MARINE INSURANCE AND THE DEVELOPMENT OF INSURANCE MARKET IN NIGERIA

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Abstract

This study aim is the evaluate the impact of marine insurance on the development of insurance market in Nigeria using times series data over the period 1981-2017 sourced from CBN statistical bulletin and NAICOM. The ordinary Least Square OLS technique was employed; the stationarity of the variables was determined with the Augmented Dickey-Fuller unit root test having analyzed the data descriptively. This study further proceed to use Johansen cointegration test determined to ascertain if there is a long run relationship amongst the variable employed the result of which showed a long-run relationship exist among the variable. Error Correction Model (ECM) technique was adopted. The result of the analysis showed that marine insurance premium has a positive significant impact on insurance contribution to gross real gross domestic product. The result also showed that also found out that marine insurance claims have a significant negative impact on the development of insurance market in Nigeria. On the basis of these findings therefore, the study concluded that There is a positive and insignificant relationship between marine insurance premium and the level of the development of insurance market in Nigeria; hence, the need for Government support and control to develop the business to the level of invisible source of income to the nation. Marine insurance claim settlements exerted negative effects on the development of insurance market in Nigeria. This study therefore recommends that Poor customer focus, poor enforcement of rules and fraudulent practices affects insurance marketing activities therefore; opportunities must be created through market consolidation efforts. In like manner, marine insurance should be able to command fair premiums in relation to potential losses otherwise, many may opt out of this class of insurance and affordable and insurable covers may shrink accordingly

in the market and the Ministry of Finance, as a regulatory body should do more in addition to recapitalization keep eyes on the insurance market.

Keyword: Marine insurance, premium, insurance claim, insurance development

1. INTRODUCTION

The role of insurance on national development cannot be overemphasis as it's a key sector in financial mobilization. The increase in international trade which requires shipment of goods across national borders has necessitated expansion in risk coverage offered by marine insurance industry. The services offered by marine insurance gear international shipment which accounts for 90 percent of World trade. For example, marine risk covers are available for Artic shipping, Aquaculture farming, carbon shipping, offshore energy, cyber-attacks and maritime terrorism etc.

Despite the significance of marine insurance to the shipping sector and generally the economy, the industry performance is far from being optimal (IMF, 2013). Various studies articulate the problems besetting global marine insurance industry. Some notable factors inhibiting uptake of marine insurance include lack access to foreign marine insurance packages, poor public awareness of products available, lack of trust on insurance firms to deliver, inadequate skilled manpower, ineffective government control and poor stakeholder organization in the sector (Cheruiyot, 2015). Other studies have found financial performance of the industry to be dependent on variables as GDP, Gender related Development Index (GDI) and economic development of a nation (Nwokoro and Ndikom, 2013).

In Nigeria, non-life and life insurance products ranked 57th and 63rd positions respectively in the year 2013 IMF, (2013). The observed performance by IMF falls below expectation given reforms efforts undertaken by the federal government of Nigeria. These reforms include, pruning down inefficient firms through financial recapitalization which reduced pre-reform number of firms from 104 to 49 and strengthening of regulatory environment of the sector. The sub-optimal Contract of Marine Insurance is a contract whereby the insurer takes to indemnify the assured, in the manner and to the extent thereby agreed, against marine losses, that is to say, the losses incidental to marine adventure. This contract of insurance is entered by way of Insurance Policy. Insurance Policy can be defined as a legally binding contract between Insurance Company and the person who buys the insurance policy commonly called the Policy holder, who also is often the person assured in exchange for payment of a specified sum of money called the premium.

The Insurance company agrees to pay for certain types of losses or damage as specified by the contract when a loss occurs which meet all of the requirements described by the terms of insurance policy, the loss is said to be covered by that policy. A marine insurance contract is strictly a contract of indemnity as it involves the value agreed upon in advance, unlike Fire insurance, where it is limited to the actual loss, where the value may be greater or less than the value of actual risk. The contract involves an underwriter and the assured. The underwriter in a marine insurance agrees to indemnify the assured against loss or damage caused by certain specified perils termed "Maritime Perils" in consideration of the payment of a certain sum called the premium. Marine peril is defined to mean peril consequent on or incidental to, the navigation

of the sea, that is to say; captures, seizures, restraints, and detainment of princes and people, jettisons, barratry, and any other perils, either of the like kind, which may be designated by the policy. The laws relating to marine insurance are contained in the Marine Insurance Act Cap M2LFN, 2004.

