DOES INSURANCE PROMOTE ECONOMIC GROWTH? EVIDENCE FROM NIGERIA

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Abstract

Insurance plays an essential role in economic growth. This 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 impact 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 impacts 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.

Keyword: *Insurance, Insurance premiums, Life insurance, Non-Life Insurance, Economic growth, GDP*

1. INTRODUCTION

Insurance plays an essential role in economic growth. Insurance is a risk transfer contract between the insured and the insurer whereby 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 insureds. The accumulated insurance premiums constitute investment by insurance companies to promote economic growth.

The insurance sector helps a nation's economic activities and protects policyholders, 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.

This study examined the contribution of insurance to economic growth. The study examined the impact of insurance (life and non-life) premiums on economic growth, using Nigeria as a case study. This study addresses two research questions: (1) Do insurance (life and non-life) premiums contribute to economic growth in Nigeria?, and (2) To what extent have life and non-life insurance premiums impacted economic growth in Nigeria?

The following hypotheses were formulated for this study:

HYPOTHESIS I

Ho: Non-life Insurance premiums do not contribute to economic growth in Nigeria.

Hi: Insurance premiums contribute to economic growth in Nigeria.

HYPOTHESIS II

Ho: There is no positive relationship between life insurance premiums and economic growth in Nigeria.

Hi: There is a positive relationship between life insurance premiums and economic growth in Nigeria.

The remaining part of the paper discusses the literature review, methodology, data analysis, discussion of findings, and conclusion and recommendations.

2. LITERATURE REVIEW

2.1 Conceptual Review

Insurance

Insurance is a contractual agreement between two parties (the insured and the insurer) whereby the insurer undertakes to indemnify the insured in the event of a loss caused by the insured perils in exchange for a premium paid by the insured, subject to the contract terms and conditions (Uruakpa, 2019; Feinman, 2018; Fadun & Hood, 2016). Insurance is the pooling of fortuitous losses by transferring such risks to insurers, who agree to indemnify insureds for such losses, provide other pecuniary benefits on their occurrence, or render services connected with the risk (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021).

Individuals, households, and businesses can purchase insurance policies to manage risk exposures (Idowu & Fadun, 2022; Oyetunji, Adepoju & Oladokun, 2021). The insurer assesses all risks proposed to ensure that each insured pays a premium commensurate with the risk insured, subject to the insurance contract terms and conditions. The insurance business is subject to the law of large numbers and economies of large scale (Mdanat, Kasasbeh & Abushaikha, 2019; Ugwunta & Ugwuan, 2019). Insurers are custodians of the insurance premiums, which constitute a common pool or funds from which unfortunate insureds' losses will be paid (Maggioni & Turchetti, 2022; Oyetunji & Momoh, 2021; Uruakpa, 2019; Kwanga, 2017). Insurance companies invest the fund accumulated through insureds premiums in government debentures and stock markets, thereby increasing stock prices for investors' benefit and improving Nigeria's economy (Igoni, Odi & Nwude, 2020; Fadun & Shoyemi, 2018; Okparaka, 2018). In 2016, the Nigerian insurance sector invested an estimated N178 billion in the banking industry as placements and deposits and held treasury instruments of over N270 billion (Agusto & Co, 2017).

Insurance is vital to a financial system because it helps individuals and businesses manage risk and mitigate the consequences of loss. Insurance protects individuals, households, companies and other entities against accidental losses caused by the insured perils, subject to the contract terms and conditions (Maggioni & Turchetti, 2022; Feinman, 2018). Benefits of insurance include guaranteed financial protection against insured losses, promoting long-term saving, mobilising funds to finance government projects to ensure national development, facilitating trade and commerce, promoting financial stability through stimulation of the growth of debt and equity markets, and contributing to GDP and economic development (Idowu & Fadun, 2022; Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021; Fadun & Hood, 2016).

Life and Non-Life Insurance

The protection afforded by insurers helps improve the policyholders' confidence and peace of mind (Ayuba, Isyaka & Azuoonwu, 2020; Asongu & Nicholas, 2019; Afolabi, 2018). The insurance business entails three categories: life, non-life and reinsurance (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021). Life denotes extended-term funds, while non-life insurance denotes short-term funds (Safitri, 2019; Lawrence, Evans & Richard, 2017; Pen-Fen, Chin-Chiang & Chin-Feg, 2012). Reinsurance guarantees or protects other insurance companies against loss by spreading their risks to other insurers/reinsurance. One significant role of the insurance industry in Nigeria is to promote the development and protection of the insuring public against their insurable risks (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021).

