

# Impact of the Nigerian Insurance Industry on Sustainable Economic Growth and Development

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## ABSTRACT

*This paper examines the impact of insurance industry on the Nigerian economic growth and development. The study which covers 1993 – 2014, adopted ordinary least squares (OLS) method and some diagnostic tests were performed. Time series properties of the variables were tested and error correction models (ECM) were estimated. Results show that 99.73% of the variation in Gross domestic product (GDP) is explained by gross premium income (GPI), total claims paid (TCL) and total insurance investment (TINVT). In the short run and long run, the impact of GPI on GDP is positive and significant. The total claims paid at lag 2 in the short run negatively influenced GDP while in the long run; a negative and significant relationship exists. Furthermore, insurance investment in the short run has positive and insignificant impact on GDP. TINVT long run effect on GDP is positive and significant. It is hereby recommended that investment policies in the insurance industry should be flexible to stimulate steady growth of funds. Public awareness and sensitization programs should be embarked upon by insurers; organizational risks specific policies should be designed, prompt claims payment, code of good governance for insurance industry should be strictly adhered to by practitioners and stakeholders.*

## Keywords

*Insurance industry, economic growth and development, insurance investment, error correction model*

## 1.0 INTRODUCTION

No country can experience meaningful development without the presence of formidable insurance industry, thereby making insurance business in any nation indispensable irrespective of the quota to Gross domestic product or its level of awareness among the populace. The largest buyers of insurance service products are the companies and the level of demand is a function of economic growth and development. As the economy

grows, a more capital intensive method of production tends to be employed in the economy, therefore firms would demand more insurance protection for their property, and legal liabilities to compensate employees, consumers and third parties for bodily injuries, or damage to their properties as a result of their negligence or business activities.

One of the primary functions of insurance is creation of investible fund through fund mobilization and investment of fund in either capital or money market or in direct investment into the economy which will in turn ginger allocation efficiency according to Nwinee and Torbira, 2012. Insurance also plays important roles in the development of any nation by transferring risks from businesses and individuals to professional risks carriers. Olalekan and Akinlo 2013 posited that insurance in many countries of the world is actively playing an increasing role in the stability and efficient diversification of risks and thus contributing immensely to economic development. In Nigeria, insurance market has been playing passive role when compared with the banking sector.

Insurance is an important aid to commerce and industry. Every business enterprise involves large number of risks and uncertainties. This may involve risks to premises, plant and machinery, raw materials and other things. Goods may be damaged or may be destroyed due to fire, flood and other risks. Some risks can be avoided by timely precautions while some are unavoidable and are beyond the control of a business. These unavoidable risks can be protected by insurance. Insurance is an indispensable aspect of a nation's financial system. Theoretical conceptions explain that financial systems influence savings, investment decisions and hence long-run growth rates through the following functions: lowering the costs of researching potential investments; exerting corporate governance; trading; diversification; management of risk; mobilization and pooling of savings; conducting exchanges of goods and services, and mitigating the

negative consequences that random shocks can have on capital investment.

According to Isimoya (2014), insurance is a social scheme which provides financial compensation for the effects of a misfortune. Edward (2007) posits insurance as a social device for minimizing risk of uncertainty regarding loss by spreading the risk over a large enough number of similar exposures to predict the individual chance of loss that provides compensation for specific losses in exchange for a periodic payment called premium. Olayungbo (2015) found out that non-life or general insurance deals with insurance of properties other than life where the benefit goes to the insurance holder. In contrast to life insurance, the general or non-life insurance is considered to be predominantly short term. The long-term insurance otherwise known as life insurance business according to Ubom, 2014 is associated with risks relating to life expectancy and having longer period of maturity and therefore make available long term fund in Nigerian economy. Four main types of life long term insurance policy exist. They include whole life assurance, term assurance, endowment assurance and annuity.

Oke. (2012) and Shittu (2012) stipulated that insurance companies affect economic growth by providing protection for the insured through the channel of marginal productivity of capital, technological innovation and saving rate.

The roles of insurance company as risk taker, saving mobiliser and financial intermediary of sorts affects not only the pace but also the pattern of economic activity particularly in developing countries. The way and manner in which a financial system functions determine to a large extent the capital shortage problems often experienced in the less developed countries (Soyode, 1983). This is because entrepreneurship in the business activity of any economy can be enhanced better when insurance companies help bear losses that are often more severe, where both internal and external business environments are hostile to the extent, that it stifles rather than encourage business enterprises. Consequent upon restructuring, especially deregulation of interest rates in the finance sectors of the Nigeria economy, most financial institutions have had to operate in an increasingly competitive environment.

