

# Determinants of Capital Structure in Nigerian Quoted Composite insurance Companies By

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Received: 7 February 2015 Accepted: 2 March 2015 Published: 15 March 2015

## Abstract

This study was carried out to examine the major determinant of capital structure of quoted composite insurance companies in Nigeria. A descriptive and explanatory research designed was adopted for this study and the secondary data extracted from the annual report of the purposeful composite insurance was analysed using panel data regression technique. The results revealed that tangibility, growth and Liquidity had a negative impact on the Leverage while Risk, Return on Asset and Size have a positive influenced on Leverage; it was discovered from this study that all the variables identified are statistically significant except Return on Asset and growth; the model was reliable and appropriate for determining capital structure of composite insurance companies; It can be concluded that fixed effect panel regression model was better than the random effect model in determining the capital structure of composite insurance in Nigeria.

**Index terms**— composite insurance, tangibility, financial structure.

## 1 Introduction

Business activity either profit or non-profit oriented has to be financed before it can exist. Without finance, either primary or secondary, the business cannot perform its functions effectively. A business activity has three main primary sources; the first is the sales of ordinary shares, the second is the proceeds from operating activities and the third is out-sourcing, that is borrowing from financial institutions either interest bearing or non-interest bearing. Irrespective of a business set-up, the managing team should reason together to conclude on the optimal mix of both insource and out-source of funds. This reasoning together prompts the capital structure theory and according to Abor (2005), capital structure decisions plays a significant role in financial performance of a firm and to decide is always a problem for any company.

The inception of capital structure theory could be traced to the ??odigliani and Miller (1958) in a seminar paper delivered. Since then, the capital structure of a company has received a great attention which has improved the performances of these companies. Capital structure simply means the ways by which a company finances its overall operations and growth by using diverse sources of funds. It is also a mix of debt (short term and long term) and equity (common and preferred). The level of risk in a company can be best measured by its capital structure. The nature of insurance business is to protect their clients or depositors as the need arises via minimisation of losses. Therefore, as it is established that capital structure plays a cogent role in performances of a firm, it is necessary to dig deep into the factors that actually determines the mixture of diverse sources of finance in an organisation, but for the purpose of this study, insurance business will a) Gap In Literature Quite a number of studies had been done on insurance business, most especially their capital structure from various dimensions. This includes: Velnampy and Niresh (2012) in Srilanka; Mehari and Aemiro (2013) in Ethiopia; Bayeh (2013) in Ethiopia; Kingsley (2013) in Ghana; Al bulena, Skender, Vlora and Edona (2014) in Kosovo; Ogbulu and Emeni (2012) in Nigeria to mention a few. Thus, this study stands different by examining the capital structure of selected composite insurance business listed on the Nigerian Stock Exchange focusing on only the

### **3 REVIEW OF RELATED LITERATURES A) BRIEF HISTORY OF INSURANCE COMPANIES IN NIGERIA**

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44 endogenous (internal) factors and incorporate size as a variable which is measured differently in this study as a  
45 natural logarithm of total asset of these companies. Also, all these factors will be critically examined by pooling  
46 all the insurance companies together and a post estimation test will be conducted to establish the estimations in  
47 which the conclusions will be based.

48 Volume XV Issue X Version I Year 2015 ( ) C be the pivot case study. An insurance business is a business that  
49 is characterised with trading with the deposits received from the clients but before they can start any business  
50 activity, there must be capital to start up with and this capital have to be properly structured. Capital structure  
51 is very important in insurance business because there must be proper combination of all the funds accruing to  
52 the company so as to avoid excessive debt in the company. Thus, this study will examine the firm-level factors  
53 determining the capital structure in the context of Nigerian insurance companies.

## **54 2 II.**

### **55 3 Review of Related Literatures a) Brief History of Insurance 56 Companies in Nigeria**

57 Nigeria, a country endowed with both human and material resources of not less than 140 million populations is a  
58 former British colony which shares almost all its political and economic settings from its former colonial heritage.  
59 Nigerian society had some forms of social insurance before the introduction of the modern form of insurance.  
60 Until 1966, Nigeria copied British parliamentary system of government and up till now, British system still  
61 dominates some aspects of the country's socio-economic settings. For instance, the legal practice operating in  
62 Nigeria Financial institutions such banks and insurance companies practicing in Nigeria emulate the British style  
63 of running their activities. However, the country's progress since independence in 1960 has been undergoing the  
64 challenge of long years of military rule, political instability and systemic corruption. Not until 1999, there was  
65 an inception of a civilian government after a successful political transition process.

