CONTRIBUTIONS OF NON-LIFE INSURANCE FIRMS TO ECONOMIC GROWTH IN NIGERIA (1981 – 2017)

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ABSTRACT
This study examines the contributions of non-life insurance firms to economic growth in Nigeria. Specifically, the study establishes the relationship between profitability, penetration, density growth rates of non-life insurance firms and economic growth rate in Nigeria; and determines the relationship between claims payment growth rate in non-life insurance policies, investment yields and economic growth rate in Nigeria. Poor patronage of non-life insurance policies has resulted in low premium collection, low profitability, low insurance penetration and density, low investment yields as well as capital for investment. Lack of prompt and fair claims payment attracted low patronage from existing and potential policyholders thereby leading to abysmal contribution to economic growth. The study covered the period from 1981 to 2017 using the secondary data from the (CBN) Statistical Bulletin, NAICOM Annual Reports and Nigerian Insurers Digest among others. The study adopted desk research design and ex post facto research design. The secondary data were presented in table and analyzed using descriptive statistics and trend analysis. The t-statistics values from Ordinary Least Squares (OLS) regression analysis were used to test the research hypotheses. The findings revealed that there is a significant relationship between profitability growth rate of non-life insurance firms and economic growth rate in Nigeria. Non-life insurance density rate has a negative and insignificant contribution to per capita income growth in Nigeria. The finding further revealed that there is a significant relationship between claims payment growth rate of non-life insurance firms and economic growth rate in Nigeria. Additionally, there is a joint significant relationship between profitability, claims payment of non-life insurance firms and economic growth rate in Nigeria. It was concluded that profitability, penetration, claims payment, investment yields growth of non-life insurance firms made strongest contributions to economic growth in Nigeria. It was recommended that there is need to increase the sales volumes of non-life insurance policies for more premium income, penetration and density growth. There is need to reinvest the profit of non-life insurance firms for more contribution to economic growth. Genuine claims should be promptly and fairly pay to policyholders so that they in turn can reinvest part of the claims amount into the economy in order to stimulate economic growth. To increase the investment yields of non-life insurance firms, there is need to diversify their investment portfolios.

Keywords: Non-Life Insurance, Profitability, Insurance Penetration, Insurance Density, Claims Payment, Investment Yield, Economic Growth

1. INTRODUCTION

Insurance is a mechanism that involves the substitution of certainty for uncertainty. In other words, a lesser certain price known as the premium is substituted for a large uncertain monetary loss known as the unforeseen event insured against. In a social perspective, insurance is a social device adopted for the purpose of plummeting and reducing risk level by the practice of merging a satisfactory homogeneous exposures number into a group to enable the losses exposures foreseeable for the group in general. In a legal perspective, insurance is a contract existing between the insurance firm and the policyholder whereby the insurance firm accepts to reimburse the policyholder the losses suffered as result of the
occurrence of stated happenings within stated time frame upon the payment of premium by the policyholder (Vaughan & Vaughan, 1996; Owojori & Oluwagbuyi, 2011).

Non-life is a class of insurance that encompasses the insurance of assets and liabilities rather than life. This type of insurance provides coverage to individuals and organizations against losses and damages to assets as well as liabilities that life insurance firms do not covered (Olayungbo, 2015). This implies that insurance policies that do not come under the domain of life insurance policies are called general or non-life insurance policies. The perils that are protected by non-life insurance are property losses arising from theft, fire, accident, etc and liability losses. These liability losses occur due to damage caused by an individual or organization to a third party, such as accidental injury and death. According to Nigeria Insurance Digest (2017) and NAICOM Annual Report (2017), there are ten (10) composite insurance companies having a capital base of ₦5 billion and thirty one (31) specialist non-life insurance companies. This implies that the sum of forty-one (41) non-life insurance firms operating in Nigeria as at December, 2017. The non-life insurance firms have ₦3 billion as their capital base. Profitability, investment yields, claims payment to policyholders, insurance penetration and density of these firms are expected to influenced Nigerian economic growth. These variables of non-life insurance firms have the potential to galvanize both the Real Gross Domestic Product and Per Capita Income growth rates in Nigeria. According to Nigeria Insurance Digest (2017), 75% of the industry premiums are written from the non-life insurance business. This implies that non-life insurance firms accounted for 75% of the insurance industry growth.

Minkova (2002) stated that the risk process of non-life insurance firms comprises of the period of accumulating the total amount of the premium and the period where the accumulated sum of claims are paid. This implies that non-life insurance pivots on the theory of risk and risk are present in all human endeavors. Risks are not detachable from insurance, which implies that insurance generally will not survive if risks are not existed (Umoren & Joseph, 2016). As one of the classes of insurance, non-life insurance therefore is based on the theory of risk. According to Vaughan & Vaughan (1996), a situation where there is a likelihood of nonconformity from an expected result that is seen as risk. Insurance is in the business for other businesses to survive (Torbira & Ngerebo-A, 2012). In the view of Yinusa & Akinlo (2013), non-life insurance subsector has relationships with other sectors. These sectors include; manufacturing, transport, agricultural, mines, oil and gas, domestic and foreign trade. The importance of non-life insurance to all human endeavors cannot be overemphasized because risks of different kinds emanate on daily basis. Because of the necessity to ensure risks are covered; policyholder decides to pay premiums to the insurance firm. Within a specific time horizon in the non-life insurance marketplace, savings in the form of premium converted to a fat portion of funds creation, which increases the size of funding within the economy and enhances monetary intermediation (Umoren & Joseph, 2016). Non-life insurance firms thus become veritable subsector in funding intermediation because the firms use the mobilized premium to grant loans to individuals, governments, organizations, and other deficit economic units with the payment of interest at maturity (Akpan, 2005). Additionally, business organizations sell securities, which non-life insurance companies purchase using the mobilized premiums. These companies earn yields after the investment, which is called investment yield. Claims payment to policyholders by non-life insurance firms also helps to boost per capita income within the economy. Torbira & Ngerebo-A (2012) added that the non-life insurance firms stimulate economic growth because they serve as an indemnification and risk transfer mechanism, promote stable funding, allow dissimilar perils to be controlled in a more efficient manner. According to the authors, the firms also encourage the gathering of financial resources and help to alleviate losses thereby diminishing the adverse effects that accidental shocks may have on investment. To attest these claims, a study of this nature becomes relevance that seeks to study the contributions of non-life insurance firms to Nigerian economic growth.

The main problem that affects the influence of non-life insurance firms to Nigerian economic growth is poor patronage of non-life insurance policies as well as low insurance penetration and density growth rates. This has resulted in low premium collection, low investment yields, and low capital for investment. Low level of ethical standard in the area of prompt and fair claims payment discouraged existing and potential policyholders from patronizing non-life insurance business. Also, profitability of these firms that supposed to stimulate economic growth is at low level. In spite of the relevance of non-life insurance, the patronage it merits in Nigeria has not been given (Akpan, 2009). Certain factors are accountable for this, which comprise of non-life insurance concentration in selected state or cities while investment opportunities abound in other states or cities, poor procedure of payment of claims that is intermixed with elongated foot-dragging and legal battles as well as legal restrictions on investment policy of non-life insurance companies. This development has made the business of non-life insurance firms in Nigeria over the years to contribute abysmally to real gross domestic product and per capita income as compared to organizations like banks and stock markets (Philip, 2011). Insurance industry is contributing less than 1% to Gross Domestic Product growth in Nigeria (Isimoya, 2014). Akinbola (2010) stated that non-life insurance in Nigeria influenced Gross Domestic Product by 0.7% whereas that of South Africa influenced Gross Domestic Product by 12%. While non-life insurance firms as seen as economic backbone in advanced nations, the opposite is the situation in Nigeria, notwithstanding its great population. In this study, the growth of the Nigerian economy is proxied by real gross domestic product and per capita income.
Furthermore, prevailing literature with theoretical and empirical evidences have revealed that nations with improved monetary structure benefit from more rapidly and additional stably long-run economic growth, which non-life insurance companies influenced. Nevertheless, the findings of the empirical researches conducted up to this period are varied (Oke, 2012). Existing literature also shows that researches in this field of study are commonly carried out in advance countries and scarcely in Nigeria with varied discoveries, which concentrated severely on all categories of insurance. It is necessary therefore to carry out this research in Nigeria, unbundling a specific class of insurance, and delving into non-life insurance so as to examine how it influences the growth of the economy in Nigeria. The main objective of this paper is to examine the contributions of non-life insurance firms to economic growth in Nigeria. Specifically, this paper seeks to examine the extent of relationship between profitability growth rate of non-life insurance firms and economic growth rate in Nigeria; to determine the extent of relationship that exists between claims payment growth rate of non-life insurance firms and economic growth rate in Nigeria; and to investigate the extent of joint relationship that exists between profitability, claims payment of non-life insurance firms and economic growth rate in Nigeria. To attain the objectives stated above, the under listed research hypotheses have been formulated in null forms: \( H_0: \) There is no significant relationship between profitability growth rates of non-life insurance firms and economic growth rate in Nigeria. \( H_0: \) There is no significant relationship between claims payment growth rate of non-life insurance firms and economic growth rate in Nigeria. \( H_0: \) There is no joint significant relationship between profitability, claims payment of non-life insurance firms and economic growth rate in Nigeria.