NAICON upon the recapitalization policy has upgraded its regulatory requirements; including a voluntary code on corporate governance, risk management framework, operational guidelines, Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) and Know Your Client (KYC) requirements, and the adoption of IFRS (International Financial Reporting Standard). These initiatives have significantly improved the regulatory environment for the industry (IMF, 2013).

Given the size of its economy, Nigeria with a GDP of $514.97bn in 2013, $568.51bn in 2014 and $481.07bn in 2015, is rated as the country with the largest economy in Africa. According to IMF's World economic outlook projections, Nigeria is expected to grow at a faster rate than the average emerging market and developing economies growth of 5.3% and the average growth rate in Sub-Saharan Africa of 5.95%. Following the GDP rebasing policy, insurance now contributes significantly to GDP (from a quarterly contribution of 0.15% to quarterly contribution of 0.45% after the GDP rebasing policy according to some documented evidence).

There are now 1,227 marine cargo vessels owned by Nigerians; according to reference (Finitel, 2016). This figure is a measure of potential local demand for marine insurance products. If local shipping companies patronize local marine insurers, this will boost profitability in the marine insurance industry. The local content policy aims to ensure that at least

60% of marine assets are in the hands of Nigerians by the years 2015. For example, the Nigerian Content Development and Monitoring Board's marine vesselutilization scheme encourages construction of vessels in Nigerian yards, promotes ownership of marine vessels by Nigerian nationals, stimulate flagging and registration of vessels in Nigeria and manning of marine vessels by Nigerians (NCMB, 2014).

"A total of 600 vessels are operating in Oil and Gas sector in Nigeria and only 10 per cent belongs to Nigerians as at 2015,". It is estimated that between three to seven trillions of naira could be generated annually through the maritime industry if its potentials are fully harnessed (Niyi, 2015). This projection has positive implications for the marine insurance industry.

Real pain or loss are experienced by Nigerians when prominent persons in the society, loved ones and bread winners are killed in gruesome accidents while using travelling on water, acclaimed the world over as the safest of all modes. There exist, both within the industry and among the lay public the general opinion that safety, rick claim management levels have declined in recent years and most insurance companies in Nigeria are grappling with problem of satisfying their customers in terms of product offerings, quality of services and sophistication of products offered (Rewane, 2015; Osinuga, 2016). While customer service is clearly important for winning new customers and retaining existing ones, Nigerian insurance industry struggles to achieve an acceptable level of customer satisfaction. In the light of slow industry growth, many insurance companies have pursued mergers and acquisition to increase market share and achieve economies of scale. While this strategy might be functional, the optimal strategy is keeping existing customers and attracting new ones (Ujunwa and Modebe, 2011).

Lack of public trust in Insurance Companies: Poor patronage and performance stem from the poor attitude of the insurers in claims payment. The tradition of defaulting in claims translated to some form of bad publicity for the industry and consequently, confidence in the industry eroded significantly. Policy documents still carry clauses that breeds distrust with customers (Obasi, 2010).

Lack of technical manpower: poor technical skills and knowledge gaps are major factors accounting for foreign domination and monopoly of the marine insurance sector (Obasi, 2010).

Poor Enforcement: Nigerian insurance industry is challenged in enforcement of rules on compulsory insurance. It is common to have fake insurance papers presented as genuine ones especially on Marine and motor insurance assessment.

The regulators of Nigerian insurance industry weakly enforce policies this is evident in the near absence of operating standards and lack of administration, supervision and control of marine insurance businesses in the sector. Consequently, to date no concrete policy statement is issued on the companies that have not complied with operating requirements in the industry (Ujunwa and Modebe, 2011).

Litigation in our Courts in Nigeria today is known to be long-winding and it is not uncommon for cases to remain in courts of first instance for 5years. The delays experienced in litigation can be most damaging where commercial disputes are involved. This is more so in maritime insurance disputes litigation where parties to litigation are more than often local and international (Mondaq, 2016). Previous study on marine insurance and the development of insurance market in Nigeria had limited scope specifically limited to 2006, in fact the study of Nwokoro, and Ndikom, (2011) and did not interpolate the short and long run relationship between marine insurance and the development of the insurance market in Nigeria. Thus, this study is concerned with ascertaining the significant influence which driving marine insurance has on insurance market development in Nigeria.

2. LITERATURE REVIEW

2.1   Theoretical Framework
The theoretical underpinning of this study is anchored on the expected utility theory and the ruin theory.

