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EFFECTS OF MACRO ECONOMIC VARIABLES ON THE GROWTH OF INSURANCE INDUSTRY IN NIGERIA (1981 – 2018)

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ABSTRACT: *This study examined the effect of macroeconomic variables on the growth of insurance industry in Nigeria, for the period, 1981 – 2018. Specifically the study examined the effect of exchange rate on total insurance premium; the effect of inflation rate on total insurance premium; the effect of poverty rate on total insurance premium as well as the effect of gross domestic product on total insurance premium. Unit roots of stationary and descriptive statistics of normality were used to treat the variables of interest. Autoregressive Distributive Regression Lag was used to analyze the hypotheses in the study. Result reveals that: Poverty rate and exchange rate have negative and non significant impact on Insurance premium in Nigeria; Inflation rate has negative and significant impact on Insurance premium in Nigeria; while economic growths have positive and non significant impact on Insurance premium in Nigeria. It was concluded that macroeconomic variables play a serious negative implication on the level of insurance premium in Nigeria. The study recommends that efforts should be made by the government to increase employment and reduce poverty by encouraging small and medium sector and real sector development so as to embrace insurance products. Management of exchange rate and increase in export as well as our foreign reserve will help to stabilize our currency so that insurance business will flourish. Government should embark on ban on the importation of foreign goods to encourage our indigenous companies and stabilize inflation. Economic growths affected every sphere of the real sector activities such as production, distribution and reserve. Therefore real sector and financial sector activities should be reviewed so that economic growth will improve. This improvement is associated with an increase in insurance business activities and insurance premium improvement.*

Keywords: *Insurance, macroeconomic variables, exchange rate, growth, premium, total investment, inflation.*

INTRODUCTION

1.1 Background of Study

The British colonial government introduced insurance business into Nigeria in 1910. Before this time some forms of traditional social insurance had been in existence in every part of Nigeria. This was in the form of mutual and social scheme, which evolved through the extended family system, age grades and clan union of African cultures (Osoka, 1992). Out of twenty-five insurance companies that existed in 1960, only seven were indigenous and their total market share was far below 10% (Usman, 2009). The fallout from this was the drain on Nigeria foreign exchange earnings. As a result

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of this, a parliamentary committee was therefore set up in 1964, under the chairmanship of HonourableObadan, to look into foreign domination of insurance. In the end, Obadan committee's recommendation could not go beyond sensitization of Government over the danger inherent in the foreign domination of insurance industry (Usman, 2009). There was a phenomenal increase in the number of insurance companies in Nigerian financial market following the introduction of Structural Adjustment Programme (SAP) in mid 1986. The need for intervention and control of the government led to the formation of National Insurance Corporation of Nigeria (NICON). Yinka and Akinlo (2013) stated that in 1989 which was later christened NICON Plc. The number of insurance companies increased from 70 in 1976 to 110 in 1990. However, to streamline insurance business activities and stem the upsurge of the "mushroom" insurance companies, insurance capital base was raised from N1 million to N2 million. Fall-out from this event was that only fifty-seven out of one hundred and fifty-two insurance companies qualified for registration. This was coupled with the tighter control over the industry that requested for provision for the licensing and control of insurance intermediary.(Philip,2015). In an attempt to fortify insurance sector in Nigeria, the sub-sector has undergone two round of recapitalization over the past 8 years. The first of the two round of recapitalization occurred in 2003 in line with passing of the 2003 insurance act where insurance companies were required to increase their capital bases from N20 million to N150 million for life businesses, N70 million to N300 million for non-life businesses, and N150 million to N350 million for reinsurance businesses. Olaklekan and Taiwo (2013) opine that there were 117 insurance companies before the recapitalization in December 2002, 14 of them did not make it and were liquidated. In September 2005, a new capitalization requirement was announced, increasing the capital base to N2 billion for life businesses, N3 billion for non-life businesses and N10 billion for reinsurance. Following the completion of the 2005/6 recapitalization exercise, which also involved quite a number of consolidations, Mojekwu, Agwuegbo and Olowkwudejo (2011) stated that the number of insurance companies dropped from 103 to 49. In 2008 the total asset of insurance companies was N573, 152.48 billion (National Insurance commission, 2010). In Nigeria, insurance carriers accounted for 61% of jobs, while insurance agencies, brokerages and providers of other related-insurance services accounted for 39% of jobs in the industry. The majority of establishments in insurance industry were small. However, a few large establishments accounted for many of the jobs in the industry (National Bureau of Statistics, 2009). Insurance carrier tends to large establishments, often employ 250 or more workers, and whereas agencies and brokerages tend to be much smaller frequently employ fewer than 20 workers. Many insurance carriers' home and regional offices are situated near large urban centers. Insurance companies which deal directly with the public are located throughout the country. Most of the workers are working in local insurance company offices. Many others in the industry work for independent firms in small towns and cities throughout the country (Miadevos, 2011).

