

## Analyzing the Impact of Liability Insurance on the Financial Performance of Insurance Companies in Nigeria

Isimoya, O. Augustine (Ph.D)<sup>1</sup> & Oluwaleye, Taiwo Olarinre<sup>2</sup>

<sup>1</sup>Department of Actuarial Science and Insurance, Faculty of Management Sciences,

University of Lagos, Nigeria. E-mail: [oisimoya@unilag.edu.ng](mailto:oisimoya@unilag.edu.ng)

<sup>2</sup>Department of Finance (Insurance Unit), Faculty of Management Sciences, Ekiti State University, Ado-Ekiti, Nigeria. E-mail: [taiwo.oluwaleye@eksu.edu.ng](mailto:taiwo.oluwaleye@eksu.edu.ng)

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### Abstract

*The insurance sector reforms in Nigeria sought to create a strong, diverse, and trustworthy industry that protects insured premiums, actively contributes to the country's economic progress, and participates in worldwide financial systems. Despite this development, insurance business operations and survival have not been impressive, and performance remains alarmingly poor. Therefore, this study investigates the effect of workers' compensation written premiums and workers' compensation claims paid of the chosen insurance companies' return on assets (ROA) in Nigeria. This study is a longitudinal research design. Secondary data obtained from the financial statement of five selected insurance firms in Nigeria over the year 2013 to 2022 were analysed with correlation analysis and panel regression estimation technique. The result of the study, based on Hausman verification, showed that workers' compensation written premium has a significant positive effect on RoA and that workers' compensation claims paid has a significant negative effect on RoA in Nigeria. Consequently, this investigation established that liability insurance is an important factor that may have been disturbing the performance of insurance firms in Nigeria, and must be treated with utmost care in the process of enhancing performance. Therefore, this study recommended among others that insurance firms need to increase the rate of client application towards workers' compensation insurance to realize increased levels of premium and income for performance-enhancing operations.*

**Keywords:** *Liability insurance, written premium, claim paid, insurance firms, Nigeria.*

**JEL Classification Codes:** *G22, G52*

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### 1.0 Introduction

In Nigeria, the insurance industry is an essential part of the country's financial sector, playing an important role in risk management and safeguarding finances for both individuals and businesses. It supports economic development, encourages financial stability, improves the well-being of people and organisations by minimising risks and encouraging long-term financial planning, creating job opportunities, and generates income for the government (Ogbeide, Adu, Fapohunda

& Obadeyi (2022). Liability insurance has become part of the important insurance policies of the insurance companies. Insurance policies are able to serve larger proportion of the economy through the liability insurance policies (Jia & Suijs, 2023). These financial related businesses serve the clients by covering the loss incurred by those related in one way or the other to the client in the occurrence of recognized damaging event. As risk bearer or sharer insurance companies through the liability insurance policy not only satisfy or compensate insurer directly, but also the third party involves in the insurance contract (Jialong, Jian & Haoyue, 2020). This is mainly because liability insurance gives opportunity for insured to insure third-party and allow insurance companies to compensate these third parties in the incidence of the event and infliction of loss to such third-party. In the incidence of event recognized, the insured may also suffer certain losses, but provisions are always available through the liability insurance to cover the third party identified in the insurance contract (Kao, Chen & Krishnamurti, 2020). Hence, liability insurance follows same process as any other insurance policies, but the party to be compensated differs.

Succinctly, insurance companies offering liability insurance policies need to take into account all the process, procedures, guides and estimation strategies before closing a contract. Having same pattern of operation, liability insurance when written and signed also involves premium and claims. This therefore makes liability insurance a benefit rather than a burden, since it generates income, which is necessary in facilitating smooth operations of the insurance companies in terms of compensating clients and meeting the interest of the stakeholders (Linner & Koellinger, 2022). Also, it is very important to note that liability insurance capacity may enhance financial capacity for investment and financial asset decisions profitable to the company, hence, susceptibility for better performance (Kaur, 2021). However, proper attention and caution must be taking in the process of liability insurance contract signing, since it is followed by the bane of claims just like any other insurance policy, reducing income generated which may in turn affect overall performance capacity.

