



Fiscal policy and sectorial performance: Emphasis on the Nigeria insurance sector

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Abstract

One of the significant measures of economic development is the performance of its individual sectors. The insurance industry being an essential part of the economy's financial sector with inherent potentials to drive economic expansion deserves government consideration in its fiscal policies. This study aimed at examining the effect of government fiscal policy on the performance of the insurance sector using autoregressive distributive lag (ARDL) model on data from CBN bulletin 2020 and Federal Inland Revenue Service report from 1994 to 2020. The result of the study indicated that total tax revenue has a negative relationship with insurance premium both in the short run and in the long run. While government expenditure has a positive effect on insurance performance in the short run and in the long run. The co-integrating equation also signified that for any movement into disequilibrium is corrected within one period. The study therefore recommend among others that government should utilize its expansionary fiscal policy in a manner that it will create an enabling environment for sectorial development, improve investments and relatively increase the activities of the insurance sector.

Keywords: Fiscal policy, taxation, government expenditure, insurance, premium

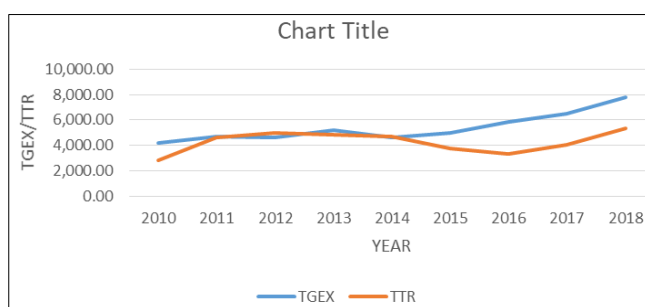
1. Introduction

The macroeconomic goal of every government is to ensure development in every sector of the economy. In this accord, the government adopts some policy measures that involves regulating its level of spending and taxation, these policy measures are referred to as fiscal policy (Okoh, Amadi, Ojiya & Ani, 2019) ^[13]. These policies which can be expansionary or contractionary are used in collaboration with the monetary policy to target adequate productivity in every sector of the economy which will enhance performance, sustainable development, employment and external balance. It is undoubtedly not automatic to achieve these macroeconomic goals therefore it is imperative to adopt policy guidance of which the government ensures by utilizing its fiscal policy tools which includes government spending and taxation (Akanni & Osinowo, 2013) ^[2]. In this regard, the interrelationship between government spending, taxation and sector output performance is of paramount importance to policy makers and economic analyst. On one hand, government expenditure can provide an impulse for sectorial output growth, while on the other hand; it can be harmful if it results to budget deficits and leads to competition for scarce financial resources from the banking sector as the government seeks to finance the deficit (Nwosa & Tijani, 2020) ^[12].

The issue of the efficacy of fiscal policy on the performance of economic sectors has over the years sparked controversies among scholars (Olaniyi, Adeniji, Kelikume, Dakare, & Shock 2018) ^[17]. Why majority of scholars such as Echeboba and Amakor (2017) ^[4], Agu, Okwo, Ugwunta, and Idike (2015) ^[1], and Nworji, Titus, and Obiwuru (2012) ^[11], based on theoretical propositions that government expenditure influence economic growth, opined that government expenditure has an effect on sectorial performances. However, their opinion was channeled mainly on the major economic sector such as agriculture, education and manufacturing sector with complete negligence to the effect on insurance and other financial sector. Tax on the other hand can be considered a compulsory obligation imposed by the public authority on tax payers (Eze, 2014) ^[7].

Also theoretical assumption suggests that taxation influence output generation of the economy and some empirical evidence observed that taxation has an effect on the performance of economy on the sectorial level, though just like government expenditure most of this empirical evidence such as Oladipo, Iyoha, Fakile, Asaleye, and Eluyela (2019)^[16], Okoh, Amadi, Ojiya, and Ani (2019)^[13] and Eze (2014)^[7] mainly focused on agriculture and manufacturing sector. This oversight gave rise to the empirical question on whether this majority view on the effect of fiscal policy on sectorial performance holds for the insurance sector in Nigerian economy.

