



Effect of insurance industry performance on economic growth in Nigeria

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ABSTRACT

This study explored the effect of insurance industry performance on economic growth in Nigeria. Insurance is a cover from financial loss. The study sought out to examine the impact of non-life insurance penetration on the economic growth of Nigeria. The ex-post facto study design was adopted for this study. Time series data for the period 1988-2014 were collated from the Central Bank of Nigeria (CBN) Statistical bulletin. Data were analysed using regression. The ARDL bound test was adopted in the testing of hypotheses formulated for the study. The findings of the study revealed that non-life insurance penetration had a positive and substantial effect on the economic growth in Nigeria during the period. The study recommends among others that life insurance companies come up with life products mainly designed for the low-paid earners as the target which will enhance penetration and deepen the market, more awareness is created to improve the participation of product industry and firms as this will intensify the activities of the insurance industry in Nigeria. Furthermore, it is recommended that an increased diversification of insurance products mostly in non-life businesses be embarked upon. For insurance industry in Nigeria to exert a significant and positive influence on the Nigeria economy, government insurance policies covering compulsory insurance for all Nigerian, mainly non-life and, health insurance cover should be strictly enforced and implemented.

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INTRODUCTION

The increasing stake of the insurance industry in the cumulative global financial sector in developed and developing countries have shifted concentration to the insurance-growth relationship. Studies revealed that the development in the insurance activities witnessed between 2000 and 2008 (175%) globally indicates a tremendous increase in the sector which significantly overtake global economic growth (Outreville, 2011; 2013). For instance, the global insurance premium volume for the year 2009 was US \$4.06 trillion; this is equivalent to 7% of the world GDP. Between 2010 and

2011, the insurance premium rose from \$4.3trillion to \$4.57 trillion (that is, 6% increase). Subsequently, it rose from \$4.57 trillion to \$4.61 trillion and \$4.64 trillion in 2012 and 2013 respectively (IIF, 2010; Swiss Reinsurance Company, 2015).

These advances have redirected the focus of research scholars towards an investigating into the connection between insurance and economic growth. Undoubtedly, numerous studies revealed that the advancement of the insurance industry is linked to the economic growth of a country (Arena, 2008; Curak et al., 2009; Ward and Zurbrugg, 2000; Avram et al., 2010; Din et al., 2017a). In Africa, studies like Mojekwu et al. (2011), Akinlo (2013), Onyekachiand Okoye (2013), Cristea et al. (2014) and Alhassan and Fiador (2014) have equally examined

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the insurance-economic growth relationship.

Insurance companies are among the non-bank financial institutions that play significant roles in financial intermediation within the financial system in an economy. Insurance industry plays the double role of risk management and capital formation. Primarily, insurance provides cover against the various business risks that arise within the economy (Philip, 2012; Din et al., 2017b). Also, Ajayi (2002) posits that insurance is an assurance of repayment in the occurrence of loss, paid to individuals or company apprehensive about hazards by an insurance company.

An insurance company exists primarily to manage risk. Risk cannot be disconnected from the social and business aspects of an individual life, and so, insurance companies came into being for the sole aim of bringing back the insured into the original position he was before the risk occurred. The impact/role of an insurance company can never be overemphasised because; it is the pillar of every successful business. The insurance companies had given Nigerians the faith to invest in a business without fear of losing out even with the introduction of compulsory insurance for all Nigerians by the federal government. More so, most financial institutions may not want to award a loan to an individual without them endorsing insurance policy.

Adeyele (2011) reveals that emerging economies are vulnerable to several risks at an increasing rate especially as regards increase in assets accumulation, natural disaster, in addition to the increase in hazards exposure. The insurance industry also helps us to put into practice what is known as sustainable development. Among financial intermediaries, the insurance companies play a very crucial role; they are the primary risk management instrument for companies and individuals. Insurance companies, in conjunction with mutual and pension funds, constitutes the biggest institutional investors in stocks, real estate and bonds markets; their probable impact on the economic growth of a nation would relatively grow than decline due to issues such as widening income disparity and globalisation.

Also, the insurance sector epitomises the backbone of Nigeria's risk management systems; it ensures financial stability and serves as an indispensable constituent in the Nigerian financial market. According to Haiss and Sumegi (2006), the role played by the financial sectors in economic growth has become a significant topic in the last decade, elaborating on the studies of King and Levine (1993). These financial institutions issue and sell indirect securities to the surplus units of the economy and consequently, purchase other securities, which are primarily from the ultimate borrowers of these funds (Mojekwu et al., 2011).

Development is said to be viable when people could make a good living, be healthy and happy without damaging the environment over time. One of the indices

for measuring the development of any economy is the size and maturity of its insurance industry. Insurance industry acts as the absorber of the risk and uncertainty associated with economic activities, and its absence can significantly reduce the growth of economic activity. Most Nigerians especially the rural dwellers are ignorant of significant of the insurance industry.

