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*Impact of Insurance Sector Development on the
Growth of the Nigerian Economy*

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Impact of Insurance Sector Development on the Growth of the Nigerian Economy

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Abstract

The study examined the role of insurance sector development in the growth of the Nigerian economy for the period 1985 to 2022 (38 years). The Autoregressive Distributed Lags (ARDL) technique was employed in the analysis of data, and the results from the empirical analysis indicate that insurance penetration (INPEN) has a weak positive relationship with economic growth in the long run; insurance premium (INPR) has a significant negative impact on the growth of the Nigerian economy; insurance assets (INASS) failed the 5% level, suggesting that it does not have significant impact on the growth of the Nigerian economy; insurance investment rate (INIVR) has a weak negative relationship with economic growth in Nigeria; while the previous values of RGDP, INPEN, INPR, INASS and INIVR significantly impact economic growth in Nigeria in the long run than their current values. The study recommends among others that since insurance premium (INPR) is significant and inversely related to economic growth, it therefore follows that the insurance firms in Nigeria should ensure the implementation of appropriate premium rate that will not only attract more clients but will also boost overall income to the firms thereby contributing meaningfully to economic growth in Nigeria.

Keywords: *Economic Growth, Insurance Sector Development, Insurance Premium, Insurance Penetration, Econometric and Statistical Methods*

Introduction

Economic growth primarily refers to an increase in the production of goods and services in an economy, which is often measured by factors like the growth of stock markets, bond markets, and GDP per capita. But today, there is another dimension to economic growth-factor-determinants which has to do with insurance firms. Hence, the level of economic growth in a country can no longer be restricted to growth of stock markets, bond markets, and GDP per capita alone but also the inclusion of insurance sector which are active players and investors in the stock market, bond markets and whose activities directly influence the real sector of the economy. Today, and across the globe, no country can afford to downplay and undermine the relevance of the insurance sub-sector to the financial system and the real economy.

The nature of insurance business is broadly in two forms, life and property or non-life insurance. With respect to life insurance, it is seen to have significant impact on the society as a whole because of the services it renders that enable people purchase certain line of product that enable them take care of

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unexpected future event when it eventually happened (Apergis & Poufinas, 2021). Also, the series of premium usually paid by clients to insurance firms which usually amount to huge sums of money are first invested directly into the financial market and the economy in general until the benefits are due for payment (Mirela, Nicu & Silviu, 2014). The OECD (2018b) stated that “insurance firms as well as pension funds are among the top investors in the world today, as their assets under management amount to trillions of dollars, especially those under the OECD whose pension assets were over 43.4 trillion dollars as at 2017”.

The Nigerian economy has been faced with series of challenges ranging from weak naira against the dollar, obnoxious policies of the monetary authority (CBN) that almost cripple the entire banking system and the economy in general, inappropriate government policies, corruption and insecurity and epileptic power supply among others, which have crippled the productive sector of the real economy. Today, beside the banking sector, insurance sector is another major investor and key participant in the Nigerian exchange limited (NGX). As at the fourth quarter of 2022, the Nigerian insurance sector total assets base was about N2. 328 trillion, such that insurance business and life Insurance recorded N1.122.1 trillion and N1.206.6 trillion, including gross premium income generated amounted to N726.2 billion respectively (Globaldata, 2022; The Nigerian Tribune, 2023). The growth in the industry was about 36.3 percent compared to the real growth of 3.5 per cent of gross domestic product (GDP) within the same period; and this fit was as a result of consistent regulatory measures instituted by the National Insurance Commission (NAICOM) (Globaldata, 2022; The Nigerian Tribune, 2023).

Although, several works with respect to banking sector, financial market, capital market and economic growth have been well investigated, but to the best of my knowledge, much have not been done in Nigeria on how insurance sector affect economic growth. Even the ones the few studies in this regard were carried out in 2016 and 2018 respectively. It should be noted that between 2018 and 2022, a lot of changes have occurred within the insurance sector and the economy, hence, the need to update this study by using a more recent Nigeria-specific data in this regard.

