Innovations

Relationship between Profitability in Non-Life Insurance Business Sector and Economic Growth in Nigeria; An ARDL Approach

Uduakobong Inyang (Ph.D.); Queensley C. Chukwudum (Ph.D.) & Douglas A. Adu (Ph.D.)

[1,2] Department of Insurance and Risk Management, University of Uyo, Uyo, Akwa Ibom State, Nigeria

[3]Accounting Department, Nottingham University Business School, University of Nottingham, Jubilee Campus, Nottingham, UK

Abstract

Literature on the relationship between economic activities in the insurance sector and economic growth mainly focus on the financial intermediation role of the sector. However, the relationship between the financial ratios which are key indicators of profitability in the sector and economic growth is yet to be addressed. This study thus examined the relationship between profitability, measured by combined operating ratio, loss development ratio, return on equity, market share, and economic growth in Nigeria. Data for the period 1990 to 2021 from 39 non-life insurance firms was used in the study and Autoregressive distributive lag error correction (ARDL-EC) model was used for data analysis. The results indicated existence of a long run relationship between the profitability indicators and economic growth. Precisely, the relationship between return on equity as well as market share with economic growth were found to be significantly negative while the relationship between loss development ratio and economic growth was found to be significantly positive. Combined operating ratio did not exhibit any significant relationship with economic growth. It was concluded that, apart from loss development ratio, other profitability indicators in the sector did not support economic growth in Nigeria. Based on the findings, adoption of more financial prudential measures to strengthen financial performance of the sector, sustained prompt payment of genuine claims and increase in the rate of policy renewals instead of new policy on boarding were recommended.

Keywords: *Profitability; Non-life insurance; Combined operating ratio; Loss development ratio; Return on equity; Market share; Economic growth; ARDL*

1. Introduction

Insurance industry supports economic growth of nations (Peleckienė*et al.*, 2019). Typically, the sector is found to support economic growth as the premium revenue generated by the sector is typically channeled into investment in the production sector. Practically, the sector mobilizes funds from the surplus economy in the form of premium through of sales of its products and channel same to the deficit economy, specifically the production sector, as loans. The borrowed funds are then used to stimulate economic activities with a knock-on effect on the economy of a nation. In this regard, the insurance sector fulfils it role of financial intermediation. Ideally, the life and non-life products sold account for the premium income of the sector which supports the sector distribute the fund for the stimulation of the economy for growth.

Consequently, there are copious empirical evidence on the relationship between the insurance sector and economic growth and these studies measure the contribution of insurance sector to economic growth using the gross premium insurance, penetration rate or insurance density as proxy for the contribution of the insurance industry (Zouhaier 2014). Notably and interestingly, the sound financial management of a corporate entity is pivotal to both its survival and sustainable contribution to the economy. This is supported by Greenwood and Jovanovic (1990) study that described the endogeneity of financial structure as well as sound financial management and economic performance and further demonstrates that by pooling individual investment risk and eliminating uncertainty on the rate of return on investment, the financial structure captured by the indicators could stimulate economic growth. Thus, it can be argued that an industry like insurance will not only support economic growth through its traditional financial intermediation role but equally through its financial performance viz-a-viz its profitability dispositions. Meanwhile, extant literature on the contribution of insurance sector to economic growth concentrates on the financial intermediation role of the sector (Ward and Zurbruegg, 2000; Webb*et al.*,2002; Kugler and Ofoghi, 2005;Kjosevski, 2011; Zouhaier, 2014; Pradhan et al., 2016; Fashagba, 2018; ŞENOL, Zeren, &Canakci, 2020). However, studies that examine the effect of profitability in insurance sector on economic growth are scarce.

In contributing to literature in the area, this study thus examines the relationship between profitability in insurance sector and economic growth in Nigeria. The study uses non-life (general business) insurance sector data to evaluate the relationship between profitability in the sector with combine operating ratio, loss development ratio, return on equity, market share as proxies (*see*; Quiroga-Garcia & Pérez, 2024; Wongsuwatt et al., 2020; Bhattarai, 2020; Ahmad &Habibah, 2021) and economic growth with real gross domestic product as proxy in Nigeria. The findings of this study will support the understanding of the contribution of performance of firms to

economic growth which will further inform prudential policies and practices to ensure sustainable economic growth.