The role played by the insurance sector in alleviating sudden and devastating occurrences by means encouraging economic growth cannot be over emphasised. Both in developed and emerging countries, the insurance sector has positively contributed to economic growth in both sectorally and geographically (Barro, 1995; Olalekan and Akinlo, 2013; Zouhaier, 2014). Since insurance sector has linked with sectors (such as the industrial, agricultural, transportation, mining, trade, and petroleum) both locally and globally, and its significance to the universal human and economic activities has continued to grow over time as all categories of risks increases.

Several studies have found sufficient evidence to suggest that the growth of the insurance industry is connected to economic growth and the insurance has taken on increasing importance as a means where people or group of people to manage their income risks (Osaka, 1992; Ward and Zurbruegg, 2000; Web, 2000; Ebitu et al., 2012). Also, the insurance industry is also measured as the mainstay of any country's risk management system which ensures financial haven for the general public and also serves as a significant constituent in the financial intermediation chain hence, provides a ready source of long-term capital for capital projects (Kugler and Ofoghi, 2005; Ujunwa and Modebe, 2011).

There has been a scarcity of local literature and studies on the operations of the insurance trade on economic growth in Nigeria. One of the few studies is the work of Akinlo and Apanisile (2014) who examine the connection between insurance and economic growth in sub-Saharan Africa from 1986 to 2011 period. The results indicate that insurance has a positive and substantial influence on the economic growth process of sub-Saharan Africa countries. This demonstrates that insurance premium brings long-term investments that promote economic growth and concurrently, solidifying risk-taking abilities in the regions.

It could be observed that empirical studies on this topic are relatively scanty especially about those in the banking sector's contribution to economic growth, and where there is literature, there are mostly foreign-based. More so, due to the neglect of the insurance industry in Nigeria, carrying out business in Nigeria today is very risky considering the rate of uncertainty in the country. Because of the instability, the level of growth and development that should correspond with the country's enormous potential has not been achieved. This makes

this study becomes imperative.

This study aims to examine the effect of insurance industry performance on economic growth in Nigeria. Specifically, the study attempts to investigate the effect of non-life Insurance penetration on economic growth in Nigeria. The result of the study will be helpful to policy makers in identifying significant features that would be beneficial in formulating financial guidelines especially with regards insurance in Nigeria. Also, will serve as a guide to policy makers when considering insurance as a surrogate for the stock market and banking rather than a harmonising industry. Also, this study will be helpful to policy maker in Nigeria if diversification of the economy is considered a priority for the country, especially, concerning revenue generation. The hypothesis formulated for the study is:

- i. Non-life insurance penetration has no significant effect on the economic growth of Nigeria. The study frame covers 27 years (1988-2014). This period includes the best performing period of quoted insurance companies in the country (both with the National Insurance Commission and the Nigeria Stock Exchange).

The remaining part of the paper is designed as follows: first, we provide a synopsis of the review of the literature by looking at the conceptual, theoretical and empirical framework of the study. Also, we discuss the material and method adopted in the study and at that time provide the empirical results. Finally, the concluding remarks and recommendation of the study.

REVIEW OF RELATED LITERATURE

Conceptual framework

The economic growth concept

Economic growth is the procedure by which the prolific component of an economy increases over a specified period, which also leads to a rise in the levels of the national income. When there is economic growth, it shows in the form of an income level, an expansion of the labour force, an increase in the total capital stock of the country and increase capacity of trade and consumption. The gross domestic product (GDP) of a country which reflects the economic model of the country's output. A country's financial health can be measured by looking at that country's economic growth.

Links between economic growth and insurance

Skipper (1997) indicates that the insurance market place activity, both as a trader of risk transfer and

reimbursement and as an established investor, might add to economic growth in mobilising domestic savings; allowing efficient management of different risks, thereby boosting the accumulation of new capital, financial stability; aiding trade, supporting to mitigate losses; and promoting a more efficient sharing of domestic wealth.

The growth in the life insurance market depicts considerable efforts put within the insurance industry. Different questions have arisen over time in the development (both in penetration and in concentration measures) of the life insurance and how it encourages economic growth (Masum, 2014). Previous studies are mostly centred on the link between the financial division and economic growth, primarily banks and stock markets (Boon, 2005; Outreville, 1996; Horng et al., 2012; Akinlo, 2013; Hou and Cheng, 2017), while the insurance continued to be overlooked (Haiss and Sumegi, 2008; Njegomir and Stojic, 2010; Verma and Bala, 2013).

Ward and Zurbruegg (2000), the first scholars to investigate the relationship between insurance and economic growth for nine Organisation for Economic Co-operation and Development (OECD) countries, have found sufficient evidence to suggest that the impact of insurance on economic growth built of different economic echelons, however, an insignificant relationship was discovered for the countries United Kingdom and the USA. Similarly, Din et al. (2013) using the autoregressive distributed lag (ARDL) approach, discovered a negative relationship between insurance and economic growth via international trade in Pakistan.

On the other hand, the studies of Haiss and Sumegi (2008) and Ege and Bahadir (2011), both examining twenty-nine OECD countries, discovered a substantial and positive relationship between insurance and economic growth OECD countries. Also, Chang et al. (2014) also examined the association between insurance and economic growth for ten OECD countries. The bootstrap Granger causality model was applied, and the study discovered that one-way Granger causality is successively from all insurance activities to economic growth for the countries, France, Switzerland, Japan, United Kingdom and the Netherlands.