Performance, which can be viewed from a variety of angles, remains a general appraisal of a business's real productivity in comparison to its anticipated outcomes. As a result, performance is tied to a firm's overall health throughout time. Financial performance (FP) is assessed using several ratios such as return on investment, return on sales, return on assets, and return on equity. These ratios serve as indicators of a company's financial success. Profitability for insurers is measured

as the difference between revenues and expenditures paid in underwriting the firm (Mishra & Kushwaha, 2023). It constitutes an integral aspect of comprehensive financial management, serving to optimize the accumulation of owner wealth to some extent. Non-financial parameters include operational performance, efficiency, and overall effectiveness, which pose difficulties in their quantification, but encompass greater market share, superior customer service, novelty and good repute, all of which help an organization perform better than its rivals overall (Adejare & Aliu 2022). But, this study concentrated on the financial performance proxy by return on assets (ROE), since majority of the proxies and measures of performance under this category are quantitative in nature.

The goal for the insurance sector reforms and consolidation in Nigeria was to create a strong, diversified, and trustworthy industry that protects insured premiums, participates actively in the country's economic development, and is a capable and competitive player in the African, regional, and international financial systems. Despite this expectation, the operations and survival of insurance firms have continued to decline and performance is very low. Specifically, the gross liability premium had been on the decline since 2015. For instance, there is fall in gross workmen compensation premium from N233.275m in 2016 to N215.643m in 2018 with an overall decline of -12.9% between 2010 and 2019 (NIA Digest, 2019). On the other hand, profit among these firms had been on swings, with positive yet increasing and decreasing periods as well as periods of negative profits. Could it therefore be the level of operations and activities of underwritten and claims of policies such as liability insurance that affect the level of performance.

Although some investigation had been done on liability insurance and performance of insurance firms, but this current study that track the influence of liability insurance on insurance firm performance is hard to come by. For instance, there were studies on how liability insurance influences variables such as corporate leverage, bond credit spread, apart from financial performance (e.g. Liu, Jiang & Gan, 2022; Li, Tong & Xu, 2022), but these studies had not covered liability insurance measures such as workers' compensation premium and workers compensation claim while most of those studies on financial performance were not focused on insurance companies but on areas such as risk transfer which only reflected employee insurance among its explanatory variables. In addition, most of the studies on liability insurance were not conducted in Nigeria (e.g Ironkwe & Osaat, 2019; Kao, Chen & Krishnamurti, 2020; Predelus & Amine, 2020; Da-Silva, Lucas & Cavalho, 2021; Che, 2021; and Li, Tong & Xu, 2022). Hence, this study

seeks to investigate the effect of liability insurance on performance of insurance firms in Nigeria. Specifically, this study analyzed the effect of workers compensation written premium on return on asset of selected insurance firms in Nigeria. It also examined the effect of workers compensation claim paid on return on asset of selected insurance firms in Nigeria. On the basis of that the following hypotheses were formulated for this study:

**H<sub>01</sub>:** Workers compensation written premium has no significant effect on return on asset of insurance firms in Nigeria

**H<sub>02</sub>:** Workers compensation claim paid has no significant effect on return on asset of insurance firms in Nigeria

The paper is divided into five distinct sections. The first section introduces the study, followed by a literature review. Section three explains the study methodology, whereas section four includes the empirical findings and discussion. Section five summarizes the analysis and gives recommendations for policy implementation.

## **2.0 Literature Review**

### **2.1 Conceptual Framework**

#### *1. Liability Insurance*

Liability insurance refers to a type of insurance coverage that protects individuals or organizations from financial losses resulting from legal claims and liabilities imposed by third parties due to accidents, injuries, property damage, or negligence (Lee, 2020). It provides coverage for legal defense costs, settlements, or judgments arising from covered claims. Liability insurance can take various forms, including general liability insurance, professional liability, workers' liability insurance, product liability insurance, and directors and officer's liability insurance. The essential components of liability insurance coverage are Legal defense, payment of damages or settlements originating from a court or negotiated settlements, up to the policy limits, physical harm and property damage, personal and advertising injury (IAIS, 2003).

