent on their availability of capital. The study recommended that non-life insurance companies in Nigeria must consider availability of capital adequacy before assuming risks.

## Theoretical Review

Several theories ( Agency theory, Risk return trade-off theory, Asymmetric information theory, Credit risk theory) are relevant to this study. But this study is anchored on Risk Return Trade-off theory which is highly relevant in modern financial institutions, it helps insurance institutions understand and manage risk effectively in order to optimize this tradeoff, improving financial outcomes. Higher risk is generally associated with the potential for higher returns.

## METHODOLOGY AND MODEL SPECIFICATION

The study adopted correlation research design. This design is chosen and considered appropriate because of its ability to describe the statistical associations between two or more variables and allows for making predictions by testing of expected relationship between variables and the data used for the study are not meant solely for the study. The population of the study consists of the twenty-two (22) insurance firms listed in the Nigeria Stock Exchange as at 31<sup>st</sup> December, 2024. However, the study used certain filters to arrive at the sample size of the study. Thus, only insurance firms with a complete data were selected as a sample size of the study to enable the researcher access to a balance panel data. Therefore, the sample size of the study is sixteen (16) insurance firms. The study used secondary data which was extracted from the audited financial reports of the sample insurance firms for the periods of ten years (2015-2024). The data was analyzed using the multiple regression technique. This technique is considered appropriate in view of the fact that it helps in establishing a relationship between variables and also the effect cause and the relationship between the variables.

The model of the study encapsulates the contribution of solvency risk (Net Income//Total Liabilities), reinsurance risk (ratio of net premium to total assets) and return on equity (profit after tax / total equity) of listed insurance firms in Nigeria. It is mathematically represented thus:

$$ROE_{it} = \beta_0 + \beta_1 SR_{it} + \beta_4 RIR_{it} + \varepsilon_{it}$$

Where:

ROE = Return on Equity

SR = Solvency Risk

RIR = Reinsurance Risk

$\beta_0$  = Constant term,

$\beta_1 - \beta_4$  = Coefficients of independent variables

$\varepsilon$  = Error Term.

i = Firm (insurance)

t = Time

## RESULTS AND DISCUSSION

This section analyzes and presents the data of the study. It begins with descriptive statistics analysis, correlation matrix, diagnostic test of the study and presentation and discussion of the regression result.

### Descriptive Statistics

The summary of the descriptive statistics of the variables is presented in Table 1, where the minimum, maximum, mean, and standard deviation are described.

**Table 1: Descriptive Statistics Result**

Variables	Obs.	Min.	Max.	Mean	Std. Dev.
ROE	160	-13.1857	1.3498	-0.0818	1.2384
SR	160	-1.1481	0.6995	0.0477	0.1758
RIR	160	0.0541	4.6282	0.7726	0.8728

Source: STATA Output, 2024

The Table revealed that the return on equity of listed insurance firms in Nigeria has a mean value of -0.0818 with standard deviation value of 1.2384 and minimum and maximum values stood at -13.1857 and 1.3498 respectively. This implies that the average alteration of listed insurance firms in Nigeria by managers is -0.0818 and the standard deviation from both sides of the mean is 1.2384. The minimum value of return on equity is -13.1857 which indicate that the least return on equity by the management of listed insurance firms in Nigeria will not cause significant distortion in the financial statement. However, the maximum return on equity value of 1.3498 entails a condition where the financial performance is covered by the distortion in

the financial statement of listed insurance firms in Nigeria. The minimum ROE observed is -13.1857, indicating some instances of significant losses. The maximum ROE observed is 1.3498, suggesting some instances of relatively high returns. On average, the ROE is slightly negative (-0.0818), implying that, overall, the insurance firms may not be performing very well in terms of generating returns on equity.

The average of solvency risk of listed insurance firms in Nigeria is 0.0477, with a minimum value of -1.1481 and maximum value of 0.6995 respectively. Also, solvency risk revealed a standard deviation value of 0.17582 which implies that there is dispersion of data from the mean. Hence the data is normal. The mean value is positive (0.0477), suggesting that, on average, the insurance firms are maintaining some level of sustainability. The standard deviation is relatively low (0.1758), indicating limited variability around the mean.