Akanro (2008) stated that Government legislation has also supported the prospect of growth for the industry. Regulations that have been propagated by the Government in recent times in support of growth in the industry include the following: Compulsory insurance for all public buildings as well as those under construction; compulsion for all private sector organizations operating in the country to enrolls their employees in National Health Insurance scheme to boost the resources base of the scheme; National Insurance Commission must ensure that any inhibitions to local insurers participating in the oil and Gas business are

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removed. It has also worked to ensure that "consortium bidding" is strongly considered by the Oil and Gas companies in selecting insurers for participation in the Oil and Gas business. This is to achieve a wider spread in participation by local insurance companies; an upward review of interest rates by the Central Bank that are currently earned on the Statutory Deposits of insurance companies which are placed with the CBN and the plan by the regulatory authority to address the tax law, which places separate tax on gross premium (Olayungbo, 2015).

Inspire all these efforts, insurance business have not being living up to expectation, the expectation was that insurance will contributes positively and significantly but even though it contributes positively but the extent of its positivity is non significantly. It has been suggested by scholars that part of the reasons for insurance inability to meet up these expectation are attributed to macro economic variables. Hence, this study wants to examine the Effect of macroeconomic variables on the growth of insurance industry in Nigeria, 1981 – 2018.

1.2 Statement of the Problem

A lot of work has been done on insurance and the economy, mostly on impact or effect or contribution of insurance to the economy. Only a few researched on the impact or effect of macroeconomic variable(s) on insurance growth. Nwangi (2017) assessed the effect of macroeconomic variables on financial performance of insurance companies in Kenya using regression analysis for the study. Ehiogu, Eze, Nwite (2018), examined the effect of inflation rate on insurance penetration of Nigerian industry using regression analysis. Others are on the impact or effect of macroeconomic variables on the economy, on international trade and crude oil sales. This study deviates from other studies that concentrate on macroeconomic variable and economic growth, macroeconomic variable and insurance business to focus on the effect of macroeconomic variables and insurance premium in Nigeria using Auto regressive distributed lag model. Beside, indices for macroeconomic variables also captured poverty rate which has not been captured in the previous work.

1.3 Research Objectives

The broad objective of this study is to examine the effect of macroeconomic variables on the growth of insurance industry in Nigeria, for the period, 1981 – 2018, while the specific objectives of the study are:

1. To examine the effect of exchange rate on total insurance premium.
2. To investigate the effect of inflation rate on total insurance premium.
3. To ascertain the effect of poverty rate on total insurance premium.
4. To determine the effect of gross domestic product on total insurance premium.

1.4 Research Questions

1. To what extent has interest rate had effect on total insurance prmium?
2. What is the magnitude of effect of inflation rate on total insurance premium?
3. What is the significant effect of poverty rate on total insurance premium?
4. To what extent has gross domestic product had effect on total insurance premium?

1.5 Statement of Research Hypotheses

The following are null hypotheses formulated for the study:

$H_0$1: There is no significant effect of exchange rate on total insurance premium.

$H_0$2: There is no significant effect of inflation rate on total insurance premium.

$H_0$3: There is no significant effect of poverty rate on total insurance premium.

$H_0$4: There is no significant effect of gross domestic product on total insurance premium.

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1.6 Significance of the Study

This study will be of great importance to insurance industry in that they will know the effect of some the used macroeconomic variables on their growth. It will help them make predictions and seek solutions to manage or avert the negative effects thereby seeking strategies to enhance growth.

The study will also be of immense importance to individuals and organizations who wish to invest in insurance business to be well informed on the effects some of the mentioned macroeconomic variables have on the industry when making their decisions.

The economists also will not be left out as the findings in this study will help them in making their analysis.

The study also will be a reference material to researchers. It will also be a starting point for researchers who desire to further the study.

1.7 Scope of the Study

This study examines the effect of macroeconomic variables on the growth of insurance industry in Nigeria for the period 1981 – 2018. Year 1981 was chosen as the scope because it is the first base year to Structural Adjustment Programmes (SAP) in Nigeria. 2018 was chosen as the upper scope because it will make the work more current than any other existing study.

REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

2.1.1 Macroeconomic Variables

Macroeconomic variables are economy- wide phenomena used to assess the overall performance of an economy, such as unemployment, inflation, economic growth, money supply, budget deficits, and exchange rates (Gale, 2008). They are also known as the averages or aggregates that cover an entire economy such as national income, national output, total investment, total employment, aggregate supply, aggregate demand, wage level, total consumption and cost structure (Jhingan,2010). In this study, the macroeconomic variables used are; exchange rate, inflation rate, poverty rate and gross domestic product (GDP) and they are explained below:

2.1.2 Exchange Rate

Rose Marquis (2006) defines exchange rate as the price of foreign currencies expressed in terms of other currencies. It also means the price of one country's currency expressed in terms of another county's currency (Ross, Westerfield, Jordan, 2001). Dauten, Welshans (1970), also refers to exchange rate as the conversion rate and defines it as the rate at which a given unit of foreign currency is quoted in terms of domestic currency. Henning, Pigott, Scott (1978), refer to it as price of on currency in terms of another and that it indicates the international value of money in terms of purchasing power. It is the rate at which on currency is exchanged for another (Jhingan, 2010). Using practical example, the exchange rate between the dollar and the naira refers to the number of naira required to purchase a dollar. Thus the exchange rate Omoko(2012) is stated between the dollar and the naira from the Nigerian point of view is expressed as N350 = $1. Exchange rate also represents the number of units of a given currency of a country that can be exchanged for unit of another currency (Oleka, 2012).

