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# IMPACT OF INSURANCE SECTOR ON ECONOMIC GROWTH IN NIGERIA

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**Abstract**

*The study examined the Impact of insurance sector on economic growth in Nigeria for the period of 1990-2023. The study utilizes secondary sources of data extracted from the central bank of Nigeria annual statistics bulletin, and world development indicator (WDI) database 2023. The study undertakes unit root test employing augmented Dickey-Fuller method to determine whether the variables are stationary or not and the result shows that the variables are all stationary. The study employed co-integration test and the results shows that there is evidence of long run relationship among variables; the study employed the vector autoregression (VAR) model for estimation. The findings showed that life insurance premium (LIP) has positive and statistically significant impact on gross domestic product in Nigeria during the period under study; similarly, the findings showed that non-life insurance premium (NIP) has positive and statistically insignificant impact on gross domestic product in Nigeria during the period under review. Similarly, the findings showed that insurance penetration rate (IPR) has positive and statistically insignificant impact on gross domestic product in Nigeria during the period under review. Similarly, the findings showed that insurance claim settlement (ICS) has positive and statistically insignificant impact on gross domestic product in Nigeria during the period under review Therefore; the study found that insurance sector generally has positive impact on gross domestic product in Nigeria during the period of the study. The study recommends that government should encourage and emphasize long-term planning since life insurance encourages individuals and businesses to think long-term plan. By promoting life insurance policies that focus on savings, retirement, and education, the government should contribute to sustainable economic growth by fostering a culture of financial responsibility and stability. Enhancing financial literacy programs can help educate the population about the importance of life insurance and its benefits. This will increase awareness and understanding, leading to higher demand for life insurance policies and subsequently higher premiums. The study further recommends that government increases awareness about the importance of life and non-life insurance in enhancing financial stability and mitigating risk.*

**Keywords:** Insurance, Life Insurance Premium, Non-life Insurance Premium, Insurance Penetration rate, Insurance Claim Settlement, Economic growth

## 1. Introduction

The insurance sector helps a nation's economic activities and protects policy holders, including individuals, householders, organisations and the state. The insurance industry stimulates economic growth by investing the insurance premiums (Ayewumi & Awani, 2021; Safitri, 2019; Yeboah & Oppong, 2017). The insurer indemnifies the insureds who suffered a loss from the accumulated insurance premiums, subject to the contract terms. To a certain extent, insurance mitigates the impact of risks and positively correlates with growth as entrepreneurs cover their exposures and inspire more risk-taking abilities. In this regard, a strong and cooperative insurance industry is a compelling imperative for Nigeria's economic development and growth. Ward and Zurbruegg (2000) are of the view that insurance not only facilitates economic transactions through risk transfer and indemnification, but also promotes financial intermediation. Insurance is capable of promoting financial stability, mobilizing savings, facilitating trade and commerce and ensuring that risk is managed more efficiently with effective loss mitigation, efficient capital allocation and as a substitute and/or complement to government security programs (Ward & Zurbruegg, 2000; Skipper, 2001).

Insurance as a financial intermediary plays a significant role in economic growth of any country (Srijana & Fatta, 2017). Insurance stimulates business activities to operate cost-effectively (Ibegbulem, 2021). The Nigeria Insurance Industry is one of the key sectors of the Nigerian economy and plays a very vital role in the nation as a whole (Agbamuche, 2012). According to Ubom (2012), the primary aim of insurance is to provide customers with safeguards against risks that may result in significant losses, such as job or income loss, inability to maintain social amenities and a decline in purchasing power. The reinstatement of the business after a major loss through insurance serves to prevent these adverse outcomes. Also, premium from the insurance constitute a large segment of the capital market which may be difficult for an individual to produce. Thus, insurance generate large fund to the capital market from the premium paid by all individuals insured. The importance of insurance cannot be overemphasized considering the role of the capital market to the economy. Insurance in the nonbanking sector provides additional capital to finance economic activities toward the desired growth.

The Insurance Sector represents the back bone of Nigeria's risk management system. It ensures financial security, serves as an important component in the financial intermediation chain and offers a ready source of long-term capital for infrastructural projects. Insurance plays an essential role in economic growth. Insurance is a risk transfer contract between the insured and the insurer where by the insured undertakes to indemnify the insured in exchange for premium payment by the insured (Igbinovia & Kekere, 2022; Feinman, 2018). The insurer must indemnify or compensate the insured for losses resulting from the insured perils during the period of insurance. Insurance companies act as custodians and managers of the accumulated premiums paid by the insured. The accumulated insurance premiums constitute investment by insurance companies to promote economic growth.

