Impact of Insurance Risk Management on Fixed Capital Formation in Nigeria.

Oluwaleye, Taiwo Olarinre[a], Kolapo, Funso Tajudeen[b] and Osasona, Adedeji Viscker[c]

[a&c] Department of Finance (Insurance Unit), Faculty of Management Sciences, Ekiti State University, Ado-Ekiti, Ekiti State, Nigeria. taiwo.oluwaleye@eksu.edu.ng, adedeji.osasona@eksu.edu.ng

[b] Department of Finance, Faculty of Management Sciences, Ekiti State University, Ado-Ekiti, Ekiti State, Nigeria. funsho.kolapo@eksu.edu, ng

A B S T R A C T

Purpose: This study investigated the impact of insurance risk management on fixed capital formation in Nigeria. The study sampled all insurance companies operating in Nigeria.

Methodology: Time series data covering the period 1996 - 2019 were obtained from the CBN Statistical Bulletin, Annual Report of National Insurance Commission, and the various Nigerian Stock Exchange Factbook issues. General business insurance and life insurance claims represent risk management (independent variable), while gross capital formation was the dependent variable. Data were analyzed using descriptive statistics, unit root, Auto-Regressive Distributed Lag (ARDL), ARDL Bound cointegration test and model diagnostic test by Stata 15 software.

Results and Findings: The study found that life insurance claims exert an insignificant positive impact on gross capital formation, with a reported estimate of 0.1636576 (p=0.058 >0.05). On the other hand, general insurance business exerts a negligible negative impact on gross fixed capital formation, with an estimate of −0.1913046 (p= 0.065>0.05) and the non-existent long-run connection between gross fixed capital formation and independent risk management.

Originality and Practical Implications: Our study suggests that regulatory authorities should implement strategies to encourage Nigerians to patronize life insurance companies since this would lead to more excellent insurance investment and, in turn, growth in Nigeria's gross capital formation, among other things.

1. INTRODUCTION

1.1 Today, insurance is an essential component of national economic operations worldwide. (Ezu, Okoye, & Ogbogu 2020). This is because the insurance sector represents the core of an economy's risk management system, as the main component in mitigating the impact of financial risk on businesses and ensuring the financial security of the government and household. However, without insurance coverage, the private commercial sector of the

economy might not be able to function optimally. This is a result of the fact that as the business grows, the dread of sudden loss is constantly present. Insurance provides a cover against any sudden loss that arises from the business.

The management of various financial risks is a unique function of the insurance sector (Lezaasi & Tamunonimim, 2012). Risk management is the process of aggregating risks, transferring them, and insuring against financial losses caused by uncertainty and volatility. It involves identifying unexpected loss exposures, analyzing different approaches for handling loss exposure, picking unsurpassed methods, and observing the outcomes to modify decisions (Skipper, 1997). The availability of insurance services is critical for business sustainability and the formation of fixed capital balance for growth purposes. This can inspire business owners to accept serious risks. Growth is often associated with an increase in exports, while other times, it is attributed to increased financial development. Some economic models attribute economic upswing to the beneficial function of government spending. In contrast, others attribute it to the formation of capital in both the public and private sectors, among other things. On the other hand, insurance plays a substantial role in the well-being of citizens and the economy in developed economies (Adetunji, Nwude & Udeh, 2018).

However, there is a loss of confidence in the insurance companies in Nigeria. Adetunji, Nwude, and Udeh (2018) argue that the level of scepticism about insurance companies has risen to the point where the value of insurance stocks harms the Nigerian Stock Exchange. This is because many stocks have been unable to rise above the market's least price per share, and only a few investors continue to trade on them. Hence, because of people's negative attitudes toward insurance, the Nigerian insurance sector's potential to contribute considerably to the country's fixed capital formation has been questioned. The numerous challenges facing insurance industries in Nigeria, according to Adetunji *et al.* (2018), are insufficient underwriting capacity, competence and skill, poor research capacity and institutional framework, inadequate infrastructure, repudiation of genuine claims, imbalanced workplace distribution, poor education and awareness creation, insurance intermediary fraud, and spurious claim patterns among others.

