Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/13131
DOI URL: http://dx.doi.org/10.21474/IJAR01/13131

RESEARCH ARTICLE

IMPACT OF CAPITAL STRUCTURE ON THE PERFORMANCE OF QUOTED INSURANCE FIRMS IN NIGERIA

Oluwaleye, Taiwo Olarinre[1], Kolapo, Funso Tajudeen (PhD)[2] and Ajayi, Foluso Isaac[3]

1. Department of Finance (Insurance Unit), Faculty of Management Sciences, Ekiti State University, Ado-Ekiti, Ekiti State, Nigeria.
2. Department of Finance, Faculty of Management Sciences, Ekiti State University, Ado-Ekiti, Ekiti State, Nigeria.

Manuscript Info

Manuscript History
Received: 10 May 2021
Final Accepted: 14 June 2021
Published: July 2021

Key words:-
Capital Structure, Firm Performance, Panel Data, Co-Integration, Long-Run, Short Run

Abstract

Evidence from the past studies revealed that capital structure has an impact on the firm performance. This research appraises the impact of capital structure on the performance of quoted life insurance companies in Nigeria from 2010 to 2019. The researchers used the panel cointegration model, autoregressive dynamic lag error correction model and pair wise granger causality test to measure the relationship among the variables. The study revealed that capital structure and firm performance has a long-run relationshipand 81% long run disequilibrium is corrected within a year. It was also apparent that there is a significant short run relationship between liquidity of life insurance and return on asset. The Granger causality outcome also shows that bidirectional causality exists between firm size (SIZE) and profitability (ROA) in the short run**.** We conclude that a large size of life insurance firm has more scope to make more profit in Nigeria context within the study period. The study recommended that to maximize firm's performance managers must endeavor to obtain and maintain an optimum capital structure level among others.

Introduction:-

The firm in an attempt to continually maximize profits arises from the operation of its business are faced with challenges of making the suitable decisions that has an effect on it performance. However, the decision to choose the best sources of funding is one of the issues that define an entity performance. The word "structure" refers to how the various parts are put together.As a result, capital structure depictsthe organisation of fund from diverse sources for the purpose of acquiring the long-term funds to run the business. Thus, having the overall quantity of fund that a company can make use of in order to carry out its economic operations is known as capital structure. Capital structure is the combination of preference share capital, equity share capital, retained earnings, debentures, long-term loans, retained earnings, and other sources of funds (Karadeniz et al., 2009).

The importance of capital structure in the performance of organizations' activities cannot be over-emphasised; particularly the limited liability companies are strongly influenced by the structural nature of the distribution of capital (Adaramola, & Olarewaju, 2015, Rafiu, Quadril, Ofe & Ajani, 2018). According to Almajali and Shamsuddin (2019), management are faced with the decision of choosing the ideal capital structure which in turn

Corresponding Author:- Oluwaleye Taiwo Olarinre
Address**:-** Department of Finance (Insurance Unit), Faculty of Management Sciences, Ekiti State University, Ado-Ekiti, Ekiti State, Nigeria.

will increase performance of the business by measuring the benefits and debt to equity cost, this is normally difficult for businesses to assess the best balance of stocks and debt due to a necessity to optimise returns to different regulatory sections, this decision is critical.Capital structure has long been a popular discussion among academics and researchers in the financial field. This is important due to the fact that capital structure is inextricably linked to a company's ability to meet the needs of multiple stakeholders (Boodhoo, 2009, Nagendra & Pasha 2017). Capital structure of an organisation is the best indicator of its risk level; it instills a significant effect on its efficiency (Adaramola & Olarewaju 2015).

Financial managers of life insurance companies in Nigeria are faced with financing decision of using a proportion of company fund to maintain optimal capital structure in line with the organization goals most essentially with new circular titled: "Tier Based Solvency Capital Policy for Insurance Companies in Nigeria" ("TBSC Policy") by National Insurance Commission (NAICOM) in 2018 that aims to increase the industry's capital base by utilizing a risk-based capitalization scheme. The New Minimum Capital Requirement would undoubtedly contribute huge effect on Nigeria's life insurance industry. Empirical and theoretical studies on the connection between capital structure and performance of firms had been deliberated upon in the past studies. This includes: Wainaina (2014); Lucy, Muathe & George (2014); Mubeen & Kalsoon (2014); Adaramola & Olarewaju, (2015); Ubesie (2016); Niway (2016); Herciu & Ogrean (2017); Iyoha & Umoru (2017); Rafiu, Quadril, Ajani & Ofe, (2018); Ibhagui & Olokoyo (2018); Jouida (2018); Almajali& Shamsuddin, (2019); Li &Islam (2019); Bhattarai, (2020) and Hariem & Turgut (2021) among others. According to some research, capital structure and performance have a good relationship (Dare & Sola 2010, Tayyaba, 2013, Mujahid & Akhtar 2014), Iorpev and Kwanum (2012) identified that a negative connection exist betwixt capital structure and performance while Prahlathan and Rajan (2011) indicated that a company financing structure has negative influence on its performance. This implied that, there is no general consensus on the relationship.