Also, it was observed from the reviewed empirical literature that most of the study employed either OLS, cointegration, error correction model (ECM), granger causality test; to the best of my knowledge, no studies used the autoregressive distributed lags technique (ARDL) which has been adjudged by most financial

experts to be more effective for analyzing short run and long run relationship regardless of the stationary qualities of the data.

It is hope that the outcome of this study will provide relevant information that will provide impetus to chat the way forward for relevant regulatory authorities and policy makers in Nigeria in order to initiate fresh policies capable of recovering the dwindling economy and securing and strengthening the financial sector, specifically targeted at the insurance sector of the economy.

Literature Review

Theoretical Framework

Neo-Classical Theory of Economic Growth

The neo-classical theory and Harrod-Domar theory best explain present day economic growth behaviour in different perspectives. The neo-classical theory of economic growth was advocated by Tobin, Swan, Solow, Meade, Phelps and Johnson, and it demonstrate how a cou try’s economic growth level can be assisted by its wealth of capital, labour supply and technological advancement over time (Solow, 1956). It is usually expressed in production function as follows:

$$Y = f(Cc, Lbr, TeD) \dots\dots\dots 1$$

Where Y is the National output; Cc is Capital stock; Lbr is Labor supply and TeD is the Scale of technological development.

It is assumed that with constant return to scale, as national output (ΔY) rises, it will equate overall marginal productivity (MaPr) multiply by ΔCc and ΔLbr . Therefore,

$$\Delta Y = \Delta Cc. MaPr_k + \Delta Lbr. MaPr_l \dots\dots\dots 2$$

Where, $MaPr_k$ is marginal physical product of capital; $MaPr_l$ is the marginal physical product of capital. Thus, dividing the national output by Y, we arrive at $\Delta Y/Y = \Delta Cc (MaPr_k/Y) + \Delta Lbr (MaPr_l/Y)$. The $Cc. MaPr_k$ and $Lbr. MaPr_l$ is the aggregate stake of capital and labor in the national output, whereas $Cc/Y * MaPr_k$ and $Lbr/Y * MaPr_l$ stands for relative stake of capital and labour in the national output. Therefore;

$$(Cc. MaPr_k/Y) + (Lbr. MaPr_l/Y) = 1 \dots\dots\dots 3$$

However, with respect to technological change, the change in national output is given by:

$$\Delta Y/Y = b\Delta Cc/Cc + (1 - b) \Delta TeD/TeD \dots\dots\dots 4$$

The whole essence of the neo classical theory is therefore based on the assumptions that there exist a commodity and a factor market that is totally competitive in nature in such a way that its payments equate those of production extra income, coupled with a complete employment level situation (Solow, 1956).

Economic growth

The concept of economic growth has been variously defined as a steady rise the level of per capita income followed by growth in labour force, consumption, capital and trade volume (Jhingan, 2007). However, Adamu and Hajara (2015) sees it as a gradual rise in the output of a country's ability to produce goods and services required for the proper upkeep of the citizenry. This view was indeed corroborated by Bakong (2015) agreed that economic growth represents a rise in a country's production capacity over a specified time period. On his part, Milton (1980) earlier coined the concept as the level to which a country's employment rate coupled with production capacity rise over time.

Insurance Penetration and Economic Growth

The International Association of Insurance Supervisors (IAIS) defined penetration rate as the ratio of premium to GDP, which shows how insurance industry has impacted economic growth overtime. In my own opinion, insurance penetration rate is the rate at which insurance firms gain access to a good number of potential clients in all nukes and craning of the society. It indirectly speaks of awareness and the degree to which this awareness about insurance products are brought to the door steps of the common man who hitherto was unaware of the benefits of taking any policy and later became interested as a result of consistent enlightenments program embark on by the insurance firms. Okonkwo and Eche (2019) sees it as a measure of the level of development of the insurance sector in a country; and is measured by the amount of insurance premium in a country as ratio of GDP. It therefore follows that, as the level of penetration rises, the overall insurance market also rises (Alhassan, & Fiador, 2014).

