

## **INSURANCE PENETRATION RATE AND ECONOMIC GROWTH IN**

### **NIGERIA: 1981-2017**

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#### **ABSTRACT**

This study examined the Insurance Penetration Rate and Economic Growth in Nigeria: 1981-2017. The insurance markets globally have witnessed tremendous growth in the last decade with the world insurance premium in US dollars increased by 175% between the year 2000 and 2010. How has the Nigerian insurance industry contributed to this growth and insurance penetration in particular? The work proposed that the insurance penetration rate has no significant relationship with the economic growth of Nigeria. Data were sourced from the Central Bank of Nigeria statistical bulletin and using regression techniques the work established that there a no significant relationship between insurance penetration rate and economic growth of Nigeria; and that the insurance industry in Nigeria did not respond favourably to government financial systems reforms and policies. The government economic policies have not been sustainable and transformational as expected and the insurance industry seemed battling to regain the trust of the insuring public. Therefore, the industry is expected to explore packaging group insurances, creating risk awareness and streamline effective and efficient prompt claims administration.

**Keywords:** Insurance industry, Insurance penetration rate, Economic growth, Insurance premium, and Insurance claims

#### **1.0 INTRODUCTION**

The world of the living is characterized by numerous events that cause losses of lives and property. Many of the events are man-made and others are by nature: God made. Increasing quests to improve the quality of living through varied technological developments and innovations have aggravated the situations of unwanted events happening. Human peoples

devised means of mitigating the adverse effects of the loss-producing events. These ranges from crude to scientific methods including insurance. Insurance is an arrangement made to provide a financial guarantee to persons that may suffer from the happening of specified events. In its modern scientific perspective, it is a contract between two persons namely the insured and the insurer, whereby the insured pays a relatively small amount of money known as premium to the insurer who undertakes to pay the sum insured or its equivalent if the insured events happen within the contractual period and in accordance to the terms of the contract.

Akinlo (2012) stated that insurance is critical to financial and economic development because it pools risks and reduces the impact of large losses, thereby encouraging new investment, innovation and competition. The insurance industry also plays a critical role in promoting economic growth and development by ensuring the efficient allocation of financial resources from the surplus unit to the deficit unit. However, the insurance penetration rate is one of the measures to determine how well this crucial function is performed.

Modern governments have registered insurance firms to provide this all-important guarantee that will not only stabilize social life but also promote enterprisingly. In Nigeria, modern insurance business was introduced by the British trading companies in 1879. These traders brought finished goods to Nigeria and in exchange took away raw materials such as cocoa, groundnuts, tins, coals, palm kernels, cashew, nuts, and so on for which they require some form of insurance against the peril of the sea, and other fortuitous events (Okonkwo, 2012). Agency arrangements were the practice until 1921 when a fully-fledged insurance company was established: The Royal Exchange Insurance Company. Many foreign and indigenous insurance companies were subsequently established. However, it was in 1958 that the first indigenous insurance company was established in Nigeria(Okonkwo, 2012).

Ever since the establishment of the insurance business in Nigeria, the industry has continued to improve on its relevance and delivery capacity of protecting the patrimony of the nation and her citizens. Capacity building has been promoted by the National Insurance Commission (NAICOM), Chartered Insurance Institute of Nigeria and some tertiary institutions in Nigeria. Regular conferences have been organized by various insurance market associations such as Nigerian Insurers' Association. A number of insurance laws and regulations have been enacted, amended and updated; the regulatory body has consistently championed innovations to deepen the activities of the industry through yearly directives and reorganization of her structure to ensure supervision and regulatory performance in line with the global best practices.

The Nigerian insurance industry has achieved a lot in its human capital development, while insurance penetration rate seems growing deeper every day. Many persons are taking insurance covers to protect their insurable interests, and with the current level of public awareness about insurance, insurance will soon become a household name in Nigeria. The challenge is that the older generation of Nigerians is more honest than the citizens of nowadays who are obviously more desperate to make money by hook or by crook (Adeda, 2014). Can it affirm that the insurance sector in Nigeria has actually grown significantly over the years?

Oba (2003) asserted that insurance remains one of the major indices for the level of development of a nation's wealth and plays a very significant role in the mobilization of the investable resource of an economy. He observed that the performance of the insurance sub-sector is a function of the social economic and political environment in which it operates. In fact, the state of the insurance industry of a country is a reflection of the economy. Can it further be affirmed that the governments' economic policies over the years have facilitated the growth of the insurance industry in Nigeria? How has the insurance penetration rate related to economic growth in Nigeria?

Insurance penetration rate is the amount of insurance premium in a country expressed as a percentage of the Gross Domestic Product (GDP). The insurance penetration rate is expressed as the ratio between insurance premium volume and GDP. The higher the penetration rate, the more developed the insurance market (Alhassan, & Fiador, 2014). In other words, insurance penetration rate measures the growth of insurance premium vis-à-vis the growth in the GDP.

The insurance markets globally have witnessed tremendous growth in the last decade with the world insurance premium in US dollars increased by 175% between the year 2000 and 2010. This statistics significantly outpaced worldwide economic growth (Outreville, 2011). The worldwide insurance premium volume in 2009 was US\$4.06 trillion equivalent to 7% of the global GDP. World insurance premiums rose by 6 per cent from \$4.3 trillion in 2010 to \$4.57 trillion in 2011 (Swiss Reinsurance Company, 2015). It rose by 2.4 per cent from \$4.57 trillion in 2011 to \$4.61 trillion in 2012; and it rose by 1.4 per cent to the tune of \$4.64 trillion by 2013 (Alhassan & Fiador, 2014). These developments led scholars to begin to focus on the link between insurance and economic growth. Indeed, several studies have found evidence that the development of insurance sector is related to economic growth and the key elements in the economic development of a country (Ezema & Ibeabuchi, 2018; Alhassan & Fiador, 2014; Eze & Okoye, 2013; Horng, Chaung & Wu, 2012; Akinlo, 2012; Ilhan & Taha, 2011; Avram, Nguyen, & Skully, 2010; Ward & Zurbruegg, 2000; Curak, Loncar, & Poposki, 2009; Arena, 2008). In Nigeria, the total gross premiums amounted to US\$1.83 billion in 2012, according to Swiss Re. Although this makes Nigeria the third largest insurance market in Africa, the penetration ratio is still only 0.68%. Furthermore, the volume of premiums per capital isomer US\$10.8, which is among the lowest in the world (KPMG, 2014).