The study covered selected business activities of all licensed non-life insurance companies operated in Nigeria from the period of 1981 - 2017 (thirty seven years). It is believed that conducting a study of this kind from 1981 will help the researcher to determine the strength of the contributions of non-life insurance to the growth of economy in Nigeria. The following variables were employed in this study: Per Capita Income growth rate; Real Gross Domestic Product growth rate; Non-life insurance profitability growth rate; Non-life insurance penetration rate; Non-life insurance density rate; Non-life insurance claims payment growth rate; and Non-life insurance investment yield. The remainder of the study is presented in four sections which include; literature review, methodology, conclusion and recommendations.

2. LITERATURE REVIEW

2.1 Conceptual Review

In this study, two indicators are adopted as proxy for the growth of the economy; real gross domestic product and per capita income. Economic growth involves the rise in the market value of the goods and services manufactured within a country in a specific time frame where inflation has been adjusted. Real gross domestic product (RGDP) refers to an inflation-adjusted measure that reflects the market value of all goods and services manufactured within an economy in a particular year. Real Gross Domestic Product (RGDP) is accountable for variations in price level and gives more perfect figure of the growth of the economy (Arestis, 2005). Per capita income measures the average income earned per person in a specific country within a particular year. This is arrived by dividing a country’s total income by the total population. Changes in per capita income reflect economic growth and help provide an understanding into the wellbeing of citizens in a country. Per capita income is used to measure a nation’s living standard. Per capita income data therefore are derived by dividing RGDP by total population (Arestis, Nissanke & Stein, 2005).

There are two categories of insurance that are ubiquitous in countries around the globe. According to Goucher (2006), they are non-life insurance and life insurance. Non-life insurance undertaking encompasses providing coverage for objects like buildings, vehicles, ships, aircraft, etc. Insured perils such as theft, fire, accident, liabilities etc are also covered under this policy. In Nigeria, according to Adekunle (2009), the above classification is in line with the Insurance Act of 2003 provision, which is the main tool regulating insurance business operation in Nigeria.

Non-life insurance businesses are featured primarily by intangible products and services. Non-life insurance firms are seen as contractual financial firms (Ubom, 2014). The contract of non-life insurance is introduced and legally obligatory on the purchase of suitable policy of insurance and the payment of agreed premium. Also, the premium paid by non-life insurance customers creates the main source of income to non-life insurance firms. The incomes are used by the non-life insurance firms to reimburse the unfortunate few who suffered losses from the insured perils. Also, the operation of insurance business depends on the large numbers law. This law says that there is need for a large group to be randomly alike but not essentially equal exposures parts that are subject to similar peril or collection of perils as opined by Adekunle (2009). Hence, this will help non-life insurance firms forecast losses, which probably happen within the covered group at a particular time frame. Fundamental principles of insurable interest, subrogation, utmost good faith, indemnification, etc are the pillars upon which non-life insurance business operations stand. When non-life insurance policies are sold, premiums are collected in return. Non-life insurance firms mobilize the idle funds after claims and other administrative expenses. These firms execute different investment projects, which are expected to improve the growth of the economy (Ubom, 2014). Insurance is seen as a social arrangement that provides monetary reimbursement for the effects of unfortunate events (Isimoya, 2014). According to Edward (2007), insurance is defined as a social scheme for reducing uncertainty risk.
concerning loss by scattering the risk over a large number of same exposures to forecast the loss chance of the individual that offers reimbursement for identified loss exposures in exchange for premium fee to be made periodically.

Insurance is a technique of indemnifying policyholders from monetary losses. This is achieved by transferring the fortuitous losses from the individual to the belonged group. A premium is remitted from every group member, which is then used to reimburse the members who suffered monetary loss (Craig and Judith, 2003). According to Emmanuel (2001), non-life insurance is seen as a legally binding agreement whereby non-life operator comes to an agreement in consideration of premium paid by the policyholder to reimburse him against any loss resulting from the occurrence of fortuitous events. Holyoake and Weipers (2005) opine that insurance stimulates already existed business activities. This is achievable by the allocation of funds for investment purpose, which is held in accessible reserves to protect upcoming loss. In the viewpoint of the researcher, insurance is an instrument for transferring risks where individuals, organizations and governments exchange uncertainty for certainty. This uncertainty implies whether the fortuitous losses would occur, when they would occur, how disastrous they would be, and how frequent they would be within the year. The uncertainty creates difficulty to budgeting thereby leaving the option of seeking approaches of managing the monetary influence of the risk. Thus, insurance gives the chance to exchange the uncertain losses for certain losses, which is the premium. Ojo (2012) added that the purpose of effecting insurance policy may influence the growth of the economy by savings in diverse ways. Premium of insurance is the amount of payment provided by policyholders to insurance firms (Dorfman, 2005). It is the monetary value charged by the firms for insurance protection and signifies the insurance cost popularly called premium (Edward, 2007). Insurance claim is a request made by the claimants or beneficiaries for reimbursement of the benefits as stated by the policy to cover an insured loss. Claim payment is the amount of indemnity to a policyholder as agreed by the insured to exonerate the company from additional obligation for coverage in the policy while investment is an outflow of funds or properties in an effort to generate a profit or yield of diverse nature. Also, insurance investment income is the yield received by insurance company from investments comprising of capital gains on securities, dividends, and interest. According to Yusuf & Abass (2013), insurance claims administration involves the stipulations in the claims department, organization rules and the practices within the industry that insurance companies adopted to authenticate insured payment or indemnity requests. They added that the main objectives of claims administration are; to authenticate that the insured losses had happened for just and quick claims payment; and to give personal aids to the policyholder after the insured losses occurred. These objectives are attained through claims employee that comprise claims representatives, managers, customer service representatives, supervisors, third-party administrators, special investigation unit employee, and in-house council (Brooks, Popow and Hoopes, 2005).

Non-life insurance is a class of insurance provides coverage for theft, damage, or loss of property. It also provides coverage for legal liabilities emanating from business operations. Any insurance policy that does not fall under the domain of life insurance is referred to non-life insurance. In the opinion of Umoh (2014), a particular category of non-life insurance policy is planned for a specified scenario. Marine insurance, fire insurance, motor insurance and accident insurance are classified under non-life insurance. For example, marine insurance is purchased to offer monetary reimbursement for injured persons, losses or damages to assets, and losses that arise from trading in the maritime environment. The exposures protected in marine insurance are theft, jettison, collision, wrecking, fire, sinking, stranding, damages to cargo, vessels, ship, crew as well as travellers who are on board. Fire insurance provides reimbursement for the damages to the insured properties due to fire incidences. In general or non-life insurance, death is not involved as the key risk. The non-life insurance lines consist of, property insurance, comprehensive as well as compulsory motor vehicle insurance, agriculture insurance, marine/aviation insurance, oil/gas insurance, engineering insurance, employers liability and other liability insurances, financial insurances among others. According to Insurance Act of 2003, section two subsections one to three in FRN (2003), we have two key classes of insurance; life insurance and non-life insurance. General or non-life insurance, which form the central point of this study, is structured into eight classes namely: motor vehicle insurance, general accident insurance, marine/aviation insurance, fire insurance, engineering insurance, oil/gas insurance, bonds credit guarantee/ suretyship insurance as well as miscellaneous insurance.