Insurance Premium and Economic Growth

The amount of money the insured paid for the services to be rendered by insurer is known as premium. Hence, it is the amount of money that must be paid by clients to the insurers for the purpose of indemnity. In the real sense of it, insurance firms do operate profitably by ensuring that the amount charged for premiums technically exceed their overall operating expenditure so as to remain in operation (Okonkwo, 2004). Irukwu (1990) sees premium as the price offered to an insurer for indemnity purpose for a specific

time period, which must also be acceptable to the insurer. The daily premium usually paid by clients to insurance firms amount to huge sums of money which are first invested directly into the financial market and the real economy until the benefits are due for payment. By so doing, insurance firms exert significant positive impact on the growth of the economy (Mirela, Nicu & Silviu, 2014).

Contribution of Insurance Industry to Economic Growth

The role of insurance industry in the growth process of a nation's economy cannot be under estimated due to the fact that the sector is unarguably one of the key players in a country's financial system. There are several notable ways that insurance firms assist in nation's economic growth. For instance, the coverage or indemnification they provide for clients enable them to steadily hedge against potential risks in areas like property damage, liability claims, or business interruption. This in turn guarantee continued business operation without interruption and by so doing increase the level of economic activities in the country.

According to Mirela, Nicu and Silviu (2014), insurance firms are major players in the financial system of any country and by implication, they help to Increase the process of financial intermediation through the creation of liquidity and savings in life insurance products, prevent potential risk against clients and companies as they case may be. These activities therefore substantially contribute to the level of economic activities and sustainable growth.

Conversely, insurance companies also contributes immensely to economic growth through the premium collected from respective clients which are either directly invested in the capital market, or used to buying of government bonds, corporate bonds (debenture) and equities. By this, they are well able to smoothing the intermediation process in the financial system, maintaining financial stability by way of mobilizing savings to the capital market which in turn facilitate trading and economic activities (Skipper, 2001).

Empirical Review

Haiss, and Sümegi (2006) investigated how insurance industry has affect economic growth in 29 European countries over the 1992 to 2004. Using the panel data analysis technique, it was found that insurance companies does not affect economic growth. Ezirim, Torbira and Amuzie (2016) examined the link between insurance firms' intermediation role and gross fixed capital formation (GFCF) in Nigeria. Employing a

multivariate regression, and dynamic model, the result from the analysis indicate that intermediation role factors significantly and positively impacted capital formation in the short run and in the long-run.

In another related study, Nwanli and Omankhanlen (2019) examined the impact of insurance specific factors on economic growth in Nigeria for the period 2008 to 2017. The results of the panel data analysis clearly indicate an insignificant relationship between all the hypothesized insurance related factors and economic growth in Nigeria. Lyndon (2019) investigated the link between insurance sector and economic growth in Nigeria over the period 2001 to 2017. Using the multiple regression technique, it was found that Insurance investment, premium, and claims have significant positive influence on economic growth overtime.

The study of Okonkwo and Eche (2019) on the penetration rate and economic growth nexus, employed the OLS technique to analyzed Nigeria-specific data covering the period 1981 to 2017. The result indicated a weak impact of penetration on growth in the country. Olarewaju and Msomi (2021) studied the effect of determinants of insurance firms' penetration in selected 15 West Africa Countries for the period 1999Q1 to 2019Q4; they found that all the hypothesized variables were highly significant and are major determinants of insurance penetration. Zekaj and Rexhepi (2022) examine how insurance activities influence economic development in Kosovo. It was observed that in spite of the war and turbulent era, insurance sector still contribute immensely to the overall development of the country's economy within the investigating period.

Fadun and Silwimba (2023) examined the role of insurance sector in Nigeria for the period 1992 to 2019. The study employed the cointegration technique and the findings showed that non-life premium and life premium were significant contributors. Dawd and Benlagha (2023) examined the effect of insurance development on economic growth in 16 OECD countries for the period 2009 to 2020. Employing the dynamic panel technique, insurance related factors significantly impacted economic growth; coupled with fact that the inverted U-shaped relationship was also confirmed in the study.

Other similar studies in this regard includes Sibindi, and Godi (2014), Mirela, Nicu and Silviu (2014), Sajid, Angappan and Arpah (2017), Oloyede, Folorunsho and Ogamiem (2023). All submitted that insurance sector significantly influence growth of the economy in their respective studies.

