

Empirical Analysis of Insurance Consolidation and the Economic Growth in Nigeria

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Abstract

The study is prompted by the need to understand the relationship between the insurance consolidation and the growth of the Nigerian economy, between the period 1990-2012. Data was sourced from Annual report of National insurance commission NAICOM and central bank of Nigeria (CBN) and was analyzed using some econometrics modeling test. The results of the study revealed that the components of insurance consolidation were positively and significantly correlated with GDP growth in Nigeria. The VEC model confirmed short term and long term co-integration between insurance consolidation and economic growth in Nigeria. the Granger causality test revealed a dual causality between the overall variables and economic growth. The study further suggest that since the trend of macroeconomic variables were stable over the years, government should embark on more realistic insurance policy implementation for faster economic growth in Nigeria.

Keywords: Insurance, Consolidation, Economic growth, Implementation Econometrics

1. Introduction

The first insurance company in Nigeria was the African insurance company limited of 1958. The only national law of considerable significant on insurance business was insurance act of 1961. The Nigerian Insurance and re-insurance known as national Insurance Corporation of Nigeria (NICON) was established in 1969 long after the introduction of insurance business in Nigeria. The paid up capital of insurance companies operating in the country then was raised to ₦100,000 (for all those transacting all classes of Insurance business) and N50,000(for all those concerned with only life insurance. There were a total of one hundred and four (104) insurance companies and four (4) reinsurance companies in Nigeria. The major development of Nigerian insurance system includes the promulgation of Nigerian Insurance Decree 1976 and the establishment of National Insurance Commission (NAICOM) in 1997.

In 2003, the insurance stakeholders felt there was need to sanitize the insurance industry. The National Insurance Commission (NAICOM) came up with enactment of insurance act of 2003. The Insurance Act of 2003 established the re-classification of insurance company and their capital base requirements such as: Life insurance N15m, General insurance N200m, composite insurance and re-insurance N350m respectively. In June 2005, the Federal Government introduced more stringent conditions for reconsolidation police in the Insurance sector which is aimed as resuscitating the Industry for a more vibrant position. The exercise sought to a higher level of financial strength for the Insurance companies to be able to undertake bigger risks in the eyes of the insuring public properties. The capital base requirement was raised from the amount mentioned above to ₦2b for life insurance ₦3b for Non-Life insurance, and ₦10b for Re- insurance.

In 2008, twenty seven (27) insurance companies scaled consolidation hurdle as presented by Emmanuel (2008), the commissioner for insurance consolidated because they have all satisfied the capital requirement mentioned above and have been given insurance license, although the process of licensing is a continuous

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process as more operations comply with minimum capital requirement. According to Badejo (2008) the practice of insurance firms in Nigeria has played a crucial role in the growth of the economy and in managing the risks of households and firms through the recapitalization and consolidation of insurance policy.

As pointed out by Fola (2013), Nigerian insurance firm has witnessed positive changes in recent years arising from the new reforms embarked upon by NAICOM. Suffice it to say that these reforms were intended primarily to reinforce the Federal Government's Vision 2020 of deepening insurance penetration to become the insurance industry of choice among the emerging markets in terms of capacity, safety, transparency and efficiency in addition, Fola stated that from our internal studies at NAICOM, Nigeria would attain rapid and sustained economic growth if it deepens its insurance penetration whereby more members of the population buy one or more of the available insurance products.

Furthering the statement, however Contrary to most optimistic assumptions that the insurance industry will be the next growth sector, the Nigerian insurance industry's performance, despite all efforts at reforms, remains below its potentials as currently only 110 of adult (representing 0.8m) population has an insurance policy. (Fola 2013). According to Emmanuel (2007) the low insurance penetration can be attributed to many factors. Some are peculiar to the nature of the operating environment, namely limited public awareness, the prescriptive orientation of the Insurance Act 2003 and lack of confidence on the insurance operators by the insuring and non insuring public. To this end, the Commission is at the final stages of developing a reliable micro-insurance framework with clear rules for investments and an inherent flexibility with a view to give insurance providers the needed clarity and freedom to use innovative means to reach this large but underserved segment of the market. The study therefore seeks to find out the extent the recapitalization and consolidation police of insurance companies have improved the economic growth in Nigeria.

Objectives of the Study

The general objective of the study is to examine the impact of insurance consolidation on economic growth in Nigeria.