In Nigeria, where there is continuous changing economic climate, complicated legal and corporate environment, liability insurance plays a vital role by safeguarding both people and corporations from the financial and legal implications of liabilities. It guarantees that businesses can manage legal issues, recompense

harmed parties, and protect their assets and livelihoods, and ensure continuity of business operations (Inokotong, 2023).

## *2. Worker Compensation insurance*

Worker compensation insurance is a specific form of cover that provides coverage for personnel who suffer work-related injuries or illnesses and compensates them for medical expenses, lost wages, and rehabilitation costs. While worker compensation insurance is closely related to liability insurance, it represents a distinct coverage within the broader liability insurance framework. Worker compensation insurance is often considered a form of employer liability insurance, as it protects employers from potential legal claims and liabilities associated with workplace injuries or illnesses (McCann et al., 2020). It ensures that employees receive necessary medical treatment and financial support without having to pursue legal action against their employers. Worker compensation insurance operates under a "no-fault" system which refers to a policy whereby workers are eligible to receive benefits irrespective of the party responsible for the workplace mishap. By providing prompt and comprehensive compensation to injured employees, it helps employers mitigate the risk of costly lawsuits and potential liability for workplace accidents (Smith et al., 2020).

Furthermore, worker compensation insurance policies typically include employers' liability coverage, which extends the coverage beyond the statutory requirements of workers' compensation laws. Employers' liability coverage protects employers against claims that may fall outside the scope of workers' compensation statutes, such as allegations of negligence or intentional harm by the employer (Burgess et al., 2020). In summary, worker compensation insurance, while distinct from general liability insurance, is a crucial component of the liability insurance framework. It safeguards employers from potential legal claims and liabilities arising from workplace injuries, while ensuring that employees receive necessary benefits and support.

## *3. Firm's Performance*

Firm performance refers to the evaluation and measurement of an organization's effectiveness in achieving its strategic objectives, generating profits, and creating value for its stakeholders (Hitt et al., 2020). It encompasses various dimensions, including financial performance, market-based performance, and non-financial performance indicators. Financial performance metrics evaluate a firm's profitability, efficiency, and financial health. These metrics include return on assets

(ROA), return on equity (ROE), and operating profit margins (Kaplan & Norton, 2020). Market-based performance indicators measure how investors perceive a firm's value and prospects. These metrics include stock returns, market capitalization, and Tobin's Q ratio (Khan et al., 2020). Non-financial performance metrics provide insights into areas such as customer satisfaction, employee engagement, and environmental sustainability. These metrics consider factors beyond financial outcomes and reflect the organization's impact on its stakeholders and society (Chen et al., 2020). Overall, firm performance is a multifaceted concept that combines financial and non-financial measures to assess an organization's effectiveness, competitiveness, and value creation capabilities.

The ability to increase owner prosperity and achievement, which, in turn, suggests a connection with enhanced financial success, represents proxy of performance indicators that helps the companies. Among other financial performance indicators, insurance firms often use many financial metrics to assess their performance and make informed decisions. These metrics include return on assets (ROA) and return on equity (ROE), investment income, market share, newly issued policies, premium revenue, claim settlement ratio, underwriting profit, and earnings per share (EPS). The financial performance of an insurance firm reflects not only how successful it is, but also how it manages its assets, liabilities, and stakeholder financial gains. A more general definition of financial performance, a crucial element of financial risk management, is the point at which financial goals have been met. It is the process of assessing a business's financial policies and operations (Odunayo & Thabiso 2021).