Other studies such as Web et al. (2002), Kugler and Ofoghi (2005), Vadlamannati (2008), Curak et al. (2009), Han et al. (2010), Horng et al. (2012), Ghosh (2013) and Akinlo and Apanisile (2014) have also explored the relationship between insurance and economic growth in various countries and found a significant and positive relationship between the variables. Also, a current study by Din et al. (2017b) examined the relationship between insurance and economic growth for China, United States, Malaysia, UK, India, and Pakistan using ARDL approach. The result discovered a positive and significant relationship between total insurance and economic growth for the countries above. However, life insurance had an inverse but significant effect on the economic

growth for China, United States and Malaysia.

Similar studies in Nigeria by Omoke (2012) showed no relationship between insurance and economic growth while Madukwe and Anyanwaokoro (2014) revealed a positive and significant relationship between the variables.

Theories of insurance and economic growth

Financial liberalization theory

Arestis and Demetriades (1997) also added that the connection between financial development and economic growth had received considerable attention all through the modern history of economics. Financial liberalisation theory has its source in the work of Shaw (1973) and McKinnon (1973), which shows that economic liberalisation can exert a positive effect on growth rate as interest rates level rise towards market equilibrium when resources are efficiently distributed. Patrick (1966) initiated this in a seminal work on the association between economic growth and financial development. He hypothesised two likely connections, the “demand-following” method, which states that financial development increases as the economy improves; and a “supply-leading” phenomenon, in which the general growth of financial institutions leads to an economic increase (Lee et al., 2016).

Modern theory of financial intermediation

Merton (1995) established a theory known as “modern theory of financial intermediation” which covers conventional theory and the variations in the financial environment. The modern theory of financial intermediation lay more emphasis on six essential functions of insurance: establishment of revenue for settling payments to ease exchange of goods and services; resources allocation; information asymmetry; provision of mechanisms for pooling resources, risk management; provision of price information to help in coordinating decentralised decision-making in several sectors of the economy; establishment of means to tackle the problem of moral and physical hazard.

For this study, the enumerated functions by Merton (1995), could be stated as resources accumulation, management of different risks, resource allocation, and the easing of exchange. Through these functions, the non-life and life insurance companies contribute significantly to economic growth and help both families and individuals manage their income risk efficiently. It also helps to mobilise funds (via medium and long-term savings products) that positively increase economic growth (Ching et al., 2000; Beck and Webb, 2003).

Haiss and Sumegi (2008) analyse the diverse channels of influence on the insurance sector and economic growth: substitute savings, institutional degrees of influence, risk transfer and investment to the economy. Also, it reveals that not giving attention to the insurance sector might likely have an adverse impression on the economy (Verma and Bala, 2013; Njegomir and Stojic, 2010).

The growth theory

The economic growth theory was developed in the 1950's by R. Harrod (Great Britain) and E. Domar (United State), was founded on Keynesian principles. In the Keynesian method to the analysis of economic growth, demand does not spontaneously equate supply, nor do savings equate investments automatically; demand, mainly, the need for capital investment, plays a fundamental part in the economic growth of a country. The growth theory states that, well-developed financial intermediation can stimulate economic growth via the marginal productivity of capital, the efficiency indirecting investment's savings rate and technical innovations (Onyekachi and Okoye, 2013). The channels to growth model try to link the financial intermediation function of insurance companies to economic growth.

Web et al. (2002) specified that life insurance reserves could be used as an estimate of the investment function. The study revealed that Life and non-life insurance influence economic growth positively through the increase in productive capital and efficiency of investments within a country (Skipper and Kwon, 2007; Dorfman, 2008).

Empirical review

Links between non-life insurance and economic growth

Property insurance may facilitate bank intermediation activities by non-life insurance policies, for example partially collateralising credit, which would reduce bank's credit risk exposure hence, promoting higher levels of lending (Outreville, 1990; Esho et al., 2005; Adams et al., 2009; Agbakoba, 2010; Adeyele, 2011). The insurance business is usually divided into two main classes, namely: General or non-life insurance business and life assurance business. Non-life insurance can be subdivided into the fire, accident, oil and gas; contractor's risks and engineering risks, marine and credit insurance, bond and suretyship.

Beenstock et al. (1988) regressed premiums for property liability insurance (PLI) with Gross National Products (GNP), income, and interest rate development,

for 12 countries, their study uncovers a positive correlation between premiums and interest rate and Gross National Products (GNP), marginal propensity to insurance (short and long run) rises with income for capital and tends to develop in the long run. They also reason that economic cycles or recurring income disparities do not influence insurance consumption. Browne et al. (2000) apply a pooled cross-sectional panel model to motor vehicle and general liability insurance in the OECD over the 1988-1996-1993 period. The study disputed that income has linked with insurance consumption. The correlation with risk aversion was statistically irrelevant for motor vehicle insurance consumption and an adverse relationship was discovered for general liability insurance consumption.