Specifically, the study seeks

1. To investigate the relationship between Insurance claims and Gross Domestic Product in Nigeria.
2. To investigate the relationship between Insurance sector developments and Gross Domestic product in Nigeria.
3. To investigate the relationship between capital cash deposits and Gross Domestic product in Nigeria.

Research Questions

To achieve the stated objectives, the following research questions were established as a guide to achieve the stated objectives.

1. How does insurance claim affect Gross Domestic Product in Nigeria?
2. How does insurance sector development affect Gross Domestic Product in Nigeria?
3. How does capital cash deposit affect Gross Domestic Product in Nigeria?

Hypothesis Formulation

These hypothesis were formulated to test the validity of the model.

- H₀₁**: There is no significant relationship between Insurance claims and Gross domestic product in Nigeria.
- H₀₂**: There is no significant relationship between Insurance Sector development and Gross Domestic Product in Nigeria.
- H₀₃**: There is no significant relationship between Capital cash deposits and Gross Domestic Product in Nigeria.

At the end of the study, the Governments, the policy holders in Nigeria as a whole, financial analysts, insurance agents and investors also the students in the department of insurance and finance will like to know if the recapitalization exercise embarked by NAICOM has help to the growth of the economic growth in Nigeria. The study is structured into five sections, section 1 already discussed covers the introduction. Section 2 enumerates briefly the Literature review of some scholars, section 3 presented the research methodology and different test statistics. Section 4 empirically analyze and present the findings of result. Section 5 summarizes the findings and made recommendations.

2. Literature Review

Insurance according to May Hall (2011), Ekundayo (2008) and Fatula (2007) is characterized and affected with the public interest. Thus, the business of insurance, although primarily a matter of private contract, is nevertheless of such concern to the public as a whole that it is subject to governmental regulation to protect the public's interests and achieve efficient reforms.

The National Association of insurance commissioners, (2012) have it that Insurance regulatory law is primarily enforced through regulations, rules and directives by state insurance departments as authorized and directed by statutory law enacted by the state legislatures. However, federal law, court decisions and administrative adjudications also play an important role. Brown et al (2008) and Mayhall (2011), posits that insurance Regulatory Law is the body of statutory law, administrative regulations and jurisprudence that governs and regulates the insurance industry and those engaged in the business of insurance. Insurance regulatory law is primarily enforced through regulations, rules and directives by state insurance departments as authorized and directed by statutory law enacted by the state legislatures. However, federal law, court decisions and administrative adjudications also play an important role. Therefore, Klein (2008) states that the fundamental purpose of insurance regulatory law is to protect the public as insurance consumers and policyholders. Functionally, this involves:

- Licensing and regulating insurance companies and others involved in the insurance industry;
 - Monitoring and preserving the financial solvency of insurance companies;
 - Regulating and standardizing insurance policies and products;
 - Controlling market conduct and preventing unfair trade practices; and
 - Regulating other aspects of the insurance industry.
- Baker (2006) posits that various state governments each developed their own set of insurance regulations, insurance companies with multi-state business were hampered by the inconsistency of the dissimilar rules and requirements, as well as localism by the state regulators. These companies and their stakeholders joined a growing movement for federal insurance regulation – but, considering the lack of any significant federal regulatory framework, this movement may have been more about avoiding regulation rather than actually promoting federal superiority.

Yusuf (2011) identified some insurance products that were made compulsory by law by the Insurance Act 2003 and other legislations and the Commission intends to enforce these products. They are:

- a. Group life Insurance in line with the Pencom Act 2004
- b. Employers liability in line with the Workmen's Compensation Act 1987
- c. Buildings under construction-section 64 of the Insurance Act 2003
- d. Occupiers liability insurance –section 65 of the Insurance Act 2003
- e. Motor Third party Insurance –section 68 of the Insurance Act 2003

f. Health care Professional indemnity insurance-under section 45 of the NHIS Act 1999 It is believed that if the above issues are properly addressed it will go a long way to resolve all challenges confronting the operations of insurance companies in Nigeria.

Osiogbu et al (2002) also supported Yusuf by identifying some types of insurable interest as a legal right to insure, arising out of a financial relationship recognized by law between the insured and the insurer as: fire and Accident, life Assurance, Property insurance, Part or Joint Owners, Mortgages and Mortgagees, Husband and wife, children insurance policy etc.

