

Insurance Development and Economic Growth: An Examination of the Non-Bank Financial Institutions in Nigeria

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Abstract

This paper determined the effect of the development of non-bank financial institutions on Nigeria's economic growth. Time series data, spanning a period of forty-one years, from 1970-2010 obtained from the Central Bank of Nigeria statistical bulletin were tested for stationarity. To measure the relationship and the impact of the explanatory variables on economic growth, the paper adopted a generic regression equation. Results suggest that total trade; investments of the insurance sector in financial asset; and insurance premiums have a high, positive and direct relationship with economic growth. Overall, our findings revealed that the focal variables insurance sector investment in financial assets; and insurance sector premiums significantly contribute to the economic growth of Nigeria.

Keywords: economic growth, insurance, financial assets, premium

1. Introduction

Choosing between competing sectors of the economy, firms and investments projects is a key role of financial intermediaries. If financial intermediations are carried out under restrictive regulations, then this "choice" is affected by how the regulations influence the enticements of the intermediary. Even in deregulated financial markets, intermediaries hold a part in "choosing" between differing demands because the distribution of investments based on price is not continuously probable. Financial intermediation has been inferred to be an encouragement to economic growth to a great deal. Opinions advanced as to why financial intermediation plays a vital part in economic growth include:

- Financial intermediation economizes the costs associated with mobilizing savings (Boyd and Smith, 1992; Sirri and Tufano, 1995), and therefore increases capital accumulation.
- Financial intermediaries evaluate firms, managers and market conditions in order to reallocate capital to its best use (Boyd and Prescott, 1986; Greenwood and Jovanovic, 1990; and Allen, 1990).
- Financial intermediaries monitor firms and exert control to overcome agency problems (Townsend, 1979; Gale and Hellwig, 1985; and Boyd and Smith, 1994).
- Financial intermediation makes it possible to diversify investment risks, which enhances output and economic growth (Gurley and Shaw, 1955; Greenwood and Jovanovic, 1990; and Acemoglu and Zilibotti, 1997). Under this view, differences in the quantity and quality of services provided by financial institutions partly explain why countries grow at different rates (Goldsmith, 1969; and Shaw, 1973).
- Financial intermediaries can evaluate, finance, and monitor potential entrepreneurs in their innovative activities. In integrating financial development into an innovation-based growth models, King and Levine (1993) suggest the relationship between finance and growth is likely to be dynamic and endogenous.

Burdened with part of shield establishment, insurance companies could affect economic growth through the channels of marginal productivity of capital and savings rate. Through indemnity, insurance companies underwrite the ones who suffer a loss and steady the financial situation of individuals and firms with likelihood of transfer of different kinds of risks to insurance companies. Given this, risk hostile economic units are more tempted to buy goods and

services, especially those of higher value. In this way, insurance endures demands or consumptions for goods and services which boost production and employment. This result in a multiplier effects on the economy. Without devices for pooling and transfer of risk which insurance companies provide, a considerable part of the economic happenings would not take place and such positive effects on over-all economic wellbeing would not have been attained. In other words, by fashioning an environment of superior security, insurance nurtures investment and invention or economic growth.

The function of providing insurance coverage could affect economic growth through saving rate channel in a mixed way. On one side, insurance shield contributes to greater security which makes individuals and firms less cautious. Consequently, they could lower their safety savings. On the other side, by offering various life insurance products that combine risk shield and saving aids, insurance companies inspire long-term savings.

The importance of the insurance industry in the development process of a country has been acknowledged since 1964: a comprehensive insurance sector represents a crucial feature of a proper economic system, contributing to economic advance and nurturing high employment (UNCTAD, 1964). A truncated and irregular development of insurance, especially in the non-life lines of business, upsurges the level of risk in the economic choices taken by individuals and firms, impeding, in turn, economic activity. If insurance did not occur, a large proportion of the rest of the economy would not exist either. Without a dependable mechanism for mutualization, assembling and relocating risk, a large portion of the economic activity would simply not take place.