2.1.1 Expected Utility Theory
The expected utility theory was developed by Von Neumann and Morgestern in 1944 to address the risk management aspect of the demand for reinsurance. It assumes that insurers are risk averse and will always chose to reinsure in order to eliminate risk (Garven & Tennant, 2003). Borch (1962) used this theory to show that if insurers have absolute risk aversion, they will demand reinsurance. Garven and Tennant (2003) extended the theory and argued that the decision to reinsure can be viewed as both a risk management and capital structure decision. Mayers and Smith (1990) state that the decision of an insurer to purchase reinsurance resembles the decision of any non-financial firm to purchase insurance. In view of this study therefore, the motivations that explain why firms' hedge and why insurers demand reinsurance may be similar. This approach has emphasized that reinsurers, because of their expertise in risk management,

provide real services to primary insurers and are able to mitigate agency problems within insurance companies. Blazenko (1986) propagates that reinsurance is demanded to provide additional capacity to the market by facilitating the spread of risk.

Eden and Kahane (1990) further discussed the demand of reinsurance with objective of risk spreading. However, risk sharing has been found as not the only motive for reinsurance. This was evidenced in a study by Mayers and Smith (1990) which found that less diversified firms demand less reinsurance a position inconsistent with the view of reinsurance as a diversification device. The evidence from Mayers and Smith (1990) that less diversified insurers demand less reinsurance is consistent with the view that highly capitalized insurers are more likely to develop the required expertise in-house therefore lowering the demand for reinsurance (Gerathewohl, et al, 1982).

2.1.2 The Attitude Marketing Theory of Perspective

The attitudinal perspective implies that for effective introduction of development insurance in a pathetic environment, the attitude of the majority of the environment or community should be evaluated in terms of their exposure and behaviour towards general insurance practices. And to effectively adopt the attitudinal perspectives a popular research technique called KABP survey becomes very vital. The acronym KABP means knowledge, attitude, behaviour and practices. So such survey when adopted will be able to ascertain the present knowledge of the majority of inhabitant of the community about development insurance or general insurance policies. Such survey will also reveal their behaviour towards insurance policies or investment in insurance policies. The present practices of insurance companies will also be evaluated. All this will help in preaching the new gospel of development insurance to the people. However the essence of attitudinal cum KABP model is to effect a change in attitude and behaviours of those people whose feelings are alienated in the economic equation of the insurance industry.

The cultural norms theory of communication is another theoretical assumption that will aid us in understanding the concept of development insurance.

2.1.3 Ruin Theory

The ruin theory was introduced by Filip Lundberg in 1903 and uses mathematical models to describe an insurer's vulnerability to insolvency. It is based on the premise that premiums arrive at a constant rate from insured's with claims arriving at a different rate. Mathematical models are used to investigate the probability that insurer's surplus level becomes negative as a result of settling claims therefore bringing the technical ruin of the insurer hence making the firm bankrupt (Khan, 1962). The same ruin principle applies to reinsurance as a result of settling diverse claims especially from catastrophic losses.

However, Swiss Re (2003) states that the probability of reinsurance failure is small for three reasons which are, small total percentage of global premiums written, high credit ratings of reinsurers meaning low probability of risk from retrocession and that only a small number of reinsurance companies have failed in the past. Doherty and Tinic (1981) argued that reinsurance is irrelevant if the pricing of insurance is inelastic with respect to the insurer's ruin probability. But, Khan (1962) argues that reinsurance is necessary and is demanded by cedants to mitigate their risk of ruin.

2.2 Empirical Review

Uche & Anoka, (2018) investigated inflation on insurance claims in Nigeria over the period 1981 - 2016 with data sourced from Central Bank of Nigeria (CBN) Statistical Bulletin. An unrestricted error correction model (UECM) version auto-regressive distributed lag (ARDL). The estimated result shows that there is a long run relationship between insurance claims and inflation in Nigeria and a rise in inflation will lead to a rise in cost of insurance claims in the short run but a decrease in the long run. Thus, high rate of inflation has a negative effect on returns of insurance claims in the short run but has an increasing non-significant effect in the long-run in Nigeria. Also, exchange rate has a proportionate and statistically significant influence on insurance claims. Thus, this study concludes that there is a long run relationship between insurance claims and inflation in Nigeria and a rise in inflation will lead to a rise in cost of insurance claims in the short run but a decrease in the long run. This study recommends that there is therefore need for insurers to evaluate the probability distribution of future adverse inflation events and their correlation with other macroeconomic variables and there is need to establish a higher level of coverage based on the original face value of an insurance policy and a maximum inflation adjustment.