However, considering that government spending and taxation in Nigeria over the years, data from CBN database suggested that the above have not achieved the desired macroeconomic goal, this was also affirmed by the study carried out by Agu *et al.*, (2015)^[1]. An insight to stylized data from CBN (2018) on government expenditure and federal inland revenue report 2018 on total tax revenue was illustrated in fig 1 below,



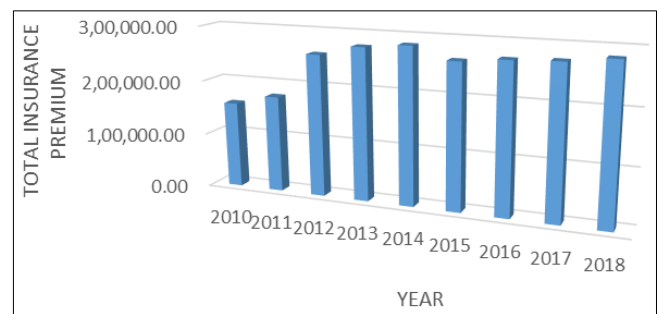
Source: CBN Bulletin and Federal Inland Revenue report, 2018

Fig 1: Total government expenditure and total tax revenue (Naira)

In 2010, Nigerian government spent approximately 4,194.58 billion naira and recorded a tax revenue of about 2,839.30 billion naira. In 2011 and 2012 respectively Nigeria government expenditure was about 4,712.06 billion naira and 4,605.39 billion with a slight decline in 2012. In the same period, tax revenue was about 4,628.50 billion naira and 5,007.70 billion naira respectively. Interestingly, government expenditure in 2013 was 5,185.32 billion naira with a sharp decline to 4,587.39 billion in 2014 before increasing to 4,988.86 billion naira in 2015; total tax revenue was 4,805.6 billion naira in 2013, 4,714.6 billion naira in 2014 and 3,741.8 billion in 2015. In 2016, Nigeria government spent about 5,858.56 billion naira, 6,456.70 billion naira in 2017 and 7,813.74 billion naira in 2018, tax revenue was about 3,307.5 billion naira, 4,027.94 billion naira and 5,320.52 billion naira in 2016, 2017 and 2018 respectively (CBN, 2018:FIRR, 2018). This indicated that both government expenditure and tax revenue have been fluctuating over the period as government tries to adjust to macroeconomic demand hoping to trigger growth in individual sectors that makes up the entire economy. It is evident to note that the decline in tax revenue in 2016 and 2017 and huge increase in government spending within same period, as government try to push the Nigerian economy out of recession and help sectors of the economy to revive growth.

The insurance sector, just like every other sector of the economy suffered great loss as a result of the recession. However, empirical studies suggest that even before the recession, the sector has not performed favorably to

expectation when compared to other economies of the world. Taking a glance at the Nigeria's total insurance premium as illustrated in fig 2 below;



Source: CBN Statistical Bulletin, 2018

Fig 2: Total Insurance Premium (Naira)

The illustration above indicated that total insurance premium in Nigeria was about 157,336 million naira in 2010, 175,756 million naira in 2011 and 258,402 billion in 2012. In 2013, it recorded about 276,529 million naira, 284,202 million in 2014 and 263,221 million naira in 2015. In 2016 and 2017, the total insurance premium was about 270,588 million naira and 273,635 million naira while in 2018 it increased slightly to 282,912 million naira (CBN, 2018).

Nigerian being one of the largest African economy with real GDP of about 69,810 billion naira annually as stated by CBN (2018) and a population of about 20% of the sub-Saharan African, it suffices to expect that the insurance sector in the Nigerian economy should perform more favorably to be able to compete with that of other economies. However, the sector is relatively underdeveloped as stipulated by the insurance performance indicator from the central bank and other empirical evidence such as the study of the sector carried out by Okparaka and Makwe (2019)^[15] and Ehiogu and Nnamocha (2018)^[5], and this has left the sector with a huge untapped potential that will be beneficial to the overall economy.