66 The origins of modern insurance can be traced to both the advent of British trading companies in the region  
67 and the subsequent increased inter-regional trade in Nigeria. According to Uche and Chikeleze (2001), increased  
68 trade and commerce led to increased activities in shipping and banking, and it later became necessary for some  
69 of the foreign firms to internally handle some of their risks. This led to trading companies subsequently granted  
70 insurance agency licences by foreign insurance companies, which made it possible for such firms to issue covers  
71 and assist in claims' supervision. The first insurance agency in Nigeria came up in 1918 when the Africa and  
72 East Trade Companies introduced the Royal Exchange Assurance Agency and it was noticed that there was an  
73 initial slow pace of the growth of the insurance industry in the country, particularly between 1921 and 1949  
74 which was traced to adverse effect of the World War II on trading activities both in Nigeria and in the United  
75 Kingdom. As soon as the war ended, NICON (1994) concluded that business activities gradually picked up  
76 again, and insurance industry in Nigeria began to record tremendous growth and efficiency. In 1958, the first  
77 indigenous insurance company, the African Insurance Company Limited, was established. At independence, only  
78 four of the then existing 25 firms in existence were indigenous, but by 1976, the number of indigenous companies  
79 surpassed that of the foreign companies in Nigeria. Gradually, till date, insurance business in Nigeria has been  
80 well established and different reforms (recapitalisation and reconsolidation) have been made to solidify their  
81 activities. b) Empirical Review Bayeh (2013) employs panel regression model in the study of firm level factors  
82 on Capital Structure in Ethiopian Insurance Companies. The results revealed that growth, profitability and  
83 age of the firm have significant influence on Ethiopian insurance companies' capital structure while, liquidity  
84 and business risk were also significant for long term debt and total debt ratio respectively. Similarly, Kingsley  
85 (2013) employed panel regression model in examining the capital structure of insurance companies in Ghana  
86 with financial statements of twelve insurance companies covering the period, 2002-2007 and found that both the  
87 pecking order and static trade-off theories are important factors explaining the capital structure of Ghanaian  
88 insurance companies. Firm size, profitability and growth were the statistically significant factors and indicated  
89 that, large insurance companies tend to utilize more debt in building their capital structure. This can be traced  
90 to the fact that they can diversify and have minimal probability of bankruptcy. Negative relationship between  
91 profitability and leverage also indicates that profitable insurance companies prefer internal sources of finance to  
92 external sources, hence less debt in their capital structure. However, the positive relationship between growth  
93 and leverage shows that growing insurance companies mostly depend on debt to enhance their growth. Velnampy  
94 and Niresh (2012) attempted to investigate the relationship between capital structure and profitability or returns  
95 of ten quoted banks in Srilanka covering 2002 to 2009. The data was analyzed by using both descriptive and  
96 inferential statistics where correlation analysis was used to find out the association between the variables. They  
97 found out in their results of the analysis that, there is a negative association between capital structure and  
98 profitability except the association between debt to equity and return on equity. Similarly, Mehari and Aemiro  
99 (2013), investigated insurance companies in Ethiopia by examining the impact of firm-level characteristics (size,  
100 leverage, tangibility, Loss ratio (risk), growth in writing premium, liquidity and age) on their performances.  
101 Return on assets (ROA) was used as a key indicator of insurance company's performance and also used as  
102 dependent variable while age of company, size of the company, growth in writing premium, liquidity, leverage and  
103 loss ratio are independent variables. The study was specifically on 9 insurance companies for the period 2005-