Profitability is the chief objective of every business undertakings. The insurance company’s profitability is the excess of income (premiums plus other income) over expenditure (claims plus other expenses). Non-life insurance business needs profitability to survive in the long run hence, the need to measure the current and the past profitability in order to project future profitability becomes imperative. Income and expenses are the measurement indicators for the profitability of insurance firms. Revenue of non-life insurance firms is generated from the activities of the business such as premium income, investment yield, interest on loan receivable, commission received, etc. Expenses are the costs of resources that are used up or consumed by the non-life insurance business activities such as claims expenditure, interest on loan payable, commission paid, and other bills payable (Momoh and Ukpong, 2013). Profitability of non-life insurance can easily be computed using items from income statement. This involves the listing of income and expenses of a particular period typically one year for all the classes of non-life insurance undertakings. The profitability of non-life insurance firms is computed by looking at the difference between total income and total expenditure of non-life insurers (Webb, Grace and Skipper, 2002). Measuring profitability is paramount for the success and survival of the non-life insurance operation.
Additionally, when non-life insurance companies are highly profitable, they have the capability to reward its shareholders with huge returns on their investments. According to Nissim (2010), there is a positive relationship between profitability, investment, and growth because lucrative non-life firms frequently have improved investment openings and internal capitals, which are inexpensive than external funds. They also have the ability to obtain operating credit as well as good access to financial markets. Another variable that contributes to a positive link between profitability and successive growth is the influence of profitability on regulatory capital as well as solvency that in turn influences the non-life insurer’s capability to create business.

According to Zouhaier (2014), the penetration rate of non-life insurance is measured by non-life insurance net premiums written divided by RGDP of the country while non-life insurance density rate is measured dividing non-life insurance net premiums written by the total population of the country. Non-life insurance density indicates the number of customers that purchased non-life insurance by geographic area – a state or country, etc. Non-life insurance density furthermore reflects the level of development of the non-life insurance subsector. It compares non-life insurance sales volume of a customer group to another. Low non-life insurance penetration and density growth rate is not only applicable to Nigeria alone but also ubiquitous in Africa apart from South Africa. Despite this challenge, Nigeria presently has the second biggest non-life insurance subsector in Africa followed by South Africa (NAICOM, 2017). The non-life insurance is expected to improve additional growth and that the rate of non-life insurance penetration is anticipated to increase correspondingly. An instance of what means this growth will be attained is the implementation of compulsory non-insurance policies in the country with motor vehicles non-life insurance inclusive. There are over 7 million motor vehicles in the country but less than fourteen percent of these are insured. However, the regulator, NAICOM is hopeful to reach coverage of twenty five percent in the future. This would denote growth of eleven percent for non-life insurance subsector (NAICOM, 2017).

Based on the opinions of Kwon & Wolfrom (2016), two indicators of the contributions of non-life insurance to the growth of any nation are commonly used. These indicators are density and penetration rates of non-life insurance. The researchers opined that non-life insurance penetration rates are computed when total non-life insurance premium incomes are divided by the nation’s real gross domestic product. It is measured by the non-life insurance premiums or non-life insurance premiums written/earned in particular categories of non-life insurance businesses. This provides a generally pointer of the level of non-life insurance coverage by type of non-life insurance policy and the growth potential of non-life insurance market of a nation mainly while likened to non-life insurance penetration ratios in other economies globally. Equally, according to Kwon & Wolfrom (2016), non-life insurance density rate is computed as the ratio of total non-life insurance premiums to total population of a country and is also be used as a substitution for per capita consumption of non-life insurance.

According to Nissim (2010), this is a ratio that measures the profitability of non-life insurance investments and by implications reflects non-life investment achievement. Nevertheless, investment yield does not inevitably show non-life insurance investment performance because of the fact that high risk investments naturally have high yields while low risk investments naturally also have low yields. Consequently, in non-life insurance investment performance analysis, the investment yield should be considered vis-à-vis the riskiness of the non-life insurance investments. This indicator also measures the average return on the non-life insurance firms’ invested assets before as well as after capital gains plus losses. The formular for computing non-life insurance investment yield is investment income divided by average total investments (Nissim, 2010; CARE, 2016). Investment yields are frequently used and highly valued by non-life insurance managers. Dynamics influencing risks in the non-life insurance investment portfolio are changes in asset mix, non-life insurance investment concentration, and investment in riskier assets. This suggests that these variables are often used together to provide a general view of risks in the non-life insurance investment portfolios (Kwon & Wolfrom, 2016). Non-life insurance firms serve a one of the valuable economic roles that are basically distinctive from other forms of financial intermediaries. The compensation and pooling of risks nature of non-life insurance ease profitable businesses and the granting of loan facility, alleviating losses, the management and quantification of non-diversifiable risk holistically are accredited as the broad functions of non-life insurance firms within the economy. Normally, insurance contracts encompass small payments made periodically in exchange for coverage against uncertainty, nonetheless, possibly severe losses that may occur. This smoothening income effect aids to evade unwarranted and costly insolvencies and accelerates lending to business undertakings (Maryann, Steve & John, 2016).

Basically, the existence of non-life insurance firms allows individuals who are risk-averse, businesspersons and government to assume more risks as well as higher returns undertakings than they would have done if non-life insurance was absent, thereby stimulating higher growth and productivity. Risk management is an essential entrepreneurial undertaking aspect. Businesspersons manage risks of fortuitous losses by weighing and matching the costs and benefits of each alternative before transferring the risks to the non-life insurance firms (Eze&Okoye, 2013). The size of a country’s non-life insurance market influences mutually the variety of existing alternatives as well as information quality to backup decisions making. For instance, a producer may manufacture goods for only market in the locality, forsaking other
profitable openings in distant markets so as to evade the risks of losing merchandises in shipment during transit. According to Isimoya (2003), transport insurance can alleviate these losses exposures and allow the producer to enlarge the production frontier. Correspondingly, to evade total loss risk emanating from drought, half of the seed need to be kept in reserve by a commercial farmer. Crop insurance policy may also provide coverage against drought in addition allow all the seeds to be cultivated for a lesser premium. Non-life insurance firms contribute their specialized expertise in risk identification, risk measurement, risk evaluation and control of risks. This expertise allows them to admit carefully specified risks at lesser prices than non-specialists. Also, they ensure that incentives are collected and analyzed loss exposures information because the more accurately they quantify the risk cost, the more they expand the coverage. By implication, non-life insurance market generates price signals to the whole economy thereby aiding resources allocation for productive uses. Non-life insurance firms also have incentives to control loss exposures, which is an important social benefit. For instance, when offering discounts for smoke detectors, seat belts as well as other techniques that decrease losses frequency or severity, they lessen their eventual claims costs and in the process lives are saved and injuries reduced (Kwon & Wofrom, 2016).

Investment function of non-life insurance firms galvanizes economic growth as a result of the long term category of their liabilities, sizeable reserves as well as predictable premiums. Non-life insurance companies also serve a vital role as institutional investors by generating funds for infrastructures, other long-term investments and providing professional input to these investment projects. Nevertheless, the benefits are completely grasped in markets where non-life insurance firms invest significant percentage of their portfolios nationally (Victor, 2013). Insurance Act of 2003 section twenty five subsections one to three (a) in FRN (2003) stipulates that an insurance firms would invest and hold investment in assets in Nigeria that are equal to and not less than the sum of policyholders’ funds in such financial records of the insurance company. The policyholders’ funds would not be invested in properties/securities except; limited liability firms’ stocks; stocks in other securities of a cooperative societies that are registered under a law connecting to cooperative societies; loans to building societies accepted by the National Insurance Commission; loans on real properties, machineries and plants in Nigeria; loans on life policies within their surrender values; cash deposits in or bills of exchange recognized by licensed banks; and such investments as may be approved by the National Insurance Commission. No insurance firms shall in respect of its non-life insurance business, invest more than thirty five per centum of its assets as well-defined in subsection one of this section in real properties. Non-life insurance firms play a tactical role in the Nigerian economy as indicated by Irukwu (2003) that it is globally agreed that no modern economy can function efficiently without the backing of an organized, disciplined as well as sustainable insurance industry. Additionally, Irukwu (2003) observed that as a significant service industry in the financial system, non-life insurance firms has more influence on the economic growth and stability of the domestic economy both in the perspective of its prime role of risk-bearing and as concerns its secondary roles in the economy’s financial system particularly in its roles in the funds mobilization for investment in the domestic economy as well as promoter of savings-culture and credit system facilitator.