## **2.2 Theoretical Review**

### *Stakeholders Theory*

Stakeholders' hypothesis was formulated by Edward Freeman in the year 1984. The central proposition of the theory is that organizational activities, structures and operations should be designed in ways that capture the interest of all stakeholders of the business firms. Since, organization operates to satisfy different stakeholders, all activities and operations must be designed in ways that facilitate meeting the need of not only the shareholders, but also other stakeholders in decision making and oversight functioning. Since, liability insurance is part of the activities and operations of insurance companies, the theory therefore recognizes that the way it is initiated, designed and operated can affect the stakeholders' interest. Therefore, it can be deduced that designing appropriate premium and projecting adequate

claims on liability insurance, can affect the performance of firms relating to all stakeholders of insurance firms such as return on asset.

### **2.3 Empirical Review**

In their study, Ironkwe and Osaat (2019) conducted an assessment of the risk asset management and financial performance of insurance businesses in Nigeria. This evaluation was carried out by considering many factors. Their study employed the Johansen co-integration approach and OLS regression estimation procedure to analyze data from 1986 to 2016. The findings indicated no long-run relationship among the variables, but highlighted a substantial influence of certain factors on RoA and RoE. Consequently, they recommended enhancing risk asset management efficiency and effectiveness to improve financial performance.

Building on this theme of insurance performance evaluation, Jia, Mao, and Yuan (2019) focused on the connection between political connections and D & O's liability insurance in China. Using data from the Shenzhen stock exchange between 2005 and 2014, the study employed standard deviation and the Heckman selection model for estimation. The research identified a correlation between political affiliations and D&O insurance liability, indicating possible implications for policy-making and managerial decisions.

Similarly, Faiier, Arefieva, and Miahkyk (2019) examined risk management and its impact on state economic security through professional liability insurance in Ukraine. Employing descriptive statistics to analyze insurance premium data from 2016 to 2018, the study revealed that risk management significantly affects state economic security through professional insurance liability. The study suggested enhancing the usefulness of insurance liability to the economy.

Onyele and Ariwa (2019) assessed the effect of risk transfer on the growth of insurance companies in Nigeria using data from 1988 to 2018. They used premium claims on various insurance types as a proxy for risk transfer and applied Johansen co-integration technique and VAR for analysis. The findings indicated that employers' liability insurance has a detrimental impact on the long-term expansion of the insurance business, leading to their recommendation that proactive strategies is crucial for ensuring effectiveness and efficiency within the insurance business

Moving on to the effect of performance on executive compensation, Omoregie and Kelikume (2019) analyzed data from 2011 to 2016 for ten selected insurance firms. They found no significant effect of certain financial metrics on executive

compensations, but efficiency measures had a significant influence on compensation and profitability. Their study recommended insurance firms to prioritize enhancing efficiency to increase executive compensation. Shifting the focus to the role of board dynamics in the insurance companies' financial performance, Adejare and Aliu (2020) studied 22 quoted insurance firms from 2012 to 2018. They observed a correlation between board members' dynamics and financial performance, suggesting the need to empower other board members for enhanced effectiveness in the companies.

In a related study on underwriting capacity, Oyetayo and Abass (2020) evaluated its effect on the non-life insurance companies' financial performance in Nigeria. The study found that underwriting capacity significantly influences financial performance, leading them to recommend insurance companies to carefully consider their capacity when assuming risks from clients. Shifting to the impact of employment insurance on decision-making, Predelus and Amine (2020) analyzed data from four regions of Canada from 2007 to 2010. They found that low employment insurance led to higher debts and suggested increasing employment rates to reduce bankruptcies.

Jialong, Jiang, and Haoyue (2020) explored the connection between directors' and officers' liability insurance and firm innovation using data from the Chinese A-share stock exchange from 2007 to 2016. Their findings indicated that companies with D&O insurance liability demonstrated risk-bearing skills, leading to their recommendation for implementing policies to promote innovation. Continuing with the focus on directors' roles, Ahmed and Saidu (2021) investigated the influence of directors' remunerations on the financial performance of registered insurance firms in Nigeria. It was found that directors' compensation significantly improves insurance companies' performance, suggesting the need for consistent improvement in directors' compensation to enhance performance.