Methodology

The study uses the longitudinal survey (expost facto) research design. The population of the study which is also the sample size is the insurance sector of the Nigerian economy for the period 1985 to 2022 (38 years). The census sampling technique was employed in this regard. The data were sourced from the CBN Bulletin (2022).

Method of Data Analysis

The study employed the Autoregressive Distributed Lags (ARDL) technique for modeling integration relationships, along with unit root test and correlation coefficient. The parsimonious ECM is used because it can combine short and long run properties to produce an efficient estimate; thereby providing room for much flexibility. Finally, post regression test of Breusch-Godfrey serial correlation test is used to ensure the absence of serial correlation in the model.

Theoretical Framework and Model Specification

Theoretically, the framework for the model of this study is derived from the neo-classical theory of economic growth earlier stated in section two, and is functionally stated as:

$$RGDP = F (INPEN, INPR, INASS, INIVR).....(1)$$

However, in its econometric form, the above model is given as:

$$RGDP = \beta_0 + \beta_1RGDP_{it} + \beta_2INPEN_{it} + \beta_3INPR_{it} + \beta_4INASS_{it} + \beta_5INIVR_{it} + U_t.....(2)$$

Where:

RGDP = Real Gross Domestic Product (a proxy for economic growth)

INPEN = Insurance Penetration

INPR = Insurance Premium

INASS = Insurance Assets

INIVR = Insurance Investment Rate

Where u is the stochastic error term in the model.

The a priori of the explanatory variables are $\beta_1, \beta_2, \beta_3, \beta_4 > 0$

Measurement of Variables

(i) **Real Gross Domestic Product (RGDP):** This is RGDP adjusted for inflation.

(ii) **Insurance Penetration (INPEN):** This is measured as ratio of total premium to GDP

- (iii) **Total Insurance Investment (INIVR):** This is the aggregate premium invested which comprised life insurance and non-life insurance premiums.
- (iv) **Insurance Premium**–This is categorized into life insurance and non-life insurance premiums collections from clients.
- (v) **Insurance Assets (INASS):** This is measured as the total assets of insurance firms (as measured by CBN Statistical Bulletin).

Findings and Results Discussions

Unit Root Test Analysis

In the section, the ADF test was used in order to avoid spurious regression results. The results are showed in levels and first difference, thus, in Table 1, (panel 1) and in first difference (panel2). The result in levels revealed non-stationarity, but when they were differenced in panel 2, they all became stationary. Thus, we conclude that they are integrated of order one (i.e. I[1]).

Table 1: Unit Root Test for Variables in Levels

Panel 1		In Levels		Panel 2		At First	Difference
Variable	ADF Test Statistic	95% Critical ADF Value	Remark	ADF Test Statistic	95% Critical ADF Value	Remark	Remark
RGDP	9.074866	-2.943427	Stationary	-13.34923	-2.948404	Stationary	
INPR	-0.324318	”	Non-Stationary	-6.412070	-2.945842	”	”
INIVR	-2.244009	”	”	-6.126113	”	”	”
INASS	-1.762127	”	”	-5.587804	”	”	”
IN PEN	-1.357426	”	”	-5.862772	-2.948404	”	”

Correlation Analysis

In Table 2, RGDP is seen to have a high positive correlation values of 0.719304, 0.897541 with insurance penetration (INPEN), insurance premium (INPR), and a weak negative and positive correlation values of -0.054369 and 0.195403 with insurance assets (INASS), insurance investment rate (INIVR) respectively. Also, insurance penetration (INPEN) has a high positive correlation values of 0.947151 with insurance premium (INPR), and a weak positive correlation with insurance assets (INASS) and insurance investment

rate (INIVR). On the other hand, insurance assets (INASS) is inversely correlated with insurance investment rate (INIVR) (-0.589844). Thus, a cursory glance at the results above reveal that there is actually no strong indication of the problem of multicollinearity amongst the explanatory variables used in the model.