Egoro, & Andabai, (2017) investigated the causality of the relationship between life insurance business and economic growth of Nigeria for the period 2000-2011. Pearson's Product Movement Correlation Coefficient was used to test the hypothesis to determine the extent of the causality of the relationship between life insurance business and economic growth. The researcher graphically measured the ratio of life insurance premium to Gross Domestic Product (GDP). The study revealed that there was significant causal relationship between life insurance business and economic growth of Nigeria. It was also discovered that despite the high degree of the causality of the relationship between life insurance premium and GDP, that life insurance premium has not been able to make a meaningful contribution to economic growth of the country. The study concluded that life insurance business has not effectively contributed to the growth of Nigeria economy due to low consumption, and that individual and corporate organizations have failed to embrace life insurance policies in Nigeria. The researcher therefore, recommended that National insurance commission (NAICOM) should enforce the compulsory group life insurance policy, and ensure that there is high level of transparency initiative and efficiency in Nigeria insurance industry.

Onwuegbuchunam, Igboanusi, & Ogwude, (2017) empirically examined the performance and operating environment of a sample of insurance firms (with marine risk portfolios). Secondary data on earned premium income, indemnity paid, management expenses and total expenses representing performance indices of these firms over a period from 1974-2013 were collected for analysis of their operational performance. Qualitative data were also extracted from existing literature for Strengths, Weakness, Opportunities and Threats (SWOT) analysis to determine the attributes of operating environment of the insurance firms. An Analysis of Variance (ANOVA) model tests on the performance indices showed that the insurance firms earned more premium than indemnity paid out during the study period. Their management expenses however, exceeded amount of indemnity paid. In terms of challenges facing the firms, the SWOT analysis revealed prevalence of poor quality service delivery to insurance customers, customer distrust, inadequate

technical manpower and unfavourable macro-economic environment. Prospects for growth of the industry were found favourable due to introduction of local content policy/cabotage shipping Acts and upgraded risk management framework. The paper recommends that more specific policy interventions be directed at complete removal of impediments in the operating environment of marine insurance firms since their performance outcome has implications on viability of shipping and related maritime businesses.

Umoren & Joseph, (2016) investigate empirically the relative contributions of the insurance industry to the growth of the Nigerian economy. The study covers the period from 1970 to 2012. The secondary data collected for the study were presented in table and graph. A multiple linear regression method was adopted to test the research hypotheses. The discoveries were that insurance sector growth has contributed significantly to the economic growth in Nigeria within the period of the study. Premium income of insurance industry has a positive influence on GDP but behaves insignificantly in explaining the changes in the contribution of insurance industry to the economic growth in Nigeria within the period under study.

Oluoma, (2014) examines the effect of life-insurance penetration, non-life insurance penetration, total insurance penetration and insurance density one economic growth in Nigeria. The study adopted the *ex-post facto* research design and annualized cross sectional data for 26-year period1987-2012were collated from the Central Bank of Nigeria statistical Bulletin, National Insurance Commission and Nigerian Insurers Association. Four hypotheses were proposed and tested using the Ordinary Least Square (OLS) regression model. Descriptive statistics and graphs were also used to complement the regression results.

Elendu, (2013) examines the contributions of the insurance industry to the Gross Domestic Product (GDP) in Nigeria. Data for the study were basically through the secondary process, extracted from journals and CBN statistical Bulletin. The Ordinary Least Square technique was used to test the validity of the hypotheses stated in the study. The research revealed that insurance industry through her routine activities has contributed significantly to economic growth of Nigeria. Through the signs from a priori expectation, it revealed a positive linear relationship between insurance claim settlements and gross domestic product (GDP) in Nigeria.

Ozuomba, (2013) examines the effect of insurance on economic growth in Nigeria. To achieve this, models were formulated and data for the period 1998-2007 were collated while the co-integration and Error Correction model were employed for analysis. The findings showed the direction of the alternate hypotheses which state that; there is a significant relationship between insurance premium claim expenditures and economic growth. Based on the study, it is recommended that policy efforts should be directed by government at growing the insurance industry in the country; and through such means enhances investment as well as production and employment creation.