Shifting to the context of insurance market competition, Che (2021) focused on reserve management in the property-liability insurance sector in the United States. Obtaining data from 2006-2015, the study indicated that managers' competitive market pressure influenced manipulation for short-term output increase, thereby recommending the use of the study's findings in developing new policies. Moving to the effect of insurtech on the insurance business of Chinese, Wang (2021) analyzed data from 2011 to 2018 for selected insurance companies. The study revealed that insurtech significantly affects liability, asset side, and risk-taking,



with the recommendation for a holistic approach to incorporating insurtech into company activities.

Liu, Jiang and Gan (2022) explored the effect of D&O insurance on excess corporate leverage of Chinese. Their analysis of data from 2009 to 2018 for 16,301 Chinese A-share organizations submit an inverse correlation between directors and officers (D&O) insurance and excessive levels of corporate leverage. They suggested government support for developing enterprises and improving corporate governance. Similarly, Li, Tong, and Xu (2022) investigated the link between directors' and officers' liability insurance and bond credit spreads in China. The findings indicate a negative correlation between the presence of D&O insurance and credit spreads. They recommended companies to work on their internal management and other mitigation issues.

Moving to the topic of Artificial Intelligence Liability, Buiten, De Strel, and Peitz (2023) assessed the law and economics of AI liability, discussing challenges related to liability rules when AI systems are unpredictable. They recommended stakeholder involvement in addressing the arising challenges. Finally, Jia and Suij (2023) compared voluntary and mandated disclosure of liability insurance coverage limits. It was found that voluntary disclosure of liability insurance had a significant impact on mandatory disclosure of coverage and encouraged firms to take active measures in understanding when to disclose value-relevant information

### **3.0 Methodology**

The investigation is based on a longitudinal study design. The strength of this research design is that it permits the collection and analysis of time series data for more than one firm. Thus, the investigation of different insurance firms for ten years on the subject matter of this study was carried out using longitudinal research design. The research encompasses the whole of insurance businesses listed on the Nigerian Stock Exchange as its population. In Nigeria, there are total of fifty-eight quoted insurance firms on the Nigerian Stock Exchange (NAICON, 2022). Hence, this work covers fifty-eight insurance firms as population of the study. This study used five selected insurance firms in Nigeria as the sample out of the fifty-eight quoted insurance firms in Nigeria. The five selected quoted insurance firms were intentionally selected based on the criteria of data availability and accessibility for the variables of interest in this study.

Notably, this study involves the use of secondary data which are panel in nature. This study source data from the annual financial reports of the selected insurance firms quoted on the Nigerian Stock. Data used in this study were extracted from the annual financial reports of five selected insurance firms quoted on the Nigerian Stock Exchange and data covered the period of ten years period spanning from 2013-2022.

### 3.1 Method of Data Analysis

This research used descriptive and inferential analytical methods. The descriptive analysis method used includes mean, standard deviation, minimum and maximum values. On the other hand, the inferential analyses incorporated are correlation and regression analysis techniques. In line with the nature of data and the need to consider firm heterogeneity, this study employed panel regression estimation procedure, Hausman test and other post-estimation test.

#### *Model Specification*

The model of Liu, Jiang and Gan (2022) on effect of director and officer liability insurance on bond credit spread in which credit spread is taken as a function of director and officer liability insurance including control variables (e.g. firm growth, firm size, financial leverage, board independence, CEO duality etc.) was adapted such that the model is specified as thus:

$$CS_{it} = \beta_0 + \beta_1 DOL_{it} + \sum_{q=2}^m \beta_q (\text{control variables}) + e_t \text{-----} \text{(i)}$$

However, this study modified the above model by using financial performance measure, return on asset as dependent variable, workers compensation written premium and workers compensation written claim are used as proxy for liability insurance instead of director and officer liability insurance, and firm size, and firm age are taken as control variables. Hence, the model for this study is specified as thus