2. Review of Relevant Literature

2.1. Theoretical Review

The theory adopted for this study is monetary circuit theory. This theory was officially presented by Augusto Graziani in 1989 following an earlier outline in 1984 (Bellofiore& Passarella, 2016). This is a post-Keynesian theory which holds that money is created endogenously by activities of the financial sector, comprising banking and non-banking institutions, rather than exogenously by central bank lending. Thus, it is sometimes referred to as the theory of endogenous money, circiutism or circulation approach (Berr&Monvoisin, 2023). Furthermore, the theorist argues that credit money by commercial banks and non-banking financial institutions like insurance firms is the primary source of creating money in modern economy rather than money derived from monetary system that is the central bank. The theorist draws the argument fundamentally from the commoditization and exchangeability characteristics of money which creates the circuit process even though it does not claim that all money is credit money. Central to the circuit process is the complementary functions of banks and non-banking financial intermediaries in originating money through the sales of their products in the form of financial services like insurance policies in the case of insurance and making the generated money circulate in a manner beneficial to all economic agents. The effect is that those financial systems where money circulates in circuitries support availability of funds to finance investments which drives economic growth. Undoubtedly more credit money will be available to facilitate the circuit process when prudential measures are engaged in the management of firms resulting in positive effect on financial performance of firms and this constitutes the rationale for adopting this theory in this study.

2.2. Empirical Review

Zouhaier (2014) used panel data for the period 1990-2011 from twenty -three Organization for Economic Cooperation and Development (OECD) countries to examine the link between the insurance industry and economic growth. Results from the static panel data model adopted for data analysis, revealed positive influence of non-life insurance, with insurance penetration rate as one of the measures, on the growth of the economies. Conversely, insurance density was found to negatively influence the growth of the economies. A similar study which was conducted by Ward and Zurbruegg (2000) investigated the dynamic association in the short - term and long - term between economic growth and the insurance sector development in nine OECD economies. Cointegration method was used to analyse time series data

of real gross domestic product and total gross premium as proxies for economic growth and insurance sector development for the period 1961 to 1996. The study was carried out on a sample of 9 OECD nations by conducting a cointegration analysis between 1961 to 1996. Findings revealed that insurance had significant influenced on economic growth of certain nations and non-significant impact on some. It was concluded that the findings of variations in the impact on country basis will be influenced by conditions such as regulatory, legal, cultural environment and the influence of moral hazard on the insurance market of the economies that were considered.

A Republic of Macedonia study by Kjosevski (2011) on the influence of insurance on economic growth for using data for the period 1995 to 2010 and ordinary least square for data analysis found a positive relation between insurance sector development and economic growth. employing insurance penetration as proxy for insurance development. Furthermore, it was discovered that the positive effect was driven by the non-life insurance sector while the life insurance sector was found to negatively influence economic growth. Similarly, Webb *et al.* (2002) investigated the contribution of life insurance firms and non-life insurance firms with total gross premium as proxy to the growth of fifty-five countries for the period 1980-1996. The result of the multiple regression analysis technique adopted in the study indicated that life insurance significantly contributed positively to economic growth contribution while non-life insurance was not reported to significantly contribute to economic growth of the fifty-five countries.

Kugler and Ofoghi (2005) examined on the influence of the insurance market size measured by total gross premium on the growth of United Kingdom's economy for the period 1966 – 2003. Granger causality test that was used in the data analysis indicated the existence of causal link between life insurance market size and United Kingdom's economic growth. Also, the results indicated no causal link between life insurance market and growth of the United Kingdom economy. ŞENOL, Zeren, &Canakci, (2020) conducted a research on the relationship between insurance business and economic growth using data from 36 countries for the period 1985 - 2018. Results of the panel causality test used for data analysis indicated that there is a mutual causality between life insurance business and economic growth and a one-way causality from economic growth to the non-life insurance business. It was therefore concluded that when compared to non-life insurance, life insurance business contributes more to the economic growth with the long term and regular resources it provides.