At the micro level of the economy, non-life insurance assists to provide a solution to social problems. For example, non-life insurance firms provide monetary reimbursement to victims of risks emanating from transportation, industrial occupation, burglary losses, robbery, fire accidents, death of key employees, and machinery breakdown among others who are members to non-life insurance policies. Nevertheless, by the growth of middle class brought about by the rate of urbanization and industrialization, the social values is persistently changing, thereby weakening family bondage, hence makes it essential for every rational man to seek protection for his valuable properties through recognized non-life insurance firms rather than the society. However, industrialization and urbanization in Africa would generate a large pool of middle-class clients who would need non-life insurance policy. These middle-class non-life insurance existing and potential clients in Nigeria are rapidly increasing. These middle-class citizens are typically learned urban dwellers that are mostly professionals and officially employed. As concern this class of citizen, non-life insurance firms’ products are very vital, due to the dynamic environment and demographic characteristics (Nduna, 2013).

2.2 Theoretical Framework

Various theories exist that create the relationship extent between the activities of non-life insurance companies and the growth of economy. Therefore, the theories guiding this study are; Finance-Growth Nexus Theory, Financial Liberalization Theory and Insurance Risk Theory. However, of all these theories, Insurance Risk Theory is chosen upon which this study is based as it relates more to this study.

2.3 Theory of Finance-Growth Nexus

The theory was proposed in 1911 by Schumpeter, which guides this study. Commercial activities are vigorous for the growth of the economy as far as they advance output by stimulating innovation of technology and aiding businesspersons with the best likelihoods of success in the process of innovation. The theory states that savings mobilization, efficient and effective resources distribution as well as investment of mobilized monetary resources into the economy stimulates the growth of the economy. The theory added that the multiplier implications of these activities produce a favorable macroeconomic framework for vibrant growth of the economy. The theory is related to the study because non-life insurance
companies are sub-sector of the financial system where the premium income are mobilized and reinvested in the economy. Also, claims payment stimulates capital income and capital creation in the economy.

2.4 Theory of Financial Liberalization

Theory of Financial Liberalization is traceable in 1973 from the studies of McKinnon and Shaw. However, the theory is also attributable to Patrick in 1966 that provided the groundwork for the theory through his seminar presentation on the link between financial development and the growth of the economy. This theory postulated two likely relationships; demand-following and supply-leading relationships. Demand-following relationship indicates that financial development takes place when there is economic development. On the other hand, supply-leading relationship shows that the general growth of financial institutions influenced the growth of the economy positively and significantly (Arestis, Nissanke & Stein, 2005). The liberalization of a financial system can bring to bear a positive as well as a significant influence on economic growth rate because interest rate moves towards their competitive market equilibrium, while resources and other capital are efficiently and effectively allocated. The theory is imperative to the study as non-life insurance companies are firms in the Nigerian financial sector, because their growth and development have the potential to galvanize the growth of the Nigerian economic.

2.5 Insurance Risk Theory

This theory was propounded by Minkova (2002). Insurance Risk Theory model is akin to non-life insurance mathematics. The theory states that non-life insurance firm’s risk process is a function of the premiums total of the non-life insurance firm up to a particular time(t), total amount of investment yield up to a particular time(t) and the accrued claims sum up to a particular time(t). The theory added that if the total amount of the premiums is higher than the accumulated sum of claims, more surplus funds are channeled into investment. This brings about the growth of the non-life insurance firm and economy at large. The theory is use in the study because the central point of non-life insurance business is risk. Backing the theory is Mishra (2007), who stated that from the theory, losses or profits from the premiums after claims payment are spread solely on the basis of risk theory and probability. Borch (1960) illustrated this theory using a very simple model. He considered a non-life insurance firms that have insurance contracts portfolios where everything would expire before the end of a particular period. He assumed that the premiums for every contract have been prepaid to the firm. The risk condition of the firm is determined by three elements namely:

(a) \( S(t) \) = the likelihood that the claims total amount made in the contracts shall not surpass \( x \).

(b) \( \Pi(t) \) = the funds (premiums) that the firm have that can be withdrawn to pay claims reported.

(c) \( I(t) \) = investment yields from different portfolios of investment of non-life insurance company.

Therefore, based on the above elements present in the risk condition of non-life insurance firms, insurance claims payment represents expenditure to the non-life insurance firm while premiums, profit and investment yield are income.

2.6 Empirical Literature Review

In 2014, Zouhaier examined the link between the insurance industry and growth of twenty three Organization for Economic Cooperation and Development (OECD) countries’ economies between 1990 - 2011 adopting a static panel data model. Findings from this study revealed positive influence of non-life insurance on the growth of the economy. Non-life insurance was measured by insurance penetration rate while insurance density influenced the growth of the economy negatively. Ward & Zurbruegg in the year 2000 looked at the dynamic association in the short - term and long - term between the growth of the economy and the insurance sector development. The study was carried out on a sample of 9 OECD nations by conducting a cointegration analysis between 1961 to 1996. Real Gross Domestic Product was adopted as a proxy for economic activity and premiums total as a proxy for insurance business. Findings revealed that insurance influenced economic growth of certain nations such as Canada, Japan while in other economies, the influence was not much. Additionally, these findings show that the relationship is specific from country to country depending on a number of conditions such as regulatory environment, legal, cultural and the influence of moral hazard on insurance. In 2008, Haiss & Sumegi researched on the influence of insurance on the growth of the economy using twenty nine samples of European economies, which covered the period from 1992 to 2005. The sample was divided into two categories, one containing fifteen European Union nations, the other comprises the new member countries of the European Union such as Croatia and Turkey. The findings revealed positive influence of life insurance on the growth of Gross Domestic Product for the first group of nations, for the second group, it was discovered that a larger influence of the non-life insurance (liability insurance) on the GDP. The insurance variable was proxied by income from premium and net investment total of insurance firms. Income from premium was divided into life and non-life premium income. Estimation method of Ordinary Least Squares (OLS) was adopted. Based on the results, there was a positive influence of life insurance on gross domestic product.
growth in the (EU - 15) nations of Switzerland, Norway as well as Iceland, while non-life insurance has much influence in Eastern & Central Europe.

The research conducted in 2010 by Han, Li, Moshirian&Tian investigated the link between insurance development and the growth of the economy. They used a model from a dynamic panel data on seventy seven nations between 1994 to 2005. Insurance density was a proxy for development of the insurance. From their results, conclusion was that insurance development is positively correlated the growth of the economy. Kugler&Ofoghi (2005) researched on the influence of the insurance market size on the growth of the economy in the United Kingdom from 1966 - 2003 for long term insurance, and from 1971 to 2003 for non-life insurance. Growth rate of real gross domestic product per capita was used as a substitution for the growth of the economy. Premiums of non-life and life insurance were used as substitutions for the activity of insurance. Their results indicated a causal link exists between long-term insurance market growth and the growth of the economy for eight of the nine categories of insurance businesses. In 2005, Boon conducted an examination of Singapore economy to determine the influence of insurance on the economy using multiple regression and correlation techniques. Boon observed that the total insurance funds influenced capital formation and gross domestic product growth both in short run and in long run. The importance of Boon’s discovery have to do with the fact that insurance as well as its core operations has much to do with investment that in turn correlate with increased economic growth and productivity directly.

Furthermore, in 2008, Wadlamannati looked at the implications of insurance growth, reforms together with other related control variables on economic development in India from 1980 to 2006. Insurance penetration growth of life, non-life and total was used as proxies for the growth of insurance sector. Ordinary least square (OLS), cointegration analysis and error correction models (ECM) techniques of data analysis were carried out. The finding revealed a positive influence of insurance sector on economic development as well as a long run equilibrium relationship existing between the variables. Also, insurance sector reforms did not influence economic activity but their growth has positive influence on the development of the economy. In 2002, Webb, Grace & Skipper investigated whether life insurance firms, non-life insurance firms and banks contribute to the growth of the economy both individually and collectively using fifty five countries for the period 1980-1996. They adopted multiple regression analysis technique. The discoveries indicated that non-life insurance firms have not significant influence on the growth of the economy. Kjosevski (2011) studied the influence of insurance on economic growth employing insurance penetration as proxy for insurance development. The author employed three variables of insurance penetration of life and non-life insurance as well as total insurance penetration from 1995 to 2010 of the Republic of Macedonia adopting Ordinary Least Squares approach. The finding indicates that the insurance sector development positively influenced economic growth. Careful examination of the finding revealed that non-life insurance subsector influenced the growth of the economy positively while life insurance subsector maintained a negative influence on the growth of the economy.