Despite the importance of insurance, it has not been accorded the patronage it deserves. A number of factors seem to be responsible, which include; concentration of

insurance in the cities and poor process of indemnification (claims payment).

According to Akingbola, 2006, Nigerian insurance industry has faced difficult times before and after the 2005 recapitalization exercise which include: undercapitalization of most insurance companies in the country; poor labour product mix/pricing strategy; grossly inefficient service delivery channels; low integrity of many insurance firms; low insurance awareness, poor labour practices, poor information technology infrastructure; poor regulatory mechanism and poor enforcement mechanism.

Oyekunle and Momoh 2013 noted that attitude of Nigerians toward insurance services is most negative and this is evidenced by low patronage and insurance penetration remains shallow relative to over 150 million Nigerians. The industry is further bedeviled with ethical issue, poor premium collection, poor claims settlement process, solvency problem, lack of investible assets, lack of standard, poor attitude of government, poor management, low level of information technology, lack of integrity and trust, attitude of Nigerians towards insurance, lack of innovation, poor interest rate, high inflation rate, cash flow problem, poor efforts of research to investment practice and portfolio, low level of insurance awareness, low operating capital, lack of insured specific insurance cover, low capacity for retention and acceptance of foreign risks among others.

This study seeks to evaluate the impact of the insurance industry on economic growth and thereby contribute empirically to the work on relationship that exists between economy and insurance sector. The need for this is as a result the growing importance of insurance sector in developing and developed economies. However, several studies have focused on the relationship between insurance and economic growth but no consensus has emerged on the impact of insurance development and economic growth. For example, studies such as Arena (2006), Haiss and Sumegi (2008), Mojekwu, Olowokudejo & Agwuegbo (2011), and Pen-Fen, Chiang & Feg (2011) found that insurance had positive impact on economic growth. Webb, Grace & Skipper (2005) showed that insurance had no significant positive effect on economic growth.

#### **Objectives of the Study**

Based on the aforementioned, this paper aims at determining the impact of the insurance industry on the

Nigerian economy between 1993 and 2014. The specific objectives are:

- i. To examine the extent to which Gross premium income contributes to economic growth.
- ii. To determine if claim payment stimulates economic growth.
- iii. To evaluate the extent to which total investment facilitate economic growth.

### Hypotheses

The hypotheses of this study are:

Ho<sub>1</sub>: There is no significant relationship between gross insurance premium and economic growth.

Ho<sub>2</sub>: There is no significant relationship between total claims paid and economic growth.

Ho<sub>3</sub>: There is no significant relationship between total insurance investment and economic growth.

### Scope of the Study

The study is a time-series analysis and it covers 1993 - 2014. The findings from the study are expected to be of importance to the government, insurance industry, the public and researchers.

## 2.0 REVIEW OF LITERATURE

### 2.1 Basic Concepts

#### 2.1.1 Insurance

Insurance is a promise of compensation for specific potential future losses in exchange for a periodic payment. Insurance is designed to protect the financial well-being of an individual, company or other entity in the case of unexpected loss. Some forms of insurance are required by law, while others are optional. Agreeing to the terms of an insurance policy creates a contract between the insured and the insurer. In exchange for payments from the insured (called premiums), the insurer agrees to pay the policy holder a sum of money upon the occurrence of a specific event.

Insurance is a contract between two parties by which one party in consideration of a price paid to him, to reduce the effect of loss, becomes a security to the other by ensuring

that he does not suffer much loss, damage or prejudice in the happening of future events (Tyagi & Tyagi 2007).

Tyagi & Tyagi (2007) described insurance to be a social device whereby uncertain risk of individuals may be combined in a group and therefore made more certain, by small periodic contributions made by the individuals in this group, out of which those who suffer losses from the group may be reimbursed.

Insurance is also said to be protection against possible financial loss. Despite the fact that there are different types of insurance, they all have a similarity; they give peace of mind this is as a result of the assurance that money will be available to meet the needs of the survivors, pay the medical bills, protect the personal belongings and cover personal property damage (Tripathy and Pal, 2005).

#### 2.1.2 Gross Domestic Product

Gross Domestic Product (GDP) represents the total market value of all final goods and services produced within a given time period by factors of production located within a country. GDP does not include intermediate goods, but only "new" products and services; this is to avoid double counting (Landerfeld, Seskin & Fraumeni, 2008).