Table 2: The Pairwise Correlation Matrix

	RGDP	INPEN	INPR	INASS	INIVR
RGDP	1				
INPEN	0.719304	1			
INPR	0.897541	0.947151	1		
INASS	-0.054369	0.221910	0.118872	1	
INIVR	0.195403	0.008276	0.097909	-0.589844	1

Bound Test for Cointegration

To ascertain whether a long term link exist among the data, the bounds test was used in this regard in Table 3. The 11.08328 value of F-statistic is greater than 3.97 upper bound $I(1)$ value at the 5 percent level of significance, thus suggesting evidence of a long run link.

Table 3: Bounds Test for Cointegration Result

Test Statistic	Value	Significant	I(0)	I(1)
F-statistic	11.08328	10%	2.68	3.53
K	4	5%	3.05	3.97
		2.5%	3.4	4.36
		1%	3.81	4.92

The ARDL Error Correction Regression Result (Short Run Result)

In the short-run, in insurance sector development variables is captured by the ARDL ECM model in Table 4. The diagnostic indicator of the R-squared value is 0.85, suggesting that 85% differences in RGDP within the short term is explained by the dependent variables including the ECM. The F-value of 47.228 is significant at the 1%; suggesting RGDP and the explanatory variables (taken together) are significantly related in Nigeria. For the specific coefficients, it is seen that the coefficients of the lag value of RGDP and insurance assets (INASS) has significant inverse impact on RGDP. This suggests that, in the short run, the previous values of RGDP and INASS significantly impact economic growth than their current values.

The coefficient of insurance assets (INASS) has a weak positive link with RGDP; the variable failed the 5 percent significance level. By implication, total insurance assets are not very potent in determining the growth of the Nigerian economy overtime. The coefficient of the ECM term (represented by CointEq(-1)*) in Table 4.4 below is correctly signed (negative) at 1% level of significant; and even the DW statistic value is 1.72 percent shows the absence of multicollinearity.

Table 4: ARDL ECM Results

ECM Regression			
Case 4: Unrestricted Constant and Restricted Trend			
Variables	Coefficient	T-Ratio	Prob.
Constant	-1083.193	-1.865907	0.0734
D(RGDP(-1))	-0.748586	-4.273311	0.0002**
D(INASS)	0.002137	0.650295	0.5212
D(INASS(-1))	-0.009756	-2.875308	0.0079**
CointEq(-1)*	-0.149083	-8.904385	0.0000**
$R^2 = 0.85$	$\bar{R}^2 = 0.84$	F-stat = 47.228	D.W.= 1.72

ARDL Long Run Results

The ARDL result is presented in Table 5 below, and it is seen that insurance premium (INPR) highly impact economic grow. Suggesting that as total amount of premium rises, economic growth increases by 0.169049 percent approximately. This further suggests that insurance premium (INPR) is a relevant predictor of the Nigerian economic performance in the long run. This finding corroborated the findings of Oloyede, Folorunsho and Ogamien (2023), Fadun and Silwimba (2023), Dawd and Benlagha (2023) who found significant positive relationship between insurance premium and economic growth in their respective studies.

The coefficient of insurance investment rate (INIVR) has a weak negative impact on economic growth, suggesting that in the determination of economic growth in Nigeria, insurance investment rate (INIVR) is not a relevant factor to be considered. As a matter of fact, the negative sign further suggests that the in the long run, the variable even have the tendency of reducing growth in the country. This finding disagreed

with those of Ezirim, Torbira and Amuzie (2016), Nwanli and Omankhanlen (2019), Lyndon (2019), Olarewaju and Msomi (2021) who submitted that insurance investment rate significantly impacted economic growth. It however agree with those of Okonkwo and Eche (2019), Oloyede, Folorunsho and Ogamiem (2023) who found that insurance investment has a weak relationship with economic growth.

Also, the coefficient of insurance assets (INASS) is inversely related to economic growth, and this suggests that the total assets of insurance firms are relevant determinants of long term growth Nigeria. Indeed, the inverse sign suggests that, as total insurance asset (INASS) rises, the level of economic growth in Nigeria decreases by approximately -0.070898 percent. It therefore follows that there is the need for proper utilization of assets by insurance firms which must be effectively directed at profitable investments as well as other assets yielding investment. Wastage and idle assets should be minimized and by so doing, insurance assets will not only beef up the overall financial performance of the industry but at the same boost the overall growth of the economy at large. Indeed, this finding is seen to strongly corroborate the findings of Ezirim, Torbira and Amuzie (2016), Nwanli and Omankhanlen (2019), Lyndon (2019), Olarewaju and Msomi (2021) who found that total insurance assets significantly impacted economic growth. Nevertheless, the finding disagreed with those of Okonkwo and Eche (2019), Oloyede, Folorunsho and Ogamiem (2023) who found that insurance assets have a weak impact on economic growth in the long run.