Contemporary researches carried out in Nigeria discovered mix findings. Olayunbo (2015) examined distinctly the contributions of life and non-life insurance to the growth of the economy in Nigeria between the period of 1976 - 2013. Autoregressive distributed lags (ARDL) was employed and specified integration of the variables of interest at different order. Haven estimated the growth model; bound test analysis reveals that a long - run relationship existed between the variables in Nigeria based on the study period. The dynamics of the long-run as well as the short-run additionally shows that there is a positive and significant contributions of life and non-life insurance to the growth of Nigerian economy. Conclusion was that life and non-life insurance firms complement Nigerian economic growth rather than substitutes. Mojekwu, Agwuegbu&Olowokudejo (2011) researched on the contributions of insurance to Nigerian economic growth in Nigeria from 1981 - 2008 (27 years) employing a model of dynamic factor. The finding reveals that there is a positive relationship existing between insurance contribution and the growth of Nigerian economy. Premium income volume was proxied for insurance sector contribution.

Yinusa&Akinlo (2013) investigated the long - run and short - run relationship between the development of insurance and the growth of economy in Nigeria from 1986 to 2010 adopting error correction model. The results show that the development of insurance co-integrates with the growth of economy in Nigeria. This implies that the development of insurance and the growth of the economy in Nigeria maintained a long run relationship. However, insurance sector contributed statistically significant to the growth of Nigerian economy. Similarly, Akinlo (2013) embarked on the study to ascertain the causal relationship existing between insurance sector and the growth of economy in Nigeria from 1986 – 2010 employing Vector Error Correction Model. The discoveries were that insurance sector has positive and significant contributions to the growth of Nigeria economy because they give the needed long term funds for investment and risk-absolving. Oyedotun&Adesina (2015) examined the connection between the growth of the economy and the business of insurance in Nigeria (1980-2011). They found out a positive and significant relationship existing between the business of insurance and the growth of Nigerian economy.

Eze&Okoye (2013) observed the influence of the practice of insurance on Nigerian economy growth. The determinants of the practice of insurance that were used were insurance premium, insurance investment total and insurance development income. They conducted unit root test analysis, Johansen cointegration test analysis and error correction test
analysis to observe the short - run and long - run implications of the model. Finding from the research revealed a causal relationship existing between insurance sector development and the growth of Nigerian economy. Ngereboa (2014) empirically analyzed the influence of insurance industry investment performance on the growth of Nigerian economy from 1980 – 2010 employing Phillips-Perron (PP) and Augmented Dickey-Fuller (ADF) Unit Root Tests analysis. GDP and total investment of insurance firms were found to be integrated after first differencing, with a long run equilibrium relationship. Finding further revealed a positive and insignificant relationship existing between total investment and the growth of economy as proxied by GDP.Maryann, Steve & John (2016) examined the contributions of insurance investment to Nigerian economic growth (980 – 2014). The study adopted a technique for analysis called Generalized Method of Moments (GMM). Result reveals that investments from insurance sector have positive and significant influence on GDP.Umoren& Joseph (2016) studied the relative contributions of Nigerian insurance industry to economic growth in Nigeria (1970-2012) using an ex post facto research design and a multiple linear regression technique of data analysis were the reported t-statistics values were employed to test the hypotheses. The finding was that the growth of insurance has positive and significant contributions to Nigerian economic growth. Incomes from premium maintained a positive contribution to GDP. The finding further revealed that claims payment expenditure influenced economic growth in Nigeria negatively.

3. METHODOLOGY

The study adopted the ex post facto research design. Because of this design, the researcher searched for information through existing resources like journals, internet, reports and statistical bulletins. This design was employed because the researcher did not have the ability to manipulate the independent variables due to the fact that they have already occurred. The population of the study is the total number of licensed non-life insurance firms operating in Nigeria from 1981 to 2017, which are fifty eight (58) insurance companies. According to Nigeria Insurance Digest (2017) and NAICOM Annual Report (2017), there are ten (10) composite insurance companies and thirty one (31) specialist Non-Life insurance companies, making a total of forty one (41) non-life insurance companies and seventeen (17) life insurance companies operative in Nigeria as at December, 2017. Therefore, the population of this study is the fifty eight (58) insurance firms operating in Nigeria. The theoretical model used in this research is adapted from Insurance Risk Theory model by Minkova (2002) that is akin to non-life insurance math. The elementary process of non-life insurance risk model is stated below:

\[ X(t) = \Pi(t) + I(t) - S(t) \]

The above equation is called risk process of non-life insurance company.

Where:
\[ \Pi(t) = \text{the premiums amount total of non-life insurance firm to a particular time(t)} \]
\[ S(t) = \text{the accumulated claims sum to a particular time(t)} \]
\[ I(t) = \text{the total investment yield to a particular time(t)} \]
\[ X(t) = \text{the non-life insurance firm risk process.} \]

The risk condition of the non-life insurance firms is however, then determined by three elements as stated below:
(a) \( S(t) = \text{the likelihood that the claims total amount made in the contracts shall not surpass (x).} \)
(b) \( \Pi(t) = \text{the premiums (funds) that the firm have that can be withdrawn to pay claims reported.} \)
(c) \( I(t) = \text{investment yields from different portfolios of investment of non-life insurance company} \)

In the end of the financial year or period, non-life insurance firm will hold the amount of NI(t) stated in the model below:
\[ N(t) = \Pi(t) + I(t) - S(t), \Pi(t) > S(t) \]

Where \( N(t) \) is the non-life insurance profitability variate with the probability distribution (profitability to be reinvested into the economy).

Based on the theoretical model, we employed the multiple linear regression approach to examine the relationship existing between the variables used in the study. The Multiple Linear Regression models are specified as follows:
\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_nX_n + u_i \]

Where:
\[ Y = \text{Dependent variable} \]
\[ \beta_0 = \text{regression constant} \]
\[ \beta_1, \beta_2, \ldots, \beta_n = \text{independent variables’ coefficients} \]
\[ X_1, X_2, \ldots, X_n = \text{independent variables} \]
\[ u_i = \text{stochastic error term}. \]

The models would be formulated from the theory adopted for this study. The functional models are stated below:
\[ PCINR = F(NLPRFR, NLIPEN, NLIDEN) \]  \[ \text{[equ. 1]} \]
\[ RGDP_R = F(NLCLMR, INVYD) \]  \[ \text{[equ. 2]} \]
\[ RGDP_D = F(NLPRFR, NLCLMR, NLIPEN, NLIDEN, INVYD) \]  \[ \text{[equ. 3]} \]

The models are linearized and incorporated into the research hypotheses as follows:
\[ PCINR = \beta_0 + \beta_1NLPRFR + \beta_2NLIPEN + \beta_3NLIDEN + u_i \]  \[ \text{[equ. 4]} \]
RGDPR = $\beta_0 + \beta_1NLCLMR + \beta_2INVYD + u_t$  \hspace{1cm} \text{[equ. 5]}
RGDPR = $\beta_0 + \beta_1NLPRFR + \beta_2NLCLMR + \beta_3NLIPEN + \beta_4NLIDEN + \beta_5INVYD + u_t$ \hspace{1cm} \text{[equ. 6]}

Where:

- PCINR = Economic Growth rate as measured by Per Capita Income Growth rate (Dependent variable)
- RGDPR = Economic Growth rate as measured by Real Gross Domestic Product Growth rate (Dependent variable).
- NLPRFR = Non-Life insurance profitability growth rate (Independent variable)
- NLIPEN = Non-Life insurance penetration rate (Control variable)
- NLIDEN = Non-Life insurance density rate (Control variable)
- NLCLMR = Non-Life insurance claims payment growth rate (Independent variable)
- INVYD = Non-life insurance investment yields (Control variable)

The a priori probability offers expected signs and significance of the values of the coefficient of the variables of the study that would provide empirical evidence and theoretical claims. Hence, the incorporated variables in the linearized models are expected to either have + (positive) or – (negative) signs, that implies a positive or negative relationship to general growth of the economy in Nigeria. Appriori, it is expected that only NLIDEN will maintain a negative relationship with economic growth because the number of policyholders compared to the total population in Nigeria is low. Other variables are expected to maintain a positive relationship with economic growth. The researcher collected secondary data for this study. The data were panel data and cross sectioned data. The data collected were presented in table. The data extracted were from existing published documents and materials, such as the Central Bank of Nigeria (CBN) Statistical Bulletin, NAICOM Annual Reports, Nigerian Insurers Digest Reports, International Monetary Fund and World Economic Outlook Database among others. The data used for the study covered the activities of all licensed non-life insurance firms operating in Nigeria. Nigeria economic growth was measured by Real Gross Domestic Product (RGDP) and per capita income. Other data on the profitability growth rate of non-life insurance firms, investment yields of non-life insurance business, non-life insurance penetration and density rates as well as claims payment in non-life insurance policies were used. These data on the variables cover the period from 1981 to 2017 (thirty seven years).