The insurance market, both as financial intermediary and as benefactor of risk transfer and indemnification, may inspire economic growth by allowing dissimilar risks to be managed more efficiently, encouraging the buildup of new capital, and by assembling domestic savings into fruitful investments (Marco, 2006). The insurance activity, both as a provider of risk transfer and indemnification and as an institutional investor, may contribute to economic growth in the following ways (i) encouraging financial firmness, (ii) enabling trade and commerce (the most ancient insurance activity), (iii) activating domestic savings, (iv) permitting dissimilar risks to be managed more competently inspiring the accumulation of new capital, (v) nurturing a added effectual apportionment of domestic capital, and (vi) helping to reduce or mitigate losses (Marco 2006; citing Skipper, 1997). In addition, there are likely to be diverse effects on economic growth from life and non-life insurance (property / liability) given that these two types of cover protect the households and corporations from unlike risks that affect the economic activity in different ways. Likewise, because life insurance facilitates long-term investments rather than short-term investments as it is the case of non-life insurance.

Nevertheless, the influence of insurance activity on economic growth has remained unstudied extensively as the role of the banking sector and the stock market on economic growth. In this framework, the chore of this paper is to weigh whether insurance market activity stimulates economic growth. Even though it is recognized that insurance activity not only would stimulus economic growth as a provider of risk and indemnification but also as an institutional investor by mobilizing savings, this study weighed the consequence of insurance on economic growth only as a provider of risk and indemnification. The rest of the paper is arranged thus; section two reviews the literature while the methodological framework is the concerns of section three. The findings are discussed in section four and the paper is concluded in section five.

2. Review of Related Literature

2.1 Concept, Development and Types of Insurance

According to Adebisi (2006) insurance is a thorny economic and social benefit for the management of risks to life and property. Agbaje (2005) opines that insurance as the business of assembling funds to pay compensation to the insured or assured (i.e. the policy holder) on the incidence of a specified event in exchange for a periodic consideration known as premium. Dickson (1960) is of the view that insurance is premeditated to guard the financial welfare of an individual, company or other entity in case of unpredicted loss. Gollier (2003) argue that insurance encompass the transmission of risk from an individual to a group, allotting losses on an impartial basis by all members of the group. Vaughan (1997) expresses insurance as a plan with a company in which regular amounts of premium is paid in agreement to pay the costs. Awch (2008) opines that insurance eliminates risk of loss for the insureds by the mixture of a contribution of many people in the same position to a common fund, out of which an ill-fated may be indemnified of losses. Thus, insurance apparatus is an indispensable process to handle and control risk in a balanced and erudite manner. An effectual insurance industry offers vital and exceptional reimbursements for households, enterprises, commerce, government, and the financial sector. Private households profit through personal lines of insurance such as life, health or property insurance. Insurances enumerate the penalties of

risk-taking by setting insurance premiums given an individual's risk (risk pricing). This allows insureds to pact reasonably with risks and averts them from perversely taking risky actions/decisions.

Insurance help the economic agents to avoid and condense losses. Insurance encourages and soothes entrepreneurship, production and commerce (CEA, 2006). Accordingly, insurance allows industry managers to meet the risk of impairment to production amenities, which increases their preparedness to invest. Besides, insurance develops the trustworthiness of economic agents. Trade and commerce are enabled when transportation, payment and goods are insured. Consumers on the other hand are invigorated to purchase large-expense items, such as automobiles or real estate. Insurance consequently serves as a "lubricant of commerce" nurturing consumption, entrepreneurship and innovation. Likewise, property/liability insurers can lessen costly disruption or even the entire bankruptcy of firms in case of unanticipated losses. They can minimize follow-up costs of financial distress. This helps to circumvent considerable capital waste and soothes business and the economy (CEA, 2006).