Insurance risk management plays an essential role in forming fixed capital through adequate and proper payments of claims during the occurrence of unforeseen events that lead to financial losses in a business. Most businesses in the economy continue to survive and increase the number of products and services produced despite adverse events that lead to

financial losses, thereby affecting the economy more positively. This argument is bolstered by erroneous perceptions and concerns in Nigeria that insurance is a kind of gambling. There is a scarcity of more extensive studies on the response of Fixed Capital Formation (FCF) consequences resulting from the payment of claims on significant insurance products.

In the Nigerian context, few studies have been carried out within the analysis of the implications of insurance risk management on fixed capital formation as a result of inadequate relevant data. The existing sparse publications on the detailed description of the association have produced mixed results with no consensus reached. For instance, Mojekwu, Agwuegbo, & Olowokudejo (2011) and Akinlo (2013) discovered an encouraging association between insurance contributions and Nigeria's economic progress. On the other hand, Lezaasi and Tamunonimim (2012) found that claims paid under auto insurance, fire and employers' liability insurance policies have a short-term effect on GFCF (Gross Fixed Capital Formation) growth. While Kalu, Agwah and Nwadike (2019) found capital formation to be positive and significant for Nigeria's general insurance premium and total insurance business.

The reviewed works emphasized insurance and growth. However, no studies about how claims paid in the insurance sector contribute to fixed capital formation in Nigeria. Unfortunately, only one study has been conducted since 2012 using claims paid on fire disasters, auto-insurance, workers' liability and marine insurance policies on a gross fixed capital formation without showing the direction of the relationship. This is the motivation for this research. This investigation anticipates filling up the identified gap by incorporating general business insurance claims and using ARDL Bound cointegration techniques to understand the direction and essence of the connection between fixed capital formation and insurance risk management in Nigeria.

1.2. Research Objectives

This research aims to look into the effect of insurance risk management on fixed capital formation. However, to do so, the following precise aims must be met:

1. to investigate the risk management indicators in the insurance industry that affect fixed capital formation.

2. To determine the nature, extent, and direction of variation caused by risk management variables in the insurance industry on fixed capital in the short and long-run.

3. to appraise the effect of life and general insurance on fixed capital formation in Nigeria

1.3. Research Questions

Subsequent research questions arose as a result of the study's specific objectives:

1. To what extent does life insurance risk management affect Fixed capital formation in Nigeria?

2. What is the impact of general insurance risk management on Fixed capital formulation in Nigeria?

3. What is the nature and direction of variation caused by risk management variables on fixed capital formation in Nigeria in the short and long run?

1.4. RESEARCH HYPOTHESES

The following hypotheses were developed in response to the study questions posed above:

1. Ho_1: Life insurance risk management does not significantly impact fixed capital formation in Nigeria.

2. Ho_2: General insurance risk management does not significantly impact fixed capital formation in Nigeria.

3. Ho_3: Insurance risk management does not have a short and long term impact on fixed capital formation in Nigeria.

The organization of this paper includes the introductory part, as shown above; the literature review (this includes conceptual clarification, review of theories that supported the work and empirical study), research methodology, analysis and estimation results and concluding remarks.

2. REVIEW OF LITERATURE

2.1 Risk Management Concept

Risk is the possibility of deviations from expectations that can cause harm. Risk is the probability of an event that differs from expected, but this difference is only visible when it manifests as a loss (Kasidi, 2010). According to Abbas Salim in Kasidi (2010), risk is a state of uncertainty that can result in a loss. So, based on some of the definitions given, the risk is unpredictable yet can affect a firm if not handled effectively.

According to Lezaasi & Tamunonimim (2012), citing Dorfman (2005), risk management can be defined as the logical formulation and implementation of a strategy to cope with possible losses imperative to manage a personal or an entity's risk of loss and safeguard its assets. Every firm is confronted with hazards that pose a threat to its operations. Successful companies use best practices and a cohesive team and infrastructure to handle the strategic, financial, operational, and hazard risks. Risk management is a tool for categorizing risks, responding to them, and maintaining control over reality, effectiveness, and regulatory compliance. A good risk management strategy gives a new perspective on a company's internal or external, estimated or retroactive exposures. Risk assessment through a procedure that is straightforward, practical, and easy to comprehend, but with sufficient managerial support and, last but not least, resources, is required for a sustainable and efficient process.