An Association of South East Asian Nations (ASEAN) Regional Forum (ARF) countries study by Pradhan et al., (2016) investigated Granger causal relationships between insurance market penetration, broad money, stock-market capitalization, and economic growth, using panel data covering the period 1988–2012. Applying a

multivariate framework, it was discovered that all the variables were cointegrated and a network of causal connections, including short-run bidirectional causality between insurance market penetration and economic growth was revealed. Establishment of a sound regulatory framework for a country's insurance industry, and introduction of professional education and certification of insurance personnel to ensure adherence to global best practices and standards were the key recommendation.

Peleckienė et al.,(2019) examined the relationships between insurance and economic growth in the European Union countries who are members of the European Insurance Federation. Annual industry level secondary data for the period 2004 to 2015 was used in the study and two data analysis methods correlation and Granger causality test were used in exploring relationships and causality. Results from the correlation test indicated a positive statistically significant relationship between insurance penetration and economic growth in Luxembourg, Denmark, Netherlands and Finland. However, a negative statistically significant relationship was found in Austria, Belgium, Malta, Estonia and Slovakia. Granger causality test indicated a unidirectional causality running from GDP to insurance in Luxembourg and Finland and a unidirectional causality from insurance to GDP in Netherlands, Malta and Estonia. A bidirectional causality was reported between the variables in Austria while the analysis presented the absence of causality between insurance and economic growth in Slovakia.

A study conducted by Ul Din, Abu-Bakar &Regupathi, (2017) examined the relationship between insurance and economic growth in 20 developing and developed countries for the period 2006–2015 using panel data on net written premiums, insurance penetration and density as proxies for insurance activities and Real GDP as the measure of economic growth. Results from the Hausman statistics fixed effect model used in data analysis showed a positive and a significant relationship between life insurance, measured through net written premiums and density, and economic growth for developed countries while the same is true for developing countries when insurance is measured through penetration proxy. The results also revealed that non-life insurance has statistically significant relationship with economic growth for developing countries for all three proxies, whereas, in case of developed countries, the results were only significant when insurance density was used as a proxy for insurance. Moreover, the role of non-life insurance was found to be more significant for developing countries as compared to developed countries.

A Nigerian study by Fashagba, (2018) investigated the relationship between life and non-life insurance premium and economic growth in Nigeria using secondary data and Ordinary Least Square Regression for data analysis. The results indicated existence of a non-significant positive relationship between non-life insurance and

economic growth and a significant negative relationship between life insurance and economic growth. A Similar study by Iyodo, Samuel &Inyada, (2018) explored the effect of insurance industry performance on economic growth in Nigeria. Time series data for the period 1988 to 2014 were collated and analysed using ARDL bound test in the study. The findings of the study revealed that non-life insurance penetration had a positive and substantial effect on the economic growth in Nigeria during the period. Also, Fadun&Shoyemi (2018) assessed the contribution of insurance investment funds to economic growth in Nigeria using time series data for the period 2000 to 2015 with total insurance investment and Gross Domestic Product as proxies respectively. Pearson product moment correlation coefficient, PPMCC, and ordinary least square (OLS) method were used for data analysis. The findings from the PPMCC indicated a strong positive correlation between total insurance investment and economic growth and the result from the OLS estimation showed a significant positive relationship between total insurance investment and economic growth.

3. Methodology

3.1 Data

Adopting the *Ex-post Facto* research design, this study used secondary data from 1990 to 2021 covering the period of 31 years, which was informed by availability of data. Time series data on real gross domestic product (RGDP) was extracted from the central bank of Nigeria annual statistical bulletin and data for combined operating ratio (COR), loss development ratio (LDR), return on equity (ROE) and market share (MS) were obtained from Nigeria insurance digest and the annual financial report of a total of 39 insurance companies operating as general business underwriters (non-life insurance companies) in Nigeria. A plot of all the variables are displayed in Figure 1. The variables COR and LDR tend to move together, MS seems to be the most volatile while ROE generally maintains a substantive level of stability.

