ASSESSMENT OF IMPACT OF INSURANCE DENSITY ON INSURANCE PERFORMANCE 1996-2018. NIGERIA PERSPECTIVE

***AGBO, ISHMAEL UMUNNAKWE AND* AGBAJI, BENJAMIN CHUKWUMA (PH.D)**

Department of Insurance and Risk Management, Faculty of Management Sciences, Enugu State University of Science and Technology (ESUT) Agbani, Enugu State Nigeria

Abstract

This study assesses the impact of Insurance Density on Insurance Performance in Nigeria from 1996-2018. The specific objectives are to: investigate the impact of insurance density on insurance performance and also determine the relationship existing between insurance density and insurance performance in Nigeria. Expost-facto research design was adopted while Auto regressive distributed lag model (ARDL) was used to analyze the data. It was found that insurance density has positive and significant impact at (0.023<.05).Consequently the relationship that exist between insurance density and insurance performance was discovered to be positive and significant at (0.0000<.05). The study concludes that insurance density positively and significantly impacts insurance performance. In the same vain the relationship existing between insurance density and insurance performance is strong. The study recommends that insurers should develop affordable products that will meet the protection need of the people and sound insurance practice. Similarly restructure claims procedures for efficiency and convenience, sensitize the public both at the urban and rural domain.

Keywords: Assessment, Insurance, Density, Performance and Nigeria

Introduction

Insurance has both social and legal contractual perspective. Social insurance contract perspective is inclined with traditional associations not formally organized devoid of any form of legal action. The primary objective is to share the loss of a member among the members. In 'umunna' clan association of a typical Nsukka-Enugu Igbo culture when a member dies the umunna gather contribute fund and food for the burial and funeral of such member. The legal perspective is tilt to the today modern insurance introduced by the United Kingdom. This type of contract is between the

insurer and the insured in line with the observance of the essential of a valid contract and other relevant regulations. Intrinsically both contracts uphold the doctrine of financial loss sharing.

Legal insurance contract is the focus of this present discussion. Two parties (the insurer and the insured) are involved in this type of insurance contract. The insurer is the company sells insurance policies while the insured is the person with insurance need that purchases insurance policies from insurance companies. Insured pays premium in exchange of his uncertainty with a promise of indemnity. A breach of a legal contract is enforceable in competent court of law though at the option of the aggrieved. Insurance is a way of protection from financial losses (Vimala and Alamelu, 2018). It is a risk management variable employed to hedge against uncertainty. The purchase of insurance policy is a replacement of uncertainty (fear of: death, injury, loss or destruction emanating from unforeseen) with certain level of assurance (premium). Premium represents the aggregate losses to the insured if at the end of the period there was no loss occurrence. Oke (2012), Shittu (2012) and Eze and Okoye (2013) opine that insurance business contributes to a nation's economic growth. Insurance is a human oriented business, providing services for mankind. Nigerian insurance industry is meant to service Nigerian populace. How efficient it has satisfied the Nigeria market is a question to answer. What is the percentage of the population that patronizes or consumes insurance emphasis on non life insurance? The extent of insurance development in Nigeria will be determined by insurance density. It is one of the tools to measure development. It is calculated as the ratio of total of insurance premium income within a defined period to the total population of identifiable society. The population may be categorized according to: geographical location; entire nation, state; gender; age interval among others. Noteworthy in this study it is the total insurance premium of non life insurance activities. This measuring tool provides opportunity for insurer to know how well their products are accepted by the people. The book value of written premium will not give that insight and may mislead. Therefore it is important to ascertain the ratio of premium to that of the population to know if the industry is performing well or not which may instigate inquiry on why and what must be done to sustain the tempo if on the positive or otherwise. The level of insurance development anticipated given Nigeria's potential large market opportunities is relatively huge.

Statement of problem

Nigeria has a large population of about over two hundred million (NBS). The market landscape endowment seems enormous and unlimited for insurers. Insurance is expected to thrive given the huge population. However, to what extent insurers has

tapped into this market opportunities appear to be elusive. Oluoma, Change and Wu (2012), hold several factors responsible. This is why this study embarks on assessing the impact and relationship of insurance density on insurance performance in Nigeria, to support and broaden the existing literatures using auto regressive distributed lag (ARDL).