2.1.3 Inflation Rate

Inflation rate is the rate of increase in the average price level of all goods and services traded in an economy over any given period of time (Rose, Marquis, 2006). It is the percentage change in the purchasing power of one unit of currency over a certain period of time (Chandra, 2008). Inflation is seen as the third most important macroeconomic concept, which is an increase in the overall level of prices measured by the consumer price index which shows how the value of money changes

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over time (Gale, 2008). The value of money reduces greatly when the inflation rate is high.

2.1.4 Poverty Rate

Your dictionary (2018), defines poverty rate as the percentage of people who are living or making below the amount of deemed necessary by the federal government to have a basic standard of living. Poverty rate can also be defined as the aggregate of the number of people who fall below a certain level of known as the poverty line.

2.1.5 Gross Domestic Product (GDP)

GDP is a measure of the total production of final goods and services in the economy during a specified period usually one year (Chandra, 2008). Clark (1999), defines it as a measure of the value of all goods and services produced by a country, including those produced overseas, usually in a year. It is the value of final goods and services produced during a period of time by factors of production which earn income within the country concerned (including factor income earned with the country by foreigners) (Henning, Pigott, Scott, 1978). Gross domestic product is a measure of the market value of all goods and services produced in a country's economy within the geographical boundaries of the country (Rose, Marquis, 2006).

2.1.6 Growth

Growth means an increase in the ability of an economy or business to produce goods and services (Cambrigde Dictionary). Growth also means a process of developing or of increasing in size.

2.1.7 Insurance Industry

The insurance industry is made up of companies that offer risk management services in the form of insurance contract. It is all insurance companies in a country, continent or the world whose duty is to safe-guard against risks (Eche et al, 2000,.Okonkwo,2002)

2.2 Theoretical Framework

Economic Growth Theory

This is a theory propounded by Harrod and Domar in 1948. It is a theory that assigned a key role to investment in the process of economic growth, but they lay emphasis on the dual character of investment. Firstly, it creates incomes, and secondly, it augments the productive capacity of the economy by increasing its capital stock. The former may be regarded as the 'demand effect' and the latter the 'supply effect' of investment. Hence, so long as net investment is taking place, real income and output will continue to expand. However, for maintaining a full employment equilibrium level of income from year to year, it is necessary that both real income and output should expand at the same rate at which the productive capacity of the capital stock is expanding. Otherwise, any divergence between the two will lead to excess or idle capacity, thus forcing entrepreneurs to curtail their investment expenditures. Ultimately, it will adversely affect the economy by lowering their incomes and employment in subsequent periods and moving the economy off the equilibrium path of steady growth. Thus, if full employment is to be maintained in the long run, net investment should expand continuously. This further requires continuous growth in real income at a rate sufficient enough to ensure full capacity use of a growing stock of capital. This required rate of income growth may be called the warranted rate of growth or 'the full capacity growth rate. The above analysis is very important to this study because insurance is an investment that contributes positively to economic growth

2.3 Empirical Reviews

Ndalu (2011) examined the relationship between economic growth and insurance penetration in Kenya for the period 2003-2008. The objectives were to establish the insurance penetration levels in Kenya and to establish the relationship between economic growth and insurance penetration in Kenya. Simple regression

analysis was applied and the study found out that insurance penetration ratio increased by 0.10 to 2.7% in 2008 and that the deepening of insurance markets made a positive contribution to economic growth.

Oke (2012) examined the short and long run relationship between economic growth and insurance development in the Nigerian economy over the period 1985-2009. The study used gross domestic product and inflation rate as proxies for the level of economic growth and for insurance sector, number of insurance companies, premium of life and non-life insurance and total insurance investment were used as proxies. Ordinary least square regression analysis was used and it was discovered that insurance sector growth and development positively and significantly affect economic growth. The granger causality test carried out also revealed that the extent of influence the insurance sector growth had on economic growth was limited and not direct because of some cultural, values and attitudinal traits in the country.

Yinusa, Akinlo (2013) in their work titled insurance development and economic growth, 1986-2010 analysed both the long and short run relationship between insurance development and economic growth in Nigeria over the period 1986 to 2010. They applied error correction model (ECM) and found out that there was long run relationship between insurance development and economic growth in Nigeria and that there was statistically significant contribution of insurance to economic growth.