#### *Linear representation*

$$ROA_{it} = \beta_0 + \beta_1 WCWP_{it} + \beta_2 FZ_{it} + \beta_3 FA_{it} + e_t \text{-----} \text{(i)}$$

$$ROA_{it} = \delta_0 + \delta_1 WCCP_{it} + \delta_2 FZ_{it} + \delta_3 FA_{it} + e_t \text{-----} \text{(ii)}$$

Where ROA= return on asset, WCWP= workers’ compensation written premium, WCCP= workers’ compensation claim paid, FZ= firm size, and FA= firm age

#### 4.0 Data Analysis, Results and Discussion of Findings

**Table 1:** *Correlation Matrix*

	ROA	WCWP	WCCP	FZ	FA
ROA	1.00000				
WCWP	0.1043	1.00000			
WCCP	0.0751	0.2705	1.00000		
FZ	-0.0438	0.4228	0.2948	1.00000	
FA	-0.5886	0.3383	0.2870	0.5552	1.0000

**Source:** *Author’s Computation (2023)*

Table 1 demonstrated the correlation results among the pairs of variables engaged in the study. The correlation between ROA and WCWP is 0.1043, indicating a weak positive correlation exist between Return on Assets and Workers’ Compensation Written Premium. The correlation between ROA and WCCP is 0.0751, suggesting a very weak positive correlation. The correlation between ROA and FZ is -0.0438, indicating a very weak negative correlation (close to 0) between Return on Assets and FZ. The correlation between ROA and FA is -0.5886, indicating a moderate negative correlation. This suggests that there is a moderate inverse relationship between Return on Assets and FA, meaning that as one variable increases, the other tends to decrease. This implies that return on asset in case of selected insurance companies moves in same direction with workers’ compensation written premium and workers compensation written claims, but in different direction with firm size and firm age.

#### 4.1 Regression Analysis

**Table 2: Model 1: Estimation Result**

Series: ROA WCWP FZ FA

Coefficient	Pooled	Prob	Fixed	Prob	Random	Prob
C	2.437817	0.042	5.452031	0.177	<b>2.444567</b>	<b>0.031</b>
WCWP	.1244221	0.016*	.1233187	0.000*	<b>.1237404</b>	<b>0.012*</b>
FA	-.5143905	0.094	- 1.164928	0.253	- <b>.5156026</b>	<b>0.077</b>
FZ	-.2133147	0.141	- .3506053	0.020*	- <b>.2018752</b>	<b>0.153</b>
	R <sup>2</sup> = 0.7529 Adj R <sup>2</sup> = 0.7042 F-stats= 5.19 Prob(F-stat)= 0.0036		R <sup>2</sup> = 0.7476 F-stats= 11.64 Prob(F-stat)= 0.0000		R <sup>2</sup> = <b>0.7328</b> <b>Wald chi2(5) = 16.10</b> <b>Prob&gt; chi2 = 0.0011</b>	
	Restricted F-test= 4.30 (p < 0.05)					
			<b>Hausman Test = 0.46 (P= 0.9267 &gt; 0.05)</b>			

Wald test (0.2501, p > 0.05), Wooldridge test (0.1067, p > 0.05)

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

**Source:** Authors' Computation, (2023)

According to the estimation results provided in table 2, the table shows the coefficients for each independent variable in each of the three models (Pooled, Fixed, and Random). The coefficients represent the estimated impact of each independent variable on the dependent variable (ROA) after controlling for other

variables in the model. In the Pooled model, the coefficient for WCWP is .1244221, while for FA, it's -0.5143905, and for FZ, it's -0.2133147. In the fixed model, the coefficient for WCWP is 0.1233187, while for FA, it's -1.164928, and for FZ, it's -0.3506053.