Porntida et. al, (2012) examine the role of business interruption insurance in business recovery following the Christchurch earthquake in 2011 in the short- and medium-term. In the short-term analysis, we ask whether insurance increases the likelihood of business survival in the aftermath of a disaster. We find only weak evidence that those firms that had incurred damage, but were covered by business interruption insurance, had higher likelihood of survival post-quake compared with those firms that did not have insurance. This absence of evidence may reflect the

high degree of uncertainty in the months following the 2011 earthquake and the multiplicity of severe aftershocks. For the medium-term, our results show a more explicit role for insurance in the aftermath of a disaster.

Omoke, (2012) empirically assess insurance market activities in Nigeria with the view to determining its impact on economic growth. The period of study was 1970- 2008, the study made use of insurance density measures (premium per capita) as a measure for insurance market activity and real GDP for economic growth. It also employed control variables such as inflation and savings rate as other determinants of growth. The Johansen cointegration and vector error correction approach was used to estimate the relationship between the variables. All the variables used were stationary at first difference and the result showed a long term relationship existing among the variables. The hallmark finding of this study is that the insurance sector did not reveal any positively and significant affect on economic growth in Nigeria within the period of study. The result shows a low insurance market activity in Nigeria and that Nigerians have not fully embrace the insurance industry despite its importance to the growth of the economy.

3. METHODOLOGY

Multiple regression analysis with Ordinary Least Squares (OLS) econometric technique for data analysis was adopted in this study given that multiple regression analysis explains the linear relationship between two or more variables, one dependent variable and two or more explanatory variables.

Also, the numerical values of the model parameters are estimated via the Ordinary Least Squares (OLS) technique facilitated by E-Views application; a statistical software for empirical analysis. The reason for the use of OLS is based on its Best Linear Unbiased Estimator (BLUE) when compared to other estimators.

The unit root test shall be conducted because the non-Stationarity of the variables will result to the loss of the desirable properties of efficiency, consistency and unbiasedness of the variables thereby leading to spurious result, inference and hence inaccurate prediction. Therefore, the Augmented Dickey-Fuller test for stationarity will be employed.

The Johansen Co-integration test then follow suit to determine whether there is an equilibrium condition that keeps the variable in proportion to one another in the long run. This is to test for the problems of spurious correlation associated with non-stationary time series data. After testing for stationarity of the data and establishing the extent and form of Co-integration relationship between the variables, the Error Correction Model (ECM) shall be adopted to test hypothesis formulated and as the basic techniques of analysis to estimate the impact of marine insurance on the development of insurance market in Nigeria.

The test of significance and goodness of fit were employed; such statistical tests are the t-Statistics, F-Statistics; R-square, Adjusted R-Square, Standard Error of Coefficient and Durbin-Watson test for autocorrelation using E-views.

The T-Statistics Test:The student T-test is used to determine the significance of the individual parameter estimate. To achieve this, we have to compare the calculated. +-value in the regression result with t-tabulated at n-k degree of freedom (df) and at 5% significance level

H_0: $\pi_0 = 0$ (not significant)

H: $\pi_1 \neq 0$ (statistically significant) *Decision Rule:* Reject H_0 if $T_{cal} > T_{tab}$ and accept if otherwise

The F-Statistics Test:This test is conducted to determine if the independent variables in the model are simultaneously significant or not. Hence, the analysis shall be carried out under the hypothesis below.

H_0: $\beta_1 = \beta_2 = \beta_3 = 0$ (all slope co-efficient are 0)

H_1: $\beta_1 = \beta_2 = \beta_3 \neq 0$ (all slope co-efficient are not 0): *Decision Rule:* Reject H_0, if f cal > f tab

3.1 Specification of Model

The mathematical form of the model is specified in a functional relationship as follows;

DIM= f (MIPRM, MIC)   -   -   -

(3.1)

Equation 3.1 can be transformed as:

DIM=$\phi_0 + \phi_1$MIPRM + ϕ_2MIC+ εi -   -   -   (3.2)

Where:

DIM = Development of insurance market: insurance companies contributions to real GDP

MIPRM = Income generated from marine insurance, by insurance companies

MIC = Marine insurance claims

ϕ_0, ϕ_1, and ϕ_2 = Parameters to be estimated

εi = Error term

The behavioural assumptions, the a priori, or the presumptive signs are stated as follows:

$\phi_1 > 0$:This implies that income generated from marine insurance is expected to be positively related to the development of insurance market as the premium from the insured are invested by the insurance companies.