In the past years, series of enquiry has been raised to what could be the possible cause of the staggering state of insurance sector development in Nigeria despite intervention policies focused on improving and making the sector more viable and highly competitive. First was the establishment of a commission funded and obligated with the function of overseeing the affairs of the insurance commission backed up by law as the national commission (NAICOM) Act in 1997, another is the Insurance act of 2003 which included the establishment of the Nigerian council of registered insurance brokers (Olayungbo, 2015)^[18]. Other reasonable efforts in terms of government funding and tax liberation has been channeled to different sectors of the economy including the insurance sector to provide consistent drive and stimulus to help invigorate the performance of these sectors (Echekoba & Amakor, 2017)^[4].

However, empirical studies suggested that despite these efforts, the desired performance of the sector has not been significantly attained, therefore making it pertinent to revisit extent literature and consider possible indicators that previous studies must have neglected. It is on this premise that the objective of this study is structured to consider the effect of fiscal policy on the performance of the insurance sector in Nigeria, using government expenditure and total tax revenue as proxy for fiscal policy and total insurance

premium as an indicator of insurance performance. Also, the prior expectation of this study is based on the empirical suggestions that changes in government spending and taxation has a significant impact on the performance of economic sectors, therefore this study intends to confirm that such stipulation is prevalent as well in the insurance sector which is one of the major financial sector in the Nigerian economy.

2. Brief review of empirical literature

The issue of insurance sector development has been a major discuss by scholars especially as related to economic growth. Considering insurance penetration and Nigerian economic growth from 1981 to 2017, Okonkwo and Eche, (2019) ^[14] empirically identified a non-significant relationship between economic growth in Nigeria and insurance penetration using multiple regression method and data from the Central Bank of Nigeria statistical bulletin. Few other studies that considered the determinants of insurance sector performance focused mainly on monetary policy variables such as money supply, interest rate and credit to private sector as determinants of insurance sector performance. The study of Ismail, Ishak, Manaf and Md (2018) adopting a multiple linear regression method indicated that money supply, inflation rate and credit to private sector has a significant effect on insurance premium used as measure for insurance sector performance in Malaysia. In the same accord, Ehiogu and Nnamocha (2018) ^[15] empirically investigated the effect of interest rate on the profit of insurance companies in Nigeria, using ex-post facto research design and ordinary Least Square Regression analysis technique to test the hypothesis. The result of the analysis opined that interest rate had a positive and insignificant individual effect on total profit of the Nigerian insurance industry.

Discussing other related determinant of insurance sector performance, Pavic, Miletic and Pavic (2017) ^[20] carried out an empirical study on the determinants of insurance performance in selected central and eastern European countries using static panel model. The study identified age, real GDP among others to have a significant influence on insurance market performance. Also Mazviona, Dube and Sakahuhwa (2017) ^[10] employed multiple linear regression model and factor analysis to examine the factors influencing the performance of insurance companies in Zimbabwe and their impacts. The study discovered that company size, claims ratio and expense ratio has a negative impact on insurance companies performance while leverage and liquidity rate has a positive impact.

On the other hand, most literatures on fiscal policies in Nigeria focused on economic growth. For instance, Oraka, Okegbe and Ezejiofor (2017) ^[19] carried out an empirical analysis on the effect of value added tax on the Nigerian economy using ex post facto research design. Employing simple regression technique, the result indicated that value added tax does not significantly affect the gross domestic product of Nigerian but has a positive and significant relationship with total revenue generation. Also, Eyisi and Oleka (2015) ^[6] investigated the effect of taxation on the growth of Nigerian economy. Using ordinary least square regression method, the result of the findings indicated that increased taxation directly affects consumer spending which has a relative effect on output demand and production. It therefore recommends that government uses incentives from taxation to promote local manufacturers and as well show

fairness in tax collection. Considering studies on government expenditure, Echekeba & Amakor (2017) ^[4] carried out a study on the impact of government expenditure on sectors such as defense, health and others on the Nigerian economy. The analysis adopted ordinary least square method and the findings opined that sectorial government expenditure has a positive and significant relationship with economic growth. After a vivid review, it becomes evident that previous studies did not grant an intense focus on fiscal policies as among the determinants of insurances sector performance in Nigeria. Most of the literatures on determinants of insurance sector performance in Nigeria concentrated mostly on monetary policies and other factors, neglecting the contribution of fiscal policies to the sector. It is based on this knowledge that this study intends to contribute to extent literature by closing this literature gap.