Life insurance policies include whole-life, endowment and term assurance. Life denotes extended-term funds, while non-life insurance denotes short-term funds. Non-life or general insurance covers properties and assets, including vehicles, buildings, ships, aircraft, and business interruption (Safitri, 2019; Olusegun, 2018). Insurance companies also enter a reinsurance contract to insure part of the risk insured under the original contract. Reinsurance guarantees or protects other insurance companies against loss by reinsuring part of the risks insured with other insurers and reinsurers (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021). In a reinsurance contract, the insurer and reinsurer jointly settle the loss arising from the primary insurance contract.

There are two types of insurance contracts types: Indemnity and benefit contracts. An indemnity contract is an insurance policy whereby an insurer places the insured in its position before the loss (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021). Examples of indemnity contracts include fire, theft, motor, house owner, aviation and marine insurance. An indemnity insurance contract seeks to restore the insured to its position before the loss (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021). The insurer cannot restore the insured to its position before the loss.

Indemnity contracts include life assurance, personal accident, health and sickness insurance. An insurer indemnifies the insured under an indemnity contract; hence such insurances are referred to as indemnity insurance policies (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021). Conversely, the insurer compensates the insured under a benefits contract as it is impossible to indemnify the insured for the loss incurred (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021). The insurance claim paid under a benefits contract is compensation, while the claim paid under an indemnity contract is an indemnity.

An insurance premium is a consideration the insured pays the insurer periodically under an insurance contract. Insurance premiums vary depending on the type of coverage purchased by the insured (Uruakpa, 2019). The greater the risk associated with the event or property insured, the higher the premium the insured pays (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021). Gross premium is the total premium paid by the insured before deducting insurance brokers' commissions and discounts. The net premium is the premium left after deducting insurance brokers' commissions and discounts. The primary insurer pays the reinsurance premium from the primary insurance premium to the reinsurer. The gross premium is the total premium paid by the insured, which consists of the net premium plus the brokers' commission and administrative expenses. A gross premium is the total premium of an insurance contract before the deduction of brokers' commission and discounts (Maggioni & Turchetti, 2022; Rejda, McNamara & Rabel, 2021).

Theoretical Review

There are several relevant theories on the contribution of insurance to economic growth, including financial liberation theory, circuit theory, Kaldor model of economic growth, accelerator theory of investment, and internal fund investment theory (Amoah, 2022; Umar, Tabash, Al-Naimi & Drachal, 2022; Bolton, Chen & Wang, 2011). The internal fund investment theory was adopted for this study.

The internal funds' investment theory is adopted for this study. 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).

The internal funds' investment theory focuses on the importance and role of profitability in determining available investment funds. The internal funds' investment theory advocates that a firm's investment level directly impacts its profitability. The internal funds' theory of Investment is suitable for this study because insurance premiums are part of both internal and external sources of funds. The internal funds' investment theory emphasises that the generation of excess profits induces more investment due to an increase in the availability of internal funds (Fazzari, Hubbard & Petersen, 2000).

The internal funds' investment theory emphasises that the generation of excess profits induces more investment due to an increase in the availability of internal funds (DeMarzo, Fishman, He & Wang, 2012). Increased insurance premiums mean increased available funds to promote economic growth. Hence, the higher the insurance industry premium income (insurance premiums), the higher the investment funds to improve the nation's economic activities. Furthermore, the internal

funds' investment theory helps protect companies' interests. It encourages insurers to increase their profitability through increased premium incomes (insurance premiums) to ensure sustainable growth and accumulate insurance premiums for investment to improve economic activities. The theory is suitable to encourage companies to find an efficient way to raise funds without jeopardising their future and long-term growth.