Theories and Empirical Issues

There has been a lot of theories from research determining the impact of insurance consolidation on the economic growth both in developed and developing countries. One of them is Greene mark et al (1985) who developed a theory known as financial intermediation theory. The modern theory of financial intermediation covers the general functions of insurance and this includes: common pool fund, equitable premium, provision of means for clearing and settling payments to facilitate exchange of goods and services; provision of mechanism for pooling resources; resources allocation; resource stabilization and resource coordination, risk management; provision of price information decentralized decision making in various sectors of the economy and provision of means as solution to moral hazard and physical hazards (Osiogbu, Ezirim and Okereke 2002).

Empirically, in the study of Oke (2012), used fixed effect model and co-integration analysis to determine the short-run and long-run relationship between economic growth and insurance sector growth and development in Nigeria. The study span from the period of 1986 to 2009. The result reveals that insurance sector growth and development positively and significantly affects economic growth. The result of the granger causality test indicates that the extend of influence the insurance sector growth had on economic growth was limited and not direct because of some cultural, attitudinal traits and values in the economy.

Zou and Adams (2004), Davies and Yuwei (2004) studied the Chinese property insurance market, sampling thirty five (35) public liability companies for the period 1997 to 1999. They specifically examined the relationship between property insurance propensity and premium as dependent variables, and leverage, growth opportunities, state and managerial ownership as explanatory variables. Utilizing the heterogeneity fixed effects estimation model on panel data, they found that there is a tendency for companies that are highly leveraged or have physical assets intensive production to consume property insurance, while state ownership decreases the demand for insurance. Wad lamaan nati (2010) reported that increased managerial or foreign ownership and better growth options facilitate the demand for insurance while the size of the company inversely correlate with insurance demand.

Outreville (1996) investigates the correlation of life insurance premiums to GDP and other factors for the year 1986 for 48 developing countries. The results of the cross-sectional analysis contradict his former work (Outreville 1990) by showing no significance for real interest rate or financial development (M2/GDP). Only the income elasticity is similar to those found in former works (Beenstock et al, 1988, Outreville, 1990 & Browne & Kim, 1993). Country indicators such as rural population or education level cannot explain demand.

Onuorah 2010, investigated how people perceive insurance companies and their services in Nigeria using four insurance companies in Port-Harcourt, the result reviews that majority of the respondent have unfavourable perception of insurance companies and their services and thereby concluded that there is a low confidence of insurance on the service delivery of the insurer, and the insurer should inform the insured on the policy interpretation.

Peter and Kjell (2006) worked on the relationship of insurance and economic growth, a theoretical and empirical analysis. They applied a cross country panel data analysis using annual insurance premium data from 29 European countries over the 1992 to 2004 period. They observed a weak evidence for a growth-supporting role of life insurance and explain this with similarities to recent bank and stock sector findings.

Szablicki (2002) conducts a cross-sectional analysis and a panel regression for causality between three different life insurance figures and premium and socio-economic country variables for the time period from 1960 to 1996. The analysis of the data from 63 developing and developed countries is one of the few to find education level to enter significantly. Furthermore the findings emphasise the importance of banking sector development and the results for the role of the income level are in line with the results of previous works. The panel data regression mainly confirms the results of the cross-section estimation.

Shittu (2012) carried out a study on financial intermediation and economic growth in Nigeria for the period of 1970 to 2010 using unit root test, co-integration test, Error correction Model (ECM) and Engle-Granger causality test. The result observed that the financial intermediaries have significant impact on the growth of Nigerian economy.

Haiss and Sümegi (2008) applied a cross country panel data analysis from 29 European countries in the period from 1992 to 2005 to study the relationship between insurance companies and economic growth in Europe. Ordinary least squares (OLS) estimate and time-fixed effects were used in data analysis. They observed that there is a positive impact of life insurance on GDP growth in the 15 European countries; while nonlife insurance has a larger impact in Central and Eastern Europe. Webb, Grace and Skipper (2002), investigated the effect of banking and insurance on the growth of capital and output. They employed a Solow-Swan model with productivity parameters estimated across fifty-five (55) countries including seventeen EU countries for the period 1980-1996 and made use of the ordinary least square estimation method on panel data and cross country data. The findings indicate that the components of banking and life insurance penetration are found to be robustly predictive of increased productivity. When split into the three areas of banking, life insurance sector and property and liability insurance sector, it is only the banking and life insurance sector that remain significantly related to Gross Domestic product (GDP). Property and liability insurance penetration does not significantly correlate with GDP. The result of the study suggests that higher levels of banking and insurance penetration jointly produced a greater effect on growth than would be indicated by the sum of their individual contributions. Their findings indicate that financial intermediation significantly correlate with Gross Domestic Product. This suggests that insurance intermediation is a determinant of economic growth.