The insurance sector helps individuals, businesses, and the government manages risks by providing coverage against various perils. By transferring risks to insurers, economic agents can engage in productive activities and investments, which can contribute to economic growth (Osuagwu & Amadi, 2019). Insurance companies mobilise savings through premium collections, thereby accumulating funds that can be invested in infrastructure projects, businesses, and capital markets. This promotes capital formation and supports economic development (Okafor, 2019). The insurance companies have the capacity to make long-term investments, such as in government securities and infrastructure projects these investments provide stable funding for public and private sector initiatives, which can have positive effects on economic growth, (Adetiloye & Olaoye, 2017). A well-developed insurance sector can contribute to financial stability by reducing the vulnerability of individuals and businesses to unexpected losses. Insurance coverage can mitigate the negative impact of disasters, accidents, and other unforeseen events, thereby promoting economic stability and resilience.

The Nigerian insurance sector, like those of many other less developed countries, was highly characterised with low insurance penetration rate which retarded the growth of the economy. The contribution of insurance to GDP in Nigeria is very low, despite the enormous potentials of insurance in the country. The link between the insurance sector and the growth of the economy has been weak. Majority of the population, most especially business entities and government infrastructure which are said to be economic growth drivers are not insured. The insurance sector in Nigeria has been facing challenges in significantly contributing to the country's economic growth when compared to global standards. Several key factors hinder the sector's potential impact on economic growth; Nigeria has a relatively low insurance penetration rate compared to the global average. In 2020, Nigeria's insurance penetration rate stood at approximately 0.4% of GDP, significantly below the global average of around 6.1%. This indicates a lack of awareness and limited insurance coverage among individuals and businesses in Nigeria. This limited coverage could be as a result of religious or cultural believe.

The insurance sector in Nigeria has faced challenges related to inadequate regulatory framework. Since the recapitalization of the insurance industry in 2019 by the National Insurance Commission (NAICOM), in an attempt to strengthen the insurance sector and enhance insurance companies' abilities to settle claims, a great deal of interest has been shown in the activities and development of the sector. Weak

enforcement of regulations, inadequate supervision, and governance deficiencies have undermined the sector's stability and growth. As a result, public trust and confidence in the insurance industry have been affected. Some insurance firms still face challenges in meeting these capital requirements, limiting their underwriting capacity, and hindering their ability to support economic activities through risk transfer and investment. To this effect, there is a need for NAICOM to strengthen the regulatory framework and enhance governance in the sector. As of 2020, the minimum capital requirement for life insurance companies in Nigeria was ₦8 billion, while non-life insurance companies required ₦10 billion.

In spite of the significant impact of insurance sector on economic growth in Nigeria, Nigeria has not placed adequate emphasis in developing appropriate insurance culture for the insurance of life, assets and investment as a means of financial security, towards transforming the economy, hence, the need to further re-examine the impact of insurance sector on economic growth. Insurance plays a crucial role in promoting financial stability and mitigating risks. The study, highlight research problem that encompasses several key dimensions that needs to be explored.

The Nigerian insurance sector has been predominantly focused on traditional life and non-life insurance products, with limited diversification into specialised and innovative insurance products. This restricts the sector's ability to cater to the evolving needs of the population and businesses. As of 2020, life insurance accounted for approximately 50% of the total insurance premiums in Nigeria, indicating a lack of product diversification and innovation.

Therefore, the study necessitates an analysis of the potential challenges and limitations faced by the insurance sector in contributing to economic growth. These challenges include issues related to information asymmetry, moral hazard, adverse selection, and adherence to regulatory frameworks on insurance markets. Assessing the regulatory environment in Nigeria's insurance sector, examining the effectiveness of existing regulations in ensuring financial stability, consumer protection, and market efficiency, and identifying potential areas for improvement, to determine whether increased insurance coverage leads to higher rates of business development and overall economic growth.

## 2. Literature Review

### 2.1 Conceptual Issues

Insurance is a social contract that manages the transfer of risk between two or more parties. The emergence of modern insurance has played importance role not only to economy as a whole but also to the social wellbeing of the individuals. Insurance is a contractual agreement between two parties, the insured (buyer) and the insurer (seller), where the insurer accepts to compensate the insured in the event of uncertainties or losses in exchange for premium paid by the insured, subject to the contract terms and conditions (Fadun, 2013). Insurance can generally be defined as the pooling of funds from the insured (policyholders) in order to pay for relatively uncommon but severely devastating losses, which can occur to the insured. It is a contract between two parties whereby one party called the insurer undertakes to pay the other party called the insured a fixed sum of money on the occurrence of a certain event.

Insurance is a contract between an insurer and a policyholder, in which the insurer agrees to compensate the policyholder for specified losses or damages in exchange for the payment of premiums, (Imai, 2020). Insurance is a risk management tool that involves the transfer of the potential financial loss from an individual or entity to an insurance company in exchange for the payment of a premium. It provides protection against uncertain events and helps mitigate the financial impact of such events, (Insurance Information Institute, 2021). According to international association of insurance supervisors (IAIS), (2017), insurance is defined as a contract between two parties in which one party (the insurer) agrees to indemnify the other party (the insured) against a specified loss, damage, or liability arising from an event that may occur in the future, in return for the payment of a premium.