Empirical Review

Insurance is paramount in a nation's (including Nigeria) economic growth. The insurance industry stimulates economic growth (Ayewumi & Awani, 2021; Zouhaier, 2014). The insurance sector impacts the economic growth of developing and developed economies (Safitri, 2019; Yeboah & Oppong, 2017). However, Ward and Zurbruegg (2000) established that the relationship between insurance and economic growth depends on country-specific circumstances and whether the nation's insurance industry promotes economic growth. Several studies have examined the relationship between insurance and economic growth (Etale, 2019; Peleckiene, Peleckis, Dudzeviciute & Peleckis, 2019; Adetunji, Nwude & Udeh, 2018; Fashagba, 2018; Dhiab & Jouili, 2015; Eze & Okoye, 2013). Some studies revealed that insurance positively impacted economic growth (Fadun, 2021; Fashagba, 2018; Mohyul-Din, Regupathi & Abu-Bakar, 2017; Harrington & Niehaus, 2016; Gabriel, 2015). Some studies also indicated that insurance does not impact economic growth (Nwani & Omankhanlen, 2019; Webb, Grace & Skipper, 2005). However, more consensus has emerged on insurance development's impact and economic growth.

Impacts of Insurance Premiums on Economic Growth

Ward and Zurbruegg (2000) examined the relationship between economic growth for nine OECD countries from 1961 to 1996; and the long-term and short-term dynamics between insurance and economic growth. The results indicated long-term relationships between insurance and economic growth in Australia, Canada, France, Italy and Japan (Ward & Zurbruegg, 2000). Likewise, studies have also shown that the insurance business positively impacts economic growth in France, the United Kingdom, Japan, Switzerland, and the Netherlands (Iyodo, Samuel, Adewole & Ola, 2020; Din, Abu-Bakar & Regupathi, 2017; Akinlo & Apanisile, 2014; Chang, Lee & Chang, 2014; Zouhaier, 2014).

Din, Angappan and Baker's (2017) study on insurance and economic growth in respect of China, India, Malaysia, the United States, the United Kingdom, and Pakistan using the ARDL approach. The result revealed a positive and significant relationship between total insurance and economic growth in China, India, Malaysia, the United States, the United Kingdom, and Pakistan (Din, Angappan & Baker, 2017). However, they found a negative between insurance and economic growth exists for Pakistan concerning the variable international trade (Din, Angappan& Baker, 2017).

Sawadogo, Guerineau and Ouedraogo (2018) examined the relationship between the development of the life insurance sector and economic growth in 86 developing countries using the World Bank data - World Development Indicators data from 1996 to 2011. The results revealed that the development of the insurance sector had a positive effect on economic growth. However, the impact varies from country to country depending on the characteristics of different countries (Sawadogo, Guerineau & Ouedraogo, 2018).

Impacts of Insurance Premiums on Economic Growth in Nigeria

Eze and Okoye (2013) use the co-integration test and error correction model to examine the impact of insurance practice on Nigeria's economy's growth. The findings indicate that insurance development cointegrated with economic growth in Nigeria (Eze & Okoye, 2013). Mojekwu, Agwuegbo and Olowokudejo (2011) examined the impact of insurance contribution to economic growth in Nigeria, and the results indicated a positive relationship between the insurance business and economic growth. Oke (2012) also explored the relationship between insurance sector development and economic growth in Nigeria. The findings showed that insurance sector development had a significant positive effect on economic growth in Nigeria (Oke, 2012).

Madukwe and Obi-Nweke (2014) examined the link between an insurance business and economic growth in Nigeria; the results indicated a strong positive relationship between an insurance business and economic growth. Oyedotun and Adesina (2015) examined the impact of the insurance business on economic growth in Nigeria using 30-year time series data (1980 - 2011). The results indicated that the insurance business significantly contributed to economic growth (Oyedotun & Adesina, 2015). Gabriel (2015) also investigated the effect of insurance sector

development on economic growth in Nigeria using time series data from the CBN Statistical Bulletin from 1981 to 2013. The findings indicated that the Nigerian insurance sector's development significantly impacts the nation's economic growth (Gabriel, 2015).

Furthermore, Fashagba (2018) examined the relationship between insurance and economic growth in Nigeria using secondary data obtained from CBN from 2007 to 2016. The results showed that non-life and total insurance premiums had an insignificant positive link with economic growth, but life insurance premiums had an insignificant negative relationship with economic growth (Fashagba, 2018). Olayungbo (2015) examined the effect of life and non-life insurance on economic growth in Nigeria. The study concluded that life and non-life insurance complement each other to affect economic growth positively (Olayungbo, 2015). Yinusa and Akinlo's (2013) study on insurance development cointegrated with Nigeria's economic growth, and they found a long-run relationship between economic growth and insurance premium in their empirical study. Olayungbo's (2015) study revealed a long-run relationship between life and non-life insurance premium and Nigeria's economic growth. Iyodo, Samuel, Adewole and Ola's (2020) study revealed that non-life insurance penetration had a substantially positive effect on the economic growth in Nigeria.