The coefficient of insurance penetration (INPEN), being the ratio of premium to GDP has a weak effect on economic growth in Nigeria in the long run. This finding seems to align with Okonkwo and Eche (2019) that insurance penetration is a measure of the level of development of the insurance sector, determined by the amount of insurance premium as ratio of GDP. Alhassan, and Fiador (2014) was on course when they earlier submitted that a higher penetration rate stimulate speedy development of the insurance market; hence, the sector is able to effectively support economic activities positively.

Therefore, we conclude that, insurance premium (INPR) and assets are the main drivers of economic growth in Nigeria in the long run.

Table 5: ARDL Long Run Result

Levels Equation			
Case 4: Unrestricted Constant and Restricted Trend			
Variables	Coefficient	T-Ratio	Prob.
INPR	0.169049	2.627453	0.0142*
INIVR	-140.8318	-0.135797	0.8930
INASS	-0.070898	-3.571942	0.0014**
INPEN	2037.362	0.732023	0.4707
@TREND	-2203.501	-1.646521	0.1117

Breusch-Godfrey Serial Correlation LM Test

To test whether the residuals from the model are serially correlated in the estimation, we used the Breusch-Godfrey Serial Correlation LM Test as indicated in Table 6 below. Indeed, from the result, since the null hypothesis is that the residual are serially uncorrelated as showed by the p-value of 0.5735 hence, we will fail to reject the null hypothesis, therefore the residuals are serially uncorrelated.

Table 6: Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.325325	Prob. F(1,25)	0.5735
Obs*R-squared	0.462450	Prob. Chi-Square(1)	0.4965

Conclusions and Recommendations

The place of insurance industry development in the growth of any economy world over cannot be under estimate. Therefore, in order to effectively ascertain the extent to which insurance sector development has impacted the growth of the Nigerian economy, the ARDL technique was employed in the analysis of data for the period 1985 to 2022 (38 years). Four insurance sector development related variables such as insurance premium (INPR), insurance investment rate (INIVR), insurance assets (INASS) and insurance penetration (INPEN) were regressed against RGDP. The results from the empirical analysis indicated that insurance premium (INPR) is significant and positively related to economic growth; insurance investment rate (INIVR) has an insignificant negative impact on growth; insurance assets (INASS) has a strong negative impact on RGDP, and while insurance penetration (INPEN) has a weak positive relationship with

RGDP in Nigeria in the long run. The study concludes that, in the determination of the growth of the Nigerian economy, insurance premium (INPR) as well as insurance total assets (INASS) are the relevant predictors of economic growth in the long run.

In view of the salient findings from this study, the following specific policy recommendations are raised: Firstly, since insurance premium (INPR) has significant positive impact on economic growth, it therefore follows that the insurance firms in Nigeria should ensure the implementation of appropriate premium rate that will not only attract more clients but will also boost overall income to the firms thereby contributing meaningfully to the growth of the Nigerian economy.

Secondly, the weak negative impact of insurance investment rate on economic growth is a pointer to the urgent need of insurance industry to direct attention to real estate business; they must vigorously pursue it because of the potentials and enormous benefits accruable in the sector. This is true because, the growth of mortgage market and its attendant impact on growth has attracted a lot of interest as a result of the strategic importance of the needs for shelter and wealth effect to the timid population.

Thirdly, insurance activities in the Nigerian capital market should be encouraged in order to fast track the growth of the economy.

Finally, government and regulatory authority should formulate appropriate policy that will monitor insurance firms' assets and their pattern of investment by ensuring that the right productive and assets bearing investments are embarked upon. This will in no small measure develop the sector and impact positively on the growth and development of the country.

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