Reinsurance risk of listed insurance firms in Nigeria revealed an average value of 0.7726 with minimum and maximum values of 0.0541 and 4.6282 respectively. The standard deviation value of 0.8728 implies that there is dispersion of data from the mean. This implies that the rate of return required by investors for assuming risk. The mean reinsurance risk is 0.7726, indicating the average expected return for the risk undertaken. The standard deviation suggests some variability in reinsurance risk in listed insurance firms in Nigeria.

### Correlation Matrix

The correlation matrix explains the degree of relationship between the dependent and independent variables of the study as well as the independent variables among themselves. The summary of the associations among the variables of the study is presented in [Table 2](#).

**Table 2: Correlation Matrix**

VARS	ROE	SR	RIR
ROE	1.0000		
SR	0.2007*	1.0000	
	0.0110		
RIR	-0.0142	0.0055	1.0000
	0.8587	0.9451	

Source: STATA Output, 2024

The result in [Table 2](#) shows a positive association between solvency risk(SR) and return on equity(ROE) of listed insurance firms in Nigeria evident by the correlation coefficient of 0.2007 and a p-value of 0.0110 which implies that there is a weak positive correlation between SR and ROE.

Furthermore, the above table revealed that reinsurance risk (RIR) and ROE of the listed insurance firms in Nigeria is insignificantly and negatively correlated. This indicates that there is a very weak correlation between RIR and ROE of the sampled insurance firms in Nigeria for the period with a correlation coefficient of -0.0142 and p-value of 0.8587 respectively.

[Table 3](#) shows that  $R^2$  which is the combined coefficient of determination indicates the extent to which the independent variables jointly explain the total variation in the dependent variable. Thus, it signifies that 14.61% (0.1461) of the total variation in return on equity of listed insurance firms Nigeria is caused by solvency risk, liquidity risk, underwriting risk, reinsurance risk and risk management committee while the remaining 85.39% is explain by



other factors not captured in this model. This indicates that the explanatory variables are well selected and combined because the  $R^2$  satisfies the minimum rule of thumb. The analysis revealed that solvency risk is positively and significant at (5%) influencing the financial performance of listed insurance firms in Nigeria as indicated by a coefficient value of 1.1560 and p-value of 0.057. The result agreed with prior studies of Duniya, et al (2023), Elsayed (2020), Yahiaoui & Mahdi (2020), Dabo et al (2018), Amaya & Memba (2015). Conversely, the study did not agree with the findings of Li & Gu (2018), Ukpong & Folarin (2020). However, Reinsurance risk has a negative coefficient value of -0.0649 and an insignificant p-value of 0.567 which signifies that reinsurance risk is not influencing the financial performance of listed insurance firms in Nigeria. The result agreed with the studies of Fali et al (2020), Mukino (2018). However, the result did not agree with the finding of Aduloju & Ajenunibohun (2017), Cummins, et al (2021), Hafez (2020), Dansu & Obalola (2018).

**Table 3: Regression Results**

Variables	Coef	T-Value	P-Value
<b>Constant</b>	<b>0.0292</b>	<b>0.12</b>	<b>0.906</b>
<b>SR</b>	1.1560	1.96	0.057
<b>RIR</b>	-0.0649	-0.59	0.567
<b><math>R^2</math></b>			<b>0.1461</b>
<b>Wald Chi<sup>2</sup></b>			<b>11.22</b>
<b>Prob. Chi<sup>2</sup></b>			<b>0.04</b>

Source: STATA Output, 2024

### Policy Implications of the Findings

The findings of this study have policy implications particularly for the management and stakeholders of the listed insurance firms in Nigeria. The findings of the study have shed more light on the explanatory variables that have important effect in explaining the explained variable (financial performance) of listed insurance firms in Nigeria. Solvency risk was found to be doing enough in curbing solvency of the listed insurance firms in Nigeria. The implication of this finding is that having adequate solvency mechanisms will lessen solvency risk.

### CONCLUSION

This study examines two dimensions of risk of listed insurance firms in Nigeria. Therefore, the following conclusions were drawn which were built from the findings of the study.