In this research, descriptive statistics and trend analyses were conducted in order to determine the mean, standard deviation, minimum and maximum values of the variables as well as the trend of the variables. Additionally, the researcher also examines the relationship between variables of non-life insurance firms’ contributions to economic growth in Nigerian by employing Multiple Linear Regression of Ordinary Least Squares tool. In order to test for the significance of individual explanatory variables as well as coefficients so as to examine the extent of a linear relationship existing between the independent, control and dependent variables, we adopt the $t$-statistic to carry out the test. When the calculated $T$-value ($t_c$) is greater than the critical value of $T$-value ($t_t$) at 5 percent (0.05) level of significance, the independent or control variable is considered to have a linear, positive and significant relationship with the dependent variable, and the null hypothesis is rejected. The reported $t$-statistics from the OLS outputs were used to test the research hypotheses with the aid of Eviews software. The researcher adopted the R-squared ($R^2$) in order to determine the explanatory power of the regression models. It is also used to measure the goodness of fit of the regression line. However, F-statistic was used to test the significance of the overall model. Adjusted R-squared ($R^2$), also referred to as the coefficient of determination adjusted for the degrees of freedom (n-k-1). It is further adopted to determine the proportion of disparities in economic growth as explained by the regression model.

Durbin Watson (Dw) is a statistical technique aimed at the investigation of whether the assumptions of statistical methods employed are satisfied or not, in any particular case. It is employ to test for auto serial correlation (auto-correlation) of variables in the regression model. It is used to test the presence or absence of auto-correlation. When the statistic value falls within the inclusion region, therefore, it is presumed that the model is free from both positive and negative serial correlation. For Durbin Watson (Dw) statistical analysis, if $d < d_c$, but not $> d_u$, errors are positively autocorrelated, if $d > d_u$, errors are not positively autocorrelated, if $d_l < d < d_u$, the test is inconclusive. Where: $d =$ Durbin Watson statistic; $d_l =$ Durbin Watson statistic on the lower region; $d_u =$ Durbin Watson statistic on the upper region. The test of the null hypothesis ($H_0$) contrary to the alternate hypothesis ($H_1$) is to reject null hypothesis when the calculated $t$-value ($t_c$) is greater than critical table $t$-value ($t_t$). That is if ($t_c > t_t$). But if ($t_c < t_t$), the decision is to accept the null hypothesis. Alternatively, $H_0$ is rejected if the calculated statistical probability is less than the $P$-Value of 5% (0.05) level of significance. The degree of freedom will be obtained by using the formula n-k-1.

Where:

- n = number of observation;
- k = number of parameters; and
- l = constant.
4. DATA PRESENTATION, ANALYSIS AND FINDINGS

4.1 Data Presentation

Table 1. Relationship between non-life insurance firms’ performance indicators and economic growth rate in Nigeria from 1981 to 2017

<table>
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<tr>
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<th>PCINR (%)</th>
<th>RGDPR (%)</th>
<th>NLCLMR (%)</th>
<th>NLPFR (%)</th>
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4.2 Descriptive Statistic and Trend Analysis

Table 2. Descriptive Statistics

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<td>.3262</td>
<td>32.543</td>
</tr>
<tr>
<td>NLIDEN</td>
<td>37</td>
<td>.02</td>
<td>11.57</td>
<td>3.1727</td>
<td>3.68143</td>
</tr>
<tr>
<td>INVYD</td>
<td>37</td>
<td>.01</td>
<td>9.23</td>
<td>2.4735</td>
<td>3.05616</td>
</tr>
<tr>
<td>PCINR</td>
<td>37</td>
<td>10.31</td>
<td>13.63</td>
<td>5.5968</td>
<td>4.16384</td>
</tr>
<tr>
<td>RGDPR</td>
<td>37</td>
<td>1.58</td>
<td>11.36</td>
<td>4.4851</td>
<td>3.09859</td>
</tr>
</tbody>
</table>

Valid N (listwise) 37

Source: Researcher’s Computation

Table 4.2 shows that non-life insurance profitability growth rate (NLPFR) has a mean score of 32.98. NLPFR has a standard deviation of 31.06, showing that the deviation from the mean is low. This indicates that the data are clustered below the mean. The minimum value of profitability growth rate of non-life insurance firms was recorded in 2017 with the
value of 0.00 and a maximum value of 101.45 recorded in 2017. This statistics reveals that the level of deviation of the minimum from the maximum value is high. Thus, indicating much disparity in profitability growth rate of non-life insurance firms (NLPRFR) for different years. Additionally, non-life insurance claims payment growth rate (NLCLMR) has a mean score of 28.12, which implies that the average claims payment growth rate of non-life insurance firms is 28.12. It further shows that claims payment growth rate had a standard deviation of 24.44, indicating a low deviation from the expected mean. This implies that the data is clustered below the mean. The descriptive statistics analysis also shows a minimum value of 0.00 and a maximum value of 91.37. This explains a high level of difference in the claims payment growth rate of non-life insurance firms across the specified years used in the study.

Non-life insurance penetration rate (NLIPEN) had an average score of 0.326 and a standard deviation of 0.325. This implies that there is no much difference in NLIPEN across different years under this study. This is also evidenced in the result which shows a minimum value of 0.01 and a maximum value of 0.95. Table 4.2 further reveals that the mean value of non-life insurance density rate (NLIDEN) is 3.17 with the value of standard deviation 3.68 showing that the deviation from the mean is quite low hence; the data are clustered above the mean. The result also shows that NLIDEN has a minimum value and a maximum value of 0.02 and 11.57 respectively. The maximum value of NLIDEN indicates reasonable commitment of non-life insurance firms to insurance density in Nigeria. The average value for non-life insurance investment yield (INVYD) is 2.47 with a standard deviation of 3.05. Therefore, there exists very significance variation among the values of INVYD across the period under study. The minimum value is 0.01 while the maximum value is 9.23. The statistics reveal that the level of deviation of the minimum from the maximum value is high. Thus, indicating a high disparity in the level of investment yield growth rate of non-life insurance firms in Nigeria for different years.

Economic growth rate as proxied by Per capita income growth rate (PCINR) maintained the mean value of 5.59 and the value of the standard deviation is 4.16 which implied low variations in economic growth rate. The maximum and minimum values were 10.31 and 13.63 respectively. This indicates a low disparity in the level of economic growth rate in Nigeria for different years. Economic growth rate as proxied by Real Gross Domestic Product growth rate (RGDPR) had an average score of 4.48 and a standard deviation of 3.09. This implies that the data are clustered below the mean. The result also shows a minimum value of 1.58 and a maximum value of 11.36. These statistics reveal that the level of deviation of the minimum from the maximum value is high. Thus, indicating much disparity in economic growth rate for different years. In Table 4.2, it is observed that non-life insurance penetration rate (NLIPEN), which is used to measure the deepness of a country’s non-life insurance market is still below 1% as evidenced in the data series. There is a fluctuating movement in the trend from 1981 (0.02%) to 0.09% in 2017. Furthermore, the fluctuating trend of other variables (NLIDEN, NLCLMR and INVYD) affects the smooth movement of non-life insurance profitability growth rate as seen in figure 1 below. These activities have direct impact on the economic growth rate as proxied by per capita income and real gross domestic product respectively.

Source: Researcher’s representation

As observed above in figure 1, non-life insurance profitability growth rate increased with fluctuating trend compared to other non-life insurance indicators. Per capita income rate increased steadily above the horizontal axis. The figure further showed that non-life insurance claims payment growth rate fluctuates over the years, which caused a steady growth in the investment yields. These movements triggered economic growth as proxied by real gross domestic product to grow above the horizontal line axis. The trend also indicates that non-life insurance profitability increased at a faster rate followed by claims payment. Penetration rate, density rate and investment yield increased slowly above the horizontal axis, which triggered economic growth to increase steadily along with the controlling variables. The implication of this trend is that
non-life insurance profitability growth rate increase at faster rate than claims payment meaning that more surplus funds are channeled into investments to stimulate economic growth.