To the best researcher's knowledge none of the studies examined the equilibrium and long run connection between capital structure and performance of firms specifically in life assurance companies. Thus, the current study has as its objective to investigate the pivotal activities of life insurance companies by evaluating and determining the effect and impact of total debt ratio, equity to total assets, leverages, size, liquidity, assets tangible and business risk on performance (Return on asset).

The continuation of the paper is laid out as follows: the study's related literatures are reviewed in section two, the sources of data, model specification and findings are discussed carefully in section three. The inference based on findings is addressed in section four, and the recommendation is presented in section five.

Literature Review:-

Conceptual Review

According to Parmasivan and Subramanian (2009), capital structure refers to the association of different long-term source of fund including debt finance, preference share finance and equity finance. A company's capital structure instills a significant impact on its valuation, as it influences earnings before interest and taxes as well as the market price of its equity. A connection exists among the financial structure; capital cost and firm's worth.

Because capital structure is so closely connected to the firm's value, deciding on the right capital structure is a crucial decision for financial management. The capital structure of an entity refers to the long-term debt and equity funding of a firm. An effective capital structure is aimed at maximizing the firm's worth and as well reducing the capital cost. When a firm attained this point, it means that an optimum capital structure has been reached. Financial managers typically steer organisations toward a target capital structure in order to maximise the benefit of combining equity and debt at the lowest possible expense (Aljamaan, 2018). However, firm performance indicates how effectively the firm has been managed and effectively utilized its available resources. Profitability is a metric that can be used to assess a company's success. According to (Kaguri, 2013 cited in Abdul, John & Idachaba, 2019), profitability is the ability of an investment to create value through its utilisation.

The business performance could also be measured in relation to its asset turnover, investment returns, equity returns and ratio of operating expenses. The amount of funds that are borrowed by a firm and direct towards investments with the aim of obtaining a high return has a strong and optimistic correlation with financial performance (Baral, 1996) while a negative relationship was discovered in the study conducted by Ghimire, (1999) and Iorpev and Kwanum (2012). Similarly, the research conducted by Prahlathan & Rajan (2011) reported no discernible

connection between firms' capital structure and performance. This implied that there is no any general consensus on the level of capital structure-performance relationship by various authors in the field of finance.

The finance-based measure of asset returns was adopted to evaluate firm's performance in this study. Different theoretical research on the influence of capital structure on firm performance has been conducted. The major literatures reviewed as it's related to this study are summarized as follows.

Empirical Review

Zahid (2016) used the Granger causality test, fully modified least square (FMOLS), and panel least square fixed ransom to appraise the long and short run connection among Crude ratio, Assets return, Firm Size and Long-term debt ratio. Panel least square fixed ransom was employed to analyse the connection between capital structure and profitability for sample of 40 firms registered on Dhaka Stock Exchange (DSE) for the period of 1998-2013. In the short run, the analysis found mutual connection between firm size (FS) and profitability (ROA), as well as unidirectional causality between capital structure and liquidity. This result suggests that a company that can easily turn it assets to cash would have lower preference for debt in the short term. Furthermore, on the short term, unidirectional relationship existed between profitability and capital structure, as well as between firm size and liquidity, and profitability, liquidity and firm size hold significant statistical relationships with capital structure.

Adeyemi, Unachukwu, and Oyeniyi (2017) investigated the impact of capital structure on the financial performance of selected insurance companies in Nigeria. The researchers used descriptive statistics, correlation, and regression techniques in their research. The results showed a negative relationship between capital structure measured by the ratios of debt and equity and financial output measured by assets return and equity return. The findings further show that age has a positive effect on the financial performance of insurance industry in Nigeria.

Similarly, Jouida (2018) looked at the competitive relationship of 412 financial enterprises in France for their capital structure, diversification, and financial performance. The researcher used panel vector auto regression model to address endogeneity, causality variables, and the dynamics of the relationship. The study found evidence of bidirectional causality between leverage and success after controlling for individual fixed effects. Despite this, the study's findings are supported by a variety of spatial divergence and activity steps.