Insurance is a risk management tool that provides financial protection against uncertain events or losses. It involves the transfer of risk from an individual or entity (the insured) to an insurance company (the insurer) in exchange for the payment of a premium. The insurer agrees to compensate the insured for covered losses or damages in

accordance with the terms and conditions of the insurance policy, (Doherty, & Garven, 2001).

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.

## 2.2 Theoretical Review

### Endogenous Growth Theory

Romer (1986) follows the economics of learning by doing accredited to Arrow (1962), where knowledge and growth in productivity are highly associated. The model underscores technological advancement as the driving force behind economic growth and seeks to explain the rate of growth arising from technological progress and invention. Capital inflow is believed to be a good source of technology and innovation to the host country, which can drive economic growth. Romer assumes that technological development increases endogenously and includes the mechanism within his growth model. According to the model, ideas increases the stock of knowledge A which subsequently raise the productivity of both capital and labour. The model assumes a similar production function to the one advanced by Solow, but assumes A to be an endogenous factor. The output is a function of capital, labour, technological change and human capital. The model posits that population grows constantly at a rate n, and the economy grows only if the technology is growing. The higher the population growth, the higher the technological advancement and the higher the long run economic growth.

### Financial Repression Theory

The financial repression theory was developed by in 1973 by Stanford economist Edward Shaw and Ronald Mckinnon. The financial repression theory presupposes that lack of a developed financial infrastructure restricts economic growth making the focus of policy at each point in time being to ensure that the financial system operates efficiently. The theory supports a measure of intervention as being important and in fact necessary for meaningful growth. The financial repression comprises policies that result in savers earning returns below the rate of inflation to allow banks to provide cheap loans to companies and governments, reducing the burden of repayments. It can be particularly effective at liquidating losses by acquiring insurance. Various policies should thus be put in place to encourage and promote the activities of financial institutions. The financial repression theory resulted as a consequence. The inference of the study is that financial development would significantly improve economic growth if authorities did not interfere in the operations of financial institutions.

### Internal Funds Investment Theory

The internal funds' investment theory is reiterated that Insurance premiums are a significant part of funds available for investment by insurance companies (insurers) (Kahneman & Tversky, 1979). This implies that the investment of insurance premiums strongly correlates with the funds available for investment in the economy and expected profits. There are two broad sources of insurers' funds: external and internal. The internal funds' investment theory postulates that the profit level determines the fund available for investment and required capital stock (Edgemand, 1987; Tinbergen, 1939). External sources of insurers' funds include insurance premiums, debts and funds from the public in the form of deposits or new shares of stock. An insurer can accumulate funds internally in several ways, including insurance premiums, retained earnings, depreciation funds and the sale of fixed assets. Therefore, insurance premiums constitute significant parts of insurance companies' internal and external funds (Amoah, 2022; Safitri, 2019).

## 2.3 Empirical Review

Fadun, (2023) examined the impact of insurance claims settlement on economic growth in Nigeria. Insurance plays an essential role in stimulating economic growth. Insurance is an intangible product, and prompt claim settlement proves that insurers fulfill their promises to the

insured. The study analyses the impacts of insurance claims settlement on economic growth. It examines the effect of insurance claims' settlements on a nation's economic growth, using Nigeria as a case study. The research utilised an ex-post facto design, using 28-year time series data (1992–2019). Gross Domestic Product (GDP) and Nigeria's insurance companies' claims settlement are the dependent and independent variables used for the study, respectively. The Long-run co-integration result revealed that INCLM (Insurance claims) has an insignificant negative effect on GDP. The coefficient shows that a percentage increment in INCLM (Insurance claims) would result in a 1.22 decrease in GDP. The results indicate that insurance claims settlement has an insignificant negative effect on economic growth. This implies a negative relationship between insurance claims settled by insurance companies and economic growth in Nigeria. The finding is surprising as one expects that settlement of claims by insurers should positively impact economic growth. The implication is that the relationship between insurance claims settlement and economic growth varies depending on several factors, including country-specific factors and the performance of the country's insurance industry.

Oloyede, Folorunsho, and Ogamien, (2023) examined the impact of insurance on economic growth in Nigeria from 1986 to 2020. Using short run ordinary least square (OLS) model. The present study utilizes Real Gross Domestic Product (RGDP) as a proxy for economic growth, serving as the dependent variable while Total Insurance Premium (TPR), Total Insurance Claim (TIC), Total Insurance Investment (INV) and Inflation Rate were used as the explanatory variables. Short run of OLS result revealed that value of total insurance claims, total insurance investment and inflation rate had an insignificant impact on economic growth while total insurance premium has a significant relationship on economic growth. However, in the short run, insurance firm's indicator had a positive impact on economic growth in the short run and concluded that insurance firms indices has a positive impact on economic growth in the short run. Therefore, recommended that insurance policies be made mandatory for individuals and business organizations to encourage and protect investors as well as ensure sustained economic growth; that the regulatory authorities should put in place policies to enforce transparent and efficient management of funds by insurers; that investors should diversify their portfolio of investments to boost returns and their ability in claims payment.