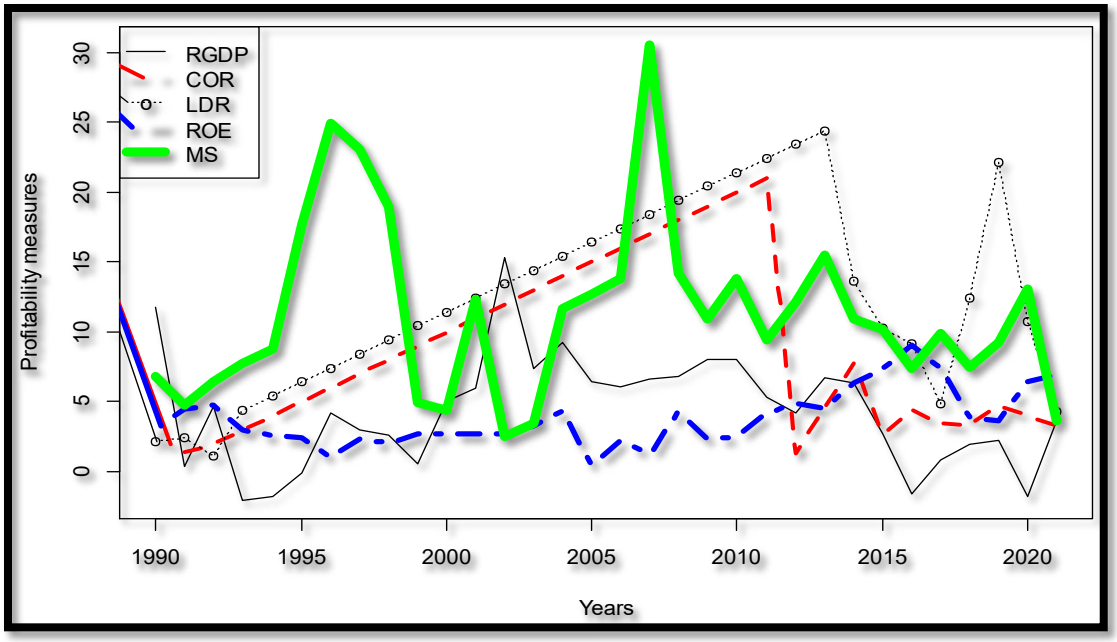

Figure 1: The dynamics of RGDP, COR, LDR, ROE and MS across the years

3.2 Estimation Technique and Model Specification

Descriptive statistics was conducted to understand the nature of the data most specifically its central tendency and dispersion characteristics as well as the normality of the series with test for skewness and kurtosis. Phillip-Perron test was used to examine the unit root characteristics of stationarity of the series. Augmented Dicken Fuller ADF bound test was employed in ascertaining the existence of a long run relationship which indicate cointegration or otherwise of the variables used in the study. The result of the ADF bound test informed the adoption of Autoregressive Distributive Lag Error correction (ARDL-EC) model was used to obtain the estimates that explains the impact of the financial performance indicators on economic growth as well as the error correction factor. The ARDL-EC was specified thus:

$$\Delta RGDP_t = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta RGDP_{t-1} + \sum_{i=1}^{n} \beta_2 \Delta COR_{t-1} + \sum_{i=1}^{n} \beta_3 \Delta LDR_{t-1} + \sum_{i=1}^{n} \beta_4 ROE\Delta_{t-1} + \sum_{i=1}^{n} \beta_5 \Delta MS_{t-1} + \sum_{i=1}^{n} \beta_6 \Delta RGDP_{t-1} + \sum_{i=1}^{n} \beta_7 \Delta COR_{t-1} + \sum_{i=1}^{n} \beta_8 \Delta LDR_{t-1} + \sum_{i=1}^{n} \beta_9 \Delta ROE_{t-1} + \sum_{i=1}^{n} \beta_{10} \Delta MS_{t-1} + \varphi_1 ECM_{t-1} + u_t \quad (1)$$

Equation (1) is the ARDL EC model that estimates the influence of the financial performance indicators on the real GDP, a measure of economic growth. In equation (1) Δ is the first difference operator, u_t is the stochastic term and RGDP, COR, LDR,

ROE and MS are the real gross domestic product, combined operating cost, loss ratio, return on equity and market share respectively. Also, β_1, β_2, β_3, $\beta_4$and $\beta_5$captured the short run estimates while $\beta_6, \beta_7, \beta_8, \beta_9$and β_{10} represent the long run relationship while $\varphi_1$is the coefficient of the error correction model, ECM. A statically significant negative φ_1 will indicate the speed of convergence to long run equilibrium if a short run disequilibrium occurs between the dependent and independent variables.