Based on the estimate findings in table 4.2, the most efficient estimator is the random effect estimation given the reported Hausman test result of 0.46 with corresponding probability value of 0.9267. The coefficient for WCWP is .1237404, while for FA, it's -0.5156026, and for FZ, it's -0.2018752. The probabilities associated with each coefficient (under the "Prob" column) indicate that the coefficient is statistically significant at a conventional significance level ( $0.012 p < 0.05$ ) for WCWP. This revealed that whenever workers' compensation written premium increases by 1%, there is about 0.012% increase in return on asset, reflecting that workers' compensation written premium has significant positive effect on return on asset.

$R^2$  measures the goodness of fit, indicating how well the independent variables explain the variation in the dependent variable. For the most efficient estimation (random effect), reported  $R^2$  is 0.7328 which showed that about 73% systematic variation in return on asset is jointly explained by variation in workers' compensation written premium including firm size and firm age.

F-statistic is a test of the overall significance of the model. The associated probability (Prob (F-stat)) assesses whether the model is statistically significant. In the Fixed model, F-stats is 11.64, with a very low p-value (0.0000), indicating that the coefficients of the model are jointly statistically significant. Wald chi2 tests the joint significance of all coefficients. Wald chi2 (5) is 16.10, and Prob > chi2 is 0.0011, indicating that the model as a whole is statistically significant. A Restricted F-test value 4.30 ( $p < 0.05$ ) suggests that at least one of the coefficients is significant

The findings indicate that the available evidence does not provide sufficient grounds to reject the null hypothesis of panel homoscedasticity and the null hypothesis of no AR (1) panel autocorrelation, based on the supplied statistical data of 0.2501,  $p > 0.05$  for Wald test, and 0.1067,  $p > 0.05$  for Wooldridge test. Therefore, it can be concluded that the assumptions of equal variance of residual terms and the lack of serial autocorrelation for the estimated panel-based model are true.

**Table 3: Model 11: Estimation Result**

Series: ROA WCCP FZ FA

Coefficient	Pooled	Prob	Fixed	Prob	Random	Prob
C	4.06912	0.000	<b>17.08174</b>	<b>0.000</b>	3.973447	0.000
WCCP	-.0833898	0.033*	- <b>.1090248</b>	<b>0.009*</b>	-.09176	0.018*
FA	-.2283614	0.120	- <b>4.168295</b>	<b>0.000*</b>	-.8642615	0.003*
FZ	-.8852056	0.005*	- <b>.3814795</b>	<b>0.011*</b>	-.2369331	0.093
	R <sup>2</sup> = 0.8308 Adj R <sup>2</sup> = 0.7864 F-stats= 4.60 Prob(F-stat)= 0.0067		<b>R<sup>2</sup> = 0.7506</b> <b>F-stats= 7.09</b> <b>Prob(F-stat)= 0.0000</b>		R <sup>2</sup> = 0.7298 Wald chi2(5)= 15.25 Prob> chi2 = 0.0016	
	Restricted F-test= 4.43 (p < 0.05)					
			<b>Hausman Test = 44.91 (P= 0.0000 &lt; 0.05)</b>			

Wald test (0.1227, p > 0.05), Wooldridge test (0.7382, p > 0.05)

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

**Source:** Authors' Computation, (2023)

The estimation results, as shown in Table 4.3, indicate that the most efficient estimator is the fixed effect estimator given the reported Hausman test result of

44.91 with corresponding probability value of 0.0000. Specifically, result of fixed effect estimation showed coefficient and probability of  $-0.1090248(0.009 p < 0.05)$  for WCCP,  $-4.168295(0.000 p < 0.05)$  for FA and  $-0.3814795(0.011 p < 0.05)$  for FZ. This revealed that whenever workers' compensation claim paid increases by 1%, there is about 0.9% decrease in return on asset, reflecting that workers' compensation claims paid has significant negative effect on return on asset. It also revealed that all the variables coefficients are statistically significant at a conventional significance level.