The particular query is, how has the Nigerian Insurance industry grown over the years? It is against this background that this work examined the relationship between Insurance penetration rate and economic growth in Nigeria. The study hypothesized that insurance penetration has no significant relationship with the economic growth in Nigeria.

The other sections of the work include Conceptual and theoretical framework; empirical literature review; Methodology; Data presentation and analysis; Summary of findings, conclusion and recommendations.

## 2.0 CONCEPTUAL AND THEORETICAL FRAMEWORK

### 2.1 INSURANCE PREMIUM:

The insurance premium is the price a person pays for the insurance protection. It is the price payable by the insureds to the insurers for the financial guarantees. The amount of premium charged for an insurance cover is expected to make economic sense. In other words, it should be high enough to cover future claims on the pool of risks and expenses including commissions to the insurance intermediaries while still making a profit. It ought to be an amount the insured is willing to pay and must be substantially below the sum insured (Okonkwo, 2002; Okonkwo,2004).

Irukwu (1990) defined insurance premium as the consideration which the insured pays to the insurer in return for the insurer's promise to pay the sum insured (or its equivalent) in the event of a loss or damage within the terms of the insurance contract. It, therefore, represents the monetary value paid by the insured for the financial guarantee accepted by the insurer. The insurance premium can be described as gross or net premium income. It is gross premium income when the entire amount collected from the insured is referred to; and net when the commission due to the intermediaries have been deducted from the gross premium income, the balance is termed net premium income. In this paper, the gross premium income is generally adopted as the total premium income of all the classes of insurance underwritten in the Nigerian insurance industry within the period under review unless otherwise stated.

## 2.2 INSURANCE PENETRATION RATE:

An elaborate conceptual description of insurance penetration rate was provided by the International Association of Insurance Supervisors (IAIS). The association asserts that:

The most conventional tool used to gauge the development of a country's insurance market is the insurance penetration rate. The penetration rate is defined as a country's total insurance premiums as a percentage of its gross domestic product (GDP) and indicates how much the insurance sector contributes to the national economy. As such, the penetration rate provides a good numerical basis for international comparison across jurisdictions and regions. Yet, while it serves as a broad, high-level indicator of an insurance market's development, the penetration rate does not reveal detailed information about the actual dynamics of the local insurance market. It does not indicate how many people actually have insurance coverage, nor does it signify the quality of coverage and whether it provides value to clients. For supervisors who have enhancing access to insurance as part of their mandate and/or want to get a better picture of client value, the insurance penetration rate is unlikely to be sufficiently meaningful as only limited information can be drawn from it. Understanding the market is critical to developing evidence-based policies and for assessing regulatory outcomes, which is consistent with the implementation of a risk-based supervisory approach. Sound data and measurement are crucial to understanding the value of insurance products offered in the market, and so supervisors must explore other potential tools that could be useful to move beyond a basic understanding of their market and hone in on what is happening in specific countries (IAIS, 2017).

Insurance penetration rate is a measure of the level of development of the insurance sector in a country.

The Nigerian insurance industry is not unaffected by the general growth potentials worldwide. Although the future of the insurance industry in Nigeria appears bright, a number of unresolved problems still exist; of particular interest is the insurance marketing system, which has affected the penetration of insurance products. In Nigeria, this problem seems to be even more pronounced because of the level of literacy of the Nigerian populace. Insurance has remained one of the least purchased items within the financial market. Records reveal that about only 10 per cent of the Nigerian population has insurance of any sort (Aghoghobia, 2016). Thus, the increased importance of insurance as a provider of financial services and of investment funds in the capital market is especially pronounced in developed economies whereas insurance consumption in many developing countries such as Nigeria is still very low.

By assessing its role as a major financial intermediary, insurance has become a key source of long term capital, encouraging the growth of capital markets (Echika, 2007). Indeed, several studies have found sufficient evidence to suggest that the development of the insurance industry is related to economic growth (Davis& Frederick, 2011). Insurance has taken on increasing importance as a means for individuals and groups to manage their income risks (Donaldson, 2010).

Factors influencing the insurance penetration rate include: Accessibility and prompt payment of claims (Akpan, 2005; Ibok, 2006); level of knowledge, and awareness (Wilson, 2004; Gowon, 2004; Oworen, 1993); level of professionalism and their attitudes (Gibbs, 1975) Clarity of the insurance policy wordings (Gibbs, 1975); corporate image of the insurance providers (Mordi,1990). In addition to these factors, economic conditions i.e. macroeconomic fundamentals of the nation, the dynamics of the insurance industry and market as well as the regulatory capability have tremendous contributions to insurance penetration rate.

The behavioral reactions can also influence insurance patronage. In the environment where persons tend living in commune they may not have sufficient motivation to transfer risks to the insurers; and if the people below poverty line are high, the per capita income is low, the insurance penetration rate is bound to be low (Atmanand, 2003).