The combine operating ratio, COR, which measures the overall profitability of non-life insurance industry was derived by adding the total annual loss ratio to the total annual expense ratio minus the total annual investment income ratio of the general business insurance sector. The loss development ratio, LDR, which expresses the profitability and sustainable growth of non-life insurance firms in the industry was obtained by finding the percentage difference between the total annual claims payout and total annual premiums collected by the non-life insurance sector. Return on equity, ROE, captures the shareholders equity influence on the profitability of general business insurance firms and it was calculated by dividing the company's net income by its average shareholders' equity. Market share which represents the growth and performance of the non-life insurance sector is the non-life insurance proportion of the insurance market in Nigeria and it is derived by dividing the total annual premium income of general business insurance sector by the total annual premium of insurance industry in Nigeria.

Furthermore, diagnostic tests for heteroscedasticity, autocorrelation, multicollinearity and normality of the errors were conducted with Breusch-Pagan-Godfrey test Lagrange multiplier (LM) test for auto correlation Variance inflation factor (VIF) for multicollinearity and Jacque-Bera test for Normality. Stata 13 data analysis software was used in conducting the statistical analysis.

4. Presentation of Results and Discussion of Findings

4.1 Descriptive statistics of the Variables

Table 1 presents descriptive statistics of the variables. The mean of real GDP of 4.32 with standard deviation of 4.01 indicates high variability of the real GDP over the period which can further be seen in the minimum and maximum real GDP of -2.03 and 15.33 respectively. The combined operating ratio, COR, with 8.53 and 6.12 as mean and standard deviations as well as 1.25 and 20.97 as minimum and maximum ratios indicates variability in the yearly ratios. Furthermore, the mean development ratio of 12.35 and the minimum and maximum values of 1.19 and 24.4 respectively show the financial instability of the entire sector as all the values are far above the financial stability thresh-hole of 40% - 60%. The mean return on equity was 3.79 even though the ROE had fallen to as low as 0.44 and had equally risen to as high as 9.04 within the period of study. General insurance business accounted for 11.34% of

the insurance market on the average under the period of study with the lowest market share of 2.49% and the highest market share of 30.51%. The kurtosis estimates for all the variables indicated that none of the variables was leptokurtic. The skewness values showed that all the variables where positively skewed and the distributions were almost symmetrical. At $p<0.05$ level of significant all the variables were observed to be normally distributed.

Table 1 - Descriptive Statistics of Variables

Variable	Mean	Std dev.	Min	Max	Kurtosis	Skewness	P-Value
RGDP	4.32	4.02	-2.04	15.33	0.39	0.25	0.33
COR	8.53	6.12	1.25	20.97	0.15	0.09	0.09
LDR	12.35	6.78	1.10	24.40	0.07	0.70	0.16
ROE	3.79	2.03	0.44	9.04	0.54	0.04	0.11
MS	11.34	6.40	2.49	30.51	0.07	0.08	0.14

4.2 Unit Root Test

Phillip-Perron unit root test was adopted to test for stationarity of the time series data. Table 2 presents the test results. The test results indicate that RGDP was stationary at level, I (0), while COR, LDR, ROE and MS were stationary after first differencing, I (1). The different levels of stationarity of the variables justify the use of Autoregressive Distributive Lag, ARDL, method of data analysis to ascertain the relationship between the dependent and independent variables.