- I. The study concludes that solvency risk is statistically significantly influencing the financial performance of listed insurance firms as observed by the significant positive relationship between solvency risk and financial performance of listed insurance firms in Nigeria.
- II. Though on Reinsurance risk, the study concluded that reinsurance risk is negatively and insignificantly influencing the financial performance of listed insurance firms in Nigeria

### RECOMMENDATIONS

Arising from the above and based on the outcome of the study, the study advances some recommendations for policy, practice and academic research. Insurance firms should strive to maintain adequate net income which can cover its total liabilities as they fall due. Furthermore,

policymakers in government should formulate economic and financial policies with due cognizance of factors that can affect an insurance firm's performance. This requires a holistic view to policy formulation to ensure that cost trade-offs are considerably minimized in all strata of the economy.

## REFERENCES

- Abass, O. A., & Obalola, M. A. (2018). Reinsurance utilization and performance of non-life business in the Nigerian insurance industry: A mixed methods approach. *The Journal of Risk Management and Insurance*, 22(2), 18–30.
- Abass, O. A., & Ojikutu, R. K. (2019). Interactions between capital and demand for reinsurance: An empirical study of non-life insurance business in Nigeria. *LASU Journal of Management Sciences*, 5(1), 42–53.
- Aduloju, S. A., & Ajemunigbohun, S. S. (2017). Reinsurance and performance of the ceding companies: The Nigerian insurance industry experience. *Economics and Business*, 31(1), 19–29. [\[Crossref\]](#)
- Akpan, S. S., Nnamseh, M. P., Etuk, S. G., Edema, A. J. M., & Ekanem, B. (2020). Managing the underwriting functions and profitability paradoxes of Nigerian insurers: A pooled panel model study. *International Journal of Innovation, Creativity and Change*, 144. [ijicc.net](http://ijicc.net)
- Alomari, M. W. (2020). The impact of liquidity, solvency on profitability: An analysis of Jordanian pharmaceutical industries sector. *II*(11), 767–770.
- Alomari, M. W., & Azzam, I. A. (2017). Effect of the micro and macro factors on the performance of the listed Jordanian insurance companies. *International Journal of Business and Social Science*, 8(2), 1–9. [ijbssnet.com](http://ijbssnet.com)
- Amaya, P. A., & Memba, F. (2015). Influence of risk management practices on financial performance of life assurance firms in Kenya: A survey of Kisii County. *International Journal of Economics, Commerce and Management*, 3(5), 979–996. [ijecm.co.uk](http://ijecm.co.uk)
- Augustine, U., & Nwanneka, J. M. (2011). Repositioning insurance industry for operational efficiency: The Nigerian case. *Journal of Applied Finance & Banking*, 1(3). [scienpress.com](http://scienpress.com)
- Azam, A. (2017). Measuring liquidity risk management and impact on bank performance in Iran. *Journal of Money and Economy*, 12(3), 295–315. [ime.ac.ir](http://ime.ac.ir)
- Bekhet, H. A., Alhyari, J. A., & Yusoff, N. Y. M. (2020). Highlighting determinants of financial performance of the Jordanian financial sector: Panel data approach. *International Journal of Financial Research*, 11(6), 237–252. [\[Crossref\]](#)
- Burca, A. M., & Batrinca, G. (2014). The determinants of financial performance in the Romanian insurance market. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(1), 299–308. [\[Crossref\]](#)
- Cummins, J. D., Dionne, G., Gagné, R., & Noura, A. H. (2009). Efficiency of insurance firms with endogenous risk management and financial intermediation activities. *Journal of Productivity Analysis*, 32(2), 145–159. [\[Crossref\]](#)
- Dabo, Z., Andow, H. A., & James, H. K. (2018). Solvency risk and financial performance: Evidences from listed insurance firm in Nigeria. *Crawford Journal of Business & Social Sciences*, 2, 125–133.
- Dansu, F. S., & Obalola, M. A. (2018). Reinsurance utilisation and dependence on the financial performance of non-life insurers: Evidence from Nigeria. *Studies and Scientific Researches: Economics Edition*, 28, 1–9. [\[Crossref\]](#)
- Deyganto, K. O., & Alemu, A. A. (2019). Factors affecting financial performance of insurance companies operating in Hawassa City Administration, Ethiopia. *Universal Journal of Accounting and Finance*, 7(1), 1–10. [\[Crossref\]](#)
- Duniya, M., Muurtala, A., & Miko, N. (2023). Nigerian Journals of Cooperative Economics and Management (NJCEM), 14(1), 161–168.