Objectives of the Study

The broad objective of this study is an assessment of the impact of insurance density on insurance performance in Nigeria (1996-2018). The specific objectives are to:

1. Investigate the effect of insurance density on insurance performance
2. Ascertain the relationship existing between insurance density and insurance performance

Research Hypotheses

1. Insurance density has positive and significant impact on insurance performance
2. There is positive and significant relationship between insurance density and insurance performance

REVIEW OF RELATED LITERATURE

Conceptual Review

Insurance

Insurance is a legal contract involving the insured and the insurer. It is a risk management tool that provides options for people to manage their risks via risk transfer to a registered organisation known as insurance company. The company is solely responsible to transact insurance business and is regulated by National Insurance Commission (NAICOM) and Central Bank of Nigeria (CBN). Insurance business is classified into two namely life insurance and non life insurance often referred to as general insurance. The insurance been discussed is termed modern insurance, borrowed from the United Kingdom in both principle and practice. Insurance is a promised of compensation for specific potential future losses in exchange for a periodic payment (Eze and Okoye, 2013). It is pooling resources into a common purse by group of individuals exposed to a common peril to make fortunate an unfortunate member (Nwite, 2004). This concept has attracted numerous definitions however the underlying fact remains that insurance brings about a defined degree of certainty.

Insurance Density

Density may be described as the size or number of people living a particular society or geographical location. It is the concentration of people or things within an area with regards to size (Encarta Dictionaries).

Insurance density is calculated as the ratio of total written premium within a specified time to total defined population. The population may be categorized according to: geographical location; entire nation, state; gender; age interval among others. In this case we are looking at the nation called Nigeria. Insurance density gives an insight of how much the people consume insurance. The premium accumulated over a defined period is divided by a defined population and it is usually expressed as a ratio. Insurance density represents the level of insurance market share which reflects the level of insurance performance within a given population. Omolade (2015) observed that it is not in doubt that Nigeria is well placed for growth in a majority of its sectors due to its growing population.

Theoretical Framework

Economic Growth Theory

Roy Harrod F. developed theory known as Economic growth theory model 1939. Also, Evsey Domar in 1946 put more light on the same theory. Harrod-Domar economic growth model stresses the importance of savings and investment as key determinants of growth. Basically, Harrrod-Domar economic growth theory suggests that the economy rate of growth depends on; the level of national savings and the productivity of capital investment (known as the capital-output ratio).

Based on the model therefore, the rate of growth in an economy can be increased in one of two ways; -increased level of savings in the economy (i.e. gross national savings as a% of GDP) and reducing the capital output ratio (i.e. increasing the quantity/productivity of capital input).

Over the years the insurance sub-sector has witnesses some significant growth worldwide. Beck and Webb (2003), the share of this sector in the financial sector has been increasing as reflected in the volume of business of the insurers. Theoretically, the various channels through which insurance can positively impact economic growth include mobilization of domestic savings, efficient management of different risks, mitigation of losses, more efficient allocation of domestic capital and promotion of financial stability (Acha and Ukpong,2012).Based on the fact that insurance encourages savings and saving influences growth, this theory is useful for this study because it remind the mind set about the contribution of insurance to the economy.

Empirical Review

Agbo (2020) examine the influence of insurance penetration on insurance performance in Nigeria. The objective was to determine the effect insurance penetration has on the performance of insurance business in Nigeria from 1996 – 2018. Regression analytic techniques specifically Auto regressive distributed lag (ARDL) was employed and the finding revealed that the influence was positive and significant at (0.0014). It was concluded that insurance penetration has both positive and significant influence on insurance performance.

Omoke (2012) Measures the impact of insurance market activity and economic growth in Nigeria between 1970 and 2008 where insurance density (premium per capita) as a measure for insurance market activity and real GDP for economic growth in Nigeria. The study also employs control variables such as inflation and savings rates as other determinants of growth. The Johansen cointegration and vector error correction approach were used to estimate the relationship among the variables. The finding of the study is that insurance does not reveal any positive and significant effect on economic growth in Nigeria within the period of study. The result shows low- insurance market activity and development in Nigeria.