Solomon, and Peter, (2023) investigate whether does insurance promote economic growth? Evidence from Nigeria. The study analyses the contribution of insurance to economic growth in Nigeria. The research utilised an ex-post facto design, using 28- year time series data (1992 - 2019). The study's dependent and independent variables were gross domestic product (GDP) and insurance (life and non-life) premiums. The long-run co-integration result indicated that non-life premium (NLP) positively impacted GDP. The coefficient shows that a percentage increment in NLP results in a 5.63 increase in GDP. The long-run co-integration results suggested that life premium (LP) positively impact GDP. The co-efficient also shows that a percentage increment in LP results in a 4.25 increase in GDP. The results revealed a significant positive contribution of insurance to economic growth. It indicates a significant positive impact of insurance (life and non-life) premiums on economic growth in Nigeria. The results suggest that insurance contributes positively to a nation's economic activities and promotes economic growth. The government should formulate and implement economic policies to stimulate insurance activities, enforce statutory insurance and sound corporate governance.

## 3. Methodology

The study adopted ex-post facto design to investigate the impact of insurance sector on economic growth in Nigeria during the 1990-2023. To this end, the study utilized secondary data based on variables of the study. The method of analysis was based on cointegration to carry out the investigation. The vector autoregressive (VAR) and Granger Causality tests were employed to determine the causal elements in the parameters. The data were collected from various sources including Central Bank of Nigeria (CBN), World Development Indicator (WDI) database and National Bureau of Statistics (NBS).

This study mirrors the model of Kjosevski (2012) who study the impact of insurance on

economic growth in Macedonia with data for the period of 1995 to 2010 with modifications. The three indices of independent variable used are Life insurance, non-life insurance and total penetration rate, are written as:

GDP = F (LIP, NIP, IPR) ……..……(1)

The econometric form of eqn (1) is stated, thus:
$LGDP = \beta_0 + \beta_1 LLIP + \beta_2 LNIP + \beta_3 LIPR + \mu$ …(2)
Where:
GDP = Gross domestic product;
LIP = Life insurance premium;
NIP = Non-life insurance Premium;
IPR = Total penetration rate;
$\beta_0$ = the intercept of the function; β1, β2, β3, β4, = the parameters to be estimated;
Ut = the error term (disturbance term); and
L is Natural Logarithms of all the proxies.
Equation (2) is modified to allow for the inclusion of variables that are relevant to this study.
$GDPt = f(LIP_t, NIPt, IPRt, ICSt,)$ ……..(3)
Stating equation (3) in VAR form as:

$$GDP_t = \alpha_{10} + \sum_{i=1}^{n} \alpha_{11i} GDP + \sum_{i=1}^{n} \alpha_{12i} LIP_{t-i} + \sum_{i=1}^{n} \alpha_{13i} NIP_{t-i} + \sum_{i=1}^{n} \alpha_{14i} IPR_{t-i} + \sum_{i=1}^{n} \alpha_{15i} ICS_{t-i} + \mu_{1t} \quad \ldots\ldots (4)$$

$$LIP_t = \alpha_{16} + \sum_{i=1}^{n} \alpha_{17i} GDP + \sum_{i=1}^{n} \alpha_{18i} LIP_{t-i} + \sum_{i=1}^{n} \alpha_{19i} NIP_{t-i} + \sum_{i=1}^{n} \alpha_{20i} IPR_{t-i} + \sum_{i=1}^{n} \alpha_{21i} ICS_{t-i} + \mu_{1t} \quad \ldots\ldots (5)$$

$$NIP_t = \alpha_{23} + \sum_{i=1}^{n} \alpha_{24i} GDP + \sum_{i=1}^{n} \alpha_{25i} LIP_{t-i} + \sum_{i=1}^{n} \alpha_{26i} NIP_{t-i} + \sum_{i=1}^{n} \alpha_{27i} IPR_{t-i} + \sum_{i=1}^{n} \alpha_{28i} ICS_{t-i} + \mu_{1t} \quad \ldots\ldots (6)$$

$$IPR_t = \alpha_{30} + \sum_{i=1}^{n} \alpha_{31i} GDP + \sum_{i=1}^{n} \alpha_{32i} LIP_{t-i} + \sum_{i=1}^{n} \alpha_{33i} NIP_{t-i} + \sum_{i=1}^{n} \alpha_{34i} IPR_{t-i} + \sum_{i=1}^{n} \alpha_{35i} ICS_{t-i} + \mu_{1t} \quad \ldots\ldots (7)$$

$$ICS_t = \alpha_{37} + \sum_{i=1}^{n} \alpha_{38i} GDP + \sum_{i=1}^{n} \alpha_{39i} LIP_{t-i} + \sum_{i=1}^{n} \alpha_{40i} NIP_{t-i} + \sum_{i=1}^{n} \alpha_{41i} IPR_{t-i} + \sum_{i=1}^{n} \alpha_{42i} ICS_{t-i} + \mu_{1t} \quad \ldots\ldots (8)$$