Almajali and Shamsuddin (2019) looked at how capital structures affect the profitability of Jordanian insurance companies. From 2008 through 2017, a total of ten years, a sample of 19 insurance companies was chosen. Capital structure was proxy with equity fund, long-term debt and short-term debt as independent variables, while equity return (ER) and Tobin's Q were employed as measured variables. Inflation and revenue growth were used as control variables. Short and long term debts were found to be positively linked with (ER), however, it contributed to a decrease in Tobin's Q, according to the findings. Financial leverage was also found to have a favourable relationship with profitability.

Furthermore, Abdul, Alaji, and Innocent (2019) looked at the capital structure impact on the profitability of Nigerian registered insurance firms from 2013 to 2017 using secondary data from fifteen registered insurance firms containing 75 observations. The findings revealed that short-term debt contribute a substantial adverse result on profitability; Long-term debt on the other hand, has a positive and considerable influence.

Finally, Bhattarai (2020) used a cross-sectional time series data from fourteen insurance companies in Nepal; totaling 126 observations to investigate the impact of capital composition on the performance of insurance companies. The researchers employed the models of pooled OLS, a random effect and a fixed effect to analyze the data. In the case of Nepalese insurance firms, the findings showed that equity to total assets ratio, asset tangibility and leverage has an effect on financial performance.

Several findings suggested a positive link between assets return and all capital structure variables, despite the previous mixed results, which showed an adverse connection between the debt-equity ratio and equity returns. In line with these results, it was unclear whether capital structure has an effect on the performance in both long and short term.

Methodology: -

The approach used in this study is presented in this section. To learn more about how capital structure influences life assurance companies' performance. The study's population was made up of all the seventeen (17) insurance company transacting life insurance business in Nigeria listed by National Insurance Commission (NAICOM) and sample size is ten (10). The sampling technique is based on a set of criteria that the firm must not be delisted during the study period and availability of data in the annual financial reports of the life insurance firm between 2010-2019.

However, the selected insurance companies are: African Alliance Insurance Company Ltd, Capital Express Assurance Ltd, FBN Insurance Limited, Royal Exchange Prudential Life Assurance Plc, Standard Alliance Life Assurance Ltd, Unic Insurance Plc, Wapic Life Assurance Ltd, Zenith Life Assurance Company Ltd, Mutual Benefits Life Assurance Ltd and Custodian Life Assurance Ltd.

Sources of Data and Model Specification

We used secondary data gleaned from the yearly reports of ten selected life assurance firms from 2010 to 2019, resulting in a total of 100 observations. According to authors like Bhattarai, (2020) and Getahun, Return on Assets (ROA) is a function of total debt-ratio, equity-total assets, leverage, firm size, liquidity ratio, assets tangibility, and business risk. As shown in equation 1, our model is as follows.

$$ROA_{it} = f(TDR,\ ETA,\ LEV,\ SIZE,\ LIQ, TANG, BR)_{it} \quad \ldots\ldots (1)$$

As shown in equation (2), equation (1) is written in an econometric form:

$$ROA_{it} = \beta_0 + \beta_1(TDR)_{it} + \beta_2(ETA)_{it} + \beta_3(LEV)_{it} + \beta_4(SIZE)_{it} + \beta_5(LIQ)_{it} + \beta_6(TANG)_{it} + \beta_7(BR)_{it} + \varepsilon_{it} \quad \ldots\ldots (2)$$

Where, β_0 = Unchanging Term, β1 to β7 = Variable coefficient, ROA= Return on Assets of insurance i^{th} in year t, TDR= Total debt Ratio of insurance i^{th} in year t, ETA= Equity-total assets of insurance i^{th} in year t, LEV= Leverage of insurance in i^{th} at year t, SIZE= Size of insurance firm in i^{th} at year t, LIQ= Insurance Liquidity in i^{th} at year t, TANG =Tangibility of assets in i^{th} at year t, BR = Business Risk of insurance i^{th} in year t, ε_{it} = error term.