In a nutshell, risk management prepares for the more complicated actions of commercial units or enterprises caused by scientific and technical advancements (Kasidi, 2010).

2.2. Concept of Capital Formation

Capital formation is described as accumulating valuable investable assets, increasing wealth, or creating new wealth. Although savings may be a process of capital accumulation, capital formation is not the same as accumulation because the rise in the stock of tangible assets is referred to as accumulation, and not all savings are put into the investment. As a result, a more excellent investment in non-financial assets has boosted the economy's value and increased the GDP by creating more jobs (Adekunle & Aderemi, 2012).

Apex bank in Nigeria (2007) defines "capital formation as the total change in the value of fixed assets in the economy and fixed assets either for replacing or adding to the stocks. It refers to the increase in the fixed capital stocks of the capital formed". Nigeria's gross fixed capital formation rate has increased dramatically in recent years. By present market value, the GFCF stood at N18.2 billion in 1981. Between 1982 and 1987 it dropped until 1988 when it

began to rise again. In 1990, the GCFC had a value of N40.1 billion, N141.9 billion in 1995, N331.1 billion in 2000, N804.4 billion in 2005, and N1546.5 billion in 2006. It was N2053 billion as at 2008, and in 2011, it was N4207.4 billion (Kanu, Ozurumba and Anyanwu, (2014) cited in Kalu *et al.*, (2019))

Fixed assets in national accounts cover a more comprehensive range of investments than business accounts**.** Fixed assets are produced assets employed in manufacturing operations frequently or continuously above one year. Types of fixed assets incorporated in statistical measurement are determined by the reason they are to be used. For example, a vehicle is included in GFCF only if utilized for business operations or under the "production" category. An automobile for private usage is usually not included. However, because cars can be used for both personal and professional purposes, the lines are not always straightforward to draw; in this instance, a standard rule is frequently adopted. Non-produced assets are excepted from the approved GFCF assessment (For example, land, underground resources, mineral reserves, natural resources, and forestry, amongst others) (Seng, 2014; Ugwuegbe & Uruakpa, 2013; Sarkar, 2006; Uremadu, 2009).

Also, GFCF excludes routine maintenance, acquisitions of long-lasting home appliances (such as personal cars and furnishings), and animals raised for consumption. As the expenditure comprises adjustments to fixed assets possessed, it can be strenuous to define an accurate statistical confine for GFCF and intermediate consumption. This expense can apply to new fixed investments in certain circumstances but merely to operating costs related to maintaining and repairing fixed assets in others. Fixed asset insurance is included in the GFCF in some countries. Recently, there has been a shift in handling research and development expenses, as opined by (Seng 2014; Ugwuegbe & Uruakpa, 2013).

Research and development are now reported as production assets rather than intermediate consumption, increasing GDP. While it is difficult to determine the exact amount of the overall fixed capital stock, since the cost prices of capital goods are documented, it is feasible to calculate a consistent shift in net fixed capital increases. GFCF time-series data to study movements in asset activity over time is expected, with sequence deflated or regulated via price index. However, it can be used to derive different fixed capital stock measurements. For example, the stock may be valued at the "book value"; however, book values are frequently a combination of historical cost, replacement cost, and scrap value. Unfortunately, there is no universally accepted monetary value (Seng, 2014; Ugwuegbe & Uruakpa, 2013).

In theory, if a fixed asset is purchased by one organization and sold to another organization in the same year, this would not be regarded as an investment twice in the same year; else, the natural expansion of the fixed capital stock might be exaggerated. Therefore, new manufactured fixed assets should be included in the amount spent on GDP, of which GFCF is a part. However, offensive armament and its delivery systems were removed from capital formation in the GFCF calculation, regardless of their service life; this is because military weapons are employed to harm lives and assets. Hence, it is not a value-added product (Kanu, Ozurumba & Anyanwu 2014).

2.3 Theoretical Review

The relationship between capital formation and insurance within the confines of this work is supported by three critical theories, namely the Neo-classical Theory of Growth, Financial Liberalization Theory and Growth Nexus Theory.