Where:
GDPt = Gross Domestic Product at time t;
LIPt = Life Insurance Premium (₦) at time t;
NIPt = Non-Life Insurance Premium (₦) at time t;
IPRt = Insurance Penetration Rate (%) at time t;
ICS = Insurance Claim Settlement (₦) at time t;
$\beta_0$ = the intercept of the function;
$\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$, = the parameters to be estimated; and
μt = = Error term (disturbance term);
t = number of years
$\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$, = coefficient of the independent variable which explains the impact of an average change in dependable variable associated with a unit change in the independent variable.
The model a priori expectations are that each of the parameters is positive that is, $\beta_1$, $\beta_2$, $\beta_3$, and $\beta_4 > 0$. The explanatory variables are expected to have a positive sign, implying a positive relationship between insurance and economic growth in Nigeria.

## 4. Results and Discussion

Data collected from the various secondary sources consulted for regression analyses. These include annual time series on the life insurance premium (LIP), Non-life insurance premium (NIP), insurance penetration rate (IPR) and insurance claim settlements (ICS) on economic growth proxy by gross domestic product (GDP) in Nigeria for the period 1990 to 2023.

**Table 1: Augmented Dickey-Fuller (ADF) Test Results**

| Series | Unit Root at Level | | | | Unit Root at First Difference | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ADF T-Statistics | Critical T-Statistics | P-Values | Order of Integration | ADF T-Statistics | Critical T-Statistics | P-Values | Order of Integration | Remarks |
| GDP | 3.561859 | -3.557759 | 1.0000 | I(0) | GDP | -4.90645 | -3.587527 | I(1) | Reject $H_0$ |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| LIP | -0.77011 | -3.557759 | 0.9581 | I(0) | LIP | -6.76177 | -3.562882 | I(1) | Reject $H_0$ |
| NIP | -2.70172 | -3.580622 | 0.2434 | I(0) | NIP | -4.81248 | -3.562882 | I(1) | Reject $H_0$ |
| IPR | -0.27949 | -1.952473 | 0.5768 | I(0) | IPR | -5.81796 | -3.562882 | I(1) | Reject $H_0$ |
| ICS | 1.127989 | -3.568379 | 0.9999 | I(0) | ICS | -7.05856 | -3.568379 | I(1) | Reject $H_0$ |

**Source: Author's Computation 2024, using E-view 12.0 version**

**NOTE:** Test was conducted at 5% Level of Significance

The unit root test results in table 1 shows that all the variables (GDP, LIP, NIP, IPR, and ICS) when tested at level or I(0), have unit root or are not stationary by having ADF stat is less than critical stat in absolute term and p-values, which greater than 0.05% level of significance. However, when the variables where tested at first difference or I(1), they (GDP, LIP, NIP, IPR, and ICS) all have no unit roots or became stationary. This is evident by having ADF stat that is greater than critical stat in absolute term and p-values, which are less than 0.05% levels of significance. In general, the unit root test results shows that the variables under study have a stochastic trend and are good for inclusion in the chosen model for their parameter estimation. This shows that the variables have trend order of integration, which makes it suitable for the application of VAR model.

**Table 2: Johansen Cointegration Test Results**

| Hypothesized | | Trace | 0.05 | |
|---|---|---|---|---|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None * | 0.837222 | 116.4234 | 69.81889 | 0.0000 |
| At most 1 * | 0.573683 | 60.14703 | 47.85613 | 0.0023 |
| At most 2 * | 0.447131 | 33.71730 | 29.79707 | 0.0168 |
| At most 3 | 0.293383 | 15.34565 | 15.49471 | 0.0526 |
| At most 4 * | 0.137357 | 4.580399 | 3.841465 | 0.0323 |

**Source: Author's Computation 2024, using E-view 12.0 version**

From table 2, the trace statistic of 116.4234, 60.14703, 33.71730, 15.34565, and 4.580399 clearly exceed the critical values of 69.81889, 47.85613, 29.79707, 15.49471, and 3.841465 respectively at 95% confidence interval. Hence, we reject the null hypothesis and conclude that there is at most four cointergrating relationships, therefore, a long-run equilibrium relationship exist among the variables.

This claim was supported by the P-values, which are less than 0.05% level of significance respectively. Hence, we reject the null hypothesis of no cointegration relationship among the variables. This implies there is a long-run relationship between GDP, LIP, NIP, IPR, and ICS variables. However, since cointegration does not provide information about possible patterns, the regression analysis and causality tests are carried out alongside. Also, since all the variables were found to be stationary and co-integrated, the study can now perform Vector Autoregressive model (VAR) test.