The literature favours a positive relationship between insurance and economic growth. However, there is a need for more study in this area to reach a consensus. This lack of consensus in the empirical results of previous studies indicates the existence of a research gap. This study contributes to knowledge by filling the gap created by divergent findings. Previous studies on the relationship between insurance and economic growth in Nigeria include Eze and Okoye (2013); Mojekwu, Agwuegbo and Olowokudejo (2011); Akinlo (2013); Amoke (2012); Yinusa and Akinlo (2013); Akinlo and Apanisile (2014); Olayungbo (2015); Nkoro, Ikue-John & Nwantah (2019); and Ugwunta and Ugwuan (2019). All these studies used total insurance premiums to analyse the relationship between insurance and economic growth in Nigeria. Hence, there is a gap in the literature. Consequently, this study fills the gap and contributes to the existing literature by examining the contributions of life and non-life insurance premiums on economic growth in Nigeria.

3. METHODOLOGY

*An ex-post factor research desig*n was adopted for this study. An e*x-post factor* design is a research method that examines how an independent variable (groups with certain qualities that already exist before a study) affects a dependent variable (Creswell and Creswell, 2018; Creswell & Poth, 2017). This research study tests hypotheses to locate a cause-and-effect relationship between the independent and dependent variables. *Ex-post facto design* is suitable for this study as it focuses on how past events and actions can predict specific causes. Moreover, the researcher cannot manipulate or modify actions or behaviours that have already occurred or specific traits and characteristics a participant embodies.

This research utilised an *ex-post facto* design, using 28-year time series data (1992 – 2019), which is secondary data. The secondary data used consist of Nigeria's insurance premiums (life and non-life insurance premiums) and Nigeria's economic growth indices (gross domestic product). The secondary data used for this study were sourced from the Central Bank of Nigeria (CBN) Statistical bulletins, insurance companies' annual reports, and the National Bureau of Statistics. The study's target population consists of the data and variable indicators, including Nigeria's Gross Domestic Product (GDP) and Nigerian insurance companies' life and non–life insurance premiums from 1992 - 2019.

Model Specification

This study is mainly quantitative and builds on existing studies and methodologies. The analytical procedures adopted to validate the research hypotheses are multiple regression models, descriptive statistics, unit root tests and ordinary least squares. These methods were adopted to avoid challenges, including subjecting and bias of responses and relationships between variables.

The model adopted for this study is based on the works of Oke (2012); Curak, Loncar and Poposki (2009); Ward and Zurbruegg (2000); and Kugler and Ofoghi (2005). The following linear equation was developed for this study:

$$GDP_t = f(INSURANCE_t) \quad 1$$

$$GDP_t = f(NLP_t, LP_t) \quad 2$$

GDP_t = Gross domestic product at time t

NLP_t = Non-life premium at time t

LP_t = Life insurance premium at time t

Models 1 and 2 shows the dependent and independent variables. The study's dependent and independent variables were gross domestic product (GDP) and insurance (life and non-life) premiums respectively. Models used in validating the research hypotheses are presented below.

Model for Hypotheses

Models used in validating the research hypotheses are presented below.

Model for Hypothesis 1:

Models 3 and 4 show the relationship non-life insurance and economic growth in Nigeria.

$GDP_t = (NLP_t)$ 3

$GDP_t = (\alpha_0 + \beta_1 NLP_t + \mu_t)$ 4

GDP_t = Gross domestic product at time t

NLP_t = Non-life premium at time t

μ_t = Disturbance term or white noise at time t

α_0 = Intercept

Model for Hypothesis II:

$GDP_t = (LP_t)$ 5

$GDP_t = (\alpha_0 + \beta_1 LP_t + \mu_t)$ 6

GDP_t = Gross domestic product at time t

LP_t = Life premium at time t

μ_t = Disturbance term or white noise at time t

α_0 = Intercept

Models 5 and 6 indicate the relationship between life insurance and economic growth in Nigeria.