Solow (1957) and Swan (1956) established the growth theory, which identifies contributors to growth as labour, capital, technological development, and any other component included in the growth accounting exercise. The collapse in economic growth, according to this view, had to originate from outside the system, primarily from technical advancement, which is treated as exogenous. However, the fundamental question of why labour supply (quantity and quality), capital accumulation, and technological advancement rise at different rates in different countries continues to be debated. Solow (1957) proposed a neoclassical growth theory that predicted per capita income convergence across countries.

Secondly, the theory of Financial Liberalization has its geneses in McKinnon (1973) and Shaw (1973). However, the critical work on financial buildout and the economic boom was published by Patrick (1966). The idea proposed two possible associations: a "demand-following" proposition, where financial development emerges as the economy grows, and a "supply leading" phenomenon, in which extensive financial institution growth leads to grow the economy (Arestis, Nissanke and Stein, 2005).

Thirdly, there is Schumpeter's finance-growth nexus theory (1911). Financial services are crucial for economic progress, according to Schumpeter, as long as they increase productivity by fostering technical innovation investment and assisting entrepreneurs with the highest prospects of success in the innovation process. Based on these theories, this study is

theoretically anchored that capital formed by insurance activities is used for production, which engenders growth. All the above theories rightly underpin this study.

2.4 Empirical Review

Using a dynamic factor model, Mojekwu, Agwuegbo and Olowokudejo (2011) explored insurance contributions' significance to Nigeria's economic boom for twenty-seven years, from 1981 to 2008. The suggested strategy describes methods for analyzing factors, which are operative but indiscernible arbitrary values. Loading factors show which set of time series is associated with which common trend. The findings of premium volume assessment reveal a favourable association between insurance contribution and Nigerian economic progress. The results are consistent with Boon (2005), which showed that total insurance funds significantly affect capital formation and growth in the gross domestic product in the short and long term in his investigation.

Akinlo's (2013) study of insurance's impact on economic progress in Nigeria from 1986 to 2010 is another example. The study looked at the organization of insurance sub-sectors and the path of interconnection between insurance and Nigeria's economic boom. It used an error-correction model analysis and cointegration method. According to the cointegration technique, except for the premium, all variables are significant. For example, with a value of 10%, the premium coefficient was considerable. The study's findings show that insurance, measured in premiums, has a significant favourable impact on economic progress in the long term.

In the same vein, from 1986 to 2010, Akinlo and Apanisile (2014) examined the long and short-run connection between insurance buildout and Nigeria's economy. This research indicates that insurance development in Nigeria is linked to economic growth using the error correction model (ECM). It revealed that a long-term connection exists between insurance buildout and economic boom. According to the findings, capital and interest rates significantly affect Nigeria's economic growth. On the other hand, physical money and inflation have a negative long-term association with economic growth. The findings show that insurance has a statistically significant influence on Nigeria's economic growth.

Cristea, Mariu, and Carstina (2014) studied the period between 1997 and 2012 to investigate the connection between insurance investment and economic progress in Romania. GDP was the dependent variable as a proxy for economic growth, whereas total insurance premium was

employed as the independent variable for insurance practice. Multiple regression and the Pearson correlation tests were used to discover a strong link between the insurance market and growth in the economy. Still, general insurance was found connected to economic growth.

In contrast, from 1976 to 2010, Olayungbo (2015) looked into the asymmetric nonlinear connection between insurance and Nigeria's economic progress. It concluded that there is an unbalanced effect in the Nigerian insurance market. Unidirectional causality also exists between growth in GDP and insurance premium increase. Furthermore, utilizing change disintegration and stimulus reaction with control variables, the robust results suggest that low-price insurance policies encourage an increased economic boom in Nigeria.

 Another study by Ouedraogo, Guerineau and Sawadogo (2018) examined the relationship between life industry expansion and economic boom among eighty-six evolving nations. Data from World Bank's Development Indicators from 1996 to 2011 were considered for the study. The explanatory variable was total life insurance premium, while the response variable was GDP. The data were analyzed using descriptive statistics and the generalized moment's method (GMM). The findings revealed that insurance sector development contributes favourably to the economy but that this effect differs by country due to structural differences.

In Nigeria, Kalu, Agwah and Nwadike (2019) looked into the impact of insurance on capital formation from 1996 to 2010 using the standard Least Square Regression method. They found that insurance contributed significantly to capital formation within the period studied.