- Elsayed, M. (2020). The effect of company specific factors on the profitability of property and casualty insurance industry in Egypt. 427–466. [\[Crossref\]](#)
- Fali, I. M., Nyor, T., & Mustapha, L. O. (2020). Insurance specific risk and profitability: Evidence from Nigerian insurance firms. *International Journal of Accounting, Finance and Risk Management*, 5(3), 141–148. [\[Crossref\]](#)
- Hafez, H. M. (2020). The effect of reinsurance operations on the financial performance of non-life insurance companies in the Egyptian market: A quantitative study.
- Hamadu, D., & Mojekwu, J. N. (2010). An investigation of Nigerian insurance stock option prices. *Medwell Journals of International Business Management*, 4(1), 1–8. [\[Crossref\]](#)
- Ironkwe U., & Osaat A., (2019) Risk Asset Management and Financial Performance of Insurance Comanies in Nigeria. *International Journal of Advanced Academic Research Accounting Practice*. ISSN: 2488 – 9849 Vol. 5, Issue 4
- Kumar, R. R., Stauvermann, P. J., Patel, A., Prasad, S., & Kumar, N. (2022). Profitability determinants of the insurance sector in small Pacific Island States: A study of Fiji's insurance companies. *Inzinerine Ekonomika-Engineering Economics*, 33(3), 302–315. [\[Crossref\]](#)
- Li, W., & Gu, S. S. (2018). An empirical analysis of the factors affecting the solvency of property insurance companies in China. *Journal of Insurance Professional College*, 32(6), 19–23.
- Mukherjee, T., Gorai, P., & Sankar Sen, S. (2020). Financial performance analysis of GIC Re. *Vilakshan - XIMB Journal of Management*, 17(1/2), 181–195. [\[Crossref\]](#)
- Mukino, M. A. (2018). Effect of financial risks on the financial performance of listed insurance companies at Nairobi securities exchange [Unpublished master's thesis]. University of Nairobi. [uonbi.ac.ke](http://uonbi.ac.ke)
- Nigeria Bureau of Statistics (2021). Insurance Sector Update: Recapitalization another dead end. <https://www.proshareng.com>
- Olarewaju, O. M., & Odunayo, A. (2018). Firm-specific determinants of profitability in the insurance sector: Empirical evidence from Nigeria. *Issue 1*(37).
- Olufemi & Sunmisola (2022) . Financial Risk and Financial Performance of Deposit Money Banks in Nigeria. *Journal of Economics and International Finance*, 14(4), 112 - 119. [\[Crossref\]](#)
- Oluwaleye, T., Ajemunigbohun, S., & Abiodun, T. (2023). Underwriting operations and financial performance: Evidence from non-life insurance firms in Nigeria. *Business Economic, Communication, and Social Sciences*, 5(3), 167–176. [\[Crossref\]](#)
- Saeed, U., & Khurram, N. (2015). Factors influencing the financial performance of non-life insurance companies of Pakistan. *International Journal of Empirical Finance*, 4(6), 354–361. [ijeronline.com](http://ijeronline.com)
- Salaudeen, T. O., Salam, R. A., & Mudashiru, G. A. (2021). Hedging risk through reinsurance in the Nigerian insurance companies: Do the benefits outweigh the costs? *Global Journal of Education, Humanities and Management Sciences*, 3(1), 101–114. [globalacademicgroup.com](http://globalacademicgroup.com)
- Soye, Y. A., & Adeyemo, D. L. (2017). Evaluation of impact of reinsurance mechanism on insurance companies' sustainability in Nigeria. *International Journal of Research, Innovations and Sustainable Development*, 7(1), 1–14. [ijriss.org](http://ijriss.org)
- Ukpong, M. S., & Folarin, J. O. (2020). Financial risk and the valuation of life insurance companies in Nigeria. *European Journal of Management and Marketing Studies*, 5(2). [oapub.org](http://oapub.org)
- Yahiaoui, S., & Mahdi, O. (2020). The determinants of financial performance of non-life insurance companies in Algeria. *Journal of Business and Management Sciences*, 16(1), 60–77. [pubs.sciepub.com](http://pubs.sciepub.com)
- Yeasin, M. (2022). Impact of credit risk management on financial performance: A study of commercial banks in Bangladesh. *Interdisciplinary Journal of Applied and Basic Subjects*, 2(1), 14–22. [\[Crossref\]](#)