3. Methodology

Adopting a linear form model, this analysis employed the Auto Regressive Distributed Lag (ARDL) bounds testing approach and dynamic Error correction model (ECM) to capture the objectives of this study. The goal of this analysis was to investigate the long run and short run impact of fiscal policies on the performance of Nigerian insurance sector from 1986 to 2019 using ARDL model.

3.1 Model Specification

Expressed in its functional form of the model as thus:

$$TINP = f(GXPD, TTXR) \dots\dots\dots e.3.1$$

Where;

TINP is Total insurance premium;

GXPD is Government expenditure

TTXR is Total tax revenue

Expressing equation 3.1 mathematically in equation 3.2 then adding an idiosyncratic error ε , and a natural log to linearize in equation 3.3; thus;

$$\ln TINP_t = \beta_1 \ln GXPD_t + \beta_2 \ln TTXR_t \dots\dots\dots e.3.2$$

$$\ln TINP_t = \beta_1 \ln GXPD_t + \beta_2 \ln TTXR_t + \ln \varepsilon_t \dots\dots\dots e.3.3$$

The ARDL(p,q) generalized form of the model is specified thus;

$$\ln TINP_t = \psi_0 + \sum_{j=1}^p \beta_j \ln TINP_{t-j} + \sum_{i=0}^q \alpha_i \ln GXPD_{t-i} + \sum_{k=0}^q \gamma_k \ln TTXR_{t-k} + \ln \varepsilon_t \dots\dots\dots e.3.4$$

$$j = 1, 2, \dots, p \text{ and } i, k, m, n = (0, 1, 2, \dots, q)$$

Where; ψ_0 is the constant and $\beta_j, \alpha_i, \gamma_k$, are estimated parameters with ε_t as the error term.

The bounds test for co-integration, the model is specified thus:

$$\Delta \ln TNP_t = \sigma \ln TNP_{t-1} + \delta \ln GXP_{t-1} + \theta \ln TTXR_{t-1} + \sum_{j=1}^p \beta_j \ln \Delta TNP_{t-j} + \sum_{i=0}^q \alpha_i \ln \Delta GXP_{t-i} + \sum_{k=0}^q \gamma_k \ln \Delta TTXR_{t-k} + \ln \varepsilon_t \dots \dots \dots e. 3.5$$

The co-integration bounds-test hypotheses state that the coefficients of the long-run equations are all equal to zero against the alternative that they are not, as stated below:

$$H_0: \beta_j = \alpha_i = \gamma_k = 0$$

$$H_1: \beta_j \neq \alpha_i \neq \gamma_k \neq 0$$

If and only if the null hypothesis is not rejected (i.e. there is no cointegration), then the short run model is specified thus:

$$\Delta \ln TNP_t = \psi_0 + \sum_{j=1}^p \beta_j \ln \Delta TNP_{t-j} + \sum_{i=0}^q \alpha_i \ln \Delta GXP_{t-i} + \sum_{k=0}^q \gamma_k \ln \Delta TTXR_{t-k} + \ln \varepsilon_t \dots \dots \dots e. 3.6$$

Specifying the error correction model (ECM) thus:

$$\Delta \ln TNP_t = \Phi ECT_{t-1} + \sum_{j=1}^p \beta_j \ln \Delta TNP_{t-j} + \sum_{i=0}^q \alpha_i \ln \Delta GXP_{t-i} + \sum_{k=0}^q \gamma_k \ln \Delta TTXR_{t-k} + \ln \varepsilon_t \dots \dots \dots e. 3.7$$

Where;

Φ = speed of adjustment parameter which shows the convergence in the long-run with a negative sign.

Δ = the first difference operator.