Table 2 - Phillip-Perron Unit Root Test

Variable	Test-Statistics	1% critical value	5% critical value	10% critical value	I(d)	P-Value
RGDP	-4.008	-4.325	-3.576	-3.226	I (0)	0.01
COR	-8.023	-4.334	-3.580	-3.228	I (1)	0.00
LDR	-5.305	-4.334	-3.580	-3.228	I (1)	0.00
ROE	-9.795	-4.334	-3.580	-3.228	I (1)	0.00
MS	-9.116	-4.334	-3.580	-3.228	I (1)	0.00

4.3Autoregressive Distributive Lag (ARDL) Bound Test

Table 3 presents the ARDL bound test results. The test estimates indicate that the F-Statistics of 14.326 is greater than the upper bound, I (1), and lower bound, 1 (0),

critical values at 10% and 5% significance levels. This result confirms the existence of a long run relationship between the performance indicators of the non-life insurance sector and economic growth in Nigeria. The confirmation that the variables are bound by a long run relationship shows that the variables are cointegrated making ARDL error correction (EC) model the most appropriate estimation model for the study.

Table 3 - ARDL Bound Test Result

Test Statistics	**Value**	**K**
F-Statistics	14.326	4
Critical Value		
Significance	I (0)	I (1)
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

4.4Autoregressive Distributive Lag (ARDL) Test Results and Discussion of Findings

Table 4 presents the ARDL test results as long run and short run estimates. The long run estimates coefficient for COR of -0.58 with p-value of 0.06 indicates that the effect of COR on RGDP is not statistically significant on the long run at 5% level of significance. This result shows that a percentage increase in the COR will result in a non-significant 0.58 decrease in the RGDP. However, on the short run the coefficient of COR estimated as 1.29 with 0.04 as the p-value indicates that the coefficient of COR is statistically significant at 0.5 level of significance in the short run. The positive short run significant and the negative long run non-significant relationships between COR and RGDP indicates that the positive impact of COR on RGDP fades out in the long run indicating that COR as a performance indicator is detrimental to economic growth in a long term. The finding contradicts Lee, (2014) that reported a significant positive influence of Operating ratio on GDP in Taiwan.

The coefficient of 1.05 with p-value of 0.00 for LDR shows a positive and significant long run relationship between LDR and RGDP at 5% level of significance. The result indicates that a percentage increase in LDR led to a significant 1.05 increase in the RGDP in the long run. The short run estimate indicates a negative significant effect of LDR on RGDP. The results indicate that even though LDR is a disincentive to economic growth in the short run its effect in the long run incentivizes economic growth. This result suggests that prompt payment of genuine claims by non-life insurance supports economic growth. An industry level study by Wongsuwatt et al.,

(2020) found significant negative relationship between loss ratio and the profitability of non-life insurance companies and this is contrary to the findings of this study as insurance company must use prudential measures in managing risk portfolios to boost profitability.

With a coefficient of -2.42 and corresponding p-value of 0.00 at 5% level of significance ROE demonstrated a negative significant relationship with RGDP in the long run. The estimates showed a significant 2.42 decrease in RGDP when ROE increases by one percent. As the short run estimate indicates a positive and significant relationship between ROE and RGDP it means that the economic growth supporting effect of ROE in the short run diminishes in the run to the point that it effects negatively impacts on economic growth. This result shows that ROE is useful to economic growth in the short run but not in the long run. A contrary result of a positive and significant relationship between return on equity and economic growth in Nigeria was reported by Acha& Akpan, (2019).

Market share MS had a negative significant long run relationship with RGDP with a coefficient of -0.53 with 0.00 p-value at 5% level of significance. The result indicates that if non-life insurance market share increased by 1% then the RGDP reduced by 0.53 in the long run. The relationship between MS and RGDP in the short was positive and significant. This is indicative of the economic growth supportive effect of MS in the short run which wanes over time to a significant negative influence on the long run. Recall that non-life insurance typically provides yearly cover for risk with a possibility of renewal which does not qualify as long-term cover when compared to life insurance contracts. Consequently, the result may reflect the effect of the short duration of cover provided by general business insurance and associated premium income and claims payment patterns. This finding contradicts Omoke (2012) , that reported a significant positive relationship between market share of the insurance business and economic growth in Nigeria.