### 3.0 ECONOMIC GROWTH

Economic growth is related to a quantitative sustained increase in the country's per capita output or income accompanied by an expansion in its labour force, consumption, capital and volume of trade (Jhingan, 2007). Economic growth is the increase in the output of an economy's capacity to produce goods and services needed to improve the welfare of the citizens (Adamu&Hajara, 2015). Milton (1980) defined economic growth as the rate of increase in an economy's full employment, real output or income over time. It is a persistent rise in the national income over a range of time say one year.

There are two angles to economic growth: extensive and intensive (Akin, 1998). Extensive economic growth is when an output of a nation measured by real Gross National Product is expanding regardless of whether output per capita increases. Intensive economic growth refers

to increase in output per person or expansion in the availability of goods and services per capita. Thus, a nation may experience extensive economic growth even though the output per capita is not rising. Intensive economic growth perspective is more favoured because it borders on the well-being of the citizens, and can be interpreted as economic development. Economic development measures the qualitative well-being of the citizens.

For our purpose, economic growth is viewed from the perspective of extensiveness. Thus, economic growth is described as the percentage increase in real income during a given period, usually a year. It is the rate at which Gross Domestic Product (GDP) is increasing (positive growth) or decreasing (negative growth). To put differently, economic growth is the growth in a nation's real Gross Domestic Product (an increase in a nation's output of goods and services) or the physical expansion of the nation's economy. Literally, a growing economy implies better living standards and more employment opportunities.

Bakang (2015) similarly defines economic growth as the increase in the capacity of the economy to produce goods and services from one period of time to another. This exists when the productive capacity of a country increase. Based on the fact that economic growth measures total production for a country, it, therefore, connotes the market value of all the final goods and services including personal consumption, government purchases, private inventories paid in construction costs and their foreign trade balance.

Aghion and Howith (2009) identified two main measures which examine the level of economic growth. The first is the Gross national product (GNP) which measures the total value of goods and services produced by all nationals within and outside the country over a given period of time; the second is called the Gross Domestic Product which is the veritable indicator of economic output and growth of a country. The Gross Domestic Product (GDP) is expected to measure the value of production of these activities that existed within the boundary of the national accounting system. GDP also measures economic growth in monetary terms and incorporates another aspect of development (Patimi, 2016). It can be expressed in a nominal term which relates to inflation or real terms adjusted inflation. Short term GDP is the annual percentage change in real national output. Long term GDP is increasing in trend or potential GDP. In order to compare countries of different production size, GDP per capita is generally employ (Dimitris&Efthymious,2003).

This study chooses to reason that the insurance industry and the government have strategic roles to play to make for improved insurance penetration rate. The demand following and supply leading hypotheses gave credence to this work. The Supply leading hypothesis postulates that proactive creation of financial institutions and markets will advance real growth by increasing the supply of financial services. This means that financial development affects economic growth positively (Mckinnon, 1973; Shaw, 1973; King & Levine, 1993). We are of the view that creation of innovative insurance products that meet the needs of the insuring public, use of relationship marketing strategies and the establishment of adequately capitalized insurance firms will improve the insurance penetration rate in Nigeria.

The demand following hypothesis posits a causal relationship running from economic growth to financial development. Thus, an increase in economic growth enhances the demand for financial service (Robinson, 1952; Goldsmith, 1969). This work postulates that concerted

economic policies that increase production capacities and promote investments will translate to increase in demand for insurance protection, increase in premium income and rise in insurance penetration rate.

## 4.0 EMPIRICAL LITERATURE REVIEW

Ward and Zurbruegg (2000) examined the causal relationship between economic growth and insurance market activity for nine OECD countries for the period 1961–1996. VAR-error correction methodology on a country by country basis was used. Result reveals the presence of a long-run relationship for five countries (Australia, Canada, France, Italy, and Japan). The study only finds causation for three countries (Australia, Canada, and Japan).

Kuglerand Ofoghi (2005) evaluated both a long-run relationship and Granger-causality existing between insurance market size and economic growth for the United Kingdom (UK) using net written premium for each insurance market (general and long-term insurance) in the UK for the period 1966–2003. Using Johansen cointegration test, result revealed the long-run relationship between development insurance market size and economic growth for all insurance components. In the causality tests, there was evidence of bidirectional long-run causality from growth in insurance market size to GDP growth for eight out of nine insurance categories that were studied.

Webb, Grace and Skipper (2005) analyzed the effect of banking and insurance on the growth of capital and output based on cross-country data of 55 countries for the period from 1980 to 1996. Using ordinary least square (OLS) estimation, assuming exogenous financial variables indicate a positive and significant effect of banking development on economic growth. The results of simultaneous equations, assuming the endogenous relationship between financial activity and economic growth, show that higher levels of banking and life insurance penetration predict higher rates of economic growth.

Arena (2008) study on the causal relationship existing between insurance market activity and economic growth included 56 countries (both developed and developing ones) in the period from 1976–2004. Insurance premiums are used as proxies of total life and non-life insurance activity separately. As an estimation method, the author used the generalized method of moment (GMM) for dynamic models of panel data. The result showed a positive and significant effect of total life, and non-life insurance market activity. In the case of non-life insurance, its impact was driven by both developed and developing countries, but it is larger in developed countries than in the developing nations.

Haissand Sümegi (2008) examined the impact of insurance business activities on Economic growth of the 29 European countries in the period from 1992–2005. An estimation of Ordinary Least Squares (OLS) on an unbalanced panel was done for the EU-15 countries; the insurance variable is measured by premium income and a total net investment of insurance companies. Premium income was split into life and non-life premium income. Results revealed that premium income and a total net investment of insurance companies positively but not significantly impacted on economic growth of the countries under study.