Gross domestic product is standardized as an economic indicator measuring the total output of goods and services of a state during a certain period of time. It is used for comparing the economic performance of states, but very often the comparison is broadened to evaluate and make estimates of living standards, progress or social welfare between states.

### 2.2 Theoretical Framework

1. Co-operation Theory: This theory was propounded by Mishra (2007). According to him, insurance is a co-operative device. This theory states that if one person is providing for his own losses, it cannot be strictly an insurance because in insurance, the loss is shared by a group of persons who are willing to co-operate. According to this theory, all insured give a premium to join the scheme of insurance. Thus, the insured are cooperating to share the loss of an individual by payment of a premium in advance Mishra (2007). This theory is related to the study because it is the accumulated premiums that the insurance companies can invest to boost economic growth, an objective which this study seeks to achieve.

2. Finance-Growth Nexus Theory: This theory was propounded by Schumpeter in 1911. According to him, financial services are important for economic growth as long as they improve productivity by promoting technological innovation and helping entrepreneurs with the best chances of success in the innovation process. He argued that mobilization of productive savings, efficient resources allocation, re-investment of mobilized financial resources into the economy would facilitate economic growth. He further stressed that these effects could create a favorable macro-economic framework for strong economic growth. As a matter of fact, theoretical endogenous growth models which integrate financial development support King and Levine (1993), Beck, Levine and Loayza (2000). This theory is related to this study because for economic growth to subsist insurance industry must mobilized the accumulated premium incomes and re-invest such funds into the economy, as well as prompt claims settlement to boost money supply and capital formation in the economy. Insurance firms are financial intermediaries that contribute significantly to economic growth of any economy.

### 2.3 Review of Empirical Literature

The importance of the insurance sub-sector cannot be over emphasized because the success of other sectors depends on it. This informs the need to conduct an empirical research on the impact of insurance industry in sustainable economic growth and development.

Owojori & Oluwagbuyi (2011) investigated the contributions of insurance to economic development in Nigeria. The study used descriptive statistics and Chi-square statistical tool. The result indicates that insurance investment has positive effect on the economic growth of Nigeria, and recommends a cheap means of handling risks to the insured in view of the fact that the principles of large number is brought to bear in the practice and operations of insurance. It also recommends increased participation of individuals and corporate bodies by generating incentive strategies, upgrading infrastructures, enhanced human capital development and creating a favorable climate for insurance investment.

Ege & Sarac (2011) test the role of insurance in economic growth of 29 countries. The study employs fixed effects model for the period of 1999-2008. The study finds that insurance investment affects economic growth positively and significantly.

Beenstock, Dickinson & Khajuria (1986) examined the relationship between insurance and economic growth using time series data for ten industrialized countries for the period 1970-1981. They found that life insurance is directly dependent on income, as measured by GDP per capita. Outreville (1990,1996) analyzed the long and short-term causal relationships between economic growth and development of the insurance market. Nine major OECD countries are examined with real GDP used as a measure of economic activity and total real premiums as a measure of the insurance business.

Mojekwu et.al. (2011) used a dynamic factor model to estimate the impact of insurance contributions on the growth of Nigerian economy within the period of 1981 to 2008. The result indicates that the functional relationship between the volume of insurance contribution and economic growth in Nigeria is a first order autoregressive model. This model observed that economic growth is positively correlated with insurance contributions. This implies that if insurance contribution increases, economic growth will as well increase.

Outreville (2013) noted the importance of insurance in the process of economic development. Browne & Kim (1993) in their study concluded that life insurance is positively correlated with income and national and negatively correlated with inflation expectations wealth. They concluded that economic development and economic stability greatly increases the life insurance consumption.

Ward and Zurbruegg (2000) examined the dynamic relationship in the short and long term between economic growth and the development of the insurance sector. This study was conducted on a sample of nine OECD countries by performing a cointegration analysis for the period 1961-1996 by taking real GDP as a measure of economic activity and total premiums as a measure of the insurance business. The results show that the insurance has an impact on economic growth in some countries (Canada and Japan) and in other countries, the opposite is true. In addition, these results indicate that this relationship is specific to one country to another and depends on a number of circumstances such as the cultural, legal and regulatory environment and the impact of moral hazard in insurance

Okere, Lawrence & Njoku (2015) also report a unidirectional relationship between insurance sector development and economic growth. Philip (2011) empirically assesses insurance market activities in Nigeria

with the view to determining its impact on economic growth from 1970 to 2008. The finding revealed that insurance sector did not have any positive and significant effect on economic growth in Nigeria within the period.