Furthermore, equation (2) was converted into a log regression model to form equation (3). This was done to obtain the most suitable coefficient for ROA in connection to the regression covariates.

$$InROA_{it} = \beta_0 + In\beta_1(TDR)_{it} + In\beta_2(ETA)_{it} + In\beta_3(LEV)_{it} + In\beta_4(SIZE)_{it} + In\beta_5(LIQ)_{it} + In\beta_6(TANG)_{it} + In\beta_7 BR_{it} + \varepsilon_{it} \quad \ldots\ldots (3)$$

The log-log transformation is useful for reducing multicollinearity, heteroskedasticity and achieving a better fit, among other things (thus estimating flexibilities of the variables instead of slopes, which make the variables to be balanced and equal according to Gujarati & Porter (2009). We use an Autoregressive Dynamic Lag Error Correction Model to analyse the effect of capital structure and performance, as well as their long-run relationship (ADLECM). After checking for the presence of a long-run linear relationship between the variables in equation (3), the variables null hypothesis pointing at no Cointegration is defined as follows:

$$H0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0 \qquad \text{Versus} \qquad H1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq 0$$

If the findings indicate co-integration, we can continue to estimate the error correction model as stated in Sorensen (2005). As a result of the instability of measured variables in the short-run, a Dynamic Error Correction Mechanism (ADLECM) was used to control the error term in equation (3), this can subsequently be used to correlate the short-run behaviour of the dependent variable to its long-run value. As a result, the ADLECM for this analysis is represented thus:

$$\mu_{it} = InROA_{it} - \beta_0 - In\beta_1(TDR)_{it} - In\beta_2(ETA)_{it} - In\beta_3(LEV)_{it} - In\beta_4(SIZE)_{it} - In\beta_5(LIQ)_{it} - In\beta_6(TANG)_{it} + \beta_{7it.} \quad \ldots\ldots (4)$$

$$\Delta \ln ROA_{it} = \alpha_0 + \alpha_1 \Delta \ln TDR_{it} + \alpha_2 \Delta \ln ETA_{it} + \alpha_3 \Delta \ln LEV_{it} + \alpha_4 \Delta \ln SIZE_{it} + \alpha_5 \Delta \ln LIQ_{it} + \alpha_6 \Delta \ln TANG_{it} + \alpha_7 \Delta \mu_{it-1} + \varepsilon_{it}.$$

Where; ε_{it} is the white noise disturbance and μ_{it-1} is the lagged value of the error term in the previous model when the error term is non–zero, meaning that the model is in disequilibrium. More so, the value of α_7 shows how fast the equilibrium converges.

Furthermore, this study used the Granger causality test to ascertain the direction of relationship between capital structure and firm performance. In consequence, the requirement determines precise course of causality between these variables. Therefore, policymakers would be more likely to find out avenues of control and outcomes after the strategy are implemented.

Results and Discussion: -

To verify the impact of capital structure on the performance of Nigeria life insurance firms, this section starts with some preliminary overview of the variables used in the study. Tables 1, 2, and 3 display the results.

Preliminary Analysis

Table 1: - Descriptive Statistics of Variables in the study model.

	LROA	LTDR	LETA	LLEV	LSIZE	LLIQ	LTANG	LBR
Mean	-2.578333	-1.530253	-0.384019	-0.654044	-0.141399	0.706115	-1.791167	-1.581423
Median	-2.708569	-0.996409	-0.107203	-0.482647	-0.137738	0.700455	-1.607017	-1.396065
Maximum	-0.339256	0.205019	2.685902	0.249669	-0.046450	3.135896	-0.170005	0.612546
Minimum	-4.398156	-5.973232	-3.875857	-2.582299	-0.285524	-3.875857	-4.375329	-4.396446
Std. Dev.	0.950222	1.561721	1.262216	0.574439	0.036211	0.999920	0.987578	0.978276
Skewness	0.648965	-1.507237	-0.539037	-1.326917	-0.812312	-1.068688	-0.469379	-0.636962
Kurtosis	3.065504	4.372083	3.417744	4.463125	5.694129	7.264979	2.524916	3.119446
Jarque-Bera	7.037133	45.70695	5.569806	38.26489	41.24054	94.82676	4.612385	6.821455
Probability	0.029642	0.000000	0.061735	0.000000	0.000000	0.000000	0.099640	0.033017
Sum	-257.8333	-153.0253	-38.40195	-65.40439	-14.13991	70.61154	-179.1167	-158.1423
Sum Sq. Dev.	89.38925	241.4584	157.7256	32.66804	0.129812	98.98426	96.55563	94.74534
Observations	100	100	100	100	100	100	100	100

Source: The authors' analysis computed on E-views 9

Table 1 show that LTDR with value 1.561721 has the highest standard deviation and is the most volatile. The Table further discloses that the average value for ROA, TDR, ETA, LEV, SIZE, LIQ, TANG and BR of the combined observations for the study time and covered cross-sectional unit were -2.578333, -1.530253, -0.384019, -0.654044, -0.141399, 0.706115, -1.791167 and -1.581423 respectively. This finding demonstrates that LIQ as a determinant of capital structure in life assurance firms, has the highest average growth and ROA has the lowest average growth. Similarly, except for the positive value of LROA, all variables are negatively skewed; this implied they've been trapped with a long tail. However, the Jarque-Bera test (JB) statistics indicates that the model's variables are all normally distributed. In addition, the variables are first differences and then estimated using the ratio relative to the previous observation.