3. RESEARCH METHODOLOGY

As defined in the Insurance Act 2003 and listed on The Nigerian Stock Exchange, all insurance businesses operational in Nigeria are included in the study's target population (NSE). In addition, from 1996 to 2019, secondary data was collected for an appraisal from numerous publications of the central bank of Nigeria statistical bulletin, the National Insurance Commission annual reports, the National Pension Commission annual reports, and the Nigerian Stock Exchange Fact Book, with natural log form of the series used as proxies for variables. The availability of published data influences the choice of the base year and upper limit.

3.1 Model Specification

Gross Fixed Capital Formation (GFCF) evaluates the worth of new asset purchases of enterprises, governments, and people, representing the economic value added that is reinvested rather than spent. An insurance claim is an indemnification received by the insurer from the insurer. Hence, this study created a single disaggregated insurance claim payment modelling gross fixed capital formation as functions of general business and life insurance claims expressed as:

GFCF= $f(GIN, L)$ $\hspace{6cm}$ 3.1

Where

GIN = General Insurance Claims

L = Life insurance Claims

Expressing equation (3.1) in econometric form; we have;

GFCF$_t$= $\beta_0 + \delta GIN_t + \tau Life_t + \epsilon_t$ $\hspace{4cm}$ 3.2

$\delta, \tau > 0$

Where

ϵ_t represents the error term, and other variables remain as defined above.

However, assuming a long-run balance relationship exists in equation (3.2), it is predicted that those variables are co-integrated (Studenmund, 2014).

Conferring to Pesaran and Shin (1998), ARDL $(p, q_1, \dots, q_k)$ can be expressed as :

$\propto (L, p) y_t = \beta_0 + \sum_{i=1}^{k} \beta_1 (L, q_i) x_{i,t} + \epsilon_t$ $\hspace{3cm}$ 3.3

Where

β_0 is constant, y_{et} dependent variable (Gross Fixed Capital Formation), L is the lag operator, ϵ_t is the error term and $x_{i,t}$ is the regressors vector

Hence, the long-run relationship of (3.1) can be expressed as:

$lnGFCF_t = \beta_0 + \gamma lnGFCF_t + \delta lnGIN_t G + \tau lnL_t + \varepsilon_t$ $\hspace{2cm}$ 3.4

The short run relationship of 3.4 is given by:

$\Delta lnGFCF_t = \beta_0 + \gamma \Delta lnGFCF_t + \delta \Delta lnGIN_t G + \tau \Delta lnL_t + \sum_{i=1}^{p} \gamma_i \Delta lnGFCF_{t-i} +$

$$\Delta lnGFCF_t = \beta_0 + \delta\Delta lnGIN_t G + \tau\Delta lnL_t + \sum_{i=0}^{p} \gamma_i \Delta lnGFCF_{t-i} + \sum_{i=0}^{q_1} \delta_i\Delta lnGIN_{t-i} + \sum_{i=0}^{q_2} \tau_i\Delta lnL_{t-i} +$$
$$\sigma ECM_{t-1} + \varepsilon_t \qquad\qquad 3.5$$

Δ is denoted as the first-difference operator and δ, γ and τ being its coefficients

3.2 Method of Data Analysis

To accomplish the objectives predetermined in this research and to proffer answers to those research questions raised, the study uses descriptive statistics, unit root test, autoregressive distributed lag and Bounds cointegration test to establish the long-run connection among variables.

4. ANALYSIS AND ESTIMATION RESULTS

Table 4.1: Variables Descriptive Statistics

	GBI	LIFE	GFCF
Mean	5.061948	3.880707	4.756499
Median	5.230729	3.930567	4.836952
Maximum	5.589224	4.261240	5.355803
Minimum	4.329048	3.058318	3.880934
Std. Dev.	0.378504	0.308881	0.438132
Skewness	-0.499904	-1.406263	-0.593885
Kurtosis	1.963700	4.387119	2.340561
Jarque-Bera	2.073531	9.834402	1.845655
Probability	0.354600	0.007320	0.397394
Sum	121.4868	93.13696	114.1560
Sum Sq. Dev.	3.295101	2.194370	4.415081
Observations	24	24	24

Source: Authors' Computation (2021)

Descriptive statistics presented above reveal the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, Jarque-bera, probability and sum of square deviation of the observations collated across the listed insurance firm over time. The table depicted that changes in the general insurance business have the highest mean and median values of 5.061948 and 5.230729, respectively. At the same time, GFCF records the most unstable variable in the model, having a standard deviation value of 0.438132. In the same vein, the median value of GBI, LIFE and GFCF are more significant than their corresponding mean values, while the change in the variables is negatively skewed.