4.3 Presentation and Analysis of Empirical Results

4.3.1 Testing of Hypothesis One

**H₀**: There is no significant relationship between profitability growth rates of non-life insurance firms and economic growth rate in Nigeria.

The empirical model was stated as follows:

\[ \text{PCINR} = \beta_0 + \beta_1 \text{NLPRFR} + \beta_2 \text{NLIPEN} + \beta_3 \text{NLIDEN} + \epsilon_t \]

The summary of the empirical results from Table 4.3 are presented below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>3.175011</td>
<td>0.791084</td>
<td>4.013497</td>
<td>0.0004</td>
</tr>
<tr>
<td>NLPRFR</td>
<td>0.009942</td>
<td>0.003681</td>
<td>2.700896</td>
<td>0.0099</td>
</tr>
<tr>
<td>NLIPEN</td>
<td>10.09150</td>
<td>4.490636</td>
<td>2.247231</td>
<td>0.0321</td>
</tr>
<tr>
<td>NLIDEN</td>
<td>-0.024863</td>
<td>0.012945</td>
<td>-1.920729</td>
<td>0.0643</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.285 \quad \text{Adjusted R-squared} = 0.247 \]

\[ F\text{-statistic} = 4.895 \quad \text{Durbin-Watson} = 1.73 \]

Table 3. Ordinary Least Squares (OLS) Regression Analysis for testing of hypothesis one

Source: Researcher’s Computation

Interpretation:

The test of the null hypothesis (H₀) against the alternate hypothesis (H₁) is that H₀ is rejected if the calculated t-value (t_c) is greater than critical table t-value (t_t). That is if (t_c) > (t_t). Using a 5% (0.05) level of significance, the degree of freedom is obtained by n-k-1; n = 37, k = 3. The degree of freedom is 37-3-1 = 33. The critical table value (t_t) is 2.042. Therefore, since the calculated t-value (t_c) of 4.01 is greater than the critical table t-value (t_t) of 2.042 i.e, 4.01 > 2.042, the null hypothesis was rejected and the alternative hypothesis was accepted, which states that there is a significant relationship between profitability growth rates of non-life insurance firms and economic growth rate in Nigeria.

4.3.2 Testing of Hypothesis Two

**H₀**: There is no significant relationship between claims payment growth rate of non-life insurance firms and economic growth rate in Nigeria.
The empirical model was stated as follows:

\[ \text{RGDPR} = \beta_0 + \beta_1 \text{NLCLMR} + \beta_2 \text{INVYD} + u_t \]

The summary of the empirical results from Table 4.4 are presented below:

\[ \text{RGDPR} = 4.709262 + 0.055206\text{NLCLMR} + 0.073479\text{INVYD} \]

t-statistic = [6.54] [2.93] [2.31]

p-value = [0.0000] [0.0063] [0.0281]

Std. Error = [0.720529] [0.018863] [0.031754]

\[ \text{R}^2 = 0.316 \]

Adjusted R-squared = 0.300

F-statistic = 7.246

Durbin-Watson = 1.847
t-critical = 2.042

The test of the null hypothesis (H_0) against the alternate hypothesis (H_1) is that H_0 is rejected if the calculated t-value (t_c) is greater than critical table t-value (t_t). That is if (t_c) > (t_t). Using a 5% (0.05) level of significance, the degree of freedom is obtained by n-k-1; n = 37, k = 2. The degree of freedom is 37-2-1 = 34. The critical table value (t_t) is 2.042. Therefore, since the calculated t-value (t_c) of 6.54 is greater than the critical table t-value (t_t) of 2.042 i.e.6.54 > 2.042, the null hypothesis was rejected and the alternative hypothesis was accepted, which states that there is a significant relationship between claims payment growth rate of non-life insurance firms and economic growth rate in Nigeria.

### 4.3.3 Testing of Hypothesis Three

**H_0:** There is no joint significant relationship between profitability, claims payment of non-life insurance firms and economic growth rate in Nigeria.

The empirical model was stated as follows:

\[ \text{RGDPR} = \beta_0 + \beta_1 \text{NLPRFR} + \beta_2 \text{NLCLMR} + \beta_3 \text{NLIPEN} + \beta_4 \text{NLIDEN} + \beta_5 \text{INVYD} + u_t \]

The summary of the empirical results from Table 4.5 are presented below:

\[ \text{RGDPR} = 8.560 + 6.591\text{NLPRFR} + 1.176\text{NLCLMR} + 0.128\text{NLIPEN} + 2.035\text{NLIDEN} + 1.128\text{INVYD} \]
The findings from the test of research hypothesis one is calculated to be $4.01$ with $t = 2.042$, it indicated that NLPRFR has contributed positively and significantly to the economic growth in Nigeria from 1981 to 2017. The analysis further revealed that a $t$-statistic of 2.042 attributed to non-life insurance penetration rate (NLIPEN) is an indication that NLIPEN has contributed positively and significantly to the economic growth in Nigeria. Conversely, non-life insurance density rate (NLIDEN) has a $t$-statistic of -1.92 indicating a negative and insignificant influence on economic growth in Nigeria.

### Discussion of the Findings

In the first hypothesis, a regression coefficient of 3.175011 implies that there is a positive relationship between profitability, penetration, density growth rates of non-life insurance firms and economic growth rate in Nigeria. The coefficient of determination ($R^2$) was 0.285 which implies that about 28.5% variations in per capita income growth rate (PCINR) were caused by NLPRFR, NLIPEN, and NLIDEN while the remaining 71.5% were due to other variables outside the regression model which also affects PCINR in Nigeria. Using a 5% (0.05) level of significance, the degree of freedom was obtained by $n-k-1; n = 37, k = 5$. The degree of freedom is 37-5-1 = 31. The critical table value ($t_c$) is 2.042. Therefore, since the calculated $t$-value ($t_c$) of 7.63 is greater than the critical table $t$-value ($t_c$) of 2.05 it confirms the null hypothesis was rejected and the alternative hypothesis was accepted which states that there is a joint significant relationship between profitability, claims payment of non-life insurance firms and economic growth rate in Nigeria.

### 4.4 Discussion of the Findings

The $t$-statistic of 4.895 and prob$(F$-statistic) of 0.001 confirmed that there is a linear relationship between economic growth and at least one of the independent variables and also indicated that the model has a good fit. The Durbin-Watson statistic of 1.73, shows that if $\alpha = 0.05$, then Durbin-Watson Statistic gives the critical values corresponding to $n = 37$ and 3 regressors (degree of freedom = 37-3-1 = 33) as $d_0 = 1.07$ and $d_1 = 1.83$. Therefore, since $d_2 = 1.73 < d_1 = 1.83$, it was concluded that the errors are positively autocorrelated. The findings from the test of research hypothesis one is consistent with Insurance Risk Theory propounded by Minkova (2002) that if the total amount of the premiums is higher

### Table 5. Ordinary Least Squares (OLS) Regression Analysis for testing of hypothesis three

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>8.560590</td>
<td>1.120658</td>
<td>7.638896</td>
<td>0.0000</td>
</tr>
<tr>
<td>NLPRFR</td>
<td>6.591358</td>
<td>2.706240</td>
<td>2.435615</td>
<td>0.0227</td>
</tr>
<tr>
<td>NLCLMR</td>
<td>1.176030</td>
<td>0.568687</td>
<td>2.067975</td>
<td>0.0480</td>
</tr>
<tr>
<td>NLIPEN</td>
<td>0.128749</td>
<td>0.021454</td>
<td>6.001165</td>
<td>0.0000</td>
</tr>
<tr>
<td>NLIDEN</td>
<td>2.035914</td>
<td>0.289004</td>
<td>7.044596</td>
<td>0.0000</td>
</tr>
<tr>
<td>INVYD</td>
<td>1.128114</td>
<td>0.280025</td>
<td>4.028622</td>
<td>0.0004</td>
</tr>
</tbody>
</table>

R-squared 0.472212
Adjusted R-squared 0.367250
S.E. of regression 0.4725|
Sum squared resid 2.067975
Log likelihood 1.839710
F-statistic 195.9253
Prob(F-statistic) 0.0000

Source: Researcher’s Computation
than the accumulated sum of claims, more surplus funds (profitability) are channeled into investment. This brings about the growth of the non-life insurance firm and economy at large. Empirically, the findings are consistent with the findings of Han, Li, Moshirian & Tian (2010), Kjosevski (2011), and Zouhaier (2014) that profitability and penetration rate of non-life insurance have positive and significant influence on economic growth while non-life insurance density maintained a negative and insignificant influence on economic growth.