Agbamuche (2012) employed Chi-square model in his study on Investment of insurance funds in the Nigerian Capital market, and find out that; (i) the insurance industry invests substantial parts of its funds in the capital market. This implies that the surplus funds of the insurance companies after claims to policyholders have been paid out is then invested in the capital market in the form of government securities, corporate funds, real estate, mortgages etc. (ii) that the investments of insurance funds contributes to the socio economic growth of the country. This implies that as insurance contributions increase, economic growth would also increase hand in hand, (iii) that the insurance industry contributes positively to the growth of the capital market. This implies that the insurance industry is also a center of capital formation, mobilization and allocation of resources within the economy because it deals with long term securities and it enables the funding of other deficit sectors of the economy. This finding shows that the major source of funds available to the insurance industry is through premium incomes; however other incomes come in the form of issuance of shares and other investment returns, (iv) that the insurance industry is a relevant sector of the economy. This would suggest that a direct or positive relationship exists between the insurance industry, insurance contribution and economic growth in the country. Ultimately a relevant and formidable insurance sector would help greatly in boosting overall economic growth in Nigeria.

Patimi (2014) examines the impact of exchange rate variation and Insurance business in Nigeria from 1988 – 2010 using ordinary least square technique result Insurance

business in Nigeria impacted significantly on GDP balance of payment position and inflation in Nigeria based in the finding, the researcher concluded that diversification of productive base and employing realistic exchange rate will promote expert and discourage import. Hence, monetary authorities should keep their hands on the deck to stabilize exchange rate and improve GDP.

Zouhaier (2014) examines the relationship between the insurance business and the economic growth of 23 OECD countries over the period 1990–2011, using a static panel data model. Result reveals that non-life insurance, as measured by the penetration rate positive and significantly impact of on economic growth and a negative effect exerted by the total insurance and non-life insurance, as measured by the density on economic growth.

METHODOLOGY

This study adopts *expost-facto* research design. It is described as *after-the-fact research* (Onwumere, 2005). The suitability for this work is because it provided a platform for already completed event and the researcher's duty is to analyses and draw reasonable conclusions without any form of manipulation. The data is time series basically secondary and quantitative, drawn from Statistical Bulletins of Central Bank of Nigeria, the World Bank development indicator and National Insurance Commission (NAICOM). The data cover a period 22years from 1996 - 2018.

Model Specification

A model is a mathematical expression of reality however it may take different forms (Onwumere, 2005). In line with the objectives of this work model Holsboer (1999), Ward and Zurbruegg (2010) were modified.

INSP = F(INSDEN) (1)

Where :

INSP = Insurance premium as a proxy for Insurance performance

INSDEN = Insurance Density

The model is specified of its stochastic form:

$INSP_t = \alpha_0 + \alpha_1 INSDEN_t + \mu_t$ (2)

The model is specified of its log-linear form:

$LNINSP = \alpha_0 + \alpha_1 LNINSDENt + \mu$ (3)

Apporrari expectation = $\alpha_1, \alpha_2 < 0$.

Description of the Variables

Insurance performance is dependent variable and proxy by Insurance premium coded INSP. The independent variable is insurance density coded INSDEN. The insurance

density is obtained by dividing the insurance premium by the total population (premium/population). The sign α_0 represents a constant while α_1 is the coefficient of the independent variable. Lastly μ_t is the error term associated with the model.

Auto regressive Distributed lag model (ARDL) was chosen over the ordinary least square regression (OLS) because ARDL is a dynamic model (Pesaran and Shin, 1998). Similarly the bound test is more appropriate for a small sample usually less than 40 observations (Pesaran and Shin, 1998). ARDL yield consistent and robust result because it allows the existence of equilibrium relationship in terms of short run and long run dynamics without losing long run information. It is arguable that ARDL techniques seems superior to the OLS traditional approach of Engel granger (1987), Johansen and Juselius (1990), Philip (1990) due to its automatic regression tendency called lag.