Murungi (2013) determined the relationship between macro economic variables and financial performance of insurance companies in Kenya for the period 2009-2013. The proxy used for insurance performance was return on asset (ROA) while the macroeconomic variables used were real exchange rate, GDP growth rate, change in money supply, average annual lending interest rates and inflation rate. In the study, data was analyzed using descriptive analysis, correlation analysis and multiple regression analysis. The study revealed that interest rate, exchange rate, money supply and size of asset were not statistically significant.

Cristeaa, Marcua, Castinaa (2013) examined the relationship between insurance and economic growth in Romania compared to the main results in Europe. Their objective was to establish a correlation between insurance and economic growth in Romania using the share of gross premium written to GDP, that is insurance penetration, and insurance density which was the average value of insurance premium paid by an inhabitant across one year as indicators. They applied statistical correlation analysis and found out that both life and non-life insurance, individually and collectively, contribute to economic growth in a sample of three countries in transition, where two have been the member states of the European Union, in the period 2010-2014.

Ozuomba (2013) examined the impact of insurance on economic growth in Nigeria using data for the period 1998-2007. The study applied co-integration and error correction model (ECM) in the analysis and found out that there was a significant relationship between insurance premium, insurance investment and economic growth.

Phutkaradze (2014) examined whether the development of insurance market was linked to economic growth in post- transition countries. He applied multiple regression analysis to estimate insurance growth relationship, using a cross-country panel dataset analysis of annual total insurance penetration in 10 countries for the period 2000-2012. His empirical studies showed that the total insurance penetration was statistically not a significant determinant of GDP growth.

Sibindi (2014) investigated the causal relationship between the life insurance sector, financial development and economic growth in South Africa for the period 1990-2012. They made use of life insurance density as

the proxy for life insurance development, real per capita growth domestic product as proxy for economic growth and real broad money per capita as proxy for financial development. They applied the Johansen procedure to test the co-integration among the variables and tested for granger causality based on the error correction model. Their findings showed that the direction of causality runs from the economy to the life insurance sector which was consistent with the "demand-following" insurance growth hypothesis and from the economy to financial development which was consistent with the "demand following" finance growth hypothesis. They also found out that life insurance complements economic growth in bringing about financial development.

Oyedotun, Adesina (2015) examined the nexus between economic growth and insurance business in Nigeria within the period 1980-2011. The data collected were regressed using ordinary least square model. They also found out that there was long run relationship between insurance development and economic growth and that there was long run relationship between inflation rate and development of insurance sector in Nigeria.

Olayungbo (2015) used autoregressive distribution lag (ARDL) approach to examined the effect of life and non-life insurance on economic growth in Nigeria from 1976-2013. The findings showed that both life and non-life insurance had positive effects on growth in the long run and short run; that they complement rather than substitute each other.

Mfon, Acha (2017), examined the co-integration and causal relationship between insurance and economic development in Nigeria for the period, 1990-2013 using Gross Domestic Product as proxy for the economy and total life and non-life insurance premium and total insurance investment as proxies for insurance industry. The study used regression model for data analysis. Their test for co-integration revealed the presence of four co-integrating relationships meaning that there was a long run relationship between the gross domestic product, total life and non-life insurance premiums and total insurance investments.

Mwangi (2017) assessed the effect of macroeconomic variables on financial performance of insurance companies in Kenya with the objective to determine the effect of inflation, interest rate and exchange rate on financial performance of insurance companies in Kenya. The performance of insurance firms were analyzed over a period of four years from 2012-2015. The study made use of regression analysis and found out that all the performance indicators were negatively correlated to inflation, average interest rates and average exchange rates.

Ehiogu, Eze, Nwite (2018) examined the effect of inflation rate on insurance penetration of Nigerian insurance industry. Data was analyzed using regression analysis and the study revealed that inflation rate had a positive but insignificant effect on insurance penetration of the Nigerian insurance industry which means that inflation increase insurance penetration but the increase was not significant hence they recommended that efforts should be put in place to reduce inflation rate.

Fashagba (2018), researched on the impact of insurance on economic growth in Nigeria for a period of 10 years, 2007-2016. The specific objectives were to determine the effect of life insurance premium and non-life insurance premium on the economic growth in Nigeria. The proxies used in the study for the economy and life and non-life insurance were gross domestic product and insurance premium respectively. Ordinary least square regression was used in the study and found out that there was a statistical evidence of positive relationship but not significant between non-life insurance and economic growth while there was a negative but significant relationship between life insurance and economic growth.

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Fadun, Shoyemi (2018), examined the contribution of insurance investment funds to the growth of Nigerian economy for a period of 16 years (2000-2015) using total insurance investment and gross domestic product (GDP) as proxies for the variables. Data were analyzed using Pearson's product moment correlation coefficient and ordinary least square (OLS) method. The study found out that there was a strong positive relationship between Nigeria's economic growth and total insurance investment. That there was also a positive correlation between total insurance investment and GDP in Nigeria hence it was recommended improvement in insurance regulation in Nigeria to ensure increases total insurance investment.