3.2 Justification of the Model

The ARDL model has the combination of the lagged value(s) of the dependent variable, the current and lagged values of the independent variables, which fits well to the empirically analysis that intend to evaluate the behavior of both endogenous and exogenous variables. Unlike other static models, its' dynamism fits perfectly to the objective of this study which is to capture the short run and long run relationship of fiscal policies and insurance performances in Nigeria. Another attribute that formed the decision for adopting the model for this study is its ability to capture variables with different order of integration thereby eliminating the possibility of spurious result that is inherent with non-stationary variables.

4. Results and discussion of findings

4.1 Pre-Estimation Test

Table 1: Result of Augmented Dickey-Fuller unit root test of the variables

Variables	Level Form			First Difference			Order of Integration
	5% critical value	ADF test statistics	p-values	5% critical value	ADF test statistics	p-values	
TNP	-2.976263	4.433873	1.0000	-	-	-	I(0)
GXP	-2.991878	3.330236	1.0000	-	-	-	I(0)
TTXR	-2.991878	1.248396	0.9975	-2.986225	-3.683330	0.0110	I(1)

Source: Augmented Dickey-Fuller unit root test result of the variables

Hypothesis Testing

H0: $\delta = 0$ (the variables are non-stationary)

Decision Rule: reject H0 if the absolute value of ADF cal. > ADF tab. The result of the Augmented Dickey-Fuller test result for unit root test for the variables as shown in table 4.1 above indicated that total insurance premium and government expenditure are stationary at level form, with the ADF value of the result greater than the critical value at 5%. Total tax revenue was stationary only after first difference and is considered to be integrated of order one.

The result of the bound test in table 4.4 above pointed that the F-statistic value is above the upper bound value of person test statistic. Considering this result, the null hypothesis is rejected and the alternative accepted, implying that there is a long run relationship between the variables in the model.

4.2. Result of Model Estimation

In capturing the objective of this study, the Autoregressive Distributed Lag model (ARDL) was adopted.

Table 2: Result of bound test (cointegration of the variables) for the objective Null hypothesis: No long run relationship exists

Null Hypothesis: No long-run relationships exist	
F-statistic	16.41200

Critical Value Bounds

Significance	I0 Bound	I1 Bound	Decision
10%	3.17	4.14	Cointegrated
5%	3.79	4.85	Cointegrated
2.5%	4.41	5.52	Cointegrated
1%	5.15	6.36	Cointegrated

Source: Eviews 9 Output of bound test (cointegration of the variables)

The effectiveness of the specified parameter was validated using the P- value which is the exact (true) level of significance. This implied that for every coefficient with p-value equal to or less than 5% (0.05) is regarded to be statistically significant and otherwise is regarded to be statistically insignificant. The result of the estimation is presented below;

Table 3: Result of ARDL Cointegration form

Dependent Variable: TINP Cointegrating From				
Variables	Coefficient	Std. Error	t-statistic	Prob.
D(TTXR)	-0.055765	0.002218	-2.598852	0.0187
D(TTXR(-1))	-0.098240	0.002569	-3.207786	0.0052
D(GXPD)	0.115772	0.002841	2.736057	0.0141
D(GXPD(-1))	0.070797	0.004001	2.698223	0.0152
CointEq(-1)	-0.125289	0.073251	-2.710408	0.0054

Source: Authors' computation from Eview 9

The result of the co-integrating from of the analysis as presented in table 3 above indicated that total tax revenue has a coefficient of -0.055765 with p-value of 0.0187 in the short run and coefficient of -0.098240 with p-value of 0.0052 in the first year lag. This implies that a percentage increase in total tax revenue will decrease total insurance premium by 5% in the short-run and 9% after one year. The p-values which are less than the conventional 5% degree of freedom indicated that the result is statistically significant. The result for government expenditure indicated a coefficient of 0.115772 in the short run and 0.070797 in the first year lag, with p-values of 0.0141 and 0.0152 respectively. This implies that a percentage increase in government expenditure will increase total insurance premium by 11% in the short run, and 7% after one year, the p-values shows that the results are statistically significant. The co-integrating equation has a negative coefficient of -0.125289 and p-value of 0.0054. This implies that for any movement into disequilibrium, about 12% is corrected within one period and the p-value indicated that the result is statistically significant.