DATA ANALYSIS

The secondary data collected for this study is included in Appendix 1. The data was analysed using Eview statistical software. The descriptive data analysis is presented in Table 1.

Table 1: Descriptive Analysis: GDP and Insurance Premiums (Life and Non-life)

	GDP	LP	NLP
Mean	12.78571	107.6862	567.3451
Median	9.750000	551.4580	196.5020
Maximum	20.80000	344.2502	203.4415
Minimum	6.200000	967.2000	135.8000
Std. Dev.	5.596474	120.2822	727.0866
Skewness	0.273779	0.890053	1.155433
Kurtosis	1.263760	2.385661	2.790546
Jarque-Bera	7.733476	7.978928	12.56260
Probability	0.020927	0.018510	0.001871
Sum	716.0000	5815054.	3177133.
Sum Sq. Dev.	1722.629	7.670211	2.912211
Observations	28	28	28

Source: Researchers' Computation using Eview Statistical Package

Note: Gross Domestic Product (GDP), LP (Life Premium), and NLP (Non-Life Premium).

Table 1 shows the descriptive analysis of the gross domestic product (GDP), life insurance (LP), and non-life insurance premiums. The mean is the average value of the series, obtained by dividing the total value of the series by the number of observations. Table 1 shows that the Mean value of GDP is 12.7%, LP is 107.6%, and NLP is 567.3%. The median is the middle value of the series when the values are arranged in ascending order. Table 1 shows that the Median GDP is 9.75%, LP is 551.4%, and NLP is 196.5%. The maximum and minimum values of the data series used for this study are maximum and minimum. The maximum and minimum values for GDP are 20.8 and 6.20, LP is 344.2 and 967.2, and NLP is 203.4 and 135.8. Table 1 also shows that the standard

deviation for GDP is 5.59, LP is 120.28, and NLP is 727.0. The standard deviation is a measure of spread or dispersion in the series.

Skewness is a measure of the asymmetry of the distribution of the series around its mean. Positive skewness implies that the distribution has a long right tail and negative skewness implies that the distribution has a long left tail. The skewness of a normal distribution is zero. Table 1 shows the GDP skewness of 0.27; LP is normal and skewed at 0.89; NLP is positively skewed at 1.15. Kurtosis measures the peakedness or flatness of the distribution of the series. If the kurtosis is above three, the distribution is peaked or leptokurtic relative to the normal. If the kurtosis is less than three, the distribution is flat or platykurtic relative to normal. Table 1 shows that the Kurtosis of GDP is 1.26, LP is 2.39, and NLP is 2.79. FI is leptokurtic at 1.2 since (1.2<3), LP is leptokurtic at 2.3 since (2.3<3), and NLP is leptokurtic at 2.7 since (2.7<3). Table 1 also indicates that the Jarque-Bera Statistics of GDP is 7.73 at 0.02, which suggests that the variable is normally distributed. LP is 7.97 at 0.01, which indicates that the variable is normally distributed (Table 1). NLP is 12.56 at 0.01, which indicates that the variable is normally distributed (Table 1). The unit root test results are presented in Table 2.

Table 2: Unit Root Test

Variable	**Level T-stat**	**Critical value @ 5%**	**First Difference**	**Critical value @ 5%**	**Prob**	**Order of Intergration**
FI	-1.0672	-2.9155	-7.3720	-2.9165	0.0000	**I(I)**
LP	-1.0216	-2.9155	-7.3165	-2.9165	0.0000	**I(I)**
NLP	0.9020	-2.9155	-7.9833	-2.9165	0.0000	**I(I)**

Source: Researchers' Computation using Eview Statistical Package

Table 2 shows the results of the augmented diskey fuller unit root test. Table 2 shows that FI is stationary at the first difference I(I), LP is stationary at the first difference at I(I), and NLP is stationary at the first difference at I(I). The Johansen Co-integration and VECM are used to test the short and long-run estimates of the variable in the hypotheses testing section below.

HYPOTHESIS TESTING

The hypothesis formulated for this study is tested in this section using the T-test, R2 coefficient of determination and Regression Coefficient to establish the relationship level between variables.

Decision Rule: If the computed t is greater than the critical t, we reject the Ho, accept the alternative hypothesis, and vice versa.

Hypothesis 1 Testing

The hypothesis 1 is presented below:

Ho: There is no significant relationship between non-life insurance premiums and economic growth in Nigeria.