$\phi_2 > 0$: The presumptive signs of marine insurance claims are expected to be positively related to the development of insurance market.

4. RESULTS AND DISCUSSION

The descriptive statistics analysis (see appendix 1) over the period of 1987 to 2017 showed that insurance sector contribution to GDP as a proxy for development of insurance market has Minimum , Maximum, Mean and Standard deviation value of (254.9900), (2123.900) (1148.607) and (596.3807) respectively.

Similarly the minimum and maximum value of marine insurance premium is (-2.897000) & (43784.17) respectively, with a mean value of (9504.380) and standard deviation of (11752.68).

Also the descriptive statistics of marine insurance claims settlement shows Minimum, Maximum, Mean and Standard deviation value of (-0.01000), (10493.41), (1459.943) and (2095.375) respectively.

The skewness shows that the variable are rightward skewed (positively skewed). Therefore, we conclude the distribution to be approximately normal. The coefficient of the kurtosis of marine insurance premium (MIPRM) and marine insurance claim settlements (MIC) indicates peaked (leptokurtic) with values greater than 3.00 relative to the normal. But development of insurance market (DIM) is normally peaked (mesokurtic) with value approximately 3.00. The jarque-bera (JB) test indicates the absence of outliers in the data and measures the difference of the skewness and kurtosis of the series with those from the normal distribution. JB values of 2.323258, 11.35982 and 117.7174, respectively and their corresponding probability values at 5% significant

level confirm the normality of the series and suitability of generalization. It also indicates the absence of outliers in the data.

4.1 Stationarity Results

The Augmented Dickey-Fuller Unit Root Test for stationarity is conducted in order to ascertain the stationarity of the data.

Table 4.1: Augmented Dickey-Fuller Unit Root Test

Variable	Level	Prob.	First Difference	Prob.	Model	Order of integration
DIM	-3.922384**	0.0212			Trend & Intercept	I(0)
MIC	-5.867776***	0.0001			Trend & Intercept	I(0)
MIPRM	-3.490892 0.9894		-6.261219***	0.0001	Trend & Intercept	I(1)
ECM(-1)	-2.794179	0.0065			None	I(0)

Note: *(**) *** denotes statistically significant at 1%, 5% and 10% level respectively
Source: Eviews Output

The ADF unit root test, results in Table 4.1 shows that development of insurance contribution to gross real gross domestic product (DIM) to measure development of insurance market, and marine insurance claims (MIC) are stationary at level and has no unit root problem, while Income generated from marine insurance (MIPRM) was not stationary at level but became stationary at their first difference. The stationarity test result therefore agrees with apriori expectations and the variables fit for analysis.

The Cumulative Sum (CUSUM) (see appendix iv) shows that the parameters of the model are relatively stable over the study period. This is evidence as the cumulative sum does not go outside the area between the two critical lines. From the results of the diagnostic test, we therefore conclude that the specified error correction model is correctly specified with the appropriate variables.

4.2   Cointegration Test

With the confirmation of the stationarity of the variables, we proceeded to examine the presence or non-presence of cointegration among the variables. When a cointegration relationship is present, it means that in the development of insurance market in Nigeria (DIM), income generated from marine insurance and marine insurance claims share a common trend and long-run equilibrium (as suggested theoretically) in the growth model. We started the cointegration analysis by employing the Johansen cointegration test. The cointegration test result is presented in table 4.2.

Table 4.2 Cointegration Rank Test

(a.) Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**

None *	0.655605	55.49188	25.87211	0.0000
At most 1 *	0.432291	19.24899	12.51798	0.0033

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

(b.) Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.655605	36.24289	19.38704	0.0001
At most 1 *	0.432291	19.24899	12.51798	0.0033

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: E-Views Output

The unrestricted trace statistic of the cointegrating result for the variable integrated at order 1(1) indicates 1 cointegrating equations at 5% level. Also the Max-Eigen value test indicates 2 cointegrating equations at 5% level. Thus affirming a long run equilibrium relationship amongst the variables, and establishes the appropriateness of using error correction model.