Insurances help to condense government spending meaningfully. Insurers can in part substitute for government security programs and discharge pressure on social welfare systems, conserving government resources for indispensable social security resolves. Besides, insurance of machines and production facilities is a qualification for their acceptance as collateral for bank credits (Marco, 2006). Moreover, insurance can headrest negative economic effects of natural catastrophes (such as crop loss) reducing the need for financial interventions by the state. Insurance markets play a crucial role for the development and efficient working of the financial sector.

Insurance companies are financial intermediaries (Islam and Osman, 2011). They decrease transaction costs from savers to borrowers by amassing large sums from thousands of small premium payers. Life insurers help to assemble and channel momentous savings to investments in corporate and government bonds, commercial mortgages and equity. Worldwide, life insurers have turn out to be a key source of long-term finance, which is chiefly important for evolving economies in necessity of investment for infrastructure projects. Growing obtainability of funds could be a consequence of insurance products by which insurance companies provide safety from credit risk to other financial intermediaries (Islam and Osman, 2011). Such that financial intermediaries are additionally keen to lend funds for financing real investments that encourage economic growth.

The function of providing insurance coverage could affect economic growth through saving rate channel in a mixed way. On the one side, insurance safety contributes to bigger security what makes individuals and firms less careful. Consequently, they could lower their precautionary savings. On the other side, by presenting various life insurance products that associate risk protection and saving benefits, insurance companies encourage long-term savings. Besides providing insurance, insurance companies could affect economic growth by function of resource accumulation and their allocation with managing various financial risks (Curak, Loncar and Poposki, 2009).

Agbakoba (2010) positions that insurance practice dates to the time when Lloyd's sent runners to the water front to pick up news of ship movements and later would send policy around London for subscription by anyone with sufficient means. Badejo (1998) argue that the concept of insurance in its modern form was introduced into Nigeria by the British in the closing years of the 19th century with the establishment of trading posts by European trading companies mostly British. This is what is now known as Nigeria agents towards the end of the 19th century. These companies started effecting their insurance with established insurers in the London insurance market. As time went on, some British insurers appointed Nigerian agents to characterize their interest in the country. These agents later metamorphosed into full branch offices of their parent companies in Britain. Hausell (1990) submits that historically, only one insurance company operated in the country between 1914 and 1948. This was the overseas branch office of the Royal Exchange Assurance companies operating from its head office in the United Kingdom. Osunkunle (2002) opine that the first branch office in Nigeria of the Royal Exchange Assurance was in 1921, and later followed by other British companies. The first indigenous company to be established in Nigeria was African Insurance in 1950, this was to be trailed by the Nigerian General Insurance company in 1950 and the Lion of Africa insurance company in 1952 (Hausell, 1990). Indigenous Nigerian insurers and re-insurers later followed such as National Insurance Corporation of Nigeria (NICON) established in 1969 and Nigeria reinsurance companies operating in Nigeria today. Eke (1992) posited that as at 31st December 1996, there were 135 insurance companies functioning in the Nigerian insurance market with comparative figures of 145 (1995) and 130 (1993). Most of these companies are privately owned indigenous shareholders (118 companies as at 31st December, 1995). Lynch (1992) posits that insurance companies have constantly been on the increase since early sixties. This has been due to liberal financial legal requirements. Insurance assemble long-term funds and act as financial intermediaries. Their investment activities are mainly in government securities, public sector enterprises and the mortgage industry. The Nigeria reinsurance corporation was established in 1977 to provide insurance cover for insurance companies (Adaramola, 2002).

Insurance business is usually divided into two main classes namely: General or non-life insurance business and Life assurance business (Adaramola, 2002). General or non-Life Business - This is a contract between an insurer (i.e. the insurance company) and the insured where by the insurer assumes to indemnify the assured against losses, which may result from the incidence of specified events within specified periods. General insurance business can be sub-divided into: fire, accident, oil and gas, contractors' all risks and engineering risks; marine and Credit insurance, bond and surety ship etc. Life assurance is a contract between the assurer (the company) and the assured (i.e. the policy holder) whereby the assurer undertakes to pay reimbursements to the policy holder on the attainment of a specified event. This type of insurance is long term in nature. Life Assurance business comprises individual life business, group life insurance and pension business, health insurance business and annuities.