Hypothesis 1 testing model:

$$GDP_t = (\alpha_0 + \beta_1 NLP_t + \mu_t) \quad 4$$

GDP_t = Gross domestic product at time t

NLP_t = Non-life premium at time t

μ_t = Disturbance term or white noise at time t

α_0 = Intercept

Table 3**:** Johansen Co-integration Test

No. CE(s)	**EV**	**TS**	**CV**	**Prob**	**Max. Va**	**CV**	**Prob**
None	0.145856	8.773611	15.49471	0.3868	8.513366	14.26460	0.3289
At most 1	0.004808	0.260245	3.841466	0.6099	0.260245	3.841466	0.6099

Source: Researchers' Computation using Eview Statistical Package.
Note: Eigen-value (EV), Trace statistic (TS), Critical Value (CV), Max.Eigen Value (Max-Eigen Value), and Prob (Probability).

Table 4: Long-Run Estimate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NLP	5.632005	1.130005	4.979030	0.0000
C	9.120724	1.045936	8.720154	0.0000

R-squared	0.618370	Mean dependent var	12.90182
Adjusted R-squared	0.601170	S.D. dependent var	5.579576
S.E. of regression	3.479214	Sum squared resid	641.5613

Long-run variance	36.72616

Source: Researchers' Computation using Eview Statistical Package.

Table 3 shows the results of the Johansen co-integration test of the hypothesis. The trace test indicates no co-integration at the 0.05 level; the max-eigenvalue test indicates no co-integration at the 0.05 level (Table 3). Table 4 shows the long-run co-integration result revealed that NLP (non-life premium) significantly positively affects (GDP). The co-efficient further showed that a percentage increment in NLP (Non-life premium) would lead to a 5.63 increase in GDP (Table 4). Table 4 also reveals that non-life premiums could explain GDP at 0.61 or 61%. If an additional variable is added to the model, the dependent variable will still be explained at 0.60 or 60%.

Table 5: Short-run Analysis (Error-Correction Model)

Dependent Variable = D(GDP)				
Variable	**Coefficient**	**Std. Error**	**T-Statistic**	**Prob.**
ECM(-1)	-0.048969	0.058461	-0.837630	0.4065
D(GDP (-1))	0.017214	0.143635	0.119842	0.9051
D(NLP(-1))	6.282307	1.779705	0.035412	0.9719
D(GDP(-1))	0.203533	0.143659	1.416771	0.1631
D(NLP(-2))	2.565906	1.779605	0.144655	0.8856
C	0.088274	0.219446	0.402259	0.6893

Source: Researchers' Computation using Eview Statistical Package.

Table 5 shows the short-run relationship using the error–correction mechanism (ECM). ECM shows the speed of adjustment of variables towards equilibrium. The ECM co-efficient result showed a correct sign at 4%, which measures the speed of adjustment between (GDP) and NLP (non-life premium) at the equilibrium level. The coefficient of ECM is negatively insignificant at the 5% level. This implies that a 4% speed of adjustment towards equilibrium exists and that the relationship (GDP) and NLP (non-life premium) have an automatic mechanism.

Decision: Since our critical value of 4.970 is greater than the tabulated value of 1.703 at a 5% level of significance, then we accept the alternative hypothesis, which states that the relationship between non-life insurance premiums and economic growth in Nigeria is statistically significant.

Hypothesis II Testing

The hypothesis 2 is presented below:

Ho: There is no significant relationship between life insurance premiums and economic growth in Nigeria.

Hypothesis 1 testing model:

$$GDP_t = (\alpha_0 + \beta_1 LP_t + \mu_t) \quad 6$$

GDP_t = Gross domestic product at time t

LP_t = Life premium at time t

μ_t = Disturbance term or white noise at time t

α_0 = Intercept

Table 6: Johansen Co-integration Test

No. CE(s)	**EV**	**TS**	**CV**	**Prob**	**Max. Va**	**CV**	**Prob**
None	0.163652	10.76314	15.49471	0.2265	9.650350	14.26460	0.2359
At most 1	0.020396	1.112786	3.841466	0.2915	1.112786	3.841466	0.2915

Source: Researchers' Computation using Eview Statistical Package.
Note: Eigen-value (EV), Trace statistic (TS), Critical Value (CV), Max.Eigen Value (Max-Eigen Value), and Prob (Probability).