Table 4.3: Estimated Result

Dependent Variable: LOG(DIM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.571161	0.061308	107.1828	0.0000
LOG(MIPRM)	3.24E-05	4.09E-06	7.926050	0.0000
LOG(MIC)	-5.13E-05	2.26E-05	-2.266989	0.0303
ECM(-1)	0.001313	0.000166	7.897515	0.0000

R-squared	0.831292	Mean dependent var	6.897399
Adjusted R-squared	0.815475	S.D. dependent var	0.651255
S.E. of regression	0.279755	Akaike info criterion	0.394635
Sum squared resid	2.504414	Schwarz criterion	0.570582
Log likelihood	-3.103434	Hannan-Quinn criter.	0.456045
F-statistic	52.55889	Durbin-Watson stat	1.606994
Prob(F-statistic)	0.000000		

Source: E-Views Output

The error correction term shows that disequilibrium in the value of development of insurance market in Nigeria is eliminated each period with an adjustment or level of convergence speed of 0.13 percent. The ECM (-1) coefficient conforms to a priori expectation as its sign is negative and it is statistically significant, hence justifying the use of the error correction model in this study.

The results in table 4.3 shows that marine insurance premium (MIPRM) has a positive significant impact on insurance contribution to gross real gross domestic product (DIM) to measure development of insurance market in Nigeria with a coefficient of 3.240 which implies that a unit increase in development of insurance market (DIM) when all variables are held constant will lead to an increase in RGDP by 3.240 percent with a significant t-Statistic of 7.926 and with a prob. value of 0.000. This implies that income generated from

marine insurance has statistical significant positive impact on development of insurance market in Nigeria. Thus we reject the null hypothesis which states that income generated from marine insurance does not significantly impact on the development of insurance market in Nigeria and accept the alternate.

The empirical analyses of the impact of marine insurance claims settlement on the development of insurance market in Nigeria; the result showed that a unit increase in MIC will lead to a increase in DIM by 0.1604 percent, this implies that marine insurance claims settlement has a negative significant impact on the development of insurance market in Nigeria with an absolute t-statistics value of 2.266 and a probability values of 0.0303.Therefore we reject the null hypothesis which states that there is no significant relationship between marine insurance claims and the

As evident by the adjusted R^2 of 0.8154 shows that the independent variables (MIPRM and MIC) included in our model accounts for 81.54 percents changes in the development of insurance market in Nigeria (DIM) while the remaining 18.46 percent unexplained variations are due to other factors that also necessarily accounts for the variation in the development of insurance market in Nigeria, which are captured by the error term. Given the F-ratio statistics with 52.558 with probability values of 0.0000, the model therefore does not suffer from any misspecification error. This is highly significant at the 5 percent levels; thus, lending credence to the conclusion that the model has goodness of fit. It also means that the explanatory variables, taken together exact significant influence on the dependent variable. More so, the Durbin Watson (DW) statistics of 1.606 indicates tolerable presence of serial correlation.

The result shows that income generated from marine insurance (MIPRM) with a significant t-Statistic of 7.926, an F-statistic value of 52.558 > f-ratio tabulated or theoretical (4.34, 2.81), at both 1 and 5% levels of significance respectively and with a prob. value of 0.000. This implies that income generated from marine insurance has statistical significant positive impact on development of insurance market in Nigeria.

The result also shows that MIC has an absolute t-statistics value of 2.266, an F-statistic value of 52.558 > f-ratio tabulated or theoretical (4.34, 2.81), at both 1 and 5% levels of significance respectively and a probability value of 0.0303.

The empirical investigation of this study showed that income generated from marine insurance (MIPRM) impacts positively on the development of insurance market in Nigeria (DIM).

The result indicates that marine insurance claim has a significant positive impact on economic growth as also evident by the absolute t-statistic and the probability.

The importance of the insurance sector within total financial intermediation has risen over time and the magnitude and intensity of links between insurance, banking and capital markets has also risen. Thus the likely impact of insurance on the economy is expected to have gone up. This informed the need to conduct an empirical survey of insurance market activity in Nigeria.

Taking note that the insurance industry in Nigeria is highly underdeveloped, it was worrying but not totally surprising that the Marine insurance claims showed a significant negative relationship with the contribution of insurance companies to GDP which was deployed as a measure for development of insurance market in Nigeria.

Thus, functions of insurance companies - providing means of risk management and performing mobilization and allocation of resources - though predicted important for the development of insurance market in Nigeria could not be proved empirically. Other control variables (income generated from marine insurance and marine insurance claims) used in the study had their effect on the development of insurance market in Nigeria. Marine insurance claims had a negative relationship while income generated from marine insurance had a positive impact on the development of insurance market in Nigeria. Overall, the study reveals that the marine insurance exacts significant influence on the development of insurance market in Nigeria, resulting from its intermediation activities.