Onuorah (2010) examines the relevance of financial engineering as a risk management strategy using the creation and design of financial securities such as Swaps, Options, features and forwards with custom. The paper therefore contends that understanding the key variables of financial engineering with the unpredictable nature of asset prices would at least reduce to the barest minimum volatility of asset prices. This basic factor has led financial experts to proffer engineering solution to the risks associated with prices of financial securities.

3. Methodology

The empirical analysis of the study spans over the period 1990-2012. The data was sourced from Annual Reports of National Insurance Commission, (NAICOM) and Central bank of Nigeria Statistical Bulletin (CBN). The exogenous variable is the Gross Domestic Product (GDP) and the endogenous variables are: Insurance claim (ISC), Insurance sector Developments (ISD), and capital cash deposit (CCD). The variables were tested using (1) Ordinary Least Square regression method, ADF-Unit root test, Johnson Co-integration test, Pairwise Granger causality test, Vector error correlation model (VECM) and through econometric model in E-View 4.0.

Given the above, considerations, we specify a three predictor model for insurance consolidation and economic growth in functional form as

$$\text{GDP} = F(\text{ISC}, \text{ISD}, \text{CCD}) \text{-----} (1)$$

Where

GDP = Gross Domestic Product

ISC = Insurance Claims

ISD = Insurance Sector Development

CCD = Capital Cash Deposit

Thus, we transformed equ (1) into an econometric model, and presented as:

$$GDP = a_0 + a_1ISC + a_2ISD + a_3CCD + u_t \text{ ----- (2)}$$

Converting equation (2) into the Log – linear form, the equation changes to

$$\text{Ln GDP} = L_{a0} + a_1\text{LnISC} + a_2\text{LnISD} + a_3\text{LnCCD} + u_t \text{ ----- (3)}$$

Where

u_t is the error term

$a_1 - a_3$ are the proxies of Insurance Consolidation

Ln is the Log Linearity

The a-priori expectation of the above equationalized variables are expected as follows:

$$a_1, a_1, a_2, a_3, > 0 \text{ ----- (4)}$$

The signs in equation 4 shows that there will be a positive relationship between the endogenous variables and the exogenous variables.

4. Empirical Analysis of Data and Discussion of result

The component of insurance consolidation and Gross domestic data for Nigeria between 1990-2012 was analyzed and the results were presented as follows:

Table 4.1: ORDINARY LEAST SQUARE OUTPUT RESULT (OLS) OUTPUT

Dependent Variable: GDP

Method: Least Squares

Date: 11/23/13 Time: 05:56

Sample(adjusted): 1993 2012

Included observations: 20 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ISC	0.697346	15.92834	-0.575021	0.0129
ISD	0.625482	16.07143	-2.770866	0.0369
CCD	0.531731	24.64921	0.680843	0.0200
C	37.65466	65.81426	2.342957	0.0333
R-squared	0.877880	Mean dependent var		4692929.
Adjusted R-squared	0.668648	S.D. dependent var		9499821.
S.E. of regression	7725593.	Akaike info criterion		34.77029
Sum squared resid	8.95E+14	Schwarz criterion		35.01923
Log likelihood	-342.7029	F-statistic		3.432254
Durbin-Watson stat	2.105974	Prob(F-statistic)		0.035037

Representation of the OLS Output Result

Estimation Command:

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=====
LS GDP ISC ISD CCD C
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Estimation Equation:

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GDP = C(1)*ISC + C(2)*ISD + C(3)*CCD + C(4)
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Substituted Coefficients:

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=====
GDP = - 0.697346*ISC + 0.6254823*ISD + 0.531731*CCD + 37.65466
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Source: E-View 4.0