Table 7: Long-Run Estimate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LP	4.251005	5.042306	8.444892	0.0000
C	7.940766	0.825127	9.623687	0.0000
R-squared	0.780219	Mean dependent var		12.90182
Adjusted R-squared	0.776072	S.D. dependent var		5.579576
S.E. of regression	2.640314	Sum squared resid		369.4766
Long-run variance	19.59178			

Source: Researchers' Computation using Eview Statistical Package

Table 6 shows the results of the Johansen co-integration test of the hypothesis. The trace test indicates no co-integration at the 0.05 level; the max-eigenvalue test indicates no co-integration at the 0.05 level (Table 6). Table 7 shows the long-run co-integration result revealed that LP (Life Premium) significantly positively affects GDP. The co-efficient further showed that a percentage

increment in MFBI (Life Premium) would lead to 4.25 increases in GDP (Table 7). Life Premium explained GDP at 0.78 or 78%, and if any additional variable is added to the model, the dependent variable would still be explained at 0.77 or 77% (Table 7).

Table 8: Short-run Analysis (Error-Correction Model)

Dependent Variable = D(FI)				
Variable	**Coefficient**	**Std. Error**	**T-Statistic**	**Prob.**
ECM(-1)	-0.085036	0.085110	-0.999129	0.0228
D(DGP (-1))	0.046039	0.149865	0.307205	0.7600
D(LP(-1))	-1.402306	6.423306	-0.217548	0.8287
D(GDP(-1))	0.288471	0.154573	1.866239	0.0683
D(LP(-2))	-9.017606	8.592306	-1.048431	0.2998
C	0.139902	0.202156	0.692049	0.4923

Source: Researchers' Computation using Eview Statistical Package.

Table 8 shows the short–run relationship using the error–correction mechanism (ECM). ECM shows the speed of adjustment of variables towards equilibrium. The ECM co-efficient result showed a correct sign at 8%, which measures the speed of adjustment between (GDP) and LP (Life Premium) at the equilibrium level (Table 8). The coefficient of ECM is negatively significant at the 8% level (Table 8). This implies that an 8% speed of adjustment towards equilibrium exists and that the relationship (GDP) and LP (Life Premium) has an automatic mechanism.

Decision: Since our critical value of 8.445 is greater than the tabulated value of 1.703 at a 5% level of significance, then we accept the alternative hypothesis, which states that the relationship between life insurance premiums and economic growth in Nigeria is statistically significant.

DISCUSSION OF FINDINGS

This study analysed the contribution of insurance to economic growth in Nigeria. This study uses 28-year time series data (1992 – 2019) to analyse the impact of insurance contribution on Nigerian economic growth. The explanatory variables were the gross premium for non-life insurance and

the gross premium for life insurance during the year under review. The indicator of the economy's growth, gross domestic product, was used as the dependent variable. The findings are discussed below based on the research objectives and research questions.

1. Relationship between Non-life Insurance Premiums and Economic Growth in Nigeria

The co-integration technique established no long-run relationship between (GDP) and NLP (non-life premium). The Fully Modified Least Square regression depicts that NLP (non-life premium) positively affects (GDP). The co-efficient further showed that a percentage increment in NLP (non-life premium) would result in a 5.63 increase in GDP. The ECM co-efficient result showed a correct sign at 4%, which measures the speed of adjustment between GDP and NLP (non-life premium) at the equilibrium level. The coefficient of ECM is negatively insignificant at the 5% level. This implies that a 4% speed of adjustment towards equilibrium exists and that the relationship between GDP and NLP (non-life premium) has an automatic mechanism.

These findings align with the internal funds' investment theory which emphasises that the investment of insurance premiums strongly correlates with the funds available for investment in the economy and expected profits (Kahneman & Tversky, 1979; Edgemand, 1987; Tinbergen, 1939). Hence, non-life insurance is a complement in the long run to the Nigerian economy. These positive and complementary effects support the findings of previous studies on the relationship between Nigeria's non-life insurance premiums and economic growth in Nigeria, including Iyodo, Samuel, Adewole and Ola (2020), Olusegun (2018) and Olayungbo (2015).