104 2010. The results of regression analysis revealed that size, tangibility and leverage are statistically significant  
105 and positively related with return on asset; however, loss ratio (risk) is statistically significant and negatively  
106 related with ROA. Thus, size, Loss ratio (risk), tangibility and leverage are cogent determinants of performance  
107 of insurance companies in Ethiopia. But, growth in writing premium, insurers' age and liquidity Al bulena,  
108 Skender, Vlora and Edona (2014), analyzed the determinants of capital structure among insurance companies in  
109 Kosovo, based on a data retrieved from 11 insurance companies during the years 2009-2012. Debt ratio was taken  
110 as a dependent variable whereas company size, growth, life, noncurrent assets and liquidity ratio were taken as  
111 independent variables. The result of the regression model shows that these variables are in direct relationship  
112 with the debt ratio. In the study of Naser and Krassimir (2011), the critical firm-specific factors that managers  
113 should consider when setting their "best" capital structure were analysed.

114 Multiple linear regression analysis using SPSS was employed. Each explanatory variable along with the  
115 dependent variable is measured separately for a sample of insurance companies operating in Bahrain for the  
116 period of 2005-2009. A strong relationship was established between firm characteristics, such as; tangibility of  
117 assets, profitability, firm size, revenue growth, liquidity and debt ratio which is the observed capital structure,  
118 although not all variables are statistically significant. Contrarily, Sritharan (2014) employed a pooled ordinary  
119 least square regression to analyze the determinants of the capital structure of 28 quoted Banks, Finance &  
120 Insurance Companies in Colombo Stock Exchange for the period of 2008-2012 and further evidence of the capital  
121 structure theories. The results reflect the real nature of the Sri Lankan corporate environment. The study  
122 suggests that some of the insights from modern finance theory of capital structure are moveable to Sri Lanka  
123 meaning, certain firm-specific factors that are relevant for explaining capital structure in developed economies  
124 are also relevant in Sri Lanka, a less developed country. Statistical results showed that tangibility, profitability,  
125 growth, and liquidity are negatively related to the debt ratio, while size has a positive nexus. Non-debt tax shield  
126 is not significantly related to the debt ratio. Furthermore, these results are consistent with the predictions of the  
127 capital structure theory such as; trade-off theory, pecking order theory and agency theory. It thereby provides  
128 help in understanding of financing reactions of Sri Lankan firms.

129 Sharif, Naeem and Khan (2012), investigated that factors identified in developed countries which are attributed  
130 as imperative ones to attain optimal capital structure, provide compelling justifications for capital structure  
131 decisions in insurance companies of Pakistan. Empirical exploration of factors, that drives optimal capital  
132 structure apply on panel data of 31 insurance firms from 2004 to 2009. Two panel data estimation techniques;  
133 fixed effects and random effects were specifically used. Haussmann's post estimation test was performed in order  
134 to test appropriate model for the study. The outcomes of study affirm that, profitability, age and earnings  
135 volatility has indirect relationship with leverage and was significant. Liquidity also maintain inverse relationship  
136 with debt ratio but insignificant. Alternatively, size and growth opportunities have direct relationship with  
137 leverage but only size is significant. These outcomes are in line with theoretical theories such as pecking order  
138 theory and trade off theory. Likewise, a similar study in Nigeria by Ogbulu and Emeni (2012), hypothesized that  
139 there is no relationship between gearing (capital structure) and the size, growth, profitability, tangibility and age  
140 of a firm. Using a crosssectional survey data from 110 firms listed on the Nigerian stock exchange and analysis of  
141 data by the OLS method, it was found that size has a positive and significant effect on capital structure while,  
142 age has a negative and significant influence. Tangibility, growth of a firm and profitability, on the other hand, do  
143 not have any significant impact on the capital structure of firms in Nigeria. Lastly, Naveed, Zulfqar and Ishfaq  
144 (2010) studied the life insurance sector of Pakistan and the result of OLS regression model indicates that size,  
145 profitability, risk, liquidity and age are important determinants of capital structure of life insurance companies.

## 146 4 III.

## 147 5 Methodology

148 The data used for the study are secondary in nature. They are obtained from annual reports and accounts of the  
149 six (8) purposively selected composite a) Choice Of Explanatory Variables

## 150 6 i. Profitability

151 Firm's performance plays a crucial role in determining its capital structure. This can be better confirmed by the  
152 pecking order theory, which states that firms desires internal sources of finance to external sources of finance.  
153 Titman & Wessels (1988) concluded that holding all variables constant, firms with higher returns would maintain  
154 relatively lower debt ratio since they generate such funds from internal sources.