METHODOLOGY

3.1 Research design

This study adopted the *exposit-facto* research design. The *exposit-facto* research design is described as *after-the-fact research* (Onwumere, 2009). This is suitable for the work given that it is based on an already completed event and the researcher is meant to analyses the outcomes of the already completed event and draw reasonable conclusions.

3.2 Nature and Sources of Data

All the data to be employed for this work will be time series, secondary and purely quantitative. They are drawn from sources such as The Statistical Bulletins of Central Bank of Nigeria and the World Bank development indicator. They are annualized time series data because they have a natural time ordering covering the period 1981 to 2018.

3.3 Model Specification

The study adopted Auto regressive Distributed lag model (ARDL). The model for this work is specified following the special Classical multiple Regression Model called

$$\mathbf{LNINSP_t = \beta_o + \beta_1 LNEXR + \beta_2 LNINFR_t + \beta_3 LNPVR_t + \beta_3 LNGDP_t + E_t}$$

The model was arranged logically for the purposes of testing and the hypothesis called model specification which was disaggregated thus.

$\mathbf{LNINSP_t = \beta_o + \beta_1 LNEXR + \beta_2 LNINFR_t + \beta_3 LNPVR_t + \beta_3 LNGDP_t + E_t}$ was modeled thus:

Where

INSP= Insurance premium, EXR= Exchange rate, Infr= Inflation rate PVR= Poverty rate and GDP= Gross Domestic Product

***Approri* Expectation: $\beta_I, \beta_3, \beta_4 > 1, \beta_2 < 1$**

3.4 Description of Research Variables

Exchange Rate

Rose and Marquis (2006) defined exchange rate as the price of foreign currencies expressed in terms of other currencies. It also means the price of one country's currency expressed in terms of another county's currency (Ross ,Westerfield, Jordan,2001). Dauten, Welshans (1970), also refers to exchange rate as the convertion rate and defines it as the rate at which a given unit of foreign currency is quoted in terms of domestic currency. Henning, Pigott, Scott (1978), refer to it as price of on currency in terms of another and that it indicates the international value of money in terms of purchasing power. It is the rate at which on currency is exchanged for another (Jhingan, 2010).

Inflation Rate

Inflation rate is the rate of increase in the average price level of all goods and services traded in an economy over any given period of time (Rose, Marquis, 2006). It is the percentage change in the purchasing power of one unit of currency over a certain period of time (Chandra, 2008). Inflation is seen as the third most important macroeconomic concept, which is an increase in the overall level of prices measured by the consumer price index which shows how the value of money changes over time (Gale, 2008). The value of money reduces greatly when the inflation rate is high.

Poverty Rate

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Yourdictionary (2018) defines poverty rate as the percentage of people who are living or making below the amount of deemed necessary by the federal government to have a basic standard of living. Poverty rate can also be defined as the aggregate of the number of people who fall below a certain level of known as the poverty line.

Gross Domestic Product (GDP)

GDP is a measure of the total production of final goods and services in the economy during a specified period usually one year (Chandra, 2008). Clark (1999) defines it as a measure of the value of all goods and services produced by a country, including those produced overseas, usually in a year. It is the value of final goods and services produced during a period of time by factors of production which earn income within the country concerned (including factor income earned with the country by foreigners) (Henning, Pigott and Scott, 1978). Gross domestic product is a measure of the market value of all goods and services produced in a country's economy within the geographical boundaries of the country (Rose and Marquis, 2006).

The insurance premium is made up of consideration made by companies that offer risk management services in the form of insurance contract. It is all insurance companies in a country, continent or the world whose duty is to safe-guard against risks (Eche, Ogwo, Ibeabuchi and Nwite, 2000).

3.5 Technique of Data Analysis

Auto regressive Distributed lag model (ARDL)

Auto regressive Distributed lag model (ARDL) formed the method of data analysis. ARDL was chosen over the ordinary least square regression (OLS) because ARDL is a dynamic model while OLS is a static model (Pesaran and Shin, 1999).

PRESENTATION AND ANALYSIS OF DATA

4.1 Data Presentation

The population of this study is from 1981 – 2018 and the sample of the secondary data was drawn from Statistical Bulletin of Central Bank of Nigeria from 1981 – 2018.The study used ex-post facto research design and time series data which are qualitative in nature.