Wadlamannati (2008) explored the effects of insurance growth and reforms along with other relevant control variables on economic development in India from 1980–2006. The growth of insurance penetration (life, non-life, and general insurance businesses) was used as proxies of insurance sector growth. The Ordinary least squares, cointegration analysis, and error correction models were the methods of estimation. The study confirmed a positive contribution of the insurance sector to economic development and a long-run equilibrium relationship between the variables to economic development. While the reforms in the insurance sector such as a capital base of insurance companies, local content initiatives and various insurance regulations did not affect economic activity; and its growth had a positive impact on economic development.

Han, Lie, Moshiranand Tian (2010) investigated the relationship between insurance development and economic growth on a dynamic panel data-set of 77 economies for the period 1994–2005. Using the GMM method, insurance density was used to measure the development of insurance; and the results concluded that insurance development was positively correlated with economic growth. The sample, which was divided into developed and developing countries, showed that the overall insurance premium development (life and non-life insurance development) played a much more important role for developing countries which is positive and significant than they did for the developed countries.

Kjosevski (2011) examined the impact of insurance on economic growth using the insurance penetration, and total insurance penetration. The results showed that the development of total insurance sector positively and significantly affected economic growth; this result was confirmed in non-life insurance, while the results showed that life insurance negatively and significantly affected economic growth.

İlhanand Taha (2011) examined the role of insurance in economic growth using 29 countries between 1999 and 2008. The countries are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Turkey, South Korea, Luxemburg, Mexico, Holland, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, England, and United States. Using correlational techniques the results showed that there was a positive and significant relationship between insurance business proxied by insurance premium, insurance investment and insurance claims and economic growth in the sample countries.

Chien-Chiang (2011) examined the interrelationship between insurance market activities and economic growth for 10 selected OECD countries from 1979 to 2006. Panel unit-root tests, heterogeneous panel cointegration tests and panel causality techniques were employed. The study disaggregated real insurance premiums into life and non-life insurance premiums. Results revealed that there was fairly evidence favouring the hypothesis of a long-run equilibrium relationship between real GDP and insurance market activities. The non-life insurance market had a greater relationship on the real GDP than the activities of the life insurance market. The causality test of the dynamic panel-based error correction model indicated a long-run and short-run bidirectional causality.

Pei-Fen, Chin-Chiang, Chun-Ping and Lee (2011) studied the effect of life insurance (using penetration and density measures) on economic growth; and what conditions affected the



insurance- growth nexuses such as economic, financial, demographic, income level, and regional conditions. The work applied two-step system GMM of the dynamic model for 60 countries and affirmed that the development of the life insurance market had a positive and significant effect on economic growth. The conditional variables of middle-income countries in sub-Saharan Africa such as savings, the real interest rate, social security, the stock market turnover ratio, and the young dependency ratio alleviated. By contrast, the conditional variables of low-income countries and Latin America strengthen the positive impact of the life insurance market on growth.

Hong, Chang and Wu (2012) carried out a study on the relationship among insurance, financial development, and economic growth for Taiwan using Granger causality estimation. The paper found that economic growth Granger caused insurance demand, and financial development Granger caused economic growth both in the short run. These were bidirectional causation.

Zouhaier (2014) examined the relationship between the insurance business and the economic growth of 23 OECD countries over the period 1990 – 2011. Using a static panel data model, the results revealed that non-life insurance, as measured by the penetration rate had a positive and significant impact on economic growth; and a negative effect was exerted by the total insurance and non-life insurance, as measured by the insurance density on economic growth.

Mojekwu, Agwuegbo and Olowokudje(2011) examined the relationship between insurance contributions and economic growth in Nigeria over a 27-year period, between 1981 and 2008. The study adopted a dynamic factor model. The technique described a number of methods designed to analyze functional but unobservable random quantities called factors.

Akinlo (2012) examined the effects of insurance on economic growth in Nigeria during the period of 1986 to 2010. The structure, growth of insurance subsectors, and the direction of causality between insurance and economic growth in Nigeria were addressed in the study. An error- correction model analysis and cointegration technique were adopted in the analysis. The cointegration technique showed that all the variables apart from premium are highly significant. The coefficient of premium was significant at 10%. The findings of the study indicated that insurance proxied as premium income had a positive significant influence on economic growth; and a long-run relationship between insurance and economic growth in Nigeria.

Omoke (2012) determined the impact of insurance market activity on economic growth in Nigeria between 1970 and 2008. Insurance density (premium per capita) was a measure for insurance market activity and real GDP for economic growth in Nigeria. The study employed control variables such as inflation and savings rates as other determinants of growth. The Johansen cointegration and vector error correction approach were used to estimate the relationship between the variables. The findings of the study indicated that insurance had no positive and significant effect on economic growth in Nigeria within the period of study. The result shows low- insurance market activity and development in Nigeria.

Eze and Okoye (2013) examined the impact of insurance practice on the growth of the Nigerian economy using cointegration test and error correction model. Insurance practice was

measured by insurance premium income, total insurance investment, and insurance development while GDP was used to measure economic growth. The paper concluded that there was a positive and non-significant effect of insurance practice on the growth of the Nigerian economy.

Yinusa and Akinlo (2013) analyzed both the long-run and short-run relationships between insurance development and economic growth in Nigeria over the period 1986–2010. Using an error correction model (ECM), the study found that insurance development was cointegrated with economic growth in Nigeria. There was a long-run relationship between insurance development and economic growth in Nigeria. The results also showed that physical capital and interest rate both at contemporary and one lagged value have a significant positive effect on economic growth in Nigeria, while The results generally indicated a statistically significant contribution of insurance to economic growth in Nigeria.

Alhassan and Fiador (2014) examined the long-run causal relationship between insurance penetration and economic growth for Ghana during the period of 1990–2010. The authors used autoregressive distributed lag (ARDL) bounds approach. A unidirectional causality was found from aggregate insurance penetration to growth on one hand and life and non-life insurance penetration to growth on the other hand.