2.2 Insurance and Economic Growth

Providing protection, insurers could affect economic growth through the channels of marginal productivity of capital, technological revolutions and saving rate (CEA, 2006). Insurance companies indemnify the ones who suffer a loss and stabilize the financial position of individuals and firms. With possibility of transmission of different kinds of risks to insurance companies, risk hostile economic units are encouraged to buy goods and services, especially those of higher values. In this way insurance endures consumption for goods and services which boost production, employment and finally, economic growth. Firms exposed to various risks of their liability, property, illness and disability of their employees, and life of key employees, have likelihood of handling those risks by transfer to insurance companies. This allows firms to concentrate resources on core businesses. Therefore, firms willingly and ably take real investments that consequence in higher rate of economic growth. Additionally, entrepreneurs are fortified to encompass not just present products and production processes, but to also include technological innovation. Notably, being innovative supposes the readiness to take the risk. Although insurance cannot change the risk attitude of economic units (risk aversion does not change with insurance) it plays a key role in freeing entrepreneurial spirit (CEA, 2006). Therefore, insurance aids entrepreneurs to take innovative and higher-return projects. Without mechanism for mutualisation, pooling and transferring risk which insurance companies provide, part of this economic activities would not take place and such encouraging effects on social welfare would fail. In other words, by creating an environment of greater security, insurance nurtures investment and innovation or economic growth.

2.3 Empirical Review

Contrasting to the vast empirical studies on the relationship between banking intermediation and economic growth, very few empirical lessons have examined the role of insurance on economic growth. Most of the studies on non-bank financial institutions, however, have fixated on either pension funds or contractual savings (assets of pension funds and life insurance companies) with respect to their impact on national savings or other financial development such as the stock market development. Scholars have also looked at insurance markets in different countries and over different time periods, applying varying econometric techniques to distinct and control for the effects of many known factors in growth, as well as to identify the probable causal direction between these factors and growth. These studies have sought not only to understand whether insurance makes an important contribution, but also if this contribution can be measured empirically.

Table 1. Summary of empirical review

Author(s)	Objective	Method of Analysis	Findings
Murphy and Musalem (2004)	effect of the accumulation of pension funds financial assets on national savings	Ordinary Least Squares (OLS) and 2OLS estimation on a panel of 43 countries including several developed and developing countries over the period 1960-2002.	failed to show a direct link between the accumulation of pension funds' assets and the economic growth
Granville and Mallick (2004)	accumulation of pension funds, financial assets on national savings	Ordinary Least Squares (OLS) and 2-stage OLS estimation	found positive and significant correlation between total national savings and the pension savings in the case of the UK.

