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## **The Portfolios of Insurance Investments and Private Sector Growth in Nigeria (1990-2018): Investigating the Nexus**

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### **Abstract**

The study investigated the portfolios of insurance investments and private sector growth in Nigeria; for the period (1996-2018). Private sector output is taken as the dependent variable to measure the private sector performance; whereas, cash deposits, government securities and bill of exchange are employed as the independent variables to measure portfolios' insurance investments in Nigeria. Hypotheses formulated were tested using Ordinary Least Squares (OLS) technique. The study revealed a significant relationship between cash deposit and Gross Domestic Product in Nigeria. Government securities has a significant relationship with Gross Domestic Product in Nigeria. Bill of exchange has a significant relationship with Gross Domestic Product in Nigeria. The coefficient of determination indicated that about 64% of the variations in private sector growth can be explained by changes in insurance industry variables in Nigeria. The study concluded that the portfolios insurance investments significantly contributed to the growth and development of the private sector economy. The study recommends that policy makers should pursue an all-inclusive growth promoting financial system. Awareness should be increased to raise the level of patronage. Relevant agencies like the Police and the Federal Road Safety Commission should prosecute unlicensed and uninsured vehicles. Insurance companies should adopt faster methods of processing claims to enhance their image and patronage.

**Key Words:** Insurance, Investment Portfolio, Private Sector Growth, Nigeria

### **Introduction**

Insurance firms constitute one of the major segments of the financial system in all economies of the world. This is consistent with the financial intermediation theory by Gurley and Shaw (1967), which explains the role of financial institutions in an economy. However, one of the

main objectives of insurance companies is to protect their customers against insured risks by selling insurance policies to them. The policy holders pay premium to the insurance firms while expecting compensation from them in the event of the occurrence of the insured risks. By doing this, these financial institutions pool and manage risks on behalf of their customers. Insurance provides a risk transfer mechanism for household individuals, business firms and governments. The work of Andabai (2017) found that the growth and development of the private sector in any free market economy greatly depends on the efficient and effective performance of the insurance industry.

Andabai (2014) observed that no meaningful government can do without the private sector led-economy; because, the investments in the sector create immense potentials for growth and development. One important issue that has to do with the concept of the private sector is the valuation of the private sector development. Evidence from the work of Lemo (2017) showed that in order to receive preferential tax treatment some enterprises were registered as foreign funded enterprises. The private sector has grown not only through its own effects but also through restructuring and mergers of State-Owned Enterprises (SOEs). The problem of under valuation of private sector development in Nigeria can be addressed by embarking on down-to-earth information search from the potential private enterprises in the country. This is to ensure a quick and rapid change in the registered status of all restructured enterprises. In Nigeria the regulatory system is still difficult because the sector is more of informal activities (Andabai, 2014).

The Nigeria insurance sector is an important part of the Nigerian economy. The role of insurance investments in promoting economic growth cannot be overemphasized. In the last few decades, the Insurance Industry has played a vital role in national economic growth and development. The business of the insurance industry is such that it provides services in the form of security against general uncertainties which are likely to occur in everyday life, thereby resulting in liabilities that convert to a financial loss Yinka and Akinlo (2018). Furthermore, the pool of these premiums is used for the settlement of claims by the insured and the investment returns serves as profit to the organization Omoke (2017).

### **Theoretical Framework**

The theoretical framework of this study is anchored on Markowitz Portfolio Theory. Markowitz efficient behavior exhibited by insurance companies while investing is usually associated with preference for more returns on investment to fewer returns, also risk on investment as directly dependent on the size of expected returns. It is the framework that underpins this study as it is used in evaluating the performance of managed portfolios. It provides gratifying predictions about how to envisage risk on investment as directly dependent on the size of expected returns. Since the goal of any investment is to generate returns and ensure that expected returns on the investment funds is higher than the associated risks to be able to meet their long-term obligations such as claims, the Markowitz portfolio theory provides the framework for achieving such objective. The essence of insurance business investment is to create a portfolio with assets which maturity will align with the expected return that can off-set claims from the policyholders as only real claims can get paid by the insurance companies.