Akinlo and Apanisile (2014) The estimations of the dynamic panel data results showed that insurance had a positive and significant relationship on economic growth in sub-Saharan Africa. This showed that premium contributed to economic growth in sub-Saharan Africa. In order words, a well-developed insurance sector is necessary for economic development, as it provides long-term investments for economic growth and simultaneously strengthening risk-taking abilities.

Olayungbo (2015) investigated the asymmetric non-linear relationship between insurance and economic growth in Nigeria from 1976 to 2010 using variance decomposition and impulse response. Results revealed that asymmetric effect was present in Nigeria's insurance market; unidirectional causality ran from positive GDP growth to negative insurance premium growth;

low insurance promotes high growth in Nigeria, and the impulse responses indicated the presence of an asymmetric relationship between low insurance and high growth in Nigeria.

From the insurance-growth literature, it is clear that results are characterized by mixed results. Why are the developing countries' related studies indicated negative relationships?

## 5.0 METHODOLOGY

This study adopted the ex-post facto research design, using the regression approach. This is suitable for the work given that it is based on an already completed event and the researcher is meant to analyse the outcomes of the already completed event and draw reasonable conclusions (Udeze,2003; Saunders, Lewis&Thorn,2012). Data were sourced from the Central Bank of Nigeria Statistical Bulletin, 2018. The period covered in the study was 1981-2017.

This study modelled that:

$$GDP = f(TPI, IPR) \tag{1}$$

$$GDP_t = \beta_0 + \beta_1 TPR_t + \beta_2 IPR_t + \mu_t \tag{2}$$

Where:

GDP = Gross Domestic Product

TPI = Total Premium Income

IPR = Insurance penetration rate

$\beta_0$  = Constant coefficient

$\beta_1, \beta_2$  = Parameter estimates of the independent variables, TPI and IPR

$\mu_t$  = Stochastic error term

A linear regression technique was adopted using on ordinary least square method. The data were tested for unit roots using Augmented Dickey-Fuller Test, and the model parameters were evaluated for goodness of fit using F- statistic, R2, Adjusted R2, and Durbin -Watson statistic. The hypothesis was tested at 5% level of significance using p-value and t-statistic.

### 6.0 DATA PRESENTATION AND ANALYSIS

The data generated for this study were displayed in Table 1. The descriptive statistics of the input data were shown in Table 2. The graphic representations of the data were depicted in figure 1.

**Table 1: GDP, TPI and IPR of Nigerian insurance industry: 1981-2017**

YEAR	GDP @ current price (₦'billion)	TPI (₦'billion)	IPR (TPI/GDP)
1981	144.83	0.2407	0.0017
1982	154.98	0.2495	0.0016
1983	163.00	0.2286	0.0014
1984	170.38	0.2376	0.0014
1985	192.27	0.2051	0.0011
1986	202.44	0.2637	0.0013
1987	249.44	0.42	0.0017
1988	320.33	0.5067	0.0016
1989	419.20	0.7018	0.0017
1990	499.68	1.0484	0.0021
1991	596.04	1.3342	0.0022
1992	909.80	2.5179	0.0028
1993	1,259.07	5.9013	0.0047
1994	1,762.81	14.6717	0.0083
1995	2,895.20	14.5876	0.005
1996	3,779.13	13.1506	0.0003
1997	4,111.64	16.519	0.004
1998	4,588.99	17.8465	0.0039
1999	5,307.36	14.6439	0.0028
2000	6,897.48	22.5315	0.0033

2001	8,134.14	28.9813	0.0036
2002	11,332.25	37.7659	0.0033
2003	13,301.56	43.9447	0.0033
2004	17,321.30	50.4959	0.0029
2005	22,269.98	67.7463	0.003
2006	28,662.47	82.3619	0.0029
2007	32,995.38	105.3793	0.0032
2008	39,157.88	157.206	0.004
2009	44,285.56	189.9605	0.0043
2010	54,612.26	200.376	0.0037
2011	62,980.40	233.7529	0.0037
2012	71,713.94	283.9438	0.004
2013	80,092.56	317.7667	0.004
2014	89,043.62	353.9004	0.004
2015	94,144.96	374.4937	0.004
2016	101,489.49	404.1422	0.004
2017	113, 711.63	453.4807	0.004

Source: CBN statistical bulletin, 2018; IPR computed from the source data

Notes:\* Figures extrapolated from the available data on the Gross Domestic Product

**Table 2: Descriptive Statistics of input data**

	<b>GDP</b>	<b>TPI</b>	<b>IPR</b>
Mean	22393.38	85.00066	0.003078
Median	4948.176	17.18275	0.003250
Maximum	101489.5	404.1422	0.008300
Minimum	144.8312	0.205100	0.000300
Std. Dev.	31287.38	123.8769	0.001467
Skewness	1.327217	1.412866	0.936556
Kurtosis	3.385781	3.589961	5.673049
Jarque-Bera	10.79226	12.49923	15.98061
Probability	0.004534	0.001931	0.000339
Sum	806161.8	3060.024	0.110800
Sum Sq. Dev.	3.43E+10	537092.1	7.54E-05
Observations	36	36	36

Source: e-view output data, 2018

The processed data indicated that 2017 figures were excluded by the processor. The Jarque - Bera statistics of the three variables indicated normal distribution given that all the variables

produced a probability of fewer than 0.005 benchmarks. The trends in the GDP and TPI indicate growth tendencies(see Figure 1). There are possibilities of recessions in the trends if the real GDP figures are used or the current price is adjusted to US dollar. From Tables 1 and 2, the general insurance penetration rate (all insurances premium income put together) seems growing at very slow pace, recording the highest rate in 1994 (0.0083 i.e. 0.83%) and levelling at only 0.004 i.e. 0.4% between 2008 and 2017.