#### 2.4 Historical Review of Insurance Business in Nigeria

Modern insurance business was introduced in Nigeria in the late 20<sup>th</sup> century. This was because many European trading companies only established trading posts in Nigeria during the wave of colonization in Africa (towards the end of the 19<sup>th</sup> century). The establishment of British trading companies in Nigeria such as the Royal Niger company in 1879 and the Elder Dempster shipping company which dominated trade on the West African coast, brought about increased activities in shipping and banking. Since many of the companies then in existence were British owned, they placed their insurance businesses in the London insurance market.

As commercial activities developed in Nigeria, it became necessary for these trading posts to handle some aspects of their insurance business locally and in order to do this some British insurance companies appointed agents to represent their interest in Nigeria. These agents were given "Powers of Attorney" i.e. the right to act for someone else in their financial or legal matters. These powers extended to obtaining insurance business, issuing cover notes and the servicing of claims on behalf of their principals in London. At first these agents were mainly foreign banks, traders and merchants. These agencies later gave way to full branch offices of the parent companies of which Royal Assurance agency became the first in 1919 and later upgraded to a branch on February 28th 1921.

This also opened the way for other agencies such as Patterson Zochonis (PZ), Liverpool, London and Globe, BEWAC'S Legal and General Assurance, (1949) and the Law union and rock (1951) the first agency of a British Company to be given to a Nigerian citizen, Sir Mobolaji Bank Anthony. All of these companies were British owned and were majorly established for the purpose of providing insurance for their trading activities in Nigeria. It was not until 1958, that the first indigenous company, African Insurance Company limited was established.

In 1960, when Nigeria became independent, the number of indigenous companies had risen to 4 out of the 25 insurance companies in operation at the time, these were, African insurance companies, Nigerian General Insurance Company, Great Nigeria insurance company and

Universal Insurance Company. After independence the Nigerian government as well as some regional political sub-units established their own insurance companies. Examples of these are NICON Insurance Plc., established by a decree of the federal government in 1969, Great Nigeria Insurance Co. Ltd., Nigeria General Insurance Co. Ltd., LASACO Assurance Plc., etc. all of which belong to and are established by various geo-political sub-units at different times.

However, the insurance industry reform of 2005 established with the intent of restoring the confidence of the public in the market, enhance capacity and make insurance companies in Nigeria to be internationally competitive has led to a reduction in the number of insurance companies significantly. While many companies merged, others had to change their line of business from reinsurance to pure underwriting, while some stood alone and did not merge with any other company to achieve the new capital level.

Various laws have also been enacted to regulate insurance business in Nigeria, These laws deal mainly with ownership, management, share capital requirements, professionalism and professional standards, ethical practices and investment of funds.

The Insurance Act of 2003 provided that insurance companies in Nigeria must have the following paid-up share capitals:

- (1) Life Assurance Company - ₦150million
- (2) Non-Life (General Business) Insurance Company - ₦200million
- (3) For composite company - ₦350million
- (4) For reinsurance companies - ₦350million

However, the act in section 9 (4) provides that the commission (National Insurance Commission may increase from time to time the amount of minimum paid up share capital referred to in subsection (1). This was carried out by the National Insurance Commission in 2005 when it directed that the minimum paid up share capital for insurance companies operating in Nigeria be increased as follows to:

- a. Life Assurance Business - ₦2billion
- b. Non-life (General) Insurance Business – ₦3billion

- c. Reinsurance Company – ₦10billion

According to NAICOM (2017) 49 insurance companies and 2 reinsurance companies are duly recapitalized in Nigeria.

## 2.4 Role of Insurance in Economic Development

Insurance serves a number of valuable economic functions that are largely distinct from other types of financial intermediaries.

- i. The indemnification and risk pooling properties of insurance facilitate commercial transactions and the provision of credit by mitigating losses as well as the measurement and management of non-diversifiable risk more generally.
- ii. The income smoothing effect of insurance helps to avoid excessive and costly bankruptcies and facilitates lending to businesses. Most fundamentally, the availability of insurance enables risk adverse individuals and entrepreneurs to undertake higher risk, higher return activities than they would do in the absence of insurance, promoting higher productivity and growth.
- iii. Insurers also contribute specialized expertise in the identification and measurement of risk. This expertise enables them to accept carefully specified risks at lower prices than non-specialists. They also have an incentive to collect and analyze information about loss exposures, since the more precisely they measure the cost of risk, the more they can expand.
- iv. Insurance market generates price signals to the entire economy, helping to allocate resources to more productive uses. Insurers also have an incentive to control losses, which is a significant social benefit.