Data Presentation and Analyses

Data Presentation

Table 1: Data Presentation of Insurance density and Performance in Nigeria in a Log Form

	LNINSP	LNINSDEN
1996	8.8866	25.4355
1997	9.2123	25.4224
1998	9.2757	27.8266
1999	9.0734	28.0838
2000	9.7351	28.5542
2001	10.0379	28.8416
2002	10.3388	29.1420
2003	10.4495	29.3176
2004	10.5561	29.4959
2005	10.9213	29.8276
2006	8.7137	30.0696
2007	11.2928	30.1898
2008	11.6935	30.5719
2009	11.7597	30.7952
2010	11.8951	30.8530
2011	12.0642	30.9970
2012	12.0642	31.0290
2013	12.0642	31.0610
2014	12.0642	31.0930

2015	12.0642	31.1250
2016	12.0642	31.1570
2017	12.0642	31.1439
2018	12.0642	31.1698

Source: CBN Statistical Bulletin, 2018

From the table above, the log form of the raw data was presented for analyses. The purpose of the use of raw data was to bring the variables of interest to linearity.

NOTE:

INSP=insurance performance=insurance premium income,

INSDEN=insurance density=insurance premium divided by the population of the country.

Data Analyses

Unit Root Test of Stationary

Tests of Unit root using augmented dickey fuller

In an attempt to confirm the order of integration of the data thus confirming their suitability for a linear combination in the form of a model, the unit root test of augmented dickey fuller test was used. Table 4.2 below represents a summary of the unit root result..

Table 4.2: Summary of Unit Roots Test Results

Variable	ADF Statistic	Critical Values @ 5%	Probability Value	Inference
LNINSP	-3.8365	-3.6229	0.0338	I(0) STATIONARY
LNINSDEN	-6.9496	-3.6469	0.0001	I(1) STATIONARY

Source: Author's calculation using E-view 10

From the result in table 4.2, INSDEN are all integrated of order 1(1) while INSP is integrated at order 1(0) meaning the data is stationary at levels. Given this different order of integration the Autoregressive Distributed Lag Model which tolerates such stationary property combination is preferred because its estimates remain robust and consistent with small sample size and good for data characterized with structural brakes. Meanwhile the data are log transformed to bring down the data size and ensure linearity

Basic Descriptive Statistics/ Standard tests for Normality

The statistical properties of the data sets are seen as vital determinants of their behaviors when used in econometric analyses. On the basis of this, the researcher

presented in this section, the basic descriptive statistics called Normality test of the variables under study.

Table 3: Basic Descriptive Statistics/ Standard tests for Normality:

	LNINSP	LNINSDEN
Mean	10.88500	29.70453
Median	11.29285	30.18980
Maximum	12.06421	31.16984
Minimum	8.713710	25.42248
Std. Dev.	1.238511	1.711895
Skewness	-0.489480	-1.336184
Kurtosis	1.685150	4.006964
Jarque-Bera	2.575227	7.815716
Probability	0.025928	0.020083
Sum	250.3551	683.2041
Sum Sq. Dev.	33.74603	64.47288
Observations	23	23

Source: Author's calculation using E-view 10

The above result reveals that the variables are normally distributed because the Jacque-Bera statistics are tilting towards 3 and the probability of the normality distribution are significant.

Testing of Hypotheses

The formulated hypotheses were tested using the Autoregressive Distributed Lag Model (ARDL), the following steps were adopted in this study in the testing procedure:

Step I: Restatement of the hypotheses stated in the earlier chapter in both null and alternate forms,

Step II: Presentation and discussion of the results using the estimation technique

Step III: Statement of Decision criteria.

Step IV: Taking a decision on the rejection or acceptance of the either of the hypotheses

Hypothesis One

Step 1: Restatement of the hypothesis in null and alternate forms,

H_O: Insurance density has no positive and significant impact on insurance business performance in Nigeria.

H_1: Insurance density has positive and significant impact on insurance business performance in Nigeria.