### 4.1 VAR Lag Order Selection Criteria

The study determines the optimal lag that can produce robust results. E-views use the AIC, SC and HQ criteria to suggest the optimal lag length for that particular VAR.

**Table 3: VAR Lag Order Selection Results**

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|---|---|---|---|---|---|---|
| 0 | 36.79116 | NA | 8.85e-08 | -2.051042 | -1.819754 | -1.975648 |
| 1 | 169.3179 | 213.7528 | 8.81e-11 | -8.988249 | -7.600520* | -8.535884 |
| 2 | 200.9350 | 40.79632* | 6.59e-11* | -9.415162* | -6.870991 | -8.585826* |

* indicates lag order selected by the criterion' ;

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error;

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

**Source: Author's Computation 2024, using E-view 12.0 version**

The results presented in Table 3 show that lag two (II) is the optimal lag because it has the least AIC, SC and HQ relative to the other lags. Based on the selected criteria (AIC) for this study, it implies that lag two is the optimal lag from the result. This study considers the outcome of AIC for the selection of the optimal model since it is an impact analysis.

### 4.2 VAR Regression Results

Presented in table 4 below are results of the VAR estimation of the variable's coefficients.

**Table 4: VAR Regression Results**

| Vector Autoregression Estimates | | | | | |
|---|---|---|---|---|---|
| Standard errors in ( ) & t-statistics in [ ] | | | | | |
| | GDP | LIP | NIP | IPR | ICS |
| GDP(-2) | 0.946482 | -1.944902 | -1.214773 | -0.003349 | 0.464206 |
| | (0.18531) | (1.39963) | (1.48605) | (0.00287) | (0.87301) |
| | [ 5.10746] | [-1.38958] | [-0.81745] | [-1.16649] | [ 0.53173] |
| LIP(-2) | 0.106248 | -0.006737 | 0.306449 | -0.000235 | 0.554939 |
| | (0.03917) | (0.29581) | (0.31408) | (0.00061) | (0.18451) |
| | [ 2.71275] | [-0.02277] | [ 0.97572] | [-0.38729] | [ 3.00763] |
| NIP(-2) | 0.019814 | -0.119546 | -0.177056 | -0.000161 | -0.361549 |
| | (0.02417) | (0.18258) | (0.19386) | (0.00037) | (0.11388) |
| | [ 0.81961] | [-0.65475] | [-0.91334] | [-0.43026] | [-3.17469] |
| IPR(-2) | 1.664211 | 56.11199 | 49.45260 | -0.337904 | -91.31137 |
| | (12.5782) | (94.9999) | (100.865) | (0.19485) | (59.2554) |
| | [ 0.13231] | [ 0.59065] | [ 0.49028] | [-1.73418] | [-1.54098] |
| ICS(-2) | 0.044609 | 0.198469 | 0.490497 | 0.000384 | -0.026257 |
| | (0.03717) | (0.28072) | (0.29805) | (0.00058) | (0.17510) |
| | [ 1.20021] | [ 0.70700] | [ 1.64567] | [ 0.66749] | [-0.14995] |
| C | 0.708541 | 3.091067 | 0.998647 | 0.009619 | -0.500357 |
| | (0.20321) | (1.53478) | (1.62954) | (0.00315) | (0.95731) |
| | [ 3.48679] | [ 2.01401] | [ 0.61284] | [ 3.05560] | [-0.52267] |
| R-squared | 0.998802 | 0.758132 | 0.870691 | 0.481868 | 0.982056 |
| Adj. R-squared | 0.998203 | 0.637199 | 0.806037 | 0.222803 | 0.973084 |
| Sum sq. resids | 0.091318 | 5.209155 | 5.872235 | 2.19E-05 | 2.026638 |
| S.E. equation | 0.067571 | 0.510351 | 0.541860 | 0.001047 | 0.318327 |
| F-statistic | 1667.094 | 6.268985 | 13.46686 | 1.860023 | 109.4571 |
| Log likelihood | 46.33758 | -16.34177 | -18.19894 | 175.5297 | -1.709153 |
| Akaike AIC | -2.279844 | 1.763985 | 1.883803 | -10.61482 | 0.819945 |
| Schwarz SC | -1.771010 | 2.272819 | 2.392637 | -10.10599 | 1.328780 |
| Mean dependent | 10.07579 | 5.094440 | 4.084232 | 0.003677 | 10.04731 |
| S.D. dependent | 1.593830 | 0.847294 | 1.230346 | 0.001187 | 1.940288 |

**Source: Author's Computation 2024, using E-view 12.0 version**

The table highlights the long run relationship. The regression equation as depicted thus;

$$GDP_t = 0.708541\beta_{0t-1} + 0.946482GDP_{t-1} + 0.106248LIP_{t-1} + 0.019814NIP_{t-1} + 1.664211IPR_{t-1} + 0.044609ICS_{t-1}$$

All the variables of the study are in conformity with the model a prior expectation by being positively impacted economic growth in Nigeria during the period of the study.