Islam and Osman (2011)	existence of a long run equilibrium relationship between NBFIs and economic growth	bounds testing approach to cointegration and error correction mechanism	suggestion of a long run cointegrating relationship between NBFIs and real per capita income. The empirical results indicate that the development of NBFIs positively and significantly influences per capita income in Malaysia.
Haiss and Simegi (2006)	reviewing theory and empirical evidence	cross-country panel data analysis using annual insurance premium data from 29 European countries over the 1992 to 2004 period	weak evidence for a growth supporting role of life insurance
Cheng and Degryse (2007)	impact of banks and non-bank financial institutions on local economic growth	Employed OLS to data for 27 Chinese provinces over the period 1995–2003	banks have had a greater impact than non-banks on local economic growth as they profited earlier and more profoundly from China's financial reforms than their non-bank counterparts
Marco (2006)	tested whether there is a causal relationship between insurance market activity (life and non-life insurance) and economic growth	generalized method of moments for dynamic models of panel data for 56 countries and for the 1976-2004 period	vigorous indication of a causal relationship between insurance market activity and economic growth. Both life and non-life insurance have a positive and significant causal effect on economic growth
Haiss and Simegi, (2009)	investigated both the impact of insurance investment and of premiums on GDP growth in Europe	cross-country panel data analysis over 1992 to 2005 for 29 European countries	positive impact of life insurance on GDP growth in the mature EU-15 countries, Switzerland, Norway and Iceland. For the New EU Member States from Central and Eastern Europe, we find a larger impact for liability insurance
Mojekwu, Agwuegbo and Olowokudejo (2011)	impact of insurance contributions on economic growth in Nigeria	twenty-seven-year period, between 1981 and 2008 using a dynamic factor model	functional relationship between the volume of insurance contribution and economic growth in Nigeria is a first order vector autoregressive model
Omoke (2012)	determining its impact on economic growth	Johansen cointegration and vector error correction approach	insurance sector did not reveal any positively and significant effect on economic growth in Nigeria within the period of study
Han, Li, Moshirian and Tian (2010)	investigated the relationship between insurance development and economic growth	GMM models on a dynamic panel data set of 77 economies for the period 1994–2005	insurance development is positively correlated with economic growth
Ege and Sarac (2011)	role of insurance in economic growth	Twenty-nine countries' data in 1999 and 2008 were applied with regression analysis	insurance sector and the economic growth are positively related

Ćurak, Lončar and Poposki (2009)	examined relationship between insurance sector development and economic growth	10 transition European Union member countries, in the period from 1992 to 2007 were applied with fixed-effects panel model	insurance sector development positively and significantly affects economic growth
Owojori and Oluwagbuyi (2011)	investigated the contribution of insurance economic development in Nigeria	a descriptive survey, with a sample of 10 companies of 4 life and 6 non-life insurance using random sampling techniques	problem among insurance companies were lack of funds which leads to claim avoidance. There was no significant difference between performance of insurance policy in urban and rural areas. Insurance companies provide financial services to some substantial number of people in the economy. The findings further revealed that insurance helps in capital accumulation than payment of reparation of losses.
Arena (2006)	tested whether there is a causal relationship between insurance market activity (life and non-life insurance) and economic growth	generalized method of moments for dynamic models of panel data for 56 countries and for the 1976-2004 period	robust evidence of a causal relationship between insurance market activity and economic growth. Both life and non-life insurance have a positive and significant causal effect on economic growth. High-income countries drive the results in the case of life insurance. On the other hand, both high-income and developing countries drive the results in the case of non-life insurance.
Oke (2012)	examined the short and long-run relationships between insurance sector development and economic growth in Nigeria	fixed-effect model was applied to dataset of 1985 to 2009 aided by co-integration analysis and Granger causality	insurance sector growth and development positively and significantly affects economic growth. Granger causality test also revealed that the extent of influence the insurance sector growth had on economic growth was limited and not direct because of some cultural, attitudinal traits and values in the country
Gupta, Yesmin and Khan (2013)	addressed the growth of insurance industry and its change over time	adopting growth measures based on asset, loan, income and expenditure using time series analysis and correlation coefficient	a growth of NBFIs over the years in advances, income, assets and others financial aspect and a good contribution in the GDP growth of Bangladesh.
Rateiwa & Aziakpono (2017)	existence of a long-run equilibrium relationship between economic growth and the development of NBFIs	the causality thereof using time-series data from Africa's three largest economies, namely, Egypt, Nigeria and South Africa, over the period 1971–2013. Using the Johansen cointegration and vector error correction model within a country-specific setting	long-run relationship between NBFIs development and economic growth is relatively stronger in Egypt and South Africa, than in Nigeria. The nature of the relationship between NBFIs development and economic growth in Egypt is positive and significant, and predominantly bidirectional. In Nigeria, the results are weak and mixed

Source: Author's Compilation, 2018.