Effect of the insurance industry on economic growth

Insurance companies could influence economic growth through the channels of marginal productivity of capital, protection, technological innovations and savings rates. Insurance companies reimburse individuals and firms who experience loss and stabilises their financial position with the likelihood of transferring varieties of risks to insurance companies. Also, firms exposed to the various risks of their liabilities, illness, property, disability of their employers and the life of key employees have the possibility of managing those risks by transferring them to insurance companies. This allows firms to strengthen and redirect their attention and resources on their core business which lead to the willingness and capacity to take real investment which will help to generate a higher level of economic growth (Oke, 2012).

In other words, creating an environment of insurance and greater security fosters investments and innovation for economic growth (Mojekwu et al., 2011; Onyekachi and Okoye, 2013). Without insurance coverage, substantial emergency funds would be looked-for to protect firms against risks. Increasing availability of funds could result from kind of insurance products by which insurance is companies protect from credit risk to other financial intermediation. In this manner, financial intermediaries are more willing to lend funds for financing real investments which encourage economic growth. The insurance industry could give their contribution to solving the problem of the social security system. They protect from the financial consequences of illness, unemployment, injury and retirement. Thus, insurance products such as life, payment protection insurance, health can substitute for government security programs.

MATERIALS AND METHODS

Using data from 1988 to 2014 from the CBN annual

reports and Statistical Bulletin (2015), this study adopts the purposive sampling technique and the ex-post facto research design. The ex-post facto research design, also referred to as '*after the fact*' research, is one of the types of quasi-experimental research which examine how the independent variables affect the dependent variable and the participants are not randomly assigned. That is, the investigation begins after the facts have transpired without the intrusion from the researcher. The Purposive sampling technique also referred to as 'Judgmental sampling', was deemed to be suitable also because it is formed to achieve a particular purpose (Onwumere, 2005; Samuel and lyodo, 2011; Adebisi and Samuel, 2012). These non-probability research methods are considered suitable for the study.

Unit root test

To ensure statistical robustness of the time series data, the E-Views version 9 analytical tool was used to first investigate the order of integration and presence of unit root on the variables. The result of the tests will determine the direction and method of analysis and to be carried out subsequently. The Unit root test results are presented in Table 1.

Graphical presentation

To authenticate the unit root result and further examination, Figure 1 indicates the graphical display of the variables to indicate their level of stationary

Empirical methodology

From Table 1, the variables are integrated to the order of one (1) and zero (0), no variable is integrated to order of two (2) which automatically suggest the use of ARDL bound test approach for the study. The justification for the use of ARDL is established when variables are integrated of different orders ranging from level to first difference or both but not including second difference (Pesaran and Shin, 1998; Pesaran et al., 2001; Narayan, 2002, 2004; Duasa, 2007). ARDL method to Cointegration will give a perfect, accurate and efficient estimation of variables especially when their unit roots results show a mixture of variables being stationary at level and first differences (Atif et al., 2010; Giles, 2013; Iheanacho, 2016; Marques et al., 2016; Olayungbo and Adediran, 2017). When all the variables are integrated to the order of zero, the regression will be more appropriate (Nkoro and Uko, 2016). This study relates insurance industry performance and economic growth in the model below:

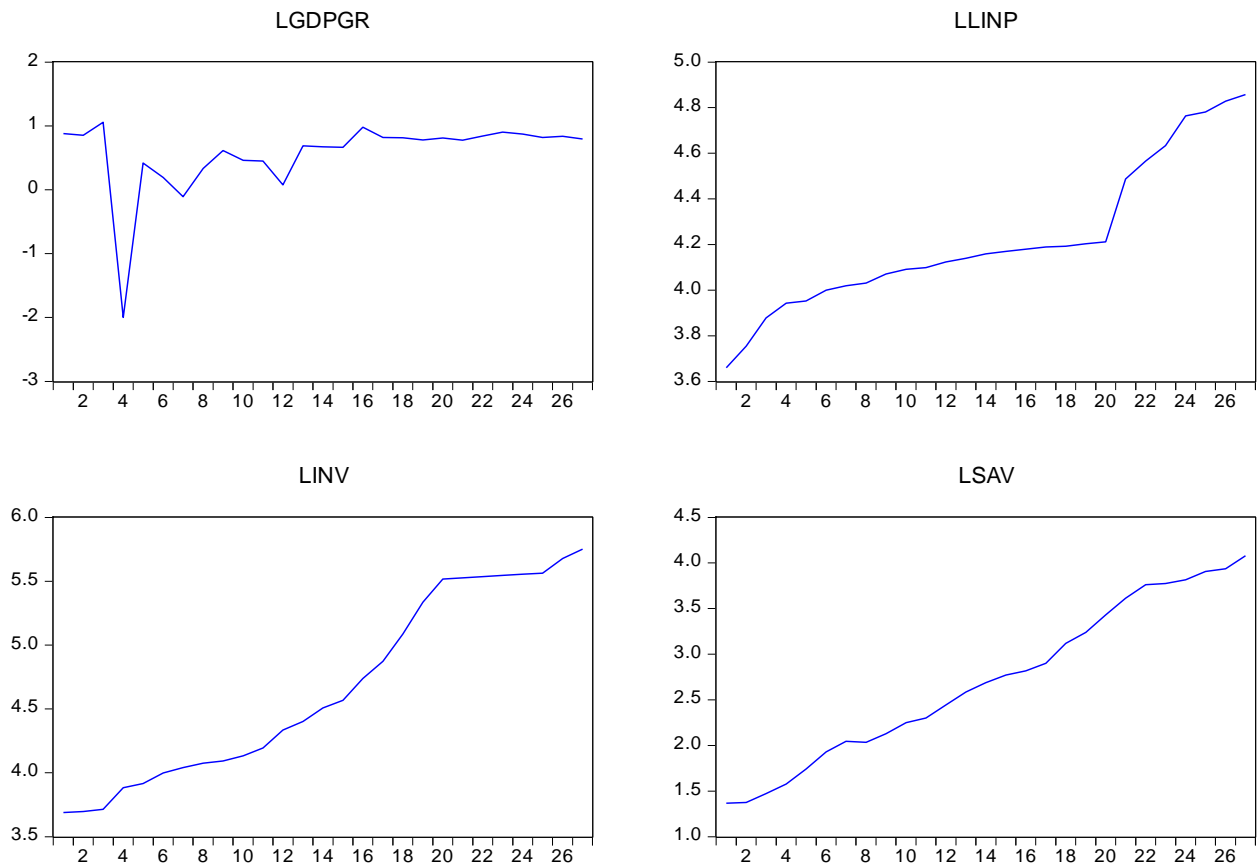


Figure 1. Graphical presentation of variables.

Table 1. Unit root result.

Variables	ADF				PP			
	I	OT	I&T	OT	I	OT	I&T	OT
LGDPGR	Levels	-4.5618*** (0.0013)		-5.6935*** (0.0005)		-4.5568*** (0.0013)		-6.6967*** (0.0000)
	Δ	-8.7865 (0.0000)	I(0)	-8.2437 (0.0000)	I(0)	-19.9941 (0.0001)	I(0)	-21.4832 (0.0000)
LINV	Levels	-0.4788 (0.8798)		-2.0913 (0.5254)		0.0052 (0.9508)		-1.9523 (0.5989)
	Δ	-2.9596*** (0.0508)	I(1)	-2.8634*** (0.0190)	I(1)	-3.0211*** (0.0465)	I(1)	-2.9283*** (0.0171)
LNLINP	Levels	0.0228 (0.9525)		-1.0691 (0.9153)		-0.1123 (0.9380)		-1.3594 (0.8490)
	Δ	-4.0359*** (0.0048)	I(1)	-4.0329*** (0.0208)	I(1)	-4.3147*** (0.0017)	I(1)	-4.0034*** (0.0221)
LSAV	Levels	-0.0108 (0.9492)		-2.8605 (0.1909)		-0.0108 (0.9492)		-2.4606 (0.3430)
	Δ	-4.0079*** (0.0052)	I(1)	-3.9350*** (0.0255)	I(1)	-3.9979*** (0.0053)	I(1)	-3.9181*** (0.0264)

Note: Values in bracket, p-value; I, intercept; I&T, intercept and trend; OT, order of integration; Δ , first difference. ***, **, * denote significance at 1, 5 and 10% respectively.

Table 2. Underlining ARDL model result.

Variables	Coefficients
Constant	18.5558 ^{***}
LGDPGR	-0.1974 [*]
LNLINP	-1.6875 ^{**}
LINV	-0.7808 [*]
LSAV	1.5889 [*]
Diagnostic tests	
R ²	0.9310
AR ²	0.8483
S.E.R	0.1113
F-statistic	11.2496[0.0003]
JB Test	0.3807[0.8267]
	0.4077[0.5231](1)
LM Test	3.5700[0.1678](2)
	9.5415[0.0229](3)
	0.1045[0.7465](1)
ARCH Test	0.3102[0.8563](2)
	1.1299[0.7699](3)
RESET	7.1347[0.0256]
Cusum	Stable

Notes: R², R-square; AR², Adjusted R-square; S.E.R standard error of regression; JB, Jarque-Bera normality test; LM, Breusch-Godfrey LM serial correlation test; ARCH, ARCH heteroscedasticity test; RESET, Ramsey RESET Test; P-values are in parenthesis []; () represent lags for variables. ^{***}, ^{**}, ^{*} denote significant at 1%, 5% and 10% respectively.

$$GDPGR = f(NLINP) \tag{1}$$

Adding other explanatory variables that could affect the economy, the log-linear model can be written as:

$$LGDPGR_t = \alpha_0 + \alpha_1 LNLINP_t + \alpha_2 LINV_t + \alpha_3 LSAV_t + \varepsilon_t \tag{2}$$