## Empirical Review

Elendu (2017) examined the contributions of the insurance industry to the gross domestic product (GDP) in Nigeria. Data for the study were obtained from journals, internet, magazines, textbooks, CBN Statistical Bulletin and Statement of Accounts etc. The Ordinary Least Square technique was used to test the validity of the hypotheses stated in the study. The results revealed that insurance industry through its routine activities has contributed significantly to economic growth in Nigeria. The a priori expectation, is that there will be a positive linear relationship between insurance claim settlements and gross domestic product (GDP) in Nigeria. However, the study revealed a negative relationship between total investments of insurance industry to gross domestic product.

Ujiegbonna and Eberechi (2018) investigated empirically the relative contributions of the insurance industry to the growth of the Nigerian economy. The study covers the period from 1990 to 2016. The secondary data collected for the study were presented in tables and graphs. A multiple linear regression method was adopted to test the research hypothesis. An ex-post facto research design was adopted in the study. The discoveries were that insurance sector growth has contributed significantly to economic growth in Nigeria within the period of the study.

Ozuomba (2018) examined the effect of Insurance on economic growth in Nigeria. To achieve this, models were formulated and data for the period 1998-2017 were collated while the co-integration and Error Correction model were employed for analysis. The findings towed the direction of the alternate hypotheses which states that; there is a significant relationship between insurance premium claim expenditures and economic growth. Based on the study, it is recommended that policy efforts should be directed by government at growing the insurance industry in the country; because it will enhance investment as well as production and employment creation.

Tajudeen and Francis (2018) examined the relationship between claims cost and profitability in the Non -life sector of the Nigerian insurance industry. The study developed two linear regression models that can be used to forecast future events in the industry. Data were generated from the financial statements of ten (16) insurance companies covering the period (2002- 2016). These data were analyzed using descriptive statistics, coefficient of determination, ANOVA (F), standard error test, test of correlation (T), multiple linear regression and ordinary least square regression techniques. In addition, two hypotheses were also tested. The results revealed that PBT (profitability) correlates directly with NC (Net Claims) and ER (Expense Ratio) but correlates inversely with LR (Loss Ratio). It also showed that for every one percent increase in NC, there will be a corresponding increase of 36.7% in LR.

## Methodology

*Ex-post-facto* research design is adopted for this study. The study used annual data, because quarterly data could not be accessed for some of the variables. Private Sector Output (PSO) was employed as the dependent variable to measure the Private Sector Growth; whereas, Cash Deposits, Government Securities and Bill of exchange are employed as the independent variables to measure insurance investment portfolios as indicated on **Appendix 1**.

**Model Specification**

A model is a simplified view of reality designed to enable us describe the essence and interrelationship within the system. Based on this, a model is adopted from the study carried out by (Unachukwu, Afolabi & Alabi, 2017). The model is stated as:  $GDP = f(CDP, GVS, BOE)$ . Where: GDP = Gross Domestic Product as proxy for Economic Growth. CDP = Cash Deposits, GVS =Government Securities, BOE = Bills of Exchange. The above model is modified in this study by introducing private sector growth which is employed as dependent variable. The modified model is stated as:  $PSO = f(CDP, GVS, BOE)$ .....(i)

The econometric equation can be written as;

$$PSO = \delta_0 + \delta_1 CDP + \delta_2 GVS + \delta_3 BOE + u \dots \dots \dots (ii)$$

Where,

GDP = Gross Domestic Product

CDP = Cash Deposits

GVS =Government Securities

BOE = Bills of Exchange

$\delta_0$  = constant term

$\delta_1, \delta_2, \delta_3$  = coefficient of independent variables

u = Error term

**Data Presentation and Discussion**

Private Sector Output was employed as the dependent variable to measure the Private Sector growth; whereas, Cash Deposits, Government Securities and Bill of exchange were employed as the independent variables to measure insurance investment portfolio.