Certain studies examined the development impact of NBFIs in terms of leasing and factoring companies, insurance companies, pension funds or mutual funds on capital market development and economic activities (e.g., Impavido and Musalem, 2000; Catalan, Impavido and Musalem, 2000; Impavido et al., 2003; Vitas, 1997, 2003; Fernando, Klapper, Sulla and Vittas, 2003 and so on). These studies in general conclude that better developed NBFIs (in their various forms such as contractual savings, mutual funds, leasing and factoring) play important role as an engine that accelerates growth by complementing the services provided by banking institutions and by providing a strong stimulant to the development of capital market. Also, two separate country specific studies found that there is no long-run relationship between economic growth and NBFIs when using assets and liabilities of finance and discount houses as indicators of NBFIs (Osuala and Odunze, 2014 and Ndugbu, 2015).

NBFIs compliment roles as an alternative source of funds through amassing vast long-term financial resources and conducting them to economy through capital market. Thus, from the review of the finance-growth literature, financial sector development in terms of both banking institutions and non-bank financial institutions (NBFIs) play key roles in expanding of economic development. However, this study attempted to bring into discussion the importance of NBFIs in finance-growth literature by specifically investigating the relationship between economic growth and NBFIs in Nigeria. This is the gap this paper intends to fill in the finance-growth literature.

3. Methodological Framework

In this study, annual data, spanning a period of forty-one years, from 1970-2010 (based on available data as at 2016) were used. Data were obtained from the Central Bank of Nigeria statistical bulletin. To measure the relationship between GDP and other explanatory variables we adopt the generic regression equation as applied by Islam and Osman (2011) and Marco (2006) specified in the following form:

$$Y_t = f (FA_t, IN_t, TD_t) + u_t \quad (1)$$

Where $Y_t = \text{GDP}$.

$FA_t = \text{Total Financial Assets of NBFIs (insurance) to GDP}$.

$TT_t = \text{Total Trade to GDP}$.

$PM_t = \text{Insurance Premium to GDP}$.

Expressing the relation in linear form using the growth rates of the variables, we arrive at the following estimating equation:

$$\text{GRY}_t = X_0 + X_1\text{GRFA}_t + X_2\text{GRTT}_t + X_3\text{GRPM}_t + U_t \quad (2)$$

The Y_t , Premium and FA_t are the focal variables in the analysis measuring economic growth and indicator of NBFIs development respectively.

3.1 Description of Variables

3.1.1 Dependent Variable

Gross Domestic Product is the value of goods and services produced in Nigeria during the period of the study. GDP at current basic prices is simply nominal GDP equals GDP less indirect taxes net of subsidies (CBN Statistical bulletin, 2007). The growth rate in Gross Domestic Product, a broadly approved degree of economic growth was used as a proxy for Nigerian economic growth.

3.1.2 Independent Variables

FA (Financial Asset). Investment in Financial Asset is adopted as a measure of NBFIs development indicator (Islam and Osman, 2011). This independent variable is proxied as the growth rate of investment of the Insurance sector for this study. Financial assets for the insurance industry include a total investment in government securities as well as stocks & bonds. This measures magnitude of the sector relative to the economy. Indicating a larger NBFIs expansion and hence greater intermediation activities and/ or vice versa. Insurance sector's investment in financial asset is expected to be positively related and impacts on Nigeria's GDP.

TD, is the total trade (exports + imports). The insurance sector theatres the protection to an economy's imports as well as exports thereby encouraging international trade. This variable captures an economy's trade openness as a proportion of GDP used as total trade in relation to GDP while expecting that exports are positively related with economic growth.

Insurance premiums measures of penetration of insurance activity in the economy in relation to a country's GDP. Marco (2006) notes this explanatory variable as a variable of interest as it measures a country's insurance market

development and proxied by the ratio of life insurance premiums to GDP and the ratio of non-life (property-liability) insurance premiums to GDP. The use of premiums as a proxy for insurance market activity would only capture the role of life and non-life insurance companies as providers of risk transfer and indemnification not their role as institutional investors.