The coefficient of life insurance premium (LIP) is positive which indicate a positive impact on GDP. A percentage change in the life insurance premium is associated with 10.6% increase in the GDP in the long-run during the period of the study.

The coefficient of non-life insurance premium (NIP) is positive which indicate a positive impact on GDP. A percentage change in the non-life insurance premium is associated with 1.9% increase in the GDP in the long-run during the period of the study.

The coefficient of insurance penetration rate (IPR) is positive which indicate a positive impact on GDP. A percentage change in the insurance penetration rate is associated with 166.4% increase in the GDP in the long-run during the period of the study.

The coefficient of insurance claim settlement (ICS) is positive which indicate a positive impact on GDP. A percentage change in the insurance claim settlement is associated with 4.4% increase in the GDP in the long-run during the period of the study.

The 0.998802 coefficient of multiple determinations ($R^2$) shows that up to 99% of the variations (changes) in the GDP were explained by the explanatory variables (LIP, NIP, IPR and ICS). The remaining 1% variations are unexplained due to other factors, which are affecting GDP but not captured in the model or due to the error of measurement ($U_i$). This is a good fit of the model and shows that the data collected is suitable for the analysis in Nigeria.

**Table 5: VAR Serial correlation Result**

| VAR Residual Serial Correlation LM Tests | | | | | | |
|---|---|---|---|---|---|---|
| Null hypothesis: No serial correlation at lag h | | | | | | |
| Lag | LRE* stat | df | Prob. | Rao F-stat | Df | Prob. |
| 1 | 35.57582 | 25 | 0.0783 | 1.585616 | (25, 42.4) | 0.0912 |
| 2 | 31.19333 | 25 | 0.1827 | 1.329304 | (25, 42.4) | 0.2029 |
| 3 | 26.09299 | 25 | 0.4026 | 1.056116 | (25, 42.4) | 0.4274 |

**Source: Author's Computation 2024, using E-view 12.0 version**

Table 5 presents the serial correlation test result. The P-value is greater than 0.05% (0.2029) thus, the study reject the null hypothesis and concludes that the data is free from serial correlation. This generally suggests that the data has not collide significantly.

### 4.3 Impulse Response Analysis of Economic Growth to Shocks in Insurance sector

The result of the impulse response of economic growth to insurance sector is presented below

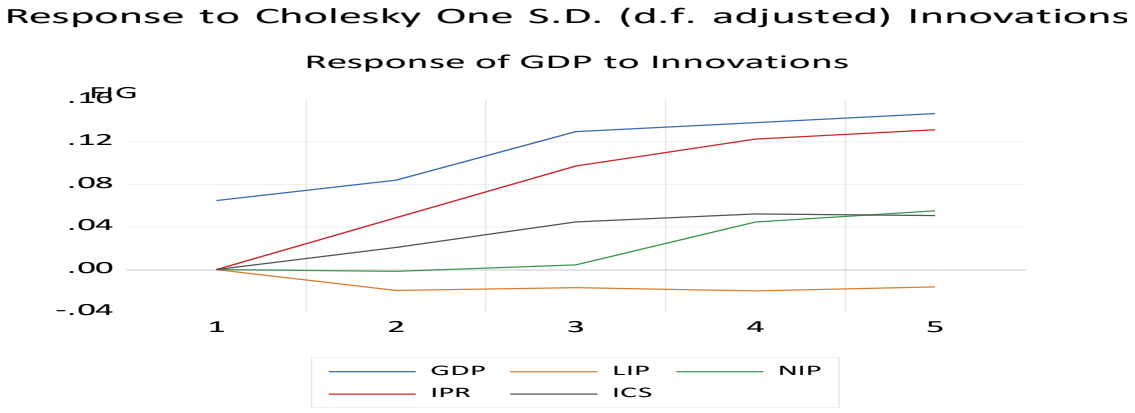


Fig 1: The impulse response of GDP to shocks in Insurance sector in Nigeria

**Source: Author's Compilation 2024, using E-view 12.0 version**

From the impulse response of GDP to shocks in insurance sector (LIP, NIP, IPR, and ICS) in Nigeria in a 5 year forecast period, the result shows GDP would response positively from own shock. The study also found out that GDP would response positively to shock in insurance sector (NIP, IPR, and ICS). The impulse response result also shows that GDP would response negatively to shock in (LIP).

**4.4 Discussion of Findings**

The result of the VAR model revealed that life insurance premium has positive and statistically significant impact on gross domestic product in Nigeria. The result implies that gross domestic product increases as life insurance premium rise proportionately. a unit change in life insurance premium lead to an increase of gross domestic product by 10.6% in the long run The result of this study indicates that life insurance premium has a strong influence on increasing the gross domestic product in Nigeria in the long-run. The reason for the findings of the life insurance premium has been appropriately utilized for productive activities that improved gross domestic product. In the same vein the findings of the study agree with the study of Solomon, and Peter, (2023) Nwanli and Omankhanlen (2019) Mojekwu, Akuwuegbo, and Olowokudejo, (2011) Olayungbo, (2015) Eze and Okoye (2013) Adetunji, Nwude, and Udeh, (2018) Sambo, (2016) while the study disagree with the study of Kjosevski, (2012) Ukpong, and Acha, (2017) Din, Angappan and Baker's (2017) Fashagba, (2018) who rather found negative impact of life insurance premium on economic growth.