Unit Root Test

Table 2: - Result of the Unit Root Test.

	AT LEVEL			AT FIRST DIFFERENCE		
Variable	**Levin, Lin & Chu t* (Stat)**	**Prob.****	**Decision**	**Levin, Lin & Chu t* (Stat)**	**Prob.****	**Decision**
LROA	-1.03565	0.1502	NS	-9.60873	0.0000	S
LTDR	-1.07261	0.2231	NS	-9.51042	0.0000	S
LETA	-0.33353	0.3694	NS	-6.81333	0.0000	S
LLEV	-0.42312	0.4742	NS	-11.4157	0.0000	S
LSIZE	-1.28720	0.2935	NS	-7.23490	0.0000	S
LLIQ	-0.68125	0.5621	NS	-7.36763	0.0000	S
LTANG	-0.21367	0.4154	NS	-11.5672	0.0000	S

LBR	-0.23676	0.4064	NS	-13.2681	0.0000	S

Source: The authors' analysis based on E-views 9

In testing for unit root as indicated in Table 2, the researchers employed Levin, Lin & Chu test. Also, a null hypothesis was created, asserting that the variables all have the same unit root. The null hypothesis of a unit root, on the other hand, was not ruled out based on p-values and t-statistics, all of the significant variables are non-stationary at the level. After the initial differencing, the variables became stationary. As a result, all of the variables are said to be integrated to the first order, that is, I. (1)

Co-integration Test

Table 2 shows that at first differencing, all of the variables are stationary; hence, to draw a conclusion Kao panel co-integration experiments were employed to look at the long-term connection between the variables. The Kao Johansen co-integration test results are shown in Table 3.

Table 3:- Kao Residual Cointegration Test.

			t-Statistic	Probability
ADF			-3.839884	0.0001
Residual variance			1.065193	
HAC variance			0.506302	

The authors' analysis based on E-views 9

Table 3 shows that the null hypothesis of no co-integration was rule out since probabilities of 0.0001 less than 5% level of significant, meaning that ROA and firm Performance (TDR, ETA, LEV, SIZE, LIQ, TANG and BR) are cointegrated. The implication is that there is a long run association between the variables at the 5% level of significance in the model. Since the variables are cointegrated, the panel long run model is now suitable.

The Model for Error Correction

Co-integration and non-spurious regression are the basic characteristics of an error correction model (ECM). As a result, the co-integration test results in Table 3 are sufficient proof of the long-run link between the variables in question, in addition to residual stationarity at level, which serves as the foundation for estimating ECM. Table 4 shows the final result.

Table 4:- Result of the ADLEM.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.086077	0.191871	0.448620	0.6583
D(LTDR(-1))	-0.241824	0.140748	-1.718138	0.1005
D(LETA(-1))	-0.491225	0.331812	-1.480434	0.1536
D(LLEV(-1))	-0.382821	0.303369	-1.261898	0.2208
D(LSIZE(-1))	-0.659321	7.816775	-0.084347	0.9336
D(LLIQ(-1))	-1.090886	0.370565	-2.943843	0.0078
D(LTANG(-1))	0.250106	0.198814	1.257995	0.2222
D(LBR(-1))	-0.223929	0.334806	-0.668832	0.5109
ECM(-1)	-0.805441	0.206625	-3.898085	0.0008

R^2 = 0.65, Adj. R^2 = 0.52, F-Stat = 4.944, Prob. <F (0.0015), DW = 1.88

The ECM results show that the exogenous variables have a mixed effect on performance over the captured period. In other words, some external variables had a favourable impact on performance while others had a deleterious impact in the short run. The explanatory variables are jointly important, according to the F-statistics F (0.0015). The R2 value of 0.65 shows that shifts in the explanatory variables constitutes 65 percent variance in the response variables. The absence of serial autocorrelation is shown by the importance of Durbin-Watson statistics, which equals to (2.0). For instance, with exception of LTANG, the coefficients of past values of all variables contribute an adverse effect on the current value of life assurance firm performance in Nigeria. However, only LLIQ was found to be statistically significant, while the other variables were found to be statistically insignificant to the current value of performance.