The preliminary tests conducted showed stationarity of the variables as indicated summary results extracted from the e-view output data depicted in Table 3 (see appendix 1 for details). The p-values are less than 0.005, therefore there are no unit roots in the variables. The data of the model was processed at a year percentage change mode using the least square method. The output data are shown in Table 4.

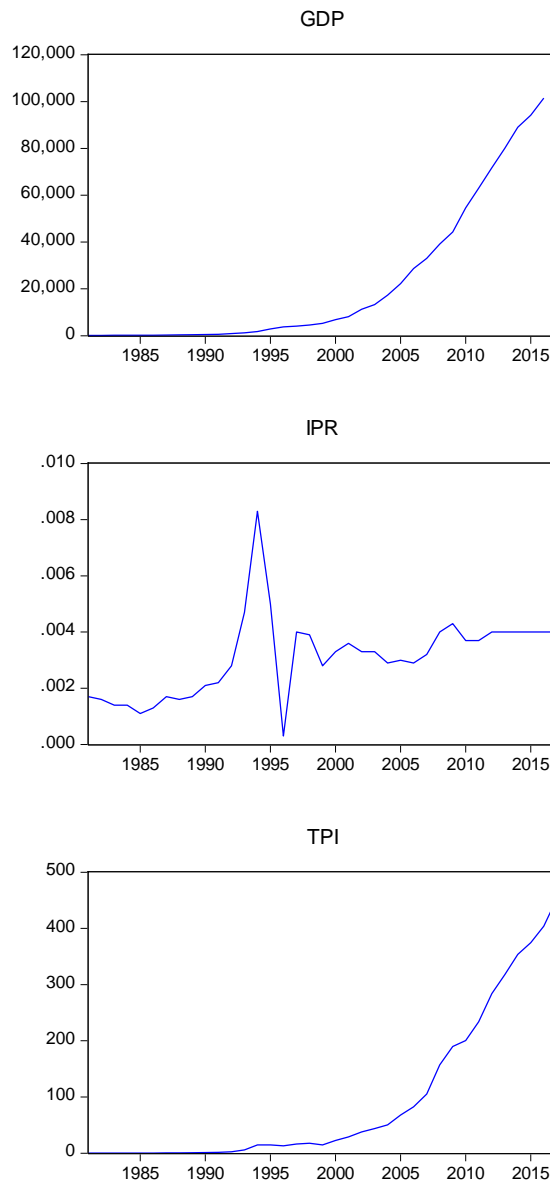


Figure 1: Graphs on GDP, IPR and TPI: 1981-2017

**Table 3: Unit root tests summary results:Augmented Dickey-Fuller (ADF) Test**

Variable	t- statistic	Prob.(F-statistic)	Durbin-Watson stat	p - value
IPR	-3.327549	0.007462	1.859050	0.0022
TPI	2.878542	0.000000	1.789044	0.0071
GDP	4.197564	0.000000	1.999513	0.0006

Source: Extracted from e-view output data on the ADF tests, 2018

**Table 4: Model estimated output data**

Dependent Variable: GDP  
 Method: Least Squares  
 Date: 12/10/18 Time: 14:35  
 Sample (adjusted): 1981 2016  
 Included observations: 36 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TPI	253.0025	3.421548	73.94385	0.0000
IPR	-251962.1	288848.6	-0.872298	0.3893
C	1663.490	912.8153	1.822373	0.0775
R-squared	0.994781	Mean dependent var		22393.38
Adjusted R-squared	0.994464	S.D. dependent var		31287.38
S.E. of regression	2327.857	Akaike info criterion		18.42294
Sum squared resid	1.79E+08	Schwarz criterion		18.55490
Log likelihood	-328.6129	Hannan-Quinn criter.		18.46900
F-statistic	3144.784	Durbin-Watson stat		0.813565
Prob(F-statistic)	0.000000			

Source: E-view version 8 output data, 2018

**Table 5: Selected Global utility statistics summary and decisions**

Parameter	Statistic	Decision
R squared	0.994781	99% of changes in TPI and IPR were explained by changes in GDP (a good fit relationship)
Adjusted R squared	0.994464	99% of changes in TPI and IPR were explained by changes in GDP after adjustments (a good fit relationship)
Prob (F-statistic)	0.000000	A good fit; less than 0.05 benchmark
Durbin-Watson stat	0.813565	A fair fit relationship, the benchmark of 2 is above this statistic. Thus, there is minor autocorrelation in the model. The model is not good for equation

		purpose/forecasting.
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Source: Authors' compilation from Table 4

The work explored causality relationship among the variables given chance of autocorrelation using pairwise Granger causality tests. The test results are shown in table 7.

**Table 7: Granger causality TESTS on the model**

Pairwise Granger Causality Tests

Date: 12/10/18 Time: 11:18

Sample: 1981 2017

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TPI does not Granger Cause GDP	34	0.77043	0.4721
GDP does not Granger Cause TPI		22.6047	1.E-06
IPR does not Granger Cause GDP	34	0.51681	0.6018
GDP does not Granger Cause IPR		0.92385	0.4084
IPR does not Granger Cause TPI	35	0.16580	0.8480
TPI does not Granger Cause IPR		0.95060	0.3978

Source: E-view output data, 2018

The Granger causality tests indicated no causal relationship between the variables of interest: GDP, TPI, and IPR. The study examined further the relationship between the variables. The coefficient of correlation among the variables in the model was presented in Table 8. The coefficients were tested for significance at 0.005 level, and the t - calculated and t-critical results are presented in Table 9.