In model 11, the reported  $R^2$  for the most efficient estimation is 0.7506, indicating that change in workers' compensation claims paid, firm size, and firm age together explain almost 73% of the systematic variation in return on asset. The F-statistics test value is 7.09 with a very low p value (0.0000) showing statistical significance of the model. Wald chi2 (5) is 15.25, and Prob> chi2 is 0.0016, suggesting that the model as a whole is statistically significant. A Restricted F-test score of 4.43 ( $p < 0.05$ ) indicates that all of the coefficients are significant.

Post estimation results reported in table 3 indicate that there is insufficient evidence to reject the null hypothesis of panel homoscedasticity and the null hypothesis of no AR (1) panel autocorrelation. This conclusion is supported by the reported statistics of 0.1227, with a p-value more than 0.05 for the Wald test, and 0.7382, with a p-value greater than 0.05 for the Wooldridge test. Therefore, it can be concluded from the analysis that the assumptions of equal variance of residual terms and the lack of serial autocorrelation for the estimated panel-based model are true.

### **Discussion of Findings**

Result revealed that insurance companies tend to experience higher level of performance, specifically, measured as return on asset whenever the level of workers' compensation written premium is increased. This possibly may be because workers' compensation written premium tends to add to the financial capacity of the insurance companies to operate smoothly without delay. With increased level of premium, income increases such that they can respond to due claims as well and when due. Also, increase workers' compensation written premium can increase financial assets of the insurance companies, which then may generate more profit for these firms. This is in line with the findings of Liu, Jiang and Gan (2022) and Li, Tong and Xu (2022), although these were not conducted in Nigeria.

Result also showed that return on asset as a metric of performance tends to decline whenever workers' compensation claim paid increases. This may likely be because workers' compensation written claim reduces the level of financial capacity as financial funds are paid to the third-party in the insured contract to indemnify the client. This therefore placed liability in itself on the insurance companies, it reduces income and reduce the capacity to finance business activities. It can also affect other claims if not appropriately structured, thereby reducing the level of attractiveness of the firm to clients which is very essential to make more profit. In addition, claims even in the aspect of workers' compensation reduces capacity to spend on profitable financial assets as and when due, hence, tendency for declining performance. This is in consonance with the study of Onyele and Ariwa (2019) who affirmed that employer's liability insurance had negative effect on growth of insurance industry.

## **5.0 Conclusion and Recommendations**

This study analyses the impact of liability insurance on the financial performance of insurance companies in Nigeria. Specifically, this study investigated the effect of workers' compensation written premiums and workers' compensation claims paid on the return on asset (RoA) of selected insurance companies in Nigeria. The study established that workers' compensation written premium (WCWP) has a positive significant effect on return on asset of Nigeria insurance companies in model 1. Furthermore, the study established that worker's compensation claims paid (WCCP), Firm Age (FA) and Firm Size (FZ) have negative significant effects on Return on Asset (RoA) of insurance companies in Nigeria based on the most efficient estimator in model 11. This investigation concludes that enhancing the level of workers' compensation written premium contribute to rising level of performance of insurance firms in Nigeria, and that workers' compensation claim paid has relevance in the process of improving the level of performance of insurance firms only when it's on the decline.

In line with the findings and conclusion of this study, the following policy recommendations are therefore put forward:

- i. Insurance firms should ensure that workers' compensation written premium is adequately projected in order to minimize incidence of underestimation which may limit capacity for performance expansion.
- ii. Insurance firms should ensure that possible claims are properly calculated so as to ensure that claims do not take most of the financial resources, since this will affect profitable investment decisions and activities, hence, firms should



carefully analyze their financial assets (FA and FZ), and consider optimizing their asset structure to enhance performance.

- iii. Insurance firms need to increase the rate of client application towards workers' compensation insurance, in order to increase the level of premium and income for performance enhancing operations.

### **Suggestion for Future Research**

Future studies may explore additional factors, such as market conditions, regulatory changes, and economic trends, to provide a more comprehensive understanding of the performance of insurance firms in Nigeria.

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