As predicted, the adjusting coefficient error term was non-zero, negative and statistically significant at the 5% level, implying dynamic performance stability. As a result, the model is found to deviate from equilibrium in the short run.

Thus, variations in firm performance via ROA can be regulated by assets tangibility, total-debt ratio, equity-total assets, size of firm, leverage, liquidity ratio and business risk respectively towards equilibrium convergence. More specifically, the coefficient of the ecm-1(-0.805) depicting the mechanism of error correction is consequential but indicated adverse effect. The implication from the aforementioned is that the variables have a long-term equilibrium connection, with an 81 percent change in long-run disequilibrium corrected in a year.

Despite the model's suitability, it was further validated by performing numerous diagnostic tests on the ECM model's residual. The tests include the normality test, serial correlation LM test, and heteroskedasticity test respectively. The model's residuals were confirmed to pass all three criteria based on their likelihood values, as shown by these findings.

The Granger Causality Test

Table 5:- The Result of Granger Causality Test.

Null Hypothesis:	Obs	F-Statistic	Prob.
LTDR is not a cause of LROA	80	0.75790	0.4722
LROA is not a cause of LTDR		1.56803	0.2152
LETA is not a cause of LROA	80	3.81259	0.0364
LROA is not a cause of LETA		0.02068	0.9795
LLEV is not a cause of LROA	80	0.34265	0.7110
LROA is not a cause of LLEV		0.31733	0.7291
LSIZE is not a cause of LROA	80	12.2140	0.0125
LROA is not a cause of LSIZE		4.6582	0.0027
LLIQ is not a cause of LROA	80	0.23502	0.7911
LROA is not a cause of LLIQ		0.36710	0.6940
LTANG is not a cause of LROA	80	4.73714	0.0412
LROA is not a cause of LTANG		0.42281	0.6568
LBR is not a cause of LROA	80	2.83139	0.0252
LROA is not a cause of LBR		0.34309	0.7107
LETA is not a cause of LTDR	80	0.06475	0.9374
LTDR is not a cause of LETA		2.98236	0.0567
LLEV is not a cause of LTDR	80	2.14352	0.1244
LTDR is not a cause of LLEV		1.18297	0.3120
LSIZE is not a cause of LTDR	80	0.14204	0.8678

LTDR is not a cause of LSIZE		9.17311	0.0003
LLIQ is not a cause of LTDR	80	0.03807	0.9627
LTDR is not a cause of LLIQ		2.11010	0.1284
LTANG is not a cause of LTDR	80	0.60856	0.5468
LTDR is not a cause of LTANG		1.97953	0.1453
LBR is not a cause of LTDR	80	1.27430	0.2856
LTDR is not a cause of LBR		2.17697	0.1205
LLEV is not a cause of LETA	80	0.38349	0.6828
LETA is not a cause of LLEV		0.99806	0.3734
LSIZE is not a cause of LETA	80	0.26986	0.7642
LETA is not a cause of LSIZE		7.21463	0.0014
LLIQ is not a cause of LETA	80	0.63890	0.5307
LETA is not a cause of LLIQ		1.55023	0.2189
LTANG is not a cause of LETA	80	0.77579	0.4640
LETA is not a cause of LTANG		1.37598	0.2589
LBR is not a cause of LETA	80	1.53370	0.2224
LETA is not a cause of LBR		1.93592	0.1514
LSIZE is not a cause of LLEV	80	2.61723	0.0797
LLEV is not a cause of LSIZE		0.02583	0.9745
LLIQ is not a cause of LLEV	80	0.36971	0.6922
LLEV is not a cause of LLIQ		1.46789	0.2370
LTANG is not a cause of LLEV	80	0.44998	0.6394
LLEV is not a cause of LTANG		1.46419	0.2378
LBR is not a cause of LLEV	80	0.42446	0.6557
LLEV is not a cause of LBR		1.08467	0.3433
LLIQ is not a cause of LSIZE	80	0.07399	0.9288
LSIZE is not a cause of LLIQ		0.41138	0.6642

LTANG is not a cause of LSIZE	80	0.18662	0.8301
LSIZE is not a cause of LTANG		4.25318	0.0178
LBR is not a cause of LSIZE	80	7.29306	0.0013
LSIZE is not a cause of LBR		1.95266	0.1490
LTANG is not a cause of LLIQ	80	0.59985	0.5515
LLIQ is not a cause of LTANG		0.32119	0.7263
LBR is not a cause of LLIQ	80	0.82169	0.4436
LLIQ is not a cause of LBR		0.38078	0.6846
LBR is not a cause of LTANG	80	3.96499	0.0231
LTANG is not a cause of LBR		0.23631	0.7901