**Descriptive Statistics**

**Table 1: Descriptive Statistics**

	PSO	CD	GVS	BOE
Mean	38494.46	32547.56	25364.87	30527.56
Median	31036.35	25354.24	35274.70	20034.24
Maximum	45367.40	52746.82	46261.36	50026.82
Minimum	21900.46	34251.47	31262.32	34986.47
Std. Dev.	6.001302	148.6905	5.447589	140.6905
Skewness	0.215372	3.111248	1.067069	3.104248
Kurtosis	3.025392	14.19450	5.256220	14.10050
Jarque-Bera	0.004754	218.0471	12.86010	218.0471
Probability	0.723154	0.000000	0.0762 12	0.000000
Sum	162.3100	3173.310	503.4000	3173.310
Sum Sq. Dev.	1523.357	5376174.4	747.1324	500174.4
Observations	23	23	23	23

**Source:** Author’s computation with the use of E-view 9.1

The descriptive statistics at Table 1 shows that Private Sector Output for the period under study had a mean value of ₦35,234, cash deposit had ₦25,364, government securities had

₦32,547; while, bill of exchange had ₦30,527.64. The Jarque-Bera statistic indicates that two of the variables: Private Sector Output and cash deposit were normally distributed while Government securities are highly skewed. Private Sector Output has a mean of ₦35,234 implying that for the period under review cash deposit was very low.

**Unit Root Test**

The stationary test of the variables was done using the Augmented Dicker Fuller (ADF) Unit Root Test. The result on Table 2 shows that all the variables are integrated at first difference i.e. I(1) at the 5% or 1% level of significance.

**Table 2:** Unit Root Tests Analysis

Variables	ADF test Statistics	Mackinnon critical @ 5%	No of the time difference	Remark
PSO	4.0586974	-2.749673	I(1)	Stationary
CD	-3.8574384	-4.849647	I(1)	Stationary
GVS	-4.7497394	-4.058474	I(1)	Stationary
BOE	3.2648985	3.758643	I(1)	Stationary

**Notes:** (1)1% level of significance, 5% level of significance, 10% level of significance. The tests accepted at 5% level of significance. **Source:** Researcher’s Estimation using-E-views 9.1.

**Test for Co-Integration**

Thus, having found that all the variables are stationary at first difference, the next step is to perform Johansen co-integration procedure to ascertain whether private Sector Output (PSO), Cash deposit (CD), Government security (GVS) and Bill of Exchange (BOE) are co-integrated in the same order. The results of the test are presented on Table 3.

**Table 3:** Multivariate Johansen’s Co-Integration Test Result.

Null hypotheses	Alternative hypotheses	Eigen value	Likelihood ratio	Critical values 5%	Critical value 1%	Hypothesized No. of CE(s)
r=0	r=1	0.6473657	54.40495	64.84	48.02	None **
rd≤1	r=2	0.5429867	48.04565	54.46	38.35	At most 1
rd≤2	r=3	0.4807586	46.75843	48.37	26.63	At most 2
rd≤3	r=4	0.4204728	43.30675	36.36	20.34	At most 3

**Source:** E-views Econometrics 9.1. Note\* (\*\*) denotes rejection of hypothesis at 5% (1%) significance level.

**Vector Error Correction Model**

The Error Correction coefficient contains information about whether the past values affect the current values of the variable under study and the significant coefficient implies that past equilibrium errors play a role in determining the current outcomes (Ibenta, 2012).

**Table 4:** Vector Error Correction Estimates Results

Dependent Variable: PSO

Method: Least Squares

Date: 23/03/2019. Time: 6:34

Sample Period: 1996-2018

Variable	Coefficient	Std. Error	t-Statistic	Prob.
(ECM)(-1)	-0.754512	5.254243	4.957685	0.000032
D(PSO <sub>-2</sub> )	5.648576	2.467584	0.364754	0.000010
D(PSO <sub>-3</sub> )	3.957638	4.746584	3.785954	0.000023
C	6.042745	6.546388	0.857587	0.000042
CDP	6.285664	0.465786	2.845567	0.000035
GVS	9.375647	5.756455	1.325445	0.000200
BOE	8.327674	3.645387	3.768578	0.000064
R-squared	0.642323		Mean dependent var.	135.4354
Adjusted R-squared	0.621578		S.D. dependent var.	136.9575
S.E. of regression	23.63778		Akaike info criterion	3.253778
Sum squared resid	3102.650		Schwarz criterion	9.836523
Log likelihood	134.5468		F-statistic	7.857609
Durbin-Watson stat	1.889747		Prob(F-statistic)	0.000000