The subscript t represents the time. Where Logn indicates natural log, are the parameters to be estimated and u_t is an error term. The variables are transformed into logarithmic form to minimize the scale effect of numbers.

3.1.3 Data Testing Procedure

Stationary properties of the time series data before the first stage of the model were estimated. Therefore, stationary statuses of the variables were investigated by the Augmented Dickey Fuller (ADF) unit root test to guard against spurious regression results.

The expected signs of all the coefficients are positive. The data are time series with an annual observation and covers the period 1970-2010 (based on available data in CBN Statistical Bulletin 2016). The bounds testing procedure is the Ordinary Least Square (OLS). The test is done in two stages. First, we test for data stationary. Secondly, we test for relationships and magnitude.

4. Findings and Result

A review of the data over the last forty years reveals that insurance consumption is not only strongly correlated with economic output; its growth outpaces that of the economy as shown in the figure below.

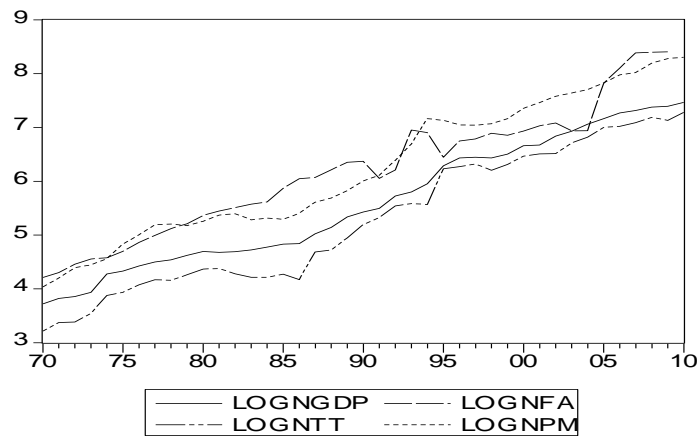


Figure 1. Graphical representation of the data relationship

Source: Author’s Eview output.

In Figure1, the logn premium is above the GDP. USAID (2006) pointed out that the growth of insurance consumption (measured as insurance penetration or total premiums as a relation of GDP) generally follows what is referred to as an “S-Curve”: it is slower at lower levels of development, accelerates as the insurance market and the economy expand, and then slows down again as the market matures. Therefore, Fig. 1 shows that the Nigerian insurance market has gone through the development and expansion stages but is yet to mature to complete the “S-Curve”. Investment in financial asset also lies above GDP on Fig. 1 but intercepts GDP in year 2005. Total trade is however lying below the GDP line suggesting that GDP outgrows total trade. This indicates that the country’s international trade especially export is not performing optimally and perhaps not contributing optimally to GDP.

The stationarity properties were examined, and the outcome presented in Table 2.

4.1 Unit Root Test Result

A time series is stationary if its mean and variance are independent of time.

Table 2. Augmented dickey fuller

Variables	ADF Test Statistic (t*)	Critical value*
Logn GDP	-6.423579	-3.6171
Logn Financial Asset	-6.423579	-3.6171
Logn Premium	-3.858676	-3.6117
Logn Total Trade	-4.353493	-3.6117

Source: Author's Eview output.

A non-stationary time series can be converted into a stationary time series by differencing. The augmented dickey fuller (ADF) stationary test for the time series as presented in Table 1 above are found to be significant at 1st difference. Observing the critical values and the observed t*, we conclude that there is no unit root with the time series. Therefore, the time series are stationary.

4.2 Relationship

The relationship between the dependent and the independent variables, their strength and weakness are revealed by the pairwise correlation shown in Table 3.