The table further revealed that the Kurtosis of GFCF and GBI are less than 3. This indicated that the nature of the data is leptokurtic, while the life insurance business is leptokurtic since the kurtosis values are 4.387119>3. Also, the probability value of the Jarque-Bera statistics for LIFE value .007320 was significant at a 5% confidence level, while GIN and GFCF were not significant.

4.2: Correlation Analysis

Table 4.2: Correlation Statistics

	GFCF	GBI	LIFE
GFCF	1.0000		
GBI	-0.7840	1.0000	
LIFE	-0.7191	0.9506	1.0000

Source: Authors' Computation (2021)

The correlation outcome obtainable in Table 4.2 revealed a positive relationship between GBI and LIFE; the correlation coefficient stood at 0.9506. This result reflects that General Business Insurance (GBI) move in the same direction as Life insurance. Similarly, the correlation between GFCF, GBI and Life is negative, with coefficient values of -0.7840 and -0.7191, respectively.

4.3: Unit Root Test

Table 4.3: Result of the Stationary Test

Variables	ADF @ Level				ADF @ 1st Difference				Decision
	Test stat	Test Critical Value At 5%	Prob	Remark	Test stat	Test Critical Value at 5%	Prob	Remark	
GFCF	-1.852	-2.998	0.468	NS	-3.994	-3.222	0.002	S	1(1)
GNI	-1.852	-2.998	0.347	NS	-3.694	-3.005	0.012	S	1(1)
LIFE	-4.418	-3.004	0.002	NS					1(0)

Source: Authors' Computation (2021)

The Augmented Dickey-Fuller (ADF) unit root test was utilized to avoid regression of a non-stationary variable on other non-stationary variable(s) using ordinary least square (OLS), which can result in a spurious regression result. The results are provided in Table 4.3. The test's null hypothesis is that the variable is not stationary. As a result, the null hypothesis is rejected, implying that the variable is static. The estimated value of the test statistics must be greater than the crucial value of the statistics at a given level of significance to reject the null hypothesis (5 per cent level of importance). The variables are termed stationary at a story when the null hypothesis is left at the order of integration zero, I(0). However, from the ADF, it is noted that the GFCF and GBI were non-stationary as they are integrated of order one, I (1), while life is stationary at charge I (0). This, therefore, highlights the difficulty of running a cointegration test to determine if there is a long-run connection among the variables using the ARDL bound assessment method since it is the combination of I (0) and I (1) series

4.4 Co-integration Bound Test

Table 4.4: Pesaran/Shin/Smith ARDL Bounds Test

H₀: no cointegrating equation	F = 2.126

$$= -1.009$$

Critical Values (0.1-0.01), F-statistic, Case 3

[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]
L_1	L_1	L_05	L_05	L_025	L_025	L_01	L_01
k_2 3.17	4.14	3.79	4.85	4.41	5.52	5.15	6.36

Source: Authors' Computation (2021)

The bound cointegration test was performed on the level form of the variables. As shown in Table 4.4, the F-statistics of 2.126 is lower than the critical value for the lower bound I(0), 3.17, 4.14, 3.79, 4.85, 4.41, 5.52, 5.15 and 6.36, respectively. There is a statistical reason not to reject the null hypothesis of the no cointegration equation. Then we conclude that there is no cointegration, hence, no long-run relationship. The short-run model is further estimated using ARDL Model in Table 4.5.