RGDP (L1) which is the error correction term is negative and statistically significant which shows that RGDP, COR, LDR, ROE and MS are cointegrated. This means that a reduction in the financial performance of the non-life insurance sector will negatively impact the RGDP. The absolute value of the coefficient of the error-correction term indicates that about 2.18 of the disequilibrium in the real GDP is offset by short-run adjustment annually. This implies that a self-correction of the system at the speed of 18% will occur to ensure long run equilibrium in the event of any short run disequilibrium raising concerns for reduction in existing disequilibrium to maintain long term equilibrium. The R-squared estimate of 0.91 indicates that the model fitted significantly and further shows that the financial performance indicators used as the independent variables in the model explained at least 91 percent of the variation in the dependent variable RGDP. Furthermore,

Durbin Watson estimate of 2.56 which is greater than the R-squared estimate of 0.91 indicates that the estimates produced by the model used in data analysis were not spurious and are equally not affected by autocorrelation.

Table 4 – ARDL Test Results

Long-run Estimates

Variable	**Coefficient**	**S. E**	**P-value**
COR	-0.58	0.23	0.06
LDR	1.05	0.20	0.00
ROE	-2.42	0.39	0.00
MS	-0.53	0.06	0.00
Constant	24.19	4.25	0.01
RGDP = 24.19 - 0.58 COR + 1.05 LDR -2.42 ROE -0.53 MS			
Short-run Estimates			
Variable	**Coefficient**	**S. E**	**P-value**
RGDP (L1)	-2.18	0.31	0.00
DCOR	1.29	0.42	0.04
DLDR	-1.46	0.35	0.01
DROE	3.22	0.78	0.02
DMS	0.76	0.15	0.01

Durbin-Watson stat = 2.56, R-squared = 0.91, Adjusted R-squared = 0.75

The output for Breusch Pagan Godfrey (B-P-G) test of Heteroscedasticity, Lagrange multiplier (LM) test for serial correlation and Jacque-Bera test of normality are presented in table 4. The p-values of the estimates of the tests are all greater than 5% level of significance indicating the absence of heteroscedasticity and serial correlation and that the error term of the model was normally distributed.

Table 4. Heteroscedasticity, Serial Correlation and Normality Test Results.

Test	**F-Statistics**	**P-Value**
Heteroscedasticity Test: B-P-G	0.85	0.57
Serial correlation: LM TEST	0.15	0.70
Normality Test: Jacque-Bera statistic.	1.39	0.50

5. Conclusion

This study used time series data for the period 1990-2021 from 39 non-life insurance businesses to evaluate the relationship between profitability in non-life insurance business sector and economic growth in Nigeria. Specifically, the study examined the relationship between combine operating ratio, loss development ratio, return on equity, market share as proxies for profitability of non-life insurance business sector and real gross domestic product as measure of economic growth in Nigeria. Autoregressive distributive lag, ARDL, model used in analyzing the data indicated existence of a long run relationship between the profitability indicators and economic growth. Precisely, the relationship between combined operating ratio and economic growth was positive and significant on the short run and negative and non-significant on the long run. Furthermore, the short run relationship between return on equity and market share with economic growth was significantly positive on the short run and significantly negative on the long run. Also, the relationship between loss development ratio and economic growth was negative and significant in the short run as well as positive and significant on the long run. It was therefore concluded that the financial performance of non-life insurance sector had short term supporting effect and long-term detrimental effect on economic growth of Nigeria except for loss development ratio which exhibited a reverse relationship.

Based on the findings,adoption of more financial prudential measures to strengthen financial performance of the sector, sustained prompt payment of genuine claims and increase in the rate of policy renewals instead of new policy onboarding by non-life insurance companies were recommended. Future studies can examine the effect of individual portfolios of non-life insurance using total gross premium as proxy on economic growth as the findings of such studies will influence policy and practice for efficiency of the sector.