Therefore, the complete ARDL model can be specified as:

$$\Delta LGDPGR_t = \beta_0 + \sum_{i=1}^k \beta_{1i} \Delta LGDPGR_{t-i} + \sum_{i=0}^l \beta_{2i} \Delta LNLINP_{t-i} + \sum_{i=0}^m \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta LSAV_{t-i} + \delta_1 LGDPGR_{t-1} + \delta_2 LNLINP_t + \delta_3 LINV_t + \delta_4 LSAV_t + \varepsilon_t$$

Where, LGDPGR represents the log of the growth rate of gross domestic product and LNLINP, log of non-life Insurance penetration. LSAV, savings; LINV for investments and ε stands for error term. $\beta_1, \beta_2, \beta_3, \beta_4$, are the short run estimates and $\delta_1, \delta_2, \delta_3, \delta_4$ are the long estimates of the model; t means years of analysis. Δ is the first difference operator and k, l, m, n , are the optimal

lags length; $\alpha_1, \alpha_2, \alpha_3$, are coefficients associated with the explanatory variables of the model.

The optimum lags structure are determined through the least or smallest Schwarz information Criteria (SIC) value. The Schwarz Criteria is adopted because it considers both the statistical goodness of fit and the various parameters used in estimation to achieve a particular degree of fit. E-views automatically chooses the appropriate lag length.

The Wald test (F-test), also referred to as a 'bound test', is used in examining the relationship between the variables. Two critical values produced by Pesaran et al. (2001) are equated with the F-statistics to establish cointegration. The decision rule is to reject the null hypothesis if the estimated F-statistics value is greater than the Pesaran upper bound of critical value at 5% significant value, otherwise, do not reject. When the F value is between the lower and upper critical bounds, the decision is regarded as 'inconclusive' (Pesaran et al., 2001; Duasa, 2007; Atif et al., 2010; Marques et al., 2016; Olayungbo and Adediran, 2017). The ECM for the estimation of short-run relationship for the model is specified as:

$$\Delta LGDPGR_t = \beta_0 + \sum_{i=1}^k \beta_{1i} \Delta LGDP_{t-i} + \sum_{i=0}^l \beta_{2i} \Delta LNLINP_{t-i} + \sum_{i=0}^m \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta LSAV_{t-i} + \lambda_1 ECM_{t-1}$$

Where, $\beta_1, \beta_2, \beta_3, \beta_4$, are the short run coefficients of the model while λ stands for the speed of adjustment coefficient to the equilibrium. A negative and significant ECM_{t-1} coefficient (that is, λ_1) indicates speed rate of convergence to equilibrium/stability between the dependent and the independent variables.

RESULTS AND DISCUSSION

Table 2 presents the ARDL result of the analysis carried out. The result reveals that the model for the study is well fitted (F-statistic= 11.2466 and probability of 0.0003). The coefficient of determination (R-square), which determines the goodness of fit of the model specifies that the independent variables explained 93% of the variations observed in the dependent variable. This was moderated by the Adjusted R-squared (AR²) to 84%, indicating that there are other variables other than the explanatory variables that might likely have an impact on the GDPGR, the dependent variable. The Breusch-Godfrey LM serial correlation test and heteroscedasticity (ARCH) result also confirms the model is free of heteroscedasticity and autocorrelation as the probability values are greater than 5%. The Jarque-Bera normality test also specifies

Table 3. Bound test result.

	F-statistics	k	Critical value bounds		
			Sig.	I(0) Bound	I(1) Bound
Model	11.5385	3 ¹	10%	2.72	3.77
			5%	3.23	4.35
			1%	4.29	5.61

Table 4. Short and long dynamics.

Variables	Short run	Long run
$\Delta LNLINP(-1)$	1.6875**	
LNLINP		-2.0841***
$\Delta LINV(-1)$	-0.7808*	
LINV		-0.3198**
$\Delta LSAV(-1)$	-1.5889*	
LSAV		1.3559***
Speed of adjustment		
ECT_{t-1}	-2.4414[0.0001]***	

Notes: ***, **, * denote significant at 1, 5 and 10% respectively.

that the variables are normally distributed (also greater than 5%). Similarly, the Cusum test shows that the variables in the model remain stable over time. Table 3 shows the bound test result of the analysis.

In Table 3, the bound test result indicates we reject the null hypothesis ($H_0 = \delta_1 = \delta_2 = \delta_3 = \delta_4 = 0$) and accept the alternate ($H_a = \delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq 0$). The calculated F-statistics of 11.5385 is greater than the critical bounds value of 3.77, 4.35 and 5.61 at 10, 5 and 1%, respectively. In line with the decision rule, the null hypothesis is hereby rejected. This mean non-life insurance penetration had a positive and significant impact on the economic growth of Nigeria. This implies that a long-run relationship subsist among the variables, hence, the long run and short run dynamics of the model will be estimated. Table 4 present the short and the long run dynamics of the model.