## 3.0 RESEARCH METHODOLOGY

The study evaluates the impact of insurance industry on Nigerian's economic. Data used in the estimation of equations in this paper were gathered from various secondary sources including publications of the Central Bank of Nigeria (statistical bulletin, annual reports and statements of account), Nigeria Insurers Digest, and National Bureau of Statistics (National Account Statistics and Digest using annual data.

Ordinary Least Square (OLS) technique was adopted to estimate the equations in this paper. An investigation of

the time series properties of the variables was conducted using the Augmented Dickey- Fuller (ADF) and Philip Perron (PP) tests. Thereafter, Johansen's Co- integration procedure was used to establish the long- run relationship between the relevant variables and the error correction models were set up. The study period covers 1993 to 2014. This approach was adopted by Qutreville (2013). This method is used to establish relationship between insurance income, claims and investment on the gross domestic product. GDP was used as a proxy for national income while gross premium income was used as a proxy for insurance industry activities.

### Model Specification

Multiple linear regression analysis is used as stated below:

$$GDP = f(GPI, TCLM, TINVT)$$

**The functional equation for testing the hypothesis is stated below:**

$$GDP = \beta_0 + \beta_1 GPI + \beta_2 TCLM + \beta_3 TINVT + \varepsilon_i$$

Where:

*GPD* = Gross Domestic Product.

*GPI* = Premium income of insurance industry

*TCLM* = Claims expenditure of the insurance industry

$\varepsilon_i$  = Error term

## 4.0 DATA PRESENTATION AND DISCUSSION OF RESULTS

This chapter focuses on statistical analysis and interpretation of results. It is organized into two major sections. The first section is the descriptive analysis which includes; trend analysis, summary table of variables. The second section is the empirical analysis which comprises of Autoregressive Distributed Lag (ARDL) Models and the preliminaries.

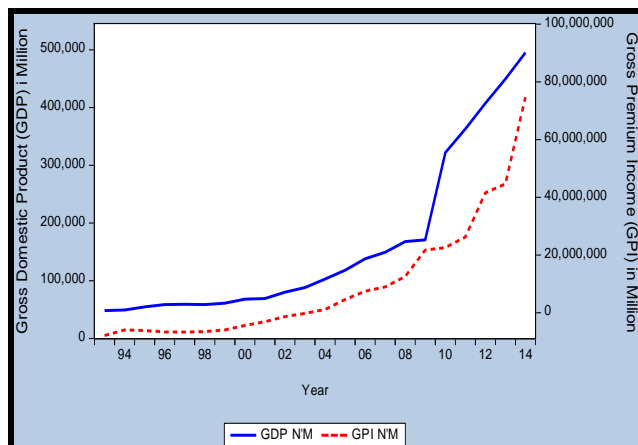
### Descriptive Analysis

As discussed earlier, this section summarizes the basic statistical features for the variables under consideration. The statistical tools employed include the trend analysis, mean, median, minimum, maximum, and standard deviation. The variables under consideration are; Gross Domestic Product (GDP), Gross Premium Income

(GPI), Total Claims Paid (TCL), Total Insurance Investment (TINVT).

**Trend Analysis**

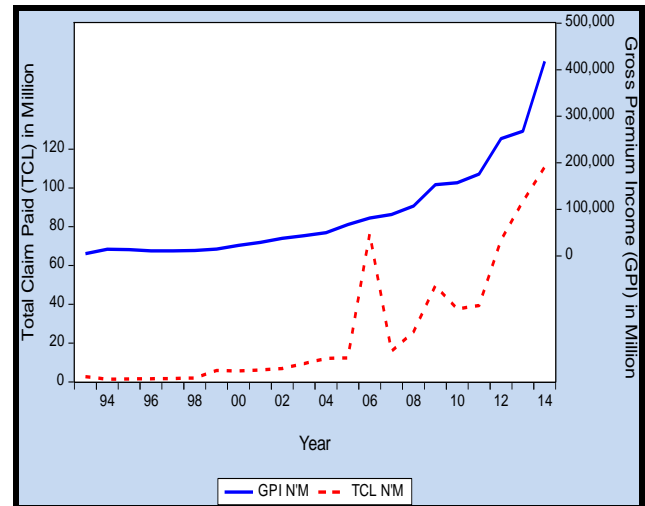
The trend of the Gross Domestic Product (GDP) and Gross Premium Income (GPI) over the study period 1993 to 2014 is presented in Figure 1. As expected, both variables demonstrate the typical characteristic of Macroeconomic variables as they exhibit upwards trend over the study period. Although, both variables experiences successive peaks and downturns overtime, their growth is steady over the study period. For the Gross Domestic Product (GDP), a sharp increase is seen in 2010 which stabilized subsequently. Similarly, the Gross Premium Income (GPI) shows notable increments in 2009, 2011 and 2014. It is also worthy of note that there is some uniformity and similarity in the behavior of both the Gross Domestic Product and Gross Premium Income. In other words, both series have similar trend overtime.