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RGDP = α0 + α1ISC + α2ISD + α3CCD + Ut
COEF = 37.65466 + 0.697346 + 0.2654822 + 0.531731 + Ut
Se = (65.81426) (15.92) (16.07) (24.64)
T = (2.34) (-0.575) (-2.77) (0.68084)
Prob = (0.01) (0.0329) (0.02)(0.03)
R2=0.87 AdjR2= -0.66 F-Stat = 3.4 Prob = 0.03 Dw-test =2.10
Source: Researcher's computation
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The Relative statistics of the estimated model above shows that the independent variables ISC, ISD and CCD have positive and statistical significant relationship to the dependent variable GDP. This is evidenced by the coefficients and probability value of the t-stats. Globally, the R-squared is found to be 0.8778 implying that the analysis was adjudged accurate at 87% and the dependent variable (GDP) is explained by the independent variables (ISC, ISD, CCD) at 66% level while the unexplained rate is 34% which could be captured by error.

4.2: Diagnostic Test Normality Test

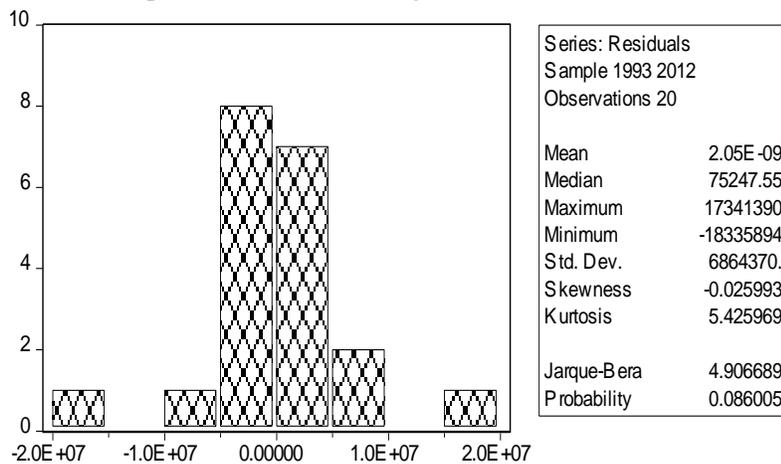


Table 4.2: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	10.32486	Probability	0.941062
Obs*R-squared	16.75453	Probability	0.904990
White Heteroskedasticity:			
F-statistic	8.126937	Probability	0.915111
Obs*R-squared	19.15809	Probability	0.958996
Ramsey RESET Test:			
F-statistic	9.314078	Probability	0.921595
Log Likelihood Ratio	34.65801	Probability	0.910002

Source: E-view 4.0

(a) Normality Test

The probability value of the Jarque-Bara statistic of 0.086 is greater than the benchmark of 0.05 critical value, we can posit that the residuals of the variables specified in this model are not normally distributed. Base on the above figure, we fail to accept the alternative hypothesis of normality assumption given that the J.B value is not significant at 95% confidence level.

(b) Serial Correlation Test

Having seen the Breusch-Godfrey first order serial correlation test result, it revealed that the probability value of the F-statistic of LM test is 0.941062 > 0.05 critical value, we fail to reject H0 that the series are not serially correlated and the model is significant. This assertion is in line with the OLS assumption of serial correlation.

(c) White Heteroskedasticity Test

Following the benchmark probability level of 0.05, we observed that the probability values of the F-stat of white Heteroscedasticity is greater than 0.05 critical value (i.e Prob of F-stat 0.915111 > 0.05 critical value). Implying that the variance of the error terms are Heteroskedasticity in nature. That is the means and variance of the series are not the same over period and this is in agreement with the basic OLS assumption of Homoskedasticity. This revealed that the model is significant and the variables are well distributed, we therefore fail to reject H₀ that there is no heteroscedasticity.

Since the probability of the F-statistics of Ramsey reset test is 0.9215 > the P-val 0.5 critical value, we fail to accept the alternative hypothesis H₀, which states that the model is well specified and stable for prediction and confirm that the mode is not good and normal for prediction.