Table 4.5: Estimated Short-Run Coefficient ARDL (1,0,0)

ARDL(1,0,0) regression			
Sample: 1997 – 2019	No of observation =	23	
e(lags)[1,3]	F(3, 19) =	56.72	
GFCF GBI life	Prob > F =	0.0000	
r1 1 0 0	R² =	0.8995	
	Adj R² =	0.8837	
Log likelihood = 37.505322	Root MSE =	0.0521	

GFCF	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
GFCF						
L1	.8837791	.1152262	7.67	0.000	.6426078	1.12495
GBI	-.1913046	.0977047	-1.96	0.065	-.395803	.0131938
Life	.1636576.	0810416	3.02	0.058	-.0059644	.3332795
_cons	.3398486	.3975869	0.85	0.403	-.4923103	1.172007

Durbin-Watson d-statistic (4, 23) = 1.505608

The optimal lag was selected using the AIC approach. Table 4.5 showed that a percentage change in the first lag of GFCF is associated with a .88% increase in GFCF on average ceteris paribus at the 1% statistically significant level. The model also gives a reasonable short-run projection of gross capital formation for a unit increase in the two explanatory variables (GBI and Life), which are jointly statistically significant based on the computed F statistics values of 56.72 with P-values of 0.000, which is lower than 0.05% and this equally attests to the

overall goodness of fit of the postulated model. However, the table also indicated that life insurance exerts an insignificant positive impact on gross capital formation in Nigeria with an estimate $\tau = .1636576$ and a p-value of 0.058. In contrast, the adverse effects of general business insurance, with an estimate of $\delta = -.1913046$ with a p-value of 0.065, show that the model is the best fit with a strong coefficient of determination ($R^2 = 0.8995$). This implies that 90.0% of the variation in the measure of gross fixed capital formation is accounted for by the independent variables (GBI and Life). Hence, 88.4% of the variation in GFCF can be accounted for when other predictor variables are added to the model, as evidenced by the adjusted R-squared value of 0.8837.

The table further revealed a Durbin Watson value of = 1.505608, which lies within an acceptable range of -2 and 2. This indicated that the model was sentenced to be specified correctly, with no serial correlation on the data.

Table 4.6: Diagnostic Test Result

Test statistics	lags	chi2	df.	Prob. Value
1st order serial correlation	1	0.396	1	0.5292
White Heteroskedasticity		17.92		0.0361
Cameron & Trivedi's decomposition of IM-test				
Heteroskedasticity		17.92	9	0.0361
Skewness		3.81	3	0.2824
Kurtosis		1.83	1	0.1766
Total		23.56	13	0.0354

Source: Authors' Computation (2021)

Table 4.6 shows that the chi-square value of 0.396 and the probability value of 0.5292 with 1 degree of freedom in the Breusch-Godfrey first-order serial correlation test are not significant at the 95 per cent confidence level. As a result, the alternative assumption that the error terms are unrelated is rejected, implying that the error terms are connected. In a similar vein, we discovered that, given a predetermined probability level of 0.05, the actual probability of 0.0361 is less than 0.05, indicating that the successive error terms are not heteroscedastic.

5. Concluding Remarks

This study showed that an increase in compensation paid to the life insurance business does not substantially culminate into higher gross fixed capital formation in Nigeria. However, it has a reflection of incremental influence on gross capital formation. By implication, this finding affirmed that life insurance does not significantly provoke the gross fixed capital formation in the country. From the above, we concluded that the declining life insurance business slightly reflects the possibility of a lower gross fixed capital formation. The study

established that an increase in the claim paid on the general insurance business in Nigeria can decline a fraction of the gross fixed capital formation at the end of the financial year. However, this finding can confirm that the general insurance business does not increase a country's gross fixed capital formation. Finally, the study established non-existent long-term relation between gross limited capital formation and risk management.

5.1 Recommendations

Hingeing on the overview of discoveries made in this study, the following policy recommendations were presented:

i. Insurance operators need to reduce insurance premiums paid on general business as increases would lead to a decrease in gross fixed capital formation.
ii. The regulatory authorities should implement policies that make insurance appealing to Nigerians. This would result in improved life insurance take-up and, in turn, growth in fixed capital formation, as life insurance positively correlates with gross limited capital formation.
iii. The government should give more attention to proactive regulatory policies and insurance companies to develop good insurance policies and practices that are not misleading. Thes policies should be very clear in content, so they are understood by those insured or the general public. This will enable more people to take an insurance cover, which will boost the financial base of the companies in that sector.

5.2   Limitation of the Study

The major limitation of this study is the lack of insurance data. The available data was used to carry out this work, although this does not affect the reported results of this study.

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