**Figure 1: Trend of Gross Domestic Product and Gross premium Income**

Figure 2 shows the trend of Gross Premium Income (GPI) and Total Claim Paid (TCL). Both series exhibit typical characteristic of Macroeconomic variables. From the beginning of the study period, Gross Premium Income (GPI) increases steadily till 2008 where variation becomes more noteworthy with successive crests and downturns till the end of study period. In the same way, The Total Claim Paid (TCL) rises consistently from the start of the study

period till 2006 where it peaks and normalizes subsequently. Afterwards, TCL exhibits notable downturn and upsurge which is sustained till the end of the study period. From a critical view of the two series in the figure, inference can be made that the GPI and TCL have similar trend over time.



**Figure 2: Gross Premium Income and Total Claim Paid**

**Summary Statistics**

The result of the descriptive statistics for variables considered for this study is presented in Table 1. From the table, Gross Domestic Product (GDP) has minimum and maximum values of ₦715,241.9m and ₦90,136.985m respectively with an average value of ₦23,631,436m and standard deviation of 28,793,099. The Gross Premium Income (GPI) ranges from ₦611.59m to ₦418,105.80m. The average value of the GPI is ₦4,931.918m with a deviation of 106910.2.

The Total Claims Paid (TCL) has a minimum value of ₦1.315m and a maximum value of ₦110.737m. It has a mean value of ₦26.842m with a standard deviation of 33.178. With respect to Total Insurance Investment (TINVT), results show minimum and maximum values of ₦5.056m and ₦530.198m respectively with an average value of the ₦172.855m. Its deviation from mean is valued at 183.442.

**Table 1: Summary Statistic**

| Variable    | Observations | Mean     | Maximum   | Minimum  | Std. Dev. |
|-------------|--------------|----------|-----------|----------|-----------|
| GDP (N'M)   | 22           | 23631436 | 90136985  | 715241.9 | 28793099  |
| GPI (N'M)   | 22           | 92448.69 | 418105.80 | 4931.91  | 106910.20 |
| TCL (N'M)   | 22           | 26.842   | 110.737   | 1.315    | 33.178    |
| TINVT (N'M) | 22           | 172.825  | 530.198   | 5.056    | 183.442   |

Source: Author's Computation 2018, underlying data from CBN Statistical bulletin

**EMPIRICAL ANALYSIS**

**Unit Root Test**

The result of the unit root tests based on the Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests are presented in Table 2. The table reports the unit root test results for the series in their level and first difference forms. The ADF and PP results evidently show that the null hypotheses that GPI and TCL have unit roots can be rejected at level within the 1% and 10% conventional levels of significance.

On the contrary, the results evidently show that the null hypotheses that the GDP and TINVT have unit roots cannot be rejected at level within the 1% and 10% conventional levels of significance. It is, therefore, worth concluding that the series have different orders of integration that is, both I(0) and I(1) and study proceeds to bounds testing of ARDL approach to examine the long run relationships among the series.

**Table 2: Stationary Test**

| Variable | Test | @Level               | @ First Diff.         | Order of Integration |
|----------|------|----------------------|-----------------------|----------------------|
| GDP      | ADF  | -2.504<br>[0.322]    | -4.471**<br>[0.011]   | I (1)                |
|          | PP   | -3.256<br>[0.101]    | -4.478**<br>[0.010]   |                      |
| GPI      | ADF  | -4.420**<br>[0.013]  | -7.301***<br>[0.000]  | I (0)                |
|          | PP   | -3.475*<br>[0.068]   | -6.915***<br>[0.000]  |                      |
| TCL      | ADF  | -5.630***<br>[0.001] | -7.312***<br>[0.000]  | I (0)                |
|          | PP   | -6.539***<br>[0.000] | -18.178***<br>[0.000] |                      |
| TINVT    | ADF  | -1.561<br>[0.772]    | -5.693***<br>[0.001]  | I (1)                |
|          | PP   | -1.183<br>[0.888]    | -5.692***<br>[0.001]  |                      |

Source: Author’s Computation 2018, underlying data from CBN Statistical bulletin

Note: \*, \*\* and \*\*\* imply statistical significance at 1%, 5% and 10% levels respectively.