The short-run result above indicated a positive and significant relationship between the dependent variables and the variable non-life insurance penetration (LNLINP) but experienced a negative and significant association in the long-run. A negative relationship exists between investment, savings and the dependent variable, LGDPGR in the short-run. Both coefficients are insignificant but significant at 10% level. In the long-run, investment also has a negative and significant influence on the dependent variables while savings had a positive

and significant impact on the economy. The ECT_{t-1} coefficient of -2.4414 signifies a very high (244%) speed rate of convergence to equilibrium which implies that the entire system can get back to the long-run equilibrium at the speed of only 244%.

The long-run conditional error correction regression could be written as shown below. Standard errors are in parenthesis.

$$LGDPGR_t = \beta_0 + \delta_1 LNLINP_t + \delta_2 LINV_t + \delta_3 LSAV_t + \varepsilon_t \quad (5)$$

$$LGDPGR_t = 7.6005 - 2.0842 * LNLINP_t - 0.3198 * LINV + 1.3559 * LSAV + \varepsilon_t \quad (6)$$

(0.7346)(0.1598) (0.1420) (0.1579)

CONCLUSION AND RECOMMENDATION

The role of the insurance industry in an economy with regards to economic growth cannot be played down and at the same time underestimated. One of the primary expectations of most people that buy insurance premium is to have for themselves a secure future. As a result, a nation that seeks the welfare of its citizens must as a matter of priority emphasise the need to build and develop a stable and vibrant insurance industry to foster all-round economic growth and development.

The Nigerian insurance industry has evolved from its conventional role of controlling risk and insurance market activity, mutually as a mediator and as a trader of risk transfer and underwriter. The expected offshoot of the insurance industry is to encourage growth by managing different risks efficiently through promoting long-term savings, supporting the collection of capital and the investment of the same. Hence, this study examines the insurance market activities which are aimed at securing economic growth for the Nation. This is because; given the nation's huge potential regarding resource endowment and her market size, it becomes evident that given the right environment and initiative there is no height the nation's economy cannot attain.

In the meantime, the results obtained from the hypothesis tested indicate that the insurance industry has a positive impact on the economic growth in Nigeria. However, the life insurance infiltration had a negative but significant effect on GDPGR. It implies that the non-life insurance penetration drives the insurance industry in Nigeria as against the life insurance penetration. As such, the Nigerian insurance industry still left much to be desired, that is, the insurance sector of Nigeria has not fully maximised the potentials available to it, regarding the benefits and opportunities in the insurance industry which are yet to be tapped. As such, for the insurance industry in Nigeria, more opportunities are waiting to be explored for the overall good and benefits of all and sundry thereby enhancing the growth of the Nigerian economy as a whole.

Therefore, this study recommends among others that:

¹ $k+1 = \text{total variables} = (k+1=4; k=3)$

Founded on the fact that non-life insurance premium had a negative and significant relationship with economic growth, it implies that all of the available potentials of the non-life insurance industry are yet to be fully tapped in Nigeria. The study, therefore, recommends that more awareness is to be created to enhance the participation of the product industry and firms as this will deepen insurance activities in Nigeria. Furthermore, this study recommends an increased diversification of insurance products, specifically, in non-life businesses. Diversification in the non-life insurance product would expand the revenue base of Nigeria. For instance, the National Health Service (NHS) of the United Kingdom supported by the National insurance contribution, popularly known as 'NI' and these over the years has contributed significantly to the economic growth of the United Kingdom. In 2018-2019, the contributions from National Insurance raised £136.5 billion (that is, 17.6% of all revenue and 6.5% of national income). Through this medical treatments are compensated by medical policies.

Diversification of the non-life insurance policy could protect our pets if register with pet insurance; protect our property and gives us a proper shelter and protected homes against harms caused by natural disaster and fire accidents if registered with home insurance. We can insure our jobs under unemployment insurance and be protected from redundancy. Also, travel insurance would protect Nigerian from hazards associated with travelling outside the country. A motor vehicle insurance would secure our vehicles from breakdowns, theft and accidents. These innovative non-life products, if explore and strictly enforced and implemented, would contribute positively to the economic growth of Nigeria.