## 155 7 ii. Size

156 Size is also an important determinant of firm's capital structure. This study will measure size of insurance  
157 companies by the natural logarithm of their total asset. The larger firms tend to have lower variances of earning  
158 that enables them to tolerate high debt ratio due to their capacity to diversify. Smaller firms tend towards a  
159 lower debt ratio due to their costly asymmetric information from lenders. Therefore, a positive relationship is  
160 expected between size and capital structure of the selected firms under this study. iii. Tangibility

## 10 B) MODEL SPECIFICATION

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161 The tangibility of a firms' asset also plays a germane role in determining its capital structure and in this  
162 research paper, a positive relationship is expected between tangibility and capital structure. According to Harris  
163 & Raviv (1991), the tangibility of a firm's assets results from the firm's liquidation value. Therefore, firms that  
164 invest heavily in tangible assets tend to have higher leverage since they will borrow at lower interest rates if their  
165 debt is secured with such assets as commensurate collateral.

166 iv. Growth Pecking order theory postulates that, growing firms usually search out for external funds to  
167 maintain their growth because as they are expanding, there is tendency for them to exhaust all their internally  
168 generated funds. Firms, whose larger proportion of their market value is accounted for by growth opportunity,  
169 will surely be involved in huge debt as a means of financing. Therefore, growth is expected to positively relate  
170 to firms' leverage.

### 171 8 v. Risk

172 The risk level of a firm can never be overlooked in examining the determinants of its capital structure. In this  
173 research paper, the risk of insurance firms will be measured by the proportion of claims paid from the net premium  
174 earned per time. Following Abor & Biekpe (2005), a positive relationship is expected to lie between risk level  
175 and leverage of insurance companies.

### 176 9 vi. Liquidity

177 There has been a discrepancy in the findings of various researchers who have worked on the link between liquidity  
178 and capital structure, while some find positive effect, others found a negative relationship. Liquidity is seen as  
179 the blood flowing through the living system of any organisation and insurance is not an exception. Following the  
180 trade of theory, liquid firms possess more equity and trade with less debt.

### 181 10 b) Model Specification

182 Generally, the model is;  $Y_{it} = \beta_0 + \beta_1 Z_{it} + \beta_2 R_{it} + \beta_3 L_{it} + \beta_4 S_{it} + \beta_5 G_{it} + \epsilon_{it}$  (1)

183 The functional form;  $LEV = f(ROA, TANG, RISK, LIQ, SIZ, GRO)$ .....(2)

184 Explicitly, the model is in the form; The descriptive statistics of data provides information about sample  
185 statistics such as mean, median, maximum value and minimum value and the distribution of the sample measured  
186 by the skewness, kurtosis and the Jarque-Bera statistics. The Table above reports some descriptive statistics for  
187 the eight purposively selected composite insurance firms for a period of seven years covering 2008 -2014 totalling  
188 56 observations. Table 4.1 above presents the descriptive statistics of all the variables used in an attempt to  
189 examine the determinants of composite insurance firm's capital structure. The Table reveals that the average  
190 value for LEV, RISK, TANG, ROA, LIQ, GROWTH, LOGTA of the pooled observations for the period and  
191 cross sectional unit covered in the study stood at 0.393982, 0.269095, 0.327386, 0.043375, 2.355102, 0.313791,  
192 and 17.13390 respectively. This result shows that LEV has the highest average growth and ROA has the least  
193 average growth as a determinant of capital structure in insurance companies. The minimum and maximum  
194 values stood at 0.0831 and 0.8641, -0.6404 and 0.5741, 0.0844 and 0.6759, -0.0223 and 0.2076, 0.3421 and 9.8757,  
195 -0.4275 and 2.8344, 14.9101 and 22.6200 for LEV, RISK, TANG, ROA, LIQ, GROWTH, LOGTA respectively.  
196 The standard deviation of the variables which shows the rate of deviation from the expected growth value for  
197 each variable of interest stood at 0.228929, 0.182671, 0.157102, 0.042523, 1.955264, 0.483046 and 2.212623 for  
198 LEV, RISK, TANG, ROA, LIQ, GROWTH, LOGTA respectively.  $it \sim N(0, \Sigma)$  (3)