Table 4.3: ADF Unit Root Test Result

S/N	VAR IABLES	ADF TEST AT 1 ST DIFFERENCE	CRITICAL VALUE 5%	ORDER OF INTEGRATION	PROBABILITY VALUE	DECISION
1	GDP	-6.25142	-2.9678	1(1)	0.0000	stationarity
2	ISC	-3.88901	-2.9678	1(1)	0.0000	stationarity
3	ISD	-4.379384	-2.9678	1(1)	0.0000	stationarity
4	CCD	-3.912521	-2.9678	1(1)	0.0000	stationarity

The output result of the unit root test presented in table 4.3 shows that all the independent variables in the model co-integrated at order 1(1). This is evidenced by the fact that the ADF test statistic is higher than the 5% critical value. The ADF test statistics of variables at first difference are -6.25142, -3.88901, -4.379384 and -3.912521. These are higher in absolute

value than -2.96278 critical values at first difference. Hence we can say that the data on the variables are stationary in nature and there is no multicollirity and shows that the model can be used to run further analysis on econometric model.

Table 4.4: Johansen Co-Integration Test Result

Date: 11/23/13 Time: 06:50

Sample: 1990 2012

Included observations: 19

Test assumption: Linear
deterministic trend in the data

Series: GDP ISC ISD CCD

Lags interval: No lags

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.999958	363.3047	68.52	76.07	None **
0.995798	171.9862	47.21	54.46	At most 1 **
0.920117	68.01499	29.68	35.65	At most 2 **
0.485542	29.99825	15.41	20.04	At most 3 **
0.321518	7.370058	3.76	6.65	At most 4 **

*(**) denotes rejection of the hypothesis at 5%(1%) significance level

L.R. test indicates 5 cointegrating equation(s) at 5 % significance level

Source: E-View 4.0

From table 4.4 above the trace statistics and likelihood function value are greater than the critical value at 1% and 5% showing that there is co-integration at most 4 with the implication of at least 5 co-integrating equations among the variables: GDP, ISC, ISD and GDP. This is evidenced by their values exceeds the critical value at 5% and 1% which indicated that there is a long run relationship between independent variables and dependent variables. Since the variables were stationary at 1(1) indicates the application of Vector Error Correction (VEC) is adopted.

The result of VEC indicated that there is a long run relationship between the variables ISC is statistically significant at 5% level both in the current and previous years as the t-statistics is greater than 2 being the bench mark. The likelihood ratios are all smaller in absolute value when compared with the 5% critical values. We reject the hypothesis and report that there is no long run equilibrium relationship among variables and the model is not significant.

The empirical analysis of the data using VEC model at level revealed that there is co-integration between insurance consolidation and the economic growth in Nigeria both in the short and long run only with the ISC but no run relationship existed in the ISD and CCD. There was weak correlation among the variables. The study further suggested that since the trend of the macroeconomic variables were stable over the years. Government should embark on realistic insurance policy implementation.

From the granger causality test result in Table above, estimated at a 5% level of significance, it could be seen that GDP granger cause ISC, ISD and CCD while ISC, ISD and CCD granger cause GDP as well thus creating some changes in the growth of the Nigeria economy. This reveals long run and dual causality effect on the growth of the Nigerian economy.

Table 4.5 Pairwise Granger Causality Test Result

Null Hypothesis:	Obs	F-Statistic	Probability
ISC does not Granger Cause GDP	15	4.76144	0.02786
GDP does not Granger Cause ISC		2014.45	0.01072
ISD does not Granger Cause GDP	15	11.4347	0.00750
GDP does not Granger Cause ISD		2.35224	0.01380
CCD does not Granger Cause GDP	15	5.06739	0.07053
GDP does not Granger Cause CCD		9.34757	0.02508

Source: E-View 4.0

5. Concluding Remarks

In this study, we discovered that the components of insurance consolidation were positively and significantly correlate with growth in Gross Domestic product, this suggest that indemnities paid by insurance firms in form of claims, insurance development and capital cash deposit contributes to the preservation of Nigeria economic growth and also the growth in GDP. Which helps in creating employment to the Nation.

The empirical analysis of the data using VEC model at level revealed that there is co-integration between insurance consolidation and the economic growth in Nigeria both in the short and long run only with the ISC but no run relationship existed in the ISD and CCD. There was weak correlation among the variables. The study further suggested that since the trend of the macroeconomic variables were stable over the years. Government should embark on realistic insurance policy implementation.

The result further suggest that growth in the acquisition of new insurance firms, raise the level of productivity and increase the flow of funds to insurance companies. This study is in line with the findings of Szablicki and Rafai (2002). Given the long run equilibrium relationship displayed by Granger causality test, we conclude that the insurance implication for consolidation should be improved. The capital base for insurance firms should be reduced in the order to reduce their vulnerability to financial risk.

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