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APPENDICES

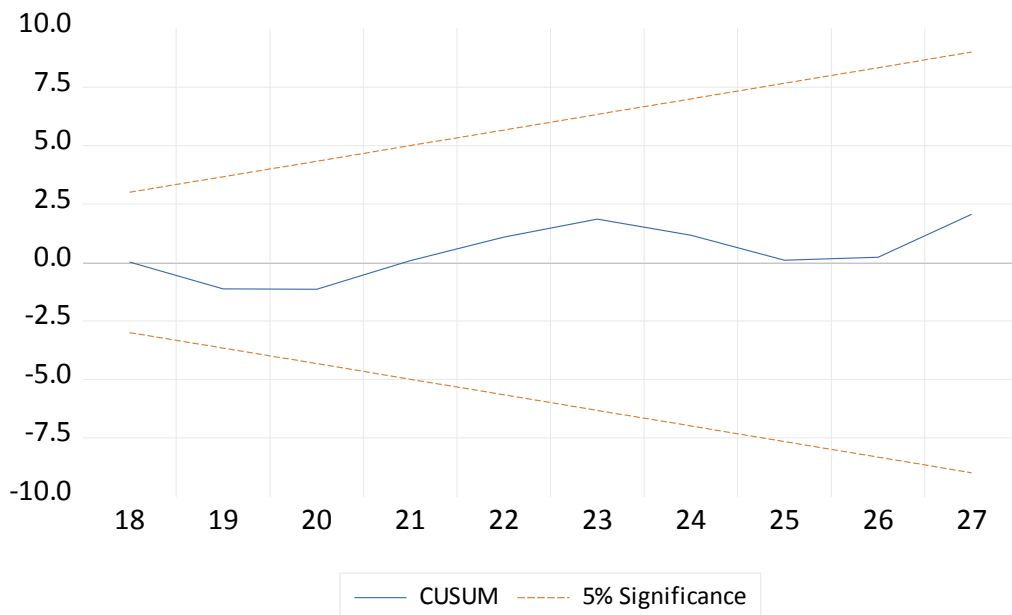


Figure 2. Cusum test.

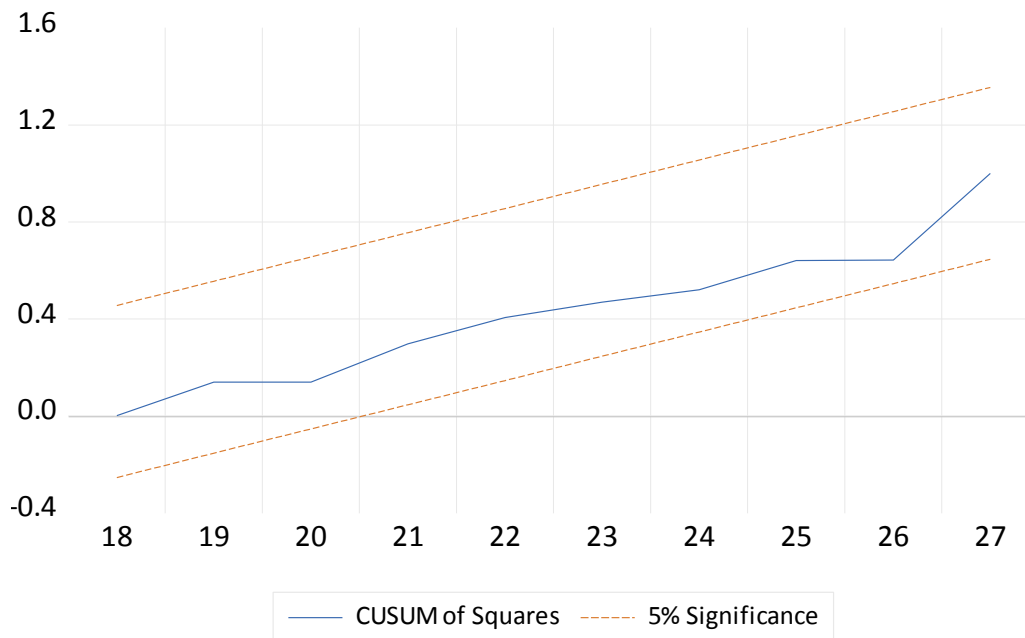


Figure 3. Cusum of squares.

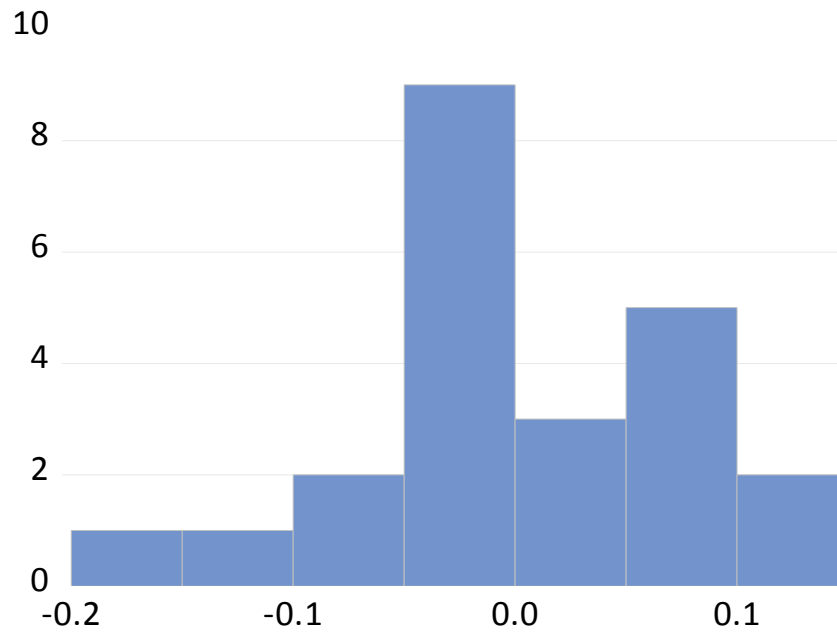


Figure 4. Jarque-bera Normality test.
Notes: Jarque-Bera 0.3807; Prob. 0.8267; Kurtosis 3.1660; Skewness -0.3039; Std Dev. 0.0750; mean -2.16e-15.