The Breusch-Godfrey Serial Correlation LM Test statistic in *appendix II* rejected the first, second and third order serial correlation of the model with Prob. $F(2, 30)[0.6822]$. Prob. Chi-Square $(2)[0.6356]$. In *appendix III* the ARCH test also confirms that the residuals are homoskedastic at first, second and third order of the estimated model Prob. $F(3, 32)[0.4765]$ and Prob. Chi-Square$(3)[0.4472]$ Also the individual components test of F-test, and Chi-Sq (χ^2) test also do not reject the null hypothesis of no cross term heteroskedasticity at 5 % level of significance.

5. CONCLUSION AND RECOMMENDATIONS

This study examined the impact of marine insurance on the development of insurance market in Nigeria for the period, 1981-2017 from the result this study concludes that there is a positive and insignificant relationship between marine insurance premium and the level of the development of insurance market in Nigeria; hence, the need for Government support and control to develop the business to the level of invisible source of income to the nation.Marine insurance claim settlements exerted negative effects on the development of insurance market in Nigeria; therefore, there is need for total enlightenment of the public on this obvious source of saved income which should be channeled to appropriate investment that promotes growth and development in Nigeria.

In the light of the analysis and findings, the study proffers the following recommendations:Poor customer focus, poor enforcement of rules and fraudulent practices affects insurance marketing activities therefore; opportunities must be created through market consolidation efforts. In like manner, marine insurance should be able to command fair premiums in relation to potential losses otherwise, many may opt out of this class of insurance and affordable and insurable covers may shrink accordingly in the market.

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Appendix 1

Table 4.1 Descriptive Statistics

	DIM	MIPRM	MIC
Mean	1148.607	9504.380	1459.943
Median	1106.340	3997.070	440.8300
Maximum	2123.900	43784.17	10493.41
Minimum	254.9900	-2.897000	-0.010000
Std. Dev.	596.3807	11752.68	2095.375
Skewness	-0.035586	1.290303	2.385437
Kurtosis	1.774475	3.842023	10.32093
Jarque-Bera	2.323258	11.35982	117.7174
Probability	0.312976	0.003414	0.000000

*Source***:** Eviews Output

Appendix II

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.387390	**Prob. F(2,30)**	0.6822
Obs*R-squared	0.906330	**Prob. Chi-Square(2)**	0.6356

Test Equation:
Dependent Variable: RESID

Method: Least Squares
Date: 08/07/19   Time: 15:14
Sample: 1982 2017
Included observations: 36
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.820531	53.17732	0.053040	0.9581
MIC	-0.001493	0.024977	-0.059766	0.9527
MIPRM	-0.000197	0.004313	-0.045601	0.9639
ECM(-1)	0.081175	0.221930	0.365769	0.7171
RESID(-1)	-0.178817	0.302065	-0.591983	0.5583
RESID(-2)	0.056013	0.259946	0.215480	0.8309

R-squared	0.025176	Mean dependent var		1.03E-13
Adjusted R-squared	-0.137295	S.D. dependent var		216.2527
S.E. of regression	230.6206	Akaike info criterion		13.87044
Sum squared resid	1595576.	Schwarz criterion		14.13436
Log likelihood	-243.6679	Hannan-Quinn criter.		13.96255
F-statistic	0.154956	Durbin-Watson stat		2.033976
Prob(F-statistic)	0.976880			

***Source*: Eviews Output**

Appendix III

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.850777	Prob. F(3,32)	0.4765
Obs*R-squared	2.659268	Prob. Chi-Square(3)	0.4472
Scaled explained SS	3.771837	Prob. Chi-Square(3)	0.2872

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 08/07/19   Time: 15:09
Sample: 1982 2017
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25432.94	19764.31	1.286812	0.2074
MIC	1.960331	9.429597	0.207891	0.8366
MIPRM	1.788062	1.602735	1.115632	0.2729
ECM(-1)	-34.35376	52.10929	-0.659264	0.5144

R-squared	0.073869	Mean dependent var		45466.21
Adjusted R-squared	-0.012956	S.D. dependent var		87371.33
S.E. of regression	87935.51	Akaike info criterion		25.71103
Sum squared resid	2.47E+11	Schwarz criterion		25.88698
Log likelihood	-458.7986	Hannan-Quinn criter.		25.77244
F-statistic	0.850777	Durbin-Watson stat		2.269332
Prob(F-statistic)	0.476506			

***Source*: Eviews Output**