199 The skewness and kurtosis statistics provide useful information about the symmetry of the probability  
200 distribution of various data series as well as the thickness of the tails of these distributions respectively. These  
201 two statistics are particularly of great importance since they are used in the computation of Jarque-Bera statistic,  
202 which is used in testing for the normality or asymptotic property of a particular series. The statistics in Table  
203 4.1 Clearly shows that LEV, TANG, ROA, LIQ, GROWTH, LOGTA are positively skewed (0.369648, 0.529438,  
204 1.596600, 2.079059, 3.121686, 1.644955) meaning that the distribution have long right tail while RISK is negatively  
205 skewed (-1.983783) which implied that the data sets have long left-tails and hence, the risk level tend towards  
206 less than the median values (i.e. median > mean).

207 In terms of kurtosis, it measures how fat the tails of the distribution are. The kurtosis statistics obtained  
208 for RISK (12.03348), ROA (6.367075), LIQ (7.914484), GROWTH (15.39592) and LOGTA (4.562143) showed  
209 that the distribution series for each of the variables was peaked relative to the normal because the statistics  
210 were greater than 3.0. Being peaked implied very few observations within the region where the median resided.  
211 Whereas, LOGTA (4.562143) is the least peaked compared to GROWTH (15.39592).

212 On the other hand, Kurtosis statistics for LEV (1.980476) and TANG (2.403349) were less than 3.0, which  
213 indicated the extent of flatness (platy-kurtic) of the distribution of the data series relative to normal. Their  
214 Jarque-Bera statistics of RISK (227.1386), ROA (50.24535), LIQ (96.69822), GROWTH (449.4897), LOGTA  
215 (30.94887) with their probability values less than 0.01 suggested that the null hypothesis of normality in the  
216 distributions were rejected, while on the contrary, LEV (3.700635) and TANG (3.435719) Tables 4.2 revealed  
217 the correlation between LEV and determinants of capital structure in insurance companies. From the Table, it  
218 was observed that there is a weak correlation between GROWTH, LEV, LIQ, LOGTA, RISK, ROA and TANG.

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220 However, it was discovered that a negative correlation exists between GROWTH, LIQ, RISK, with none showing  
221 evidence of a strong negative correlation. Finding from the result also show that a positive correlation exists  
222 between LEV, LOGTA and RISK. While negative relationship exists between LEV, LIQ, TANG and ROA. LIQ  
223 has negative relationship with LOGTA, RISK, ROA, but has a positive relationship with TANG. LOGTA shows  
224 a certain level a weak positive correlation with RISK, while a weak negative correlation exists between LOGTA,  
225 ROA and TANG. Findings further reveal that a weak positive correlation exists between RISK and ROA while a  
226 weak negative correlation was discovered between RISK and TANG. Finally, ROA has weak negative correlation  
227 with TANG. Thus, negative or positive correlation coefficients reported in Table 4.2 only depict the extent of  
228 the linear relationship between pairs of variables used in this paper. This estimation places restrictions on the  
229 heterogeneity/uniqueness of the cross sectional units by assuming that both the regression coefficient and constant  
230 estimates are the same for all cross sectional subjects, over time. In other words, the estimator stacked all the  
231 observations without taking into account their cross sectional or time series features, as such; the subject and  
232 period related effects were neglected in the estimation.