The authors' analysis based on E-views 9

The causality test results in Table 3 reveal that bidirectional causal relationship between return on assets (ROA) and firm size exists in the short run. Compared to small size firms, large size firms have more opportunities to earn additional profit. The unidirectional causal relationship also exists among equity-total assets of insurance(ETA) and return on assets(ROA), (TANG) and return on assets(ROA), business risk of insurance(BR) and return on assets(ROA) & (SIZE), total- debt ratio of insurance(TDR) & firm size(SIZE), business risk of insurance(BR) &assets tangibility of insurance(TANG), business risk of insurance(BR) & firm size(SIZE), firm size (SIZE) &assets tangibility of insurance(TANG). Larger firms have more leeway in managing funds to keep their liquidity. As the large firms are creditworthy and having excellent reputation in the financial markets. So they can handle any uncertainty in the capital structure.

Concluding Remarks and Policy Suggestions: -

This study investigates the pivotal activities of life insurance companies in Nigeria by evaluating and determining the effect of total-debt ratio, equity-total assets, leverages, size of the firm, liquidity, assets tangible and business risk on performance (Return on asset) ranging from 2010-2019. The Levin, Lin, and Chu unit root test was used to check for stationarity in the panel data, and all of the data examined was integrated at first difference that is, I (1).

We used kao panel co-integration test to determine if the variables have a long-term relationship, and the results show that all variables are cointegrated. The conclusion is that there is a lot of evidence to support the hypothesis that the capital structure of Nigeria life insurance firms has a long-run equilibrium connection with its performance. The coefficient of all the past values of all variables except TANG contributes an adverse effect on the current value of life assurance firm performance in Nigeria. Although, only LIQ was discovered to have statistical significance. But other variables (TDR, ETA, LEV, SIZE, TANG and BR) are statistically insignificant to the current value of performance. This is evidence from the results obtained from the analysis. This result tends to support the work of Tripathy and Singh (2018) who posited that long and short run relationship exist between capital structure and firm performance in India. Consequently, it is necessary for managers to implement other measures that trigger performance of life insurance firm in Nigeria, to achieve high performance rate.

The result of our Granger causality test revealed that a bidirectional causal relationship between return on assets (ROA) and firm size exists in the short run. The large firms have more scope to make more profit rather than small size firms.

Recommendation:-

The study makes the following recommendation based on the study's findings:

i. To maximise the firm's performance, managers must endeavor to obtain and maintain the optimal capital structure level.
ii. Instead of relying on debt funding, insurance companies should find a balance between the various capital structure alternatives available to them.