References

1. *Acha, I. A., & Akpan, S. O. (2019). Capital market performance and economic growth in Nigeria. Noble International Journal of Economics and Financial Research, 4(2), 10-18.*
2. *Ahmad, A. A., &Habibah, S. N. (2021). Market Structure and Determinants of Firm Profitability on General Insurance Industry in Indonesia. Studies in Business and Economics, 16(1), 26-41.*
3. *Bellofiore, R., & Passarella, M. V. (2016). Introduction: the theoretical legacy of Augusto Graziani. Review of Keynesian Economics, 4(3), 243-249.*
4. *Berr, É., &Monvoisin, V. (2023). Monetary Circuit Theory, Stock-Flow Consistent Modeling and Parguez's Analysis. International Journal of Political Economy, 52(3-4), 317-327.*

5. *Bhattarai, B. P. (2020). Factors influencing profitability of insurance companies in Nepal. International Journal of Management, 11(9).*
6. *Fadun, O. S., &Shoyemi, O. S. (2018). Insurance investment funds and economic growth in Nigeria: An empirical analysis (2000–2015). International Journal of Development and Management Review, 13(1).*
7. *Fashagba, M. O. (2018). The impact of insurance on economic growth in Nigeria. Afro Asian Journal of Social Sciences, 9(1), 1-10.*
8. *Fernández, S. S., Quiroga-Garcia, R., & Pérez, I. M. M. (2024). Studying the relation between efficiency and profitability in the non-life insurance market. Revista de MétodosCuantitativos para la Economía y la Empresa, 1-20.*
9. *Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. Journal of political Economy, 98(5, Part 1), 1076-1107.*
10. *Iyodo, B. Y., Samuel, S. E., &Inyada, S. J. (2018). Effect of insurance industry performance on economic growth in Nigeria. International Journal of Business and Finance Management Research, 6(3), 22-33.*
11. *Kjosevski, J (2011). The Impact of Insurance on Economic Growth: The case of Republic of Macedonia.Stopanska Banka AD, 4(3):212-126.*
12. *Kugler, M. and Ofoghi, R. (2005). Does Insurance Promote Economic Growth? Evidence from the UK. University of Southampton Working Paper, 12-20. Retrieved from www.repec.org.*
13. *Lee, C. Y. (2014). The effects of firm specific factors and macroeconomics on profitability of property-liability insurance industry in Taiwan. Asian Economic and Financial Review, 4(5), 681-691.*
14. *Omoke, P. C. (2012). Insurance market activity and economic growth: Evidence from Nigeria. Acta Universitatis Danubius. Œconomica, 8(2), 34-47.*
15. *Peleckienė, V., Peleckis, K., Dudzevičiūtė, G., & K Peleckis, K. (2019). The relationship between insurance and economic growth: evidence from the European Union countries. Economic research-Ekonomskaistraživanja, 32(1), 1138-1151.*
16. *Pradhan, R. P., Arvin, B. M., Norman, N. R., Nair, M., & Hall, J. H. (2016). Insurance penetration and economic growth nexus: Cross-country evidence from ASEAN. Research in International Business and Finance, 36, 447-458.*
17. *ŞENOL, Z., Zeren, F., &Canakci, M. (2020). The relationship between insurance and economic growth. Montenegrin Journal of Economics, 16(4).*
18. *Ul Din, S. M., Abu-Bakar, A., &Regupathi, A. (2017). Does insurance promote economic growth: A comparative study of developed and emerging/developing economies. Cogent Economics & Finance, 5(1), 1390029.*
19. *Ward, D. and Zurbruegg, R. (2000). Does Insurance Promote Economic Growth – Evidence from OECD Countries. The Journal of Risk and Insurance, 67(4): 489-506.*

20. *Webb, I. P., Grace, M. F., & Skipper, H. D. (2002). The Effect of Banking and Insurance on the Growth of Capital and Output. Center for Risk Management and Insurance Working Paper 02-1. rmictr.gsu.edu*
21. *Wongsuwatt, S., Thaothampitak, W., Kongjam, N., Ruttanapibool, J., Apacuppakul, R., &Koedkaeo, T. (2020). The influence of loss ratio on profitability of non-life insurance companies in Thailand: the moderating roles of company type. Journal of Community Development Research (Humanities and Social Sciences), 14(1), 46-60.*
22. *Zouhaier, H. (2014). Insurance and Economic Growth. Journal of Economics and Sustainable Development, 5(12): 102-112.*