Table 3. Pairwise correlation

VARIABLES	LOGNGDP	LOGNTT	LOGNFA	LOGNPM
LOGNGDP	1			
LOGNTT	0.996982	1		
LOGNFA	0.959099	0.946334	1	
LOGNPM	0.994638	0.992139	0.961259	1

Source: Author's Eview output.

The signs are positive with respect to GDP indicating a positive relationship. The positivity is very strong (0.99, 0.95 & 0.99, which are 99%, 95% & 99% for total trade, investment in fixed asset, and premiums respectively) suggesting that an increase in total trade, investment in fixed asset, and premiums brings about an increase in GDP.

To the positive relationships of the pairwise correlations, the unbiased result of the regression analysis shows that the results are statistically significant suggesting an impact on economic growth as shown in Table 4.

Table 4. Regression result

Dependent Variable: LOGNGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGNTT	0.643738	0.071700	8.978151	0.0000
LOGNFA	0.106516	0.035130	3.032071	0.0045
LOGNPM	0.181118	0.083726	2.163230	0.0372
C	0.403265	0.083301	4.841047	0.0000
R-squared	0.996735	Mean dependent var		5.548893
Adjusted R-squared	0.996462	S.D. dependent var		1.154871
S.E. of regression	0.068689	Akaike info criterion		-2.423818
Sum squared resid	0.169854	Schwarz criterion		-2.254930
Log likelihood	52.47636	F-statistic		3662.824
Durbin-Watson stat	1.966491	Prob(F-statistic)		0.000000

Source: Author's Eview output, 2018.

The study discovered from the multiple linear regressions that total trade, investment in financial asset and premiums had statistically significant effect on the Nigerian economy as ($t_c = 8.978151, 3.032071, 2.163230$ for total trade, investment in fixed asset, premiums respectively $> t^* = 2.000$). These results are further strengthened with the

(p-value = 0.0000, 0.0045, 0.0372 for total trade, investment in fixed asset, premiums respectively $p^* = 0.05$. The +ve sign indicates a direct relationship between total trade, investment in financial asset and premium. This suggests that total trade, insurance sector investment in financial asset and insurance premiums contributes to the growth of the Nigerian economy. These results are in line with a priori expectations and with the findings of (Islam and Osman, 2011; Marco, 2012; Omoke, 2012; and Curak, Loncar and Poposki, 2009). The multiple regression models are thus written as:
$$\text{GDP} = 0.403265 + 0.643738 * \log_{\text{TT}} + 0.106516 * \log_{\text{FA}} + 0.181118 * \log_{\text{PM}}$$

5. Conclusion

This paper sets out to determine if the Nigeria's insurance sector contributes to its economic growth. The empirical results show that total trade; investments of the insurance sector in financial asset; and insurance premiums have a high, positive and direct relationship with economic growth. Overall, the findings revealed that insurance sector investment in financial assets; and insurance sector premiums significantly impacts on Nigeria's Gross Domestic Product. Therefore, the national activity, the penetration and the development of the Nigeria's insurance sector contributes positively to the growth of the Nigerian economy. Thus, these findings add to existing review of the finance-growth literature and suggest that non-bank financial institutions (NBFIs) play key roles in expanding economic development. This study brought into discussion the importance of NBFIs in finance-growth literature in Nigeria. Thus, NBFIs compliment roles of long-term financial resources and conducting them to economy.

Notwithstanding the findings of this paper there exist areas of improvements for the Nigerian insurance sector to achieve stellar results. Micro insurance, a vital tool to eliminate poverty is almost non-existent in the Nigerian insurance sector. The Insurance firms in Nigeria can do better if they are able to develop micro insurance products that will be designed specifically for the poor, who are either farmer, self-employed or employed in the small and medium scale firms and do not have access to insurance products. Also, an optimal regulatory environment is needed to allow the insurance sector to activate fully its role in the economy. This implies less burdensome regulation, better adapted to the real needs of insurers and customers in Nigeria. The regulatory environment for insurance should encourage risk-based pricing.

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