The result of the VAR model revealed that non-life insurance premium has positive and statistically insignificant impact on gross domestic product in Nigeria. The result implies that gross domestic product increases as non-life insurance premium rise proportionately. a unit change in non-life insurance premium lead to an increase in gross domestic product by 1.9% in the long run The result of this study indicates that non-life insurance premium has influence on increasing the gross domestic product in Nigeria in the long-run. The reason for the findings of the non-life insurance premium has been appropriately utilized for productive activities that improved gross domestic product. In the same vein the findings of the study agree with the study of Solomon, and Peter, (2023) Iyodo, Samuel, and Ote, (2020) Sajid, Abu-Bakar, and Regupathi, (2017) Olayungbo, (2015) Ukpong, and Acha, (2017) Zouhaier, (2014) Sambo, (2016) while the study disagree with the study of Victor (2013) Fashagba, (2018) Nwanli and Omankhanlen (2019) Philip (2011) who rather found negative impact of non-life insurance premium on economic growth.

The result of the VAR model revealed that insurance penetration rate has positive and statistically insignificant impact on gross domestic product in Nigeria. The result implies that gross domestic product increases as insurance penetration rate rise. a unit change in insurance penetration rate lead to an increase in gross domestic product by 166.4% in the long run The result of this study indicates that insurance penetration rate has an influence on increasing the gross domestic product in Nigeria in the long-run. The findings of the study is in tandem with the study of Kjosevski, (2012), Richard and Victor, (2013)Who found a positive impact between insurance penetration rate and economic growth while the findings disagree with the study of Okonkwo, and Eche, (2019) who found negative impact between insurance penetration rate and economic growth.

The result of the VAR model revealed that insurance claim settlement has positive and statistically insignificant impact on gross domestic product in Nigeria. The result implies that gross domestic product increases as insurance claim settlement rise proportionately. a unit change in insurance claim settlement lead to an increase in gross domestic product by 4.4% in the long run The result of this study indicates that insurance claim settlement has a strong influence on increasing the gross domestic product in Nigeria in the long-run. The findings of the study is in tandem with the study of Lenee, (2018), Lyndon (2019), Oloyede, Folorunsho, and Ogamien, (2023) Who found a positive impact between insurance claim settlement and economic growth while the findings disagree with the study of Umoren and Emem (2016), Fadun, (2023) who found negative impact between insurance claim settlement and economic growth.

## 5. Conclusion and Recommendations

The study examined the impact of insurance sector on economic growth in Nigeria for the period of 1990 to 2023. Given the result of the unit root test, co-integration, and the VAR model results, it was revealed that the variables are co-integrated at order (1) which justifies the application of VAR model. Consequent to the co-integration result, the model was analysed using the VAR method of analysis. Based on the analysis, the long run regression estimate revealed that the explanatory variables have positive impact on economic growth in the long-run analysis and only the life insurance premium that was statistically significant while the remaining non-life insurance premium, insurance penetration rate and insurance claim settlement variables were statistically insignificantly impacted gross domestic product in the long-run.

i. The study recommends that government should encourage and emphasize long-term planning since life insurance encourages individuals and businesses to think long-term plan. By promoting life insurance policies that focus on savings, retirement, and education, the government should contribute to sustainable economic growth by fostering a culture of financial responsibility and stability. Enhancing financial literacy programs can help educate the population about the importance of life insurance and its benefits. This will increase awareness and understanding, leading to higher demand for life insurance policies and subsequently higher premiums.

ii. The study recommends businesses to adopt effective risk management strategies that would lead to a higher demand for non-life insurance coverage. The government can provide incentives for businesses that implement risk management practices, which would increase awareness and drive growth in non-life insurance premiums. The government should as well focus on developing infrastructure and implement policies that mandate insurance coverage for such projects, which will drive demand for non-life insurance and positively impact premiums and economic growth in Nigeria.

iii. The study recommends that government should launch comprehensive awareness campaigns to educate the public about the benefits and importance of insurance. This can include media campaigns, workshops, and collaborations with educational institutions which will increase insurance literacy and subsequently lead to higher demand and penetration rates, that would sustain businesses and contributing to economic growth.

iv. The study recommends that government through NAICOM should implement efficient and transparent claims settlement processes that minimize delays and enhance customer satisfaction. Insurance companies should invest in technology and digital platforms to simplify claims procedures, reducing bureaucracy and speeding up settlements. This will increase confidence in insurance, attracting more customers and driving economic growth.

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