## 233 **11 a) Pooled Ols (Common Coefficient)**

234 Table 4.3 presents the result of OLS pooled regression conducted to investigate major determinants of capital  
235 structure in Insurance companies. The Table further reveals that, variables including Tangibility, Return on Asset  
236 and Liquidity exert negative impact on the Leverage as measured by the ratio of Debt to Equity while, Risk,  
237 Growth and Size have a positive influence on Leverage. However, attempt to investigate major determinants  
238 of capital structure lends credence to tracing which of the determinants exert significant impact. Hence, from  
239 Table 4.3 it was discovered that the impact of variables like Risk, Tangibility, Liquidity and log of total asset  
240 to be significant while, variables like Return on Asset and Growth. Thus, it could be narrowed down that  
241 Risk, Tangibility, Liquidity and Size in terms of logarithm of total asset are major determinants of capital  
242 structure in composite insurance firms. The result of fixed effect (at common coefficient) estimation presented in  
243 Table 4.4 reveals the coefficient of each determinant variable alongside the intercept term (heterogeneity effect)  
244 corresponding to each cross section. Table 4.4 reveals that, determinants including Tangibility, Liquidity and  
245 Growth have negative impact on capital structure of the selected insurance companies measured by leverage  
246 while, Risk, Return on Asset and Size have a positive impact on capital structure. Table 4.4 also reveal that,  
247 determinants such as Risk, Tangibility, Liquidity and size exert significant impact on Leverage of insurance  
248 companies and as such can be taken to be the major determinants of capital structure in the context of Nigeria  
249 Composite insurance companies. It is worthy to note that, some of the determinants do not agree with the a  
250 priori expectation by sign, for instance, determinants such as Return on Equity, Deposit, Liquidity and Gross  
251 Domestic Product contradict the a priori expectation by exerting negative effect on capital structure. Table 4.4  
252 reports an adjusted R-square value of 93%, F-statistics of 61.002 and probability value of 0.0000. It thus implies  
253 that, 93% of the systematic variation in capital structure of insurance companies can be explained by variations  
254 in variables such as Risk, Tangibility, Return on Asset, Liquidity, Growth and size. Also, all the explanatory  
255 variables are jointly and significantly determine capital structure of composite insurance companies in Nigeria.  
256 Because of problems inherent in the fixed effect model, such as, loss of degree of freedom as more dummy variables  
257 are added to the model, possibility of multi-collinearity, inability of the fixed effect model to track the impact of  
258 time-invariant variables, random effect assumes that the heterogeneity is random rather than fixed and that the  
259 random effect is incorporated into the error term thus forming a composite error term.

## 260 **12 c) Random Effect Estimation (Common Coefficient)**

261 In this paper, random effect estimation result presented in Table 4.5 above reveals that determinants such as  
262 Liquidity, Tangibility, Return on Asset and log of total asset exert negative impact on leverage, while, only  
263 Risk and growth measure influence Leverage positively. The result shows that determinants such as Return on  
264 Asset, Risk, Tangibility and Liquidity significantly influence capital structure of insurance companies, though the  
265 direction of influence of the likes of Liquidity, Tangibility, Return on Asset and log of total asset contradicts the a  
266 priori expectation. The observed direction of causal-effect relationship between Leverage and the aforementioned  
267 determinants can be justified by reasons such as fluctuating economic situations and perpetual reforms in the  
268 operations of insurance companies in Nigeria.

269 Reported in Table 4.5 is an adjusted R-square value of about 81% alongside F-statistics of 40.54 and probability  
270 value of 0.0000. Thus, the result shows that about 81% of the systematic variation in capital structure as  
271 proxied by Leverage, that is, the ratio of Debt to Equity can be explained by variation in determinants such as  
272 Risk, Tangibility, Return on Asset, Liquidity, Growth, Logarithm of Total Asset. F-statistics reported and the  
273 corresponding probability value implies that all the included determinants in the model jointly and significantly  
274 influence capital structure model and that the model is of a good fit.

## 275 **13 d) Post Estimation (Hausman Test)**

276 In an attempt to know the most reliable estimation between the fixed effect estimation and the random effect  
277 estimation, Hausman test is conducted to test if there is a substantial difference between the estimates of the  
278 fixed effect estimator and that of the random effect estimator. The null hypothesis underlying the test is that,

## 17 VI. SUGGESTION FOR FURTHER STUDIES ON INSURANCE COMPANIES

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279 fixed effect estimates do not differ substantially from the random effect estimates. Notably, the test statistics  
280 developed by Hausman has an asymptotic chi-square distribution.