Table 4.1: Secondary Data showing the variables under study:

Insurance Premium

	LNINSP	PVR	LNGDP	INFR	EXR
1981	5.45	5.01	4.54	21.4	0.61
1982	5.51	5.29	4.61	7.2	0.67
1983	5.25	6	4.70	23.2	0.72
1984	5.32	6.03	4.75	40.7	0.76
1985	5.27	6.1	4.90	6.3	0.89
1986	5.53	5.3	4.90	11.8	2.02
1987	6.00	7	5.26	34.2	4.02
1988	6.18	5.3	5.57	49.1	4.54
1989	6.51	4.5	5.94	7.8	7.4
1990	6.92	3.5	6.15	12.2	8.08
1991	7.16	3.1	6.30	44.6	9.91
1992	7.80	3.4	6.77	57.1	17.3

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1993	8.50	2.7	6.99	29.3	22.05
1994	9.58	2	7.24	10.7	21.89
1995	9.51	1.8	7.97	7.9	21.89
1996	9.31	3.4	8.30	18.9	21.89
1997	9.30	3.2	8.34	12.9	21.89
1998	9.36	3	8.29	14	21.89
1999	9.58	18.1	8.45	15	92.69
2000	10.02	13.7	8.81	17.9	102.11
2001	10.27	13.45	8.83	8.19	111.94
2002	10.53	12.2	8.96	5.40	120.97
2003	10.67	14.8	9.20	11.6	129.36
2004	10.82	11.8	9.34	12.5	133.5
2005	11.11	11.9	9.58	13.7	132.15
2006	11.30	12.3	9.82	10.8	128.65
2007	11.39	12.7	9.93	12.2	125.83
2008	11.74	14.9	10.09	13.1	118.56
2009	11.93	19.7	10.11	10.67	148.88
2010	11.96	21.1	10.90	10.67	150.3
2011	12.07	23.9	11.05	8	153.8
2012	11.23	25.4	11.18	9	111.39
2013	11.29	23.3	11.29	12.3	118.82
2014	11.36	24.3	11.39	12.8	127.1
2015	11.42	26.5	11.45	13.1	126.07
2016	11.56	30.75	11.52	16	130.02
2017	11.70	33.8	11.64	17.5	158.07
2018	11.94	42.23	11.75	19	15822

Source: Central Bank of Nigeria Statistical Bulletin (2018)
LNGDP = Economic Growth
INSP = Insurance premium
EXR= Exchange rate, INFR = Inflation rate, PVR= Poverty rate

Table 4.1 shows insurance premium and selected macroeconomic indicators such as Economic Growth, Exchange rate, Inflation rate and Poverty rate value collected from The from statistical Bulletin of Central Bank of Nigeria from see appendix 1.

The data is a set of log transform annualized time series required for empirical analysis as adopted from the model which was specified in chapter three; hence the variables were transformed for linearity.

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4.2.1 Data Presentation and Analysis

4.2.1 Stationary Tests

Table 4.2 Shows Stationary Tests using augmented dickey fuller in an attempt to confirm the order of integration of the series under study, thereby confirming their suitability for a linear combination in the form of a model, the unit root test following the form specified at Philip and Peron test is used.

Table 4.2: SUMMARY OF UNIT ROOTS TEST RESULTS

Variable	PP Statistic	Critical Values @ 5%	Probability Value	Inference
LNINSP	-5.8272	-3.6584	0.0007	I(1)
EXR	-3.5374	-3.0207	0.0177	I(0)
INFR	-3.9218	-2.9604	0.0052	I(0)
LNGDP	-4.8590	-3.5584	0.0048	I(1)
LNPVR	-4.4765	-3.5584	0.0001	I(0)

Source: Extract from Appendix One e-view 10.

From the result of the unit root test contained in table 4.2., GDP and Insurance premium are all integrated of order 1(1). On the other hand, other macroeconomic variable are all integrated at 1(0) and is stationary. Given this orders of integration, the ARDL Regression Method was given up in preference for this analysis which tolerates this stationary property.

4.2.2 Descriptive statistics

	LNINSP	PVR	LNGDP	INFR	EXR
Mean	9.277988	12.72263	8.341359	17.33526	72.79980
Median	9.805629	11.85000	8.631386	12.85000	97.40000
Maximum	12.07686	42.23000	11.75793	57.10000	158.0708
Minimum	5.256458	1.800000	4.546746	5.400000	0.610000
Std. Dev.	2.406873	10.20354	2.399554	12.30120	61.61540
Skewness	-0.539970	1.001791	-0.194546	1.829377	-0.008024
Kurtosis	1.768965	3.295998	1.728725	5.536550	1.201825
Jarque-Bera	4.246051	6.494760	2.798595	31.38257	5.120008
Probability	0.019669	0.038876	0.006770	0.000000	0.037304
Sum	352.5635	483.4600	316.9716	658.7400	2766.392
Sum Sq. Dev.	214.3424	3852.150	213.0409	5598.827	140469.0
Observations	38	38	38	38	38

Source: Extract from Appendix One e-view 10.

Table 4.2 contains the basic measures of central tendency, spread and variations calculated on the level series of the dataset. Of particular interest is the Jacque-Bera (JB) statistics which is a test for normality must be

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equal to 3 It is a combined test of a skewness(S) of zero (0) and a kurtosis (K) of three (3), which are signs of a Mesokurtic distribution. In this case, however, the JB statistics shows that the variables are positively and negatively skewed and are leptokurtic.