**Table 8: Coefficients of correlation among the variables: GDP, TPI and IPR**

	GDP	TPI	IPR
GDP	1	0.9973	0.3605
TPI	0.9973	1	0.3717
IPR	0.3605	0.3717	1

Source: E-view output data, 2018

**Table 9: Summary of hypothesis test results**

Correlation	t-calculated	t-critical @ .005 level, 35 DF one-tailed test	Decision
GDP and TPI	1092.61	0.449	t-cal> t-critical; Reject H <sub>0</sub>
GDP and IPR	2.4512	0.449	t-cal> t-critical; Reject H <sub>0</sub>
TPI and IPR	2.3687	0.449	t-cal> t-critical; Reject H <sub>0</sub>

Source: Computed by the authors' from table 8

Thus, there were positive significant relationships between GDP and TPI; GDP and IPR; and TPI and IPR.

Concerning the main hypothesis that: economic growth has not significantly related to insurance penetration rate in Nigeria, the work concludes that economic growth has not significantly related to insurance penetration rate in Nigeria (p-value of 0.3893 in table 4 attested). However, the economic growth has significantly related to Total Insurance Premium in Nigeria (p-value of 0.0000 in table 4 confirmed).

This study aimed at answering three pertinent questions: Can it be affirmed that the insurance sector in Nigeria has actually grown significantly over the years? Can it further be affirmed that the governments' economic policies over the years have facilitated the growth of the insurance industry in Nigeria? How has the insurance penetration rate related to economic growth in Nigeria? The study also hypothesized that economic growth has not significantly related to insurance penetration in Nigeria.

From the results, the insurance sector has not shown remarkable growth over the years. The nominal premium seems growing in recent years and increases by 37% with every increase in the Gross Domestic Product. This increase may be as a result of compulsory insurances in the nation. There sixteen insurance products made compulsory by law in Nigeria, but only five are somehow been enforced. These five are third-party motor vehicle insurance, builders' liability insurance, occupiers' liability insurance, health care professional indemnity insurance, and statutory group life insurance. The Central Bank of Nigeria (2012) observed that, as of December 2010, the insurance sector as a whole serves only 1% of the population. A regulation made motor vehicle and group life insurance compulsory as of December 2010. Vehicle insurance has the highest penetration with 470,000 policies, followed by life insurance with 173,000 policies.

It may not be far from the truth to state that the insurance industry in Nigeria is struggling to gain the confidence and trust of the insuring public especially individual potential insureds. The risk awareness of the populace for sure is on the rise due to social media effect. But, instead of seeking modern insurance scheme to manage the risk of losses, many individuals prefer other social insurance schemes such as religious associations, group welfare schemes, extended family schemes, fraternities, social clubs and governmental assistance. The trust in private commercial insurance remains very low and disheartening. The mushroom insurance syndrome, overvalue and unfulfilled promises made by insurers during the early stages of insurance development in the 1970s have contributed to the schema of distrust. The situation has not become better in spite of laws and campaign of reforms in the sector because the story of cheats continues to be passed on to generations. The possible break of this unfounded continued distrust will definitely come from indirect approaches to sell of insurance to individuals until a time corruption and unpatriotic tendencies in Nigeria is adequately institutionally managed. For sure, compulsory insurances should not have been the right options but for the negative externalities that would have resulted if persons are not compelled to buy insurance protections in Nigeria.



The Nigerian government reforms programs especially on economic diversification, financial inclusion and job creations are laudable. They are capable of turning around the economy of the nation but for unpatriotic undertone in the programs' design and execution. The patriotic attitude ought to be: develop potentials and resources wherever discovered in the nation for the general well-being of the nation. The majority of the political leaders are religious and sectional leaders who avow to promote their sectarian agenda instead of national value, unity and prosperity. In fact, the deteriorating socio-economic indices from the Central Bank of Nigeria and the United Nations Development Programme report as at 2017 were evidences of inappropriate economic policies and programs of the governments: unemployment rate (18.8%); life expectancy: male (54.7years), life expectancy: female (55.7 years), average life expectancy (55.2 years); poverty rate (70%), Monetary Policy rate (14% ), Total savings ratio of GDP at current basic prices (2007: ₦13.04billion; 2017: ₦11.40), financial deepening (2009:23.2; 2017:19.6), All shares index (2007: 57, 990.2 against 2017: 38, 243.2); Foreign reserves (\$32224.15 million); external debt stocks(₦5787.54 billion); per capita income (₦347,641.79); Human development index (0.532); and inflation rate (2007: 6.60% against 2017: 16.50% ).

The stability of the macroeconomic environment is important for business and, therefore, is significant for the overall competitiveness of a country and the insurance sub-sector in particular. Macroeconomic stability alone though cannot increase the productivity of a nation, it is also a fact that macroeconomic disarray harms the economy. For instance, the government can hardly provide services efficiently if it has to make high-interest payments on its past debts, and sustainable budget by private sector firms will be an illusion and mere paperwork. Running fiscal deficits limits the government's future ability to react to business cycles. Similarly, firms including insurance firms cannot operate efficiently when inflation rates are out of hand. The economy cannot grow in a sustainable manner unless the macro environment is stable. Regrettably, the World Economic Forum (2015) correctly commented that poor infrastructure, corruption and access to financing are the most problematic factors for doing business in Nigeria.

Insurance penetration rate has not been significant in Nigeria. The relationship between insurance penetration rate and economic growth is positive and insignificant. The seeming growing economic activities allowed rooms for insurances, especially the compulsory insurances. Hardly, will the private persons decide to buy insurance products that are not compulsory? For a remarkable penetration rate to emerge, confidence in modern insurance should be developed. The undercapitalization and reducing growth in qualified skills needed to manage special and emerging risks are problems waiting for the solution. In South Africa, which ranks first in insurance penetration rate in Africa, it was reported that people trust the local financial providers enough to allow them to manage their long-term savings; and there is a high level of risk awareness, which is perhaps intensified by the high-level of crime and car accidents in the country (KPMG, 2014). This trust is lacking in Nigeria.