Step II: Table 4: Presentation and discussion of the results arrived at using the estimation Technique

Dependent variable: LNINSP

Method: ARDL

Date 10-02-2019 Time- 03.06 AM

Model selection: AIC

Sample size: 1997- 2018 as adjusted by the e-view

Variable	coefficient	Probability value
LNINSDEN	0.45	0.023

R_2=0.73

R_2A= 0.70

F-Stat=26

Pro (F-Stat) = 0.00004

Durblin Watson= 2.3

Source: Author's Computation E-view 10

Result reveals that insurance density has positively and significantly impacted on insurance performance in Nigeria. Statistically, it has 45% significant contribution to the growth of insurance performance in Nigeria under the period of the study. However, the explained variation is 73% which means that the independent variable explains the dependent variable very well. The F- statistics is significant showing the goodness of the fit of the model. The Dublin Watson is good showing that there is no auto correlation (1.5-2.4). Therefore, this result is consistent with the econometric result and can contribute meaningfully.

Step III: Statement of Decision criteria.

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.

Given the coefficient of the parameter estimates of insurance density as 1% and the probability of t-statistics of 0.023<.05 which is significant, it shows that it is positive sign and statistically significant,

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

The alternate hypothesis is thus accepted since the result reveals that INSDEN is positive and statistically significant. The study rejects the null hypothesis and asserts that the impact of insurance density on insurance performance is positive and significant.

HYPOTHESES TWO

Step 1: Restatement of the hypotheses in null and alternate forms,

H_O: Insurance density has no positive and significant relationship with insurance business performance in Nigeria.

H_1: Insurance density has positive and significant relationship with insurance business performance in Nigeria.

Step II: Presentation and discussion of the results arrived at using the estimation Technique

Table 5:

Dependent variable: LNINSP
Method: CORELATION
Date 10-12-2019 Time- 03.06 AM
Sample size: 1997- 2018 as adjusted by the e-view

Variable	coefficient	Probability value
LNINDEN	0.85	0.0000

Source: Author's Computation E-view 10

The result in table 5 above reveals that the relationship between insurance density and insurance performance in Nigeria is positive and significant. Statistically, insurance density has 1% increase to insurance performance and such increase has 91% significant relationship to the insurance performance in Nigeria under the period of the study.

Step III: Statement of Decision criteria.

Accept H_O if the sign of the coefficient of the parameter estimates is positive, 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.

Given the coefficient of the parameter estimates of insurance density as 1% and the probability of t-statistics of 0.0000<.05 which is significant, it shows that it is positive and statistically significant,

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

Null hypothesis is rejected and the alternate hypothesis accepted given the decision criteria in step III above. To this effect it is correct to emphasis that insurance density has a positive and significant relationship with insurance business performance in Nigeria.

Summary of Findings

From the results obtained from the investigation analysis the following findings were made. The findings discovered include:

1. Insurance density has positive and significant impact on insurance business performance in Nigeria
2. There is a positive and significant relationship between insurance density and insurance performance in Nigeria.

Conclusion

The study concludes in alliance with the finding that insurance density impacts positively and significantly on the performance of insurance business. It implies that the population plays a key role in insurance development and insurance stakeholders ensure to develop insurance products that will meet the protection needs of thee people. The satisfaction of the policyholders should as a matter of importance pursued at all times. Consequently, it was observed that the relationship between the variables is strong which means that the people cannot be separated from insurance. Thus the actions of the insurer will to a large extent determine the attitude of the populace to insurance consumption. With this exposition it behooves on the insurers more to develop affordable insurance products that will attend to the needs of the people and sound insurance practices. Embark on sensitization of the insuring public both in the urban and rural areas. The ultimate reason of purchasing insurance is indemnity if the insured loss materializes therefore insurers must enhance their claims process to make it efficient and convenient. Claims is the most important avenue where the public (insured) judges insurers. However if at any time a claims is declined the claimant must be provided with the reasons why the claim failed. Insurance is business built on trust (see utmost good faith) the trust of the public must not be betrayed.

Recommendations

In order to continually enjoy continuous maximization of profit in insurance industries, the following recommendations are hereby proposed:

1 The population plays a key role in insurance development and insurance stakeholders should develop affordable insurance products that will meet the protection needs of the people both at the urban and rural domain. Nigeria insurance market potential is huge and a good opportunity for insurers.

2 Insurers need to restructure the claims process to make it efficient, convenient and transparent to gain the confidence of the people.

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