4.3 Test of hypotheses

The formulated hypotheses were tested using ARDL method for hypotheses one, two and three while hypotheses four, will use ARDL co-integration method

Dependent Variable: LNINSP				
Method: ARDL				
Date: 07/29/19 Time: 11:54				
Sample (adjusted): 1982 2018				
Included observations: 37 after adjustments				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (1 lag, automatic): PVR EXR INFR LNGDP				
Fixed regressors: C				
Number of models evalulated: 16				
Selected Model: ARDL(1, 0, 1, 1, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LNINSP(-1)	0.770602	0.143293	5.377823	0.0000
PVR	-0.030135	0.012627	-2.386494	0.0238
EXR	-0.010393	0.003287	3.162037	0.0037
EXR(-1)	-0.005502	0.002905	-1.893834	0.0683
INFR	-0.002314	0.003987	0.580453	0.5661
INFR(-1)	0.008358	0.003932	2.125503	0.0422
LNGDP	0.214106	0.148352	1.443227	0.1597
C	0.295611	0.356118	0.830091	0.4133
R-squared	0.990649	Mean dependent var		9.381297
Adjusted R-squared	0.988392	S.D. dependent var		2.353109
S.E. of regression	0.253529	Akaike info criterion		0.282132
Sum squared resid	1.864029	Schwarz criterion		0.630438
Log likelihood	2.780560	Hannan-Quinn criter.		0.404926

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F-statistic	438.8879	Durbin-Watson stat		1.832189
Prob(F-statistic)	0.000000			
*Note: p-values and any subsequent tests do not account for model selection.				

HYPOTHESES 1

Step I: Statement of Decision criteria for hypotheses 1

Accept H_O if the sign of the coefficient of the parameter estimates is negative, otherwise reject H_0 and accept H_1 when the coefficient of the parameter estimates is positive, or Accept H_1 if the sign of the coefficient is positive, otherwise reject H_0.

Result from the analysis

Given the coefficient of the parameter estimates of EXR as -0.01% and the probability of t-statistics of 0.003<0.05 which is significant, it shows that it is negatively signed but statistically significant,

Step I1: Taking a decision on the rejection or acceptance of the null or Alternate hypothesis.

Result reveals that EXR is negatively signed, the study accepted the null hypotheses and rejected the alternate hypothesis thereby concluded economic recession have a negative and non significant impact on insurance premium in Nigeria.

HYPOTHESES 2

Step I: Statement of Decision criteria for hypotheses 1

Accept H_O if the sign of the coefficient of the parameter estimates is negative, otherwise reject H_0 and accept H_1 when the coefficient of the parameter estimates is positive, or Accept H_1 if the sign of the coefficient is positive, otherwise reject H_0.

Result from the analysis

Given the coefficient of the parameter estimates of INFR as -0.002% and the probability of t-statistics of 0.566>0.05 which is non significant, it shows that it is negatively signed but statistically non significant,

Step I1: Taking a decision on the rejection or acceptance of the null or alternate hypothesis.

Result reveals that INFR is negatively signed, the study accepted the null hypotheses and rejected the alternate hypothesis thereby concluded that inflation rate negatively and non significantly impact on Insurance premium in Nigerian.

HYPOTHESES 3

Step I: Statement of Decision criteria for hypotheses 1

Accept H_O if the sign of the coefficient of the parameter estimates is negative, otherwise reject H_0 and accept H_1 when the coefficient of the parameter estimates is positive, or Accept H_1 if the sign of the coefficient is positive, otherwise reject H_0.

Result from the analysis

Given the coefficient of the parameter estimates of PVR as -0.03% and the probability of t-statistics of 0.0238<0.05 which is significant, it shows that it is negatively signed but statistically significant

Step I1: Taking a decision on the rejection or acceptance of the null or Alternate hypothesis.

Result reveals that PVR is negatively signed, the study accepted the null hypotheses and rejected the alternate hypothesis thereby concluded that poverty rate negatively and significantly impact on Insurance premium in Nigerian.

HYPOTHESES 4

Step I: Statement of Decision criteria for hypotheses 1

Accept H_O if the sign of the coefficient of the parameter estimates is negative, otherwise reject H_0 and accept H_1 when the coefficient of the parameter estimates is positive,

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or Accept H_1 if the sign of the coefficient is positive, otherwise reject H_0.

Result from the analysis

Given the coefficient of the parameter estimates of GDP as 0.21% and the probability of t-statistics of 0.15>0.05 which is non significant, it shows that it is positive signed but statistically non significant,

Step I1: Taking a decision on the rejection or acceptance of the null or alternate hypothesis. Result reveals that GDP is negatively signed, the study accepted the alternate hypotheses and rejected the null hypothesis thereby concluded that economic growth positively and non significantly impact on Insurance premium in Nigerian

4.4 Discussion of Findings

Exchange rate negatively and significantly affects insurance premium in Nigeria. Econometric analysis reveals that exchange rate reduces insurance premium by 1% and is statistically significant by 0.003.