## **7.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

### **7.1 Summary of findings:**

This study showed that

- the insurance sector has not shown remarkable growth over the years. The nominal premium seems growing in recent years and increases by 37% with every increase in the Gross Domestic Product;
- the insurance industry in Nigeria are struggling to gain the confidence and trust of the insuring public especially individual potential insureds;
- economic growth has not significantly related to insurance penetration rate in Nigeria; and
- economic growth has significantly related to Total Insurance Premium in Nigeria.

## 8.0 CONCLUSION

Insurance is a business of trust and without responsible insurance practices, insurance policyholders may not be satisfied with or trust insurance services and this has dire consequences for the insurance industry in Nigeria. The Nigerian economy needs strong institutional framework that will entrench respect for the rule of law, enhancing patriotic behaviours which trigger entrepreneurial character and innovations. The insurance sub-sector seems the least in the lack of trust on the financial sector by the general public. The insuring public are more likely to be satisfied and tend to trust insurance more if the insurers deliver their promises promptly.

## 9.0 RECOMMENDATIONS

Based on the findings, this work recommends that:

1. Given that individual persons distrust modern insurance practice in Nigeria, the industry should work indirectly to regain trust by promote group insurance schemes especially among the rural populace and market associations. The takaful insurance should be promoted to address the phobia of Muslims in modern insurance. Of course, claims management must be sustainable and prompt.
2. Microinsurance products designed to meet needs of the insuring public should be powered and boasted via electronic means and telecoms operators in Nigeria.
3. The Nigerian government should seek talented and patriotic Nigerians to assist in economic management of the nations. Enough of sectionalism and sacrifice of merits in the name of federal character.
4. The insurance market associations should continue to promote professionalism and sponsor career development in insurance and related disciplines.

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**Appendix 1: ADF Tests output results**

Null Hypothesis: IPR has a unit root  
 Exogenous: Constant  
 Lag Length: 1 (Automatic - based on HQ, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.327549	0.0211
Test critical values:		
1% level	-3.632900	
5% level	-2.948404	
10% level	-2.612874	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(IPR)  
 Method: Least Squares  
 Date: 12/07/18 Time: 19:42  
 Sample (adjusted): 1983 2017  
 Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IPR(-1)	-0.546628	0.164273	-3.327549	0.0022
D(IPR(-1))	0.174441	0.171851	1.015075	0.3177
C	0.001761	0.000549	3.209936	0.0030
R-squared	0.263702	Mean dependent var		6.86E-05
Adjusted R-squared	0.217684	S.D. dependent var		0.001404
S.E. of regression	0.001242	Akaike info criterion		-10.46215
Sum squared resid	4.94E-05	Schwarz criterion		-10.32884
Log likelihood	186.0877	Hannan-Quinn criter.		-10.41613
F-statistic	5.730340	Durbin-Watson stat		1.859050
Prob(F-statistic)	0.007462			

Null Hypothesis: TPI has a unit root  
 Exogenous: Constant  
 Lag Length: 1 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	2.878542	1.0000
Test critical values:		
1% level	-3.632900	
5% level	-2.948404	
10% level	-2.612874	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(TPI)  
 Method: Least Squares  
 Date: 12/10/18 Time: 11:12  
 Sample (adjusted): 1983 2017

Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TPI(-1)	0.064335	0.022350	2.878542	0.0071
D(TPI(-1))	0.409334	0.181741	2.252288	0.0313
C	2.601413	2.049489	1.269298	0.2135
R-squared	0.683109	Mean dependent var		12.94946
Adjusted R-squared	0.663304	S.D. dependent var		16.48260
S.E. of regression	9.564115	Akaike info criterion		7.435730
Sum squared resid	2927.113	Schwarz criterion		7.569045
Log likelihood	-127.1253	Hannan-Quinn criter.		7.481750
F-statistic	34.49060	Durbin-Watson stat		1.789044
Prob(F-statistic)	0.000000			

Null Hypothesis: GDP has a unit root

Exogenous: Constant

Lag Length: 8 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.962746	0.0514
Test critical values:		
1% level	-3.699871	
5% level	-2.976263	
10% level	-2.627420	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GDP)

Method: Least Squares

Date: 12/10/18 Time: 11:11

Sample (adjusted): 1990 2016

Included observations: 27 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	-0.356226	0.120235	-2.962746	0.0087
D(GDP(-1))	0.845756	0.201487	4.197564	0.0006
D(GDP(-2))	0.688853	0.267167	2.578361	0.0195
D(GDP(-3))	0.571965	0.305214	1.873980	0.0782
D(GDP(-4))	0.488013	0.333300	1.464186	0.1614
D(GDP(-5))	0.788921	0.433825	1.818522	0.0866
D(GDP(-6))	0.932915	0.340447	2.740267	0.0139
D(GDP(-7))	-0.616763	0.495977	-1.243530	0.2305
D(GDP(-8))	1.240158	0.584568	2.121494	0.0489
C	329.4241	327.5196	1.005815	0.3286
R-squared	0.928466	Mean dependent var		3743.344
Adjusted R-squared	0.890594	S.D. dependent var		3345.583
S.E. of regression	1106.603	Akaike info criterion		17.13409

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Sum squared resid	20817683	Schwarz criterion	17.61403
Log likelihood	-221.3103	Hannan-Quinn criter.	17.27681
F-statistic	24.51641	Durbin-Watson stat	1.999513
Prob(F-statistic)	0.000000		

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