2. Relationship between Life Insurance Premiums and Economic Growth in Nigeria

To achieve the objective co-integration technique was used. The Fully Modified Least Square regression depicts LP (Life Premium) has a significant positive effect on FI (GDP). The co-efficient further showed that a percentage increment in (Life Premium) would lead to 4.25 increases in (GDP). The ECM co-efficient result showed a correct sign at 8%, which measures the speed of adjustment between (GDP) and LP (Life Premium) at the equilibrium level. The coefficient of ECM is negatively significant at the 8% level. This implies that an 8% speed of adjustment towards equilibrium exists and that the relationship between GDP and LP (Life Premium) has an automatic mechanism.

These findings align with the internal funds' investment theory which emphasises that increased investment funds (i.e., insurance premiums) result in increased funds for investment to promote economic growth (DeMarzo, Fishman, He & Wang, 2012). Furthermore, the findings are consistence with the findings of Olayungbo (2015) on the relationship between Nigeria's life insurance premiums and the economic growth of Nigeria. However, this contradicts Fashagba's (2018) finding, which showed that life insurance premiums had an insignificant negative relationship with economic growth.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the contribution of insurance to economic growth in Nigeria. The findings suggest that Nigeria's insurance industry contributes positively and significantly to economic growth through life and non-life insurance premiums. This means that the investment of insurance premiums by insurers increases economic activities, thereby inducing the nation's economic growth. The implication is that insurance promotes economic growth by investing insurance (life and non-life) premiums. Hence, the study concludes that insurance promotes economic growth.

Insurers invest the fund accumulated through the premiums paid by the insured to fuel a nation's economic growth. An insurance company acts as the custodian and manager of the fund generated through accumulated premiums paid by the insureds (Kwanga, 2017; Maggioni &Turchetti, 2022; Momoh & Oyetunji, 2021). Insurance companies invest the fund accumulated through insureds premiums in government debentures and stock markets, thereby increasing stock prices for investors' benefit and improving Nigeria's economy (Fadun & Shoyemi, 2018; Igoni, Odi & Nwude, 2020; Okparaka, 2018).

Recommendations

Based on the findings of this study, the following are recommended:

1. The government should formulate and implement economic policies stimulating insurance industry activity, including enforcing statutory insurance and sound corporate governance.

2. The insurance sector regulators' should enhance risk-based recapitalization and supervision that can lead to further mergers and acquisitions.

3. Insurance industry stakeholders should jointly and individually improve the insurance image and market awareness by promoting systematic educational campaigns in the media and among the general public.

4. Insurance companies must ensure regular contact with customers. Managements of life insurance companies must maintain regular contact with policyholders for feedback on their service delivery.

5 Remuneration and commissions of insurance intermediaries must be reasonable to improve their efficiency and performance.

6. Insurers must ensure prompt claims settlement. This will improve the insurance industry's image and insurers' patronage, contributing positively to the nation's economic growth.

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APPENDIX

Appendix 1: Data Presentation

Gross Domestic Product (GDP), Non-life Premium (NLP), and Life Premium (LP)

Year	GDP (Billion)	NLP (Billion)	LP (Billion)
1992	620.10	14.2	38.7
1993	967.20	24.3	57.3
1994	1,237.10	14.3	69.3
1995	1,997.70	27.2	75.0
1996	4,135.81	52.4	82.4
1997	4,300.20	36.1	103.0
1998	4,101.02	32.8	99.4
1999	4,799.96	30.1	104.4
2000	6,850.21	27.2	100.9
2001	7,055.31	39.5	152.5
2002	7,984.38	54.5	190.4
2003	10,136.36	36.1	194.7
2004	11,673.60	32.8	216.8
2005	14,610.88	30.1	22.81
2006	18,564.59	27.2	157.6
2007	20,657.32	39.5	163.2
2008	24,796.24	54.5	152.8
2009	24,794.24	53.7	119.3
2010	33,984.75	40.4	110.6
2011	37,543.65	39.5	116.8
2012	71,713.94	32.57	121.76
2013	80,092.56	17.79	160.68
2014	89,043.62	28.43	239.96
2015	94,144.96	56.14	307.27
2016	101,489.49	124.50	370.87
2017	113,711.63	135.00	481.14
2018	127,736.83	126.58	580.69
2019	144,210.49	75.84	771.13

Source: Central Bank of Nigeria (CBN) Statistical Bulletins (1992 - 2019), National Bureau of Statis