In the second hypothesis, a regression coefficient of 4.709262 implies that there is a positive relationship between claims payment growth rate in non-life insurance policies, investment yields and economic growth rate in Nigeria. The coefficient of determination ($R^2$) was 0.316 which implies that about 31.6% variations in Real Gross Domestic Product growth rate (RGDPR) were caused by NLCLMR and INVYD while the remaining 68.4% were due to other variables outside the regression model which also affects RGDPR in Nigeria. Using a 5% (0.05) level of significance, the degree of freedom was obtained by $n-k-1$: $n = 37$, $k = 2$. The degree of freedom is $37-2-1 = 34$. The critical table value ($t_c$) is 2.042 ($0.05,34$). Therefore, since the calculated $t$-value ($t_c$) of 6.54 is greater than the critical table $t$-value ($t_c$) of 2.042 i.e $6.54 > 2.042$, the finding was that there is a significant relationship between claims payment growth rate, investment yields and economic growth rate in Nigeria. To determine the significance of the independent variables, we conducted a $t$-test for the parameter. Thus, since Non-life insurance claims payment growth rate (NLCLMR) has a $t$-statistic ($t_c$) of 2.93 greater than the critical $t$-value ($t_c$) of 2.042, it indicated that NLCLMR has contributed positively and significantly to the economic growth in Nigeria from 1981 to 2017. A $t$-statistic of 2.31 accredited to non-life insurance investment yields (INVYD) revealed that INVYD has contributed positively and significantly to the economic growth in Nigeria. The $F$-statistic of 4.895 and prob($F$-statistic) of 0.002 confirmed that there is a linear relationship between economic growth and at least one of the independent variables and also indicated that the model has a good fit.

The Durbin-Watson statistic of 1.84, shows that if I choose $\alpha = 0.05$, then Durbin-Watson Statistic gives the critical values corresponding to $n = 37$ and 2 regressors (degree of freedom = 37-2-1 = 34) as $d_l = 1.07$ and $d_U = 1.85$. Therefore, since $d_c = 1.84 < d_U = 1.85$, it was concluded that the errors are positively autocorrelated. The findings is in line with risk process theory of non-life insurance propounded by Minkova (2002) and supported by Mishra (2007) that the losses or profits from the premiums after claims payment can be distributed only on the basis of theory of risk and probability. The theory added that losses negatively affect the investible funds while profits increase the investible funds of non-life insurance firms that can be reinvested in order to galvanize economic growth. The findings from the test of hypothesis two have consistent empirical findings with the studies of Boon (2005), Haiss & Sumegi (2008), Eze & Okoye (2013), Ngereboa (2014), and Maryann, Steve & John (2016) that investment yields have positive and significant influence on economic growth.

Furthermore, a regression coefficient of 8.560 in the third hypothesis implies that there is a positive relationship between profitability, claims payment growth, penetration, density, investment yield rates of non-life insurance firms and economic growth rate in Nigeria. The coefficient of determination ($R^2$) was 0.472 which implies that about 47.2% variations in Real Gross Domestic Product growth rate (RGDPR) were caused by NLPRFR, NLCLMR, NLIPEN, NLIDEN and INVYD while the remaining 52.8% were due to other variables outside the regression model which also affects RGDPR in Nigeria. Using a 5% (0.05) level of significance, the degree of freedom was obtained by $n-k-1$: $n = 37$, $k = 5$. The degree of freedom is $37-5-1 = 31$. The critical table value ($t_c$) is 2.042 ($0.05,31$). Therefore, since the calculated $t$-value ($t_c$) of 7.63 is greater than the critical table $t$-value ($t_c$) of 2.042 i.e $7.63 > 2.042$, the finding was that there is a joint significant relationship between profitability, claims payment of non-life insurance firms and economic growth rate in Nigeria. To determine the significance of the independent and controlling variables, we conducted a $t$-test for the parameter. Thus, since non-life insurance profitability growth rate (NLPRFR) has a $t$-statistic ($t_c$) of 2.43 greater than the critical $t$-value ($t_c$) of 2.042, it indicated that NLPRFR has contributed positively and significantly to the economic growth in Nigeria from 1981 to 2017. A $t$-statistic of 2.06 accredited to non-life insurance penetration rate (NLCLMR) revealed that NLCLMR has contributed positively and significantly to the economic growth in Nigeria. Also, non-life insurance density maintained a negative and insignificant influence on economic growth while non-life insurance investment yields influenced economic growth significantly as evidenced in the $t$-statistics values of 7.04 and 4.02 respectively.

The $F$-statistic of 195.93 and prob($F$-statistic) of 0.000 confirmed that there is a linear relationship between economic growth and at least one of the independent variables and also indicated that the model has a good fit. The Durbin-Watson Statistic of 1.51, shows that if I choose $\alpha = 0.05$, then Durbin-Watson Statistic gives the critical values corresponding to $n = 37$ and 5 regressors (degree of freedom = 37-5-1 = 31) as $d_l = 1.07$ and $d_U = 1.85$. Therefore, since $d_c = 1.51 < d_U = 1.85$, it was concluded that the errors are positively autocorrelated. Theoretically, the findings from the test of hypothesis three is in line with finance-growth nexus theory by Schumpeter (1911), which states that the mobilization of profits, savings, efficient resources allocation, re-investment of mobilized financial resources into the economy would facilitate economic growth. The findings also have consistent empirical findings with the studies of Webb, Grace & Skipper (2002), Kjosevski (2011), and Olayungbo (2015) that non-life insurance firms have positive and significant influence on economic growth.
5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study was carried out to examine the contributions of non-life insurance firms to economic growth in Nigeria. Insurance contracts that do not come under the ambit of life insurance are called general or non-life insurance. The risks that are covered by non-life insurance are property losses arising from theft, fire, accident, etc and liability losses arising from damage caused by an individual to a third party, such as accidental death or injury. General or non-life insurance, which form the central point of this study, is divided into eight categories- fire insurance business; general accident insurance business; motor vehicle insurance business; marine and aviation insurance business; oil and gas insurance business; engineering insurance business; bonds credit guarantee and suretyship insurance business; and miscellaneous insurance business. Non-life insurance subsector has links to sectors such as industrial, transportation, agriculture, mining, engineering, petroleum and trade both locally and internationally, its relevance to general human activities has continued to grow for all ages as all categories of risks increase. The major findings from this study are summarized below;

There is a significant relationship between profitability growth rate of non-life insurance firms and economic growth rate in Nigeria. Non-life insurance density rate has a negative and insignificant contribution to per capita income growth in Nigeria.

There is a significant relationship between claims payment growth rate of non-life insurance firms and economic growth rate in Nigeria.

There is a joint significant relationship between profitability, claims payment of non-life insurance firms and economic growth rate in Nigeria.

5.2 Conclusion

The findings of this study improve the understanding of the contributions of non-life insurance firms to economic growth in Nigeria by providing useful information to non-life insurance companies, investors, regulators and supervisory authorities. The findings of this study revealed that the variables used in this study to examine the contributions of non-life insurance firms to economic growth in Nigeria are similar to those used in other developing and developed countries. The findings of the study established the statistical significant relationship between two dependent variables (PCINR and RGDR) and five independents variables (NLPRFR, NLIPEN, NLIDEN, NLCLMR and INVYD) respectively. Based on the findings of the study, it can be concluded that all the variables that have been considered during the analysis are important but they have been rated differently based on their aggregate contribution. In this case profitability, penetration, claims payment, investment yields growth rates of non-life insurance firms made strongest contributions to economic growth rate in Nigeria while non-life insurance density contributed negatively and insignificantly to economic growth rate in Nigeria.

5.3 Recommendations

Based on the findings from this study, the following policy recommendations are made:

Since non-life insurance density contributed negatively and insignificantly to economic growth, there is need to increase the sales volumes of non-life insurance policies for more premium income. There is need to reinvest the profit of non-life insurance firms for more contribution to economic growth. Genuine claims should be promptly and fairly pay to policyholders so that they in turn reinvest part of the claims amount into the economy in order to stimulate economic growth. To increase the investment yields of non-life insurance firms, there is need diversify their investment portfolios. There is need to increase non-life insurance penetration and density rates through awareness and enlightenment programmes by non-life insurers, industry regulators/stakeholders and governments in order to increase the patronage of non-life insurance services in Nigeria.

REFERENCES