Inflation rate negatively and non significantly affect insurance premium in Nigeria. The econometric analysis reveals that inflation rate decreases insurance premium by 0.2% and is statistically non significant by 0.5661.

The findings of hypothesis three show that poverty rate has negative and non significant impact on insurance premium in Nigeria. This means that poverty rate in the country decreases insurance premium by 3% and is statistically non significant by 0.0238.

Gross domestic product positively and non significantly affect insurance premium in Nigeria. The analysis reveals that GDP increases insurance premium by 21% and is statistically non significant by 0.1597.

Summary of findings, conclusion and recommendations

5.1 Summary of findings:

The internal factors that contributed to the increase or decrease of insurance premium were over heating the private sector which the external factors are exogenous to the economy over which policy makers have no control. There includes, poverty rate, exchange rate, inflation rate economic growth and international price stock for stock markets The Following are the specific findings:

1. Exchange rate has negative and non significant impact on Insurance premium in Nigeria. Exchange rate value was affected through decreased oil prices, global economic slowdown, declined earning and insecurity in the country at all levels of Government. Also variability, fluctuation and volatility of exchange rate seriously affect insurance business in Nigeria. This is at coefficient of the parameter estimates of EXR as -0.01 and the probability of t-statistics of 0.003<0.05.
2. Inflation rate has negative and significant impact on Insurance premium in Nigeria. Inflation rate value was affected through decrease in real sector activities such as production, distribution and transfers, global economic slowdown, declined earning and scarcity of commodities in the country at all levels of Government affects insurance business in Nigeria. This is at coefficient of the parameter estimates of INFR as -0.002 and the probability of t-statistics of 0.566>0.05.
3. Poverty rate has negative and non significant impact on Insurance premium in Nigeria Insurance premium in Nigeria was affected by high poverty rate and reduction of real wages which were some of the causes responsible for recession in Nigeria. This is at coefficient of the parameter estimates of PVR as -0.03 and the probability of t-statistics of 0.0238<0.05.
4. Economic growth has positive and non significant impact on Insurance premium in Nigeria.

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Economic growth affected every sphere of the real sector activities such as production, distribution and reserve. Declined earning and scarcity of commodities in the country at all levels of Government affects economic growth which invariably affects insurance business in Nigeria. This is at coefficient of the parameter estimates of GDP as 0.21 and the probability of t-statistics of 0.15>0.05.

5.2 CONCLUSION

The study investigated the impact of Macroeconomic variables on Insurance premium in Nigeria, 1981 to 2018. The economic motivation of the study is anchored on the desire to find out the extent to which Macroeconomic variables impacted on Insurance premium in Nigeria, 1981 to 2018. In view of this, it was concluded that: Exchange rate has negative and non significant impact on Insurance premium in Nigeria; Inflation rate has negative and significant impact on Insurance premium in Nigeria; Poverty rate has negative and non significant impact on Insurance premium in Nigeria; Economic growth has positive and non significant impact on Insurance premium in Nigeria. Therefore macroeconomic variables have been seen to have a serious negative implication on insurance activities in Nigeria.

5.3 RECOMMENDATIONS

1. Exchange rate has negative and non significant impact on Insurance premium in Nigeria. Management of exchange rate and increase in export and our foreign reserve will help to stabilize our currency so that insurance business will flourish.

2. Inflation rate has negative and significant impact on Insurance premium in Nigeria Government should embark on ban on the importation of foreign goods to encourage our indigenous companies and stabilize inflation.

3. Poverty rate has negative and non significant impact on Insurance premium in Nigeria. Efforts should be made by the government to increase employment and reduce poverty by encouraging small and medium sector and real sector development so as to embrace insurance products.

4. Economic growth has positive and non significant impact on Insurance premium in Nigeria. Economic growth affected every sphere of the real sector activities such as production, distribution and reserve. Therefore real sector and financial sector activities should be reviewed so that economic growth will improve. This improvement is associated with an increase in insurance business.

5.4 Contribution to Knowledge

1. Contribution to literature

This work is an addition to existing literature or other works on insurance generally and macroeconomic variables and insurance. This work also captures poverty rate, a macroeconomic variable, not found in other works.

2. Contribution to methodology

Other studies used methods like correlation, ordinary least square (OLS) but this study focused on auto regressive distributed lag (ARDL).

3. Currency

This work is more current than other works that focused on macroeconomic variables and insurance.

5.5 Areas for Further Studies

Further studies could be carried out on:

1. Effect of macroeconomic variables on insurance profit in Nigeria;
2. Effect of macroeconomic variables on insurance assets in Nigeria;
3. Effect of macroeconomic variables on insurance investments in Nigeria.

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