**Bounds Co-integration Test**

Given the properties of the series considered in the study, the study proceeds to ascertain whether long run relationships exist among the variables and in achieving this, study followed the approached developed by Pesaran

et al (2001). One of the major virtues of this approach is that the variables in the co-integrating relationship can be a mixture I(0) or I(1). Another advantage of this approach that makes it appropriate for this study aside from its applicability to a mixture of I(0) and I(1) series is its better performance when it comes to a small sample data.

As in Table 3, the long run test result suggests the rejection of the null hypothesis of no co-integration at 1% and the acceptance of the alternative hypothesis which state that there is co-integration among the variables. Obviously, the computed F-statistic of 8.749 is greater than the upper critical bound value of 6.36, thus indicating the existence of a long-run relationship among the variables.

**Table 3: Bounds Co-Integration Test**

| Critical value | Lower Bound Value | Upper Bound Value | F- Statistics |
|----------------|-------------------|-------------------|---------------|
| 10%            | 3.17              | 4.14              | 8.749         |
| 5%             | 3.79              | 4.85              | 8.749         |
| 2.5%           | 4.41              | 5.52              | 8.749         |
| 1%             | 5.15              | 6.36              | 8.749         |

Source: Author’s Computation 2018, underlying data from CBN Statistical bulletin

**ARDL Analysis Model 1**

Following the result of the bound testing in the ARDL procedure adopted in this study, co-efficient of determination ( $R^2$ ) indicates that about 99.7.3% of the variations in GDP is explained by the explanatory variables. The F-statistics (242.03;  $p = 0.000$ ) is highly significant at 1% level of significance. These indicate a good fit and confirm the usefulness of the model. In this model, the dependent variable is gross domestic product (GDP) while the independent variables are gross premium income (GPI), total claim (TCL) and total investment (TINVT).

**Short and Long Run for Model 1**

**Error Correction Model (ECM)**

According to the result in Table 3, the short-run dynamic model estimated in this study shows that error correction term (ECT (-1)) value is negative and significant at 1% alpha level. Alternatively, the negative and significant value of the ECT which is -0.0689 ( $p = 0.001$ ) confirms that a long run relationship exist between GDP and the explanatory variables.

Focusing on the coefficients of the explanatory variables, the result shows that in the short run the impact of GPI on



GDP is positive and significant at 10% level. This indicates that one percent increase in GPI will cause GDP to increase by about 0.61 percent. Similarly, the result shows that in the short run, TCL at lag 1 and 2 positively and significantly influence GDP at 10% and 5% level of significance respectively. This also means that the current values of GDP will increase by 0.254 and 0.288 percent given increases of one percent in TCL at lag 1 and TCL at lag 2. However, the current TCL exhibits a negative but insignificant relationship with GDP. This means that the variable in its current value is not a major determinant of GDP. In the same way, the current value of TINVT is not a major determinant of GDP given the positive but insignificant value of 0.042. On the contrary, the result shows that the coefficients of TINVT at lag 1 and lag 2 are positive and negative respectively. They are equally significant at 5% level.

**Long Run Coefficient**

The panel B of the Table 4 shows the long-run dynamics of the relationship between GPI, TCL and TINVT as independent variables and GDP as dependent variable. As in the result, the positive and significant relationship that exists between GPI and GDP at 1% level indicates that GPI contributes positively to the economy of the country during the period of this study. However, it is evident in this study that the impact of TCL on GDP in the long run is negative and significant at 5% level. This implies that higher TCL will have detrimental effect on GDP. Also, TINVT is another variable that is seen in this study as a major determinant of GDP in the long run. Specifically, the result shows that positive relationship exists between TINVT and GDP. This positive relationship as in the table is significant at 1% level of significance implying that higher total investment improves GDP.