References:-

1. Abdul, K., John, A. & Idachaba, O.I. (2019). Effect of Capital Structure on the Profitability of Listed Insurance Firms in Nigeria. American International Journal of Economics and Finance Research. 1(2).
2. Adaramola, A. O. & Olarewaju O. M. (2015): Determinants of Capital Structure in Nigerian Quoted Composite Insurance Companies. Global Journal of Management and Business Research: C Finance, 15(10).
3. Adeyemi, A. Z., Unachukwu, J. C. & Oyeniyi, K. O. (2017). Capital Structure and Its Effect on the Financial Performance of Nigerian Insurance Industry. International Journal of Business & Law Research, 5(3). 8-15
4. Aljamaan, B. E. (2018). Capital Structure: Definitions, Determinants, Theories and Link with Performance Literature Review. European Journal of Accounting, Auditing and Finance Research. 6(2), pp. 49-72.
5. Almajali, M., &Shamsuddin, Z. (2019). The Effect of Capital Structure on Performance of Insurance Companies: Evidence from Jordan. International Journal of Accounting, Finance and Business (IJAFB), 4(20), 64 - 73.
6. Baral, K. J. (1996). Capital structure and cost of capital in public sector enterprises in Nepal. Ph. D. Thesis, New Delhi: University of Delhi.
7. Bhattarai, Y. (2016). Capital structure and firm performance: Evidence from Nepalese manufacturing companies. Journal for Studies in Management and Planning, 2(3), 138-150
8. Bhattarai, B. P. (2020). Effects of Capital Structure on Financial Performance of Insurance Companies in Nepal. International Journal of Accounting and Financial Reporting, 10(3)
9. Boodhoo, R. (2009). Capital structure and performance of Mauritius listed firms: The theoretical and empirical evidences.
10. Dare, F. D., & Sola, O. (2010). Capital structure and corporate performance in Nigeria petroleum industry: Panel data analysis. Journal of Mathematics and Statistics, 6(2), 168-173
11. Dogan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. Research Journal of Finance and Accounting, 4(4), 53-59
12. Ghimire, K. R. (1999). Capital structure and cost of capital. An unpublished Master's Degree Thesis, Kathmandu: Faculty of management, Tribhuvan University.
13. Hariem, Abdullah & TurgutTursoy (2021): Capital structure and firm performance: a panel causality test. Munich Personal RePEc Archive
14. Herciu, M. & Ogrean, C. (2017). Does Capital Structure Influence Company Profitability? Studies in Business and Economics, 12(3), 50-62.
15. Iyoha, A. O. I. & Umoru, D. (2017). Capital Structure and Firm Financial Performance in Nigeria: Empirical Evidence ofthe Causal Link. Contemporary Economy Journal, 2(4), 69-83.
16. Ibhagui, O. W. & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. The North American Journal of Economics and Finance, 45, 57-82.
17. Jouida, S. (2018). Diversification, capital structure and profitability: A panel VAR approach. Research in International Business and Finance, 45, 243-256.
18. Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data, Journal of Econometrics, 90 (1): 1–44.
19. Karadeniz, E., Yilmaz Kandir, S., Balcilar, M., & BeyazitOnal, Y. (2009). Determinants of capital structure: evidence from Turkish lodging companies.
20. Nagendra, M., & Pasha, M. A. (2017). International Indexes Integration: With Special Reference to Indian Index. International Journal of Management and Social Sciences Research (IJMSSR).
21. Niway, A. A. (2016). The Impact of Capital Structure Choice on Firms' Financial Performance:
22. Evidence from Manufacturing PLCs in Tigrai Region, Ethiopia Research Journal of Finance and
23. Accounting. 7 (15): 31-38
24. Li, L., & Islam, S. Z. (2019). Firm and industry specific determinants of capital structure: Evidence from the Australian market. International Review of Economics & Finance, 59, 425-437.6(7).
25. Iorpev, L., & Kwanum, I.M. (2012). Capital structure and firm performance: Evidence from manufacturing companies in Nigeria. International Journal of Business and Management Tomorrow, 2(5)
26. Lucy W. M.; Muathe S. M. & George K. (2014). Relationship between Capital Structure and

27. Performance of Non-Financial Companies Listed in the Nairobi Securities Exchange, Kenya Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics (GJCRA).1 (2) 72-90
28. Mubeen, M., & Kalsoom, A. (2014). Impact of Capital Structure on Firms Financial Performance and Shareholders Wealth: Textile Sector of Pakistan International Journal of Learning & Development 4 (2) 27-33
29. Mujahid, M. & Akhtar, K. (2014). Impact of Capital Structure on Firms Financial Performance and Shareholders Wealth: Textile Sector of Pakistan. International Journal of Learning & Development, 4(2), 27-33
30. Paramasivan. C, and Subramanian, T. (2009), Financial Management. New Age International
31. Limited, Publishers. New Delhi.
32. Prahalathan, B. & Rajan, R.P.C. (2011). The impact of capital structure-choice on firm performance: Empirical investigation of listed companies in Colombo stock exchange, Srilanka. International Journal of Research in Commerce and Management, 2(4)
33. Rafiu O.S., Quadril A.L., Ajani B.A., & Ofe. I. I. (2018). Capital Structure and the Performance of Quoted Insurance Industry in Nigeria GO-Uni Journal of Management and Social Sciences 6 (1), 57-75
34. Salim, M., & Yadav, R. (2012). Capital structure and firm performance: evidence from Malaysian listed companies. Social and Behavioral Sciences, 65(3), 156-166.
35. Tayyaba, K. (2013). Leverage: An analysis and its impact on profitability with reference to Selected Oil and Gas Companies. International Journal of Business and Management Invention, 2(7).
36. Tripathy, S & Singh, S. (2018). Can Capital Structure Influence the Performance of the Firm? Evidence from India. The Empirical Economics Letters, 17(11)
37. Ubesie M .C (2016). The effect of capital structure on the financial performance of Nigerian Quoted Conglomerates. European Journal of Accounting, Auditing and Finance Research 4(6), 61-69
38. Wainaina, S. G. (2014). The Relationship between Capital Structure and Financial Performance of Insurance Companies in Kenya. A Research Project Submitted in Partial Fulfillment of the Requirements for the Award of the Degree of Masters of Business Administration, School of Business, University of Nairobi.
39. Zahid, A. (2016). Capital Structure and Profitability of Bangladeshi Firms: A Causal Investigation. Universal Journal of Accounting and Finance 4(4): 130-135.