### 281 **14 Null hypothesis**

282 Chi From the Table above, a chi-square value of 95.545258 alongside a probability value of 0.0000 were revealed.  
283 The result shows that there is enough evidence to reject the null hypothesis of no substantial difference between  
284 fixed effect and random effect estimates, which might be due to the presence of correlation between the random  
285 effects incorporated into the composite error term and one or more of the regressors. Hence, the random effect  
286 estimates become inconsistent and as such the fixed effect estimation is preferred and the recommendations  
287 and conclusions of this paper shall be based on the findings of Fixed Effect Estimations that is, the major  
288 determinants in Nigerian composite insurance firm capital structure are Risk level, Tangibility of asset, Liquidity  
289 and the introduced variable-Size, which is measured by the natural Logarithm of total asset.

### 290 **15 V.**

### 291 **16 Conclusion and Policy Recommendations**

292 This been the last section of the paper and deals with conclusion and policy recommendation. Thus, four out of  
293 the five variables used to measure effect on debt ratio were found to be statistically significant when measuring  
294 the impact of companies' debt ratio on insurance industry in Nigeria. Based on the research results, the insurance  
295 companies should have a high consideration for asset increase because the size of company is an important factor  
296 that has a positive effect on leverage. Risk, Tangibility, Return on Asset, Liquidity, Growth and Size are drivers  
297 of optimal capital structure of various insurance companies in Nigeria. Insurance companies should pursue most  
298 important capital structure theories like pecking order theory and trade off theory. The study established that  
299 fixed effect model is more reliable, appropriate and acceptable for the financial leverage or capital structure of  
300 insurance companies in Nigeria. Thus, the study recommended that management of insurance industry and the  
301 regulatory authority in Nigeria should set up a more favourable financial structure to enhance their sustainability.

### 302 **17 VI. Suggestion for Further Studies on Insurance Companies**

303 This study can open the horizons for forthcoming studies to investigate capital structure theories and not only to  
304 critically examine the determinants alone. Also, upcoming studies may also increase the panel size of insurance  
305 sector by including more companies and more years' data not even composite insurance firms alone. Lastly,  
306 would-be researchers can extend the data to other countries and macroeconomic factors should be included as  
explanatory and control variables. <sup>1 2</sup>



Figure 1: C

.1 Descriptive Analysis						
	LEV	RISK	TANG	ROA	LIQ	GROWTHLOGTA
Mean	0.393982	0.269095	0.327386	0.043375	2.355102	0.313791 17.13390
Median	0.361450	0.250750	0.304750	0.035850	1.735300	0.225200 16.41432
Maximum	0.864100	0.574100	0.675900	0.207600	9.875700	2.834400 22.62004
Minimum	0.083100	-0.640400	0.084400	-0.022300	0.342100 -0.427500	14.91011
Std.	0.228929	0.182671	0.157102	0.042523	1.955264	0.484046 2.212623
Dev.						

Figure 2: Table 4

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Figure 3: Table 4 .

Variable	Coefficient	Standard Error	T-Test Values	Probability
RISK	0.276557	0.106619	2.593871	0.0124*
TANG	-0.465111	0.115850	-4.014755	0.0002*
ROA	-0.122113	0.441646	-0.276496	0.7833
LIQ	-0.063571	0.009817	-6.475248	0.0000*
GROWTH	0.040668	0.040304	1.009024	0.3178
LOGTA	0.035252	0.003499	10.07416	0.0000*

Adjusted R-square= 0.618793, DW = 0.453105

(\*) connote rejection at 5% level of significance

Source: Author's computation, 2015 using E-VIEW 7 statistical package.

Figure 4: Table 4 . 3

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	GROWTH	LEV	LIQ	LOG_TA	RISK	ROA	TANG
GROWTH	1.000000						
LEV	0.097093	1.000000					
LIQ	-0.137715	-0.750774	1.000000				
LOG-TA	0.046720	0.163281	-0.174266	1.000000			
RISK	-0.116640	0.354013	-0.234144	0.056897	1.000000		
ROA	-0.048883	-0.020610	-0.096513	-0.078073	0.031406	1.000000	
TANG	0.081121	-0.565190	0.103780	-0.177867	-0.199285	-0.060389	1.000000

Figure 5: Table 4 . 4 :

Difference in coefficient not systematic 95.545258 0.0000\*

Figure 6:

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