**Table 4: ARDL Co-integrating and Long Run Form**

| Co-integrating Form |             |            |             |        |
|---------------------|-------------|------------|-------------|--------|
| Variable            | Coefficient | Std. Error | t-Statistic | Prob.  |
| DLOG (GPI)          | 0.614293    | 0.320117   | 1.918966    | 0.0965 |
| DLOG (TCL)          | -0.173610   | 0.106799   | -1.625577   | 0.1481 |
| DLOG (TCL(-1))      | 0.254048    | 0.123931   | 2.049926    | 0.0795 |
| DLOG (TCL(-2))      | 0.287908    | 0.098420   | 2.925305    | 0.0222 |
| DLOG (TINVT)        | 0.042104    | 0.245353   | 0.171606    | 0.8686 |

| DLOG (TINVT(-1))                                                                       | 0.757537    | 0.313234   | 2.418439    | 0.0462 |
|----------------------------------------------------------------------------------------|-------------|------------|-------------|--------|
| DLOG (TINVT(-2))                                                                       | -0.613422   | 0.213440   | -2.873982   | 0.0239 |
| CointEq(-1)                                                                            | -0.689024   | 0.126513   | -5.446271   | 0.0010 |
| Cointeq = LOG(GDP) - (1.7923*LOG(GPI) - 1.4150*LOG(TCL) + 0.7150 *LOG(TINVT) -3.9721 ) |             |            |             |        |
| Long Run Coefficients                                                                  |             |            |             |        |
| Variable                                                                               | Coefficient | Std. Error | t-Statistic | Prob.  |
| LOG (GPI)                                                                              | 1.792266    | 0.486763   | 3.682007    | 0.0078 |
| LOG (TCL)                                                                              | -1.415024   | 0.611351   | -2.314585   | 0.0538 |
| LOG (TINVT)                                                                            | 0.715035    | 0.262600   | 2.722900    | 0.0296 |
| C                                                                                      | -3.972117   | 5.319792   | -0.746668   | 0.4796 |

Source: Author’s Computation 2018, underlying data from CBN Statistical bulletin

R2 =0.997378

F- statistics =242.0299

DW = 2.264564

**5.0 CONCLUSION AND RECOMMENDATION**

This study has succeeded in investigating the impact of insurance industry on the economy of Nigeria using descriptive statistics which includes: trend analysis, summary tables and inferential statistics by using Autoregressive Distributed Lag (ARDL) models. The results show upward trend of the GDP and gross premium income over the period of the study. GDP and total claims paid exhibit typical characteristics of macroeconomic variables and they have similar upward trend over time. The result further reveals that 99.73% of the variation in the gross domestic product is explained by gross premium income, total claims paid and total investment of insurance industry.

The ECM result confirms that in the short-run and long-run, the impact of gross premium income on GDP is positive and significant. The total claims paid at lag 2 in the short run negatively influenced gross domestic product while the long-run dynamics of TCL exhibits a negative and significant relationship exists on the gross domestic product. This implies that higher claims paid by insurance industry will have a detrimental effect on the economy. Total investment of insurance industry in the short run is

positive but insignificant. This means TINVT is not a major determinant of GDP while in the long run there is positive and significant relationship. The short run positive and insignificant relationship between insurance industry investments does not seem to assert sufficient influence on the growth in the output level of goods and services in the Nigeria economy. This may be due to negative attitude of Nigerians to insurance, low level of awareness, low penetration, high rate of poverty and low level of financial deepening. This positive and significant relationship implies higher investment in the long run is a determinant of economic growth in Nigeria. A well-developed insurance sector must be the target of government so that the sector can ultimately occupy its rightful place in the Nigeria economy as huge investible fund is available in the industry.

The insurance industry provide a wide opportunity for business and economic growth for any nation, hence it deserves attention to enable it attain its full potential. However, the following recommendations are made to contribute to the positive growth of insurance industry and economy.

1. Investment policy in the insurance industry should be flexible enough to stimulate steady growth of funds.
2. Public awareness and sensitization programs should be embarked upon to educate Nigerians on the need to imbibe the culture of insurance patronage.
3. Organizational risks specific policies should be designed by insurers.
4. The insurance industry practitioners should be honest and prompt in claims settlement to gain public confidence in the industry. National insurance Commission should monitor claims payment of insurance companies to ensure transparency and prudence in the industry.
5. Qualified and experienced staff should be employed to facilitate better performance and rapid growth of insurance industry.
6. The code of good corporate governance for insurance industry should be strictly adhered to by practitioners and stakeholders.
7. Micro insurance that is environment friendly, relevant and affordable for different categories of entrepreneurs should be designed and operated to

enable insurance take its rightful place and generate more funds for economic development.

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