**Source:** Author's computation with the use of E-view 9.1

The results on Table 4 show that error-correction coefficient (-0.754512) is statistically significant and has a negative sign, which confirms a necessary condition for the variables to be co-integrated. The result confirms that about 75% short-run adjustment speed from long-run disequilibrium. The coefficient of determination ( $R^2=0.642323$ ) indicates that about 64% of the variations in Private Sector Output can be explained by changes in insurance investment portfolio variables (CDP, GVS, BOE) in Nigeria. This implies that a significant portion of private sector growth is explained by insurance sector variables. The F-Statistics of 7.746538 which is significant at 5% confirms the portfolios of insurance investments and Private Sector Output in Nigeria over a period of 1996-2018. The influence of the explanatory variables on the dependent variable is statistically significant and this is also confirmed by the F-probability which is statistically zero.

### Conclusion and Recommendations

The findings of this study indicate that portfolios of insurance investments have a significant relationship with the growth and development of the private sector economy. A number of constraints should be addressed to increase the uptake of insurance products in Nigeria because the EFIN 2018 Market Report on Insurance revealed that over 70 percent of Nigerians are not aware of insurance business. Awareness should be increased through quality and sustained advertisement and sales promotion. Customer strategy, talent pools, competences as well as ideas have remained the same. That is not a formula for growth and enhanced performance. Policy makers should therefore make the Nigeria financial system work better especially for the poor by facilitating the emergence of an all-inclusive growth promoting financial system.

This will enhance financial innovation and access. Recapitalisation of the insurance industry will fast-track the development of the insurance sector. This will help the sector to invest in critical areas like the oil and gas sectors, aviation sector and other untapped but lucrative sectors of the economy like the Local Content Policy. A stiffer punishment should be imposed by relevant agencies like the Police and Road Safety Corps on uninsured vehicles. Insurance firms will help to redeem the image of the industry by processing claims timely to indemnify the insured who had suffered losses.

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**The portfolios Insurance Investment from 1996 to 2018**

YEAR	Government Security (₦, Billion)	Cash in hand Deposit (₦, Billion)	Bills of Exchange (₦, Billion)	PSO (₦, Billion)
1996	1,546.2	3,347.1	119.3	21,177.92
1997	2,012.0	3,815.9	164.2	21,789.10
1998	4,145.9	1,993.2	3,371.5	22,332.87
1999	2,987.2	4,184.2	5,780.9	22,449.41
2000	3,559.0	3,844.4	7,302.0	23,688.28
2001	3,842.7	4,284.6	10,178.0	25,267.54
2002	3,752.1	4,095.4	11,881.2	28,957.71
2003	4,489.2	6,722.3	13,901.2	31,709.45
2004	4,169.1	5,461.4	16,287.1	35,020.55
2005	4,178.1	10,185.4	6,301.1	37,474.95
2006	4,858.1	30,314.2	6,303.0	39,995.50
2007	20,914.8	22,508.7	5,267.8	42,922.41
2008	21,374.9	23,003.9	5,383.7	46,012.52
2009	21,845.2	23,510.0	5,502.1	49,856.10
2010	22,325.8	24,027.2	5,623.2	54,612.26
2011	22,816.9	24,555.8	5,746.9	57,511.04
2012	22,090.70	23,774.20	5,564.00	59,929.89
2013	22,269.70	23,966.80	5,609.00	63,218.72
2014	22,375.80	24,081.00	5,635.80	67,152.79
2015	22,388.30	24,094.40	5,638.90	69,623.93
2016	22,281.10	23,979.10	5,611.90	67,931.24
2017	22,328.70	24,030.30	5,623.90	68,490.98
2018	21,647.65	23,657.76	5,367.65	73,659.58

Source: Central Bank Statistical Bulletin, 2018.