Table 4: Result of ARDL Long Run Coefficient

Dependent Variable: TINP Long run coefficient				
Variables	Coefficient	Std. Error	t-statistic	Prob.
TTXR	0.022699	0.036301	1.074341	0.4416
GXPD	0.053250	0.026410	2.016269	0.0299
C	-0.352145	0.107033	-2.580164	0.0394

Source: Authors' computation from Eview 9

The result of the long run coefficient as presented in table 4 shows that total tax revenue, has a coefficient of 0.022699 and a corresponding p-value of 0.0416 indicating that the result is statistically significant. This implies that a percentage increase in total tax revenue will increase total insurance premium by 2% though this result is not statistically significant and indicated by the P-value. Also, government expenditure has a coefficient of 0.053250 with p-value of 0.0299. This implies that a percentage increase in government expenditure will increase total insurance premium by 5%. The p-value indicated that the result is statistically significant.

4.3 Post Estimation Test

Table 5: Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.540916	Prob. F(2,15)	0.5932
Obs*R-squared	0.216304	Prob. Chi-Square(2)	0.4033

The result of the Breusch-Godfrey serial correlation LM test carried out to test for serial correlation indicated the probability of the F-statistics is 0.5932 which is greater than the 5%, the observation times R-square is 0.216304 indicated

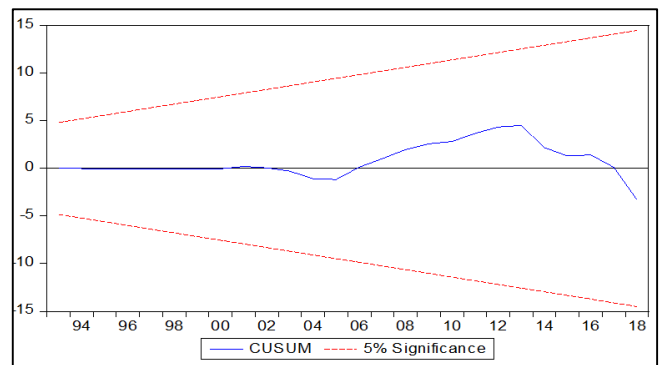
to be less than the p-value of the chi-square. Therefore the study concluded based on the Breusch-Godfrey serial correlation test that the variables in the model are not serially correlated.

Table 6: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.656814	Prob. F(9,17)	0.7355
Obs*R-squared	6.966241	Prob. Chi-Square(9)	0.6406
Scaled explained SS	1.857945	Prob. Chi-Square(9)	0.9935

Source: Eviews 9 Output for Heteroscedasticity Test

The result of the heteroskedasticity test indicated that p-value of the observation multiplied by R-square is 0.6406 is greater than 5% which implies constant variance of the error term there the result concluded that error term is constant over time.

**Fig 3:** Cusum Test

The cusum test for model stability of the short-run models is presented in fig 4 above. The stability test indicated that the blue line is well placed inside the red dotted lines which imply that the model is stable and the result from the analysis is fit.

5. Conclusion and policy recommendation

The importance of a healthy insurance industry is gradually gaining attention in Nigeria, and the influence of government activities on the insurance industry using its fiscal authority need consideration. This study therefore provided an overview of the Nigerian insurance industry with a detailed insight on the effect of government expenditure and total tax revenue on insurance performance. The findings of this study have enhanced the general knowledge of insurance business As a key financial sector of the Nigerian economy. The findings indicated that total tax revenue has a negative relationship with insurance premium both in the short run and in the long run. While government expenditure has a positive effect on insurance performance in the short run and in the long run. The co-integrating equation also signified that for any movement into disequilibrium is corrected within one period and the p-values for the entire coefficient indicated that the results are statistically significant. From the above findings, the following recommendation became imperative:

1. The government should utilize its expansionary fiscal policy in a manner that it will create an enabling environment for sectorial development, improve investments and relatively increase the activities of the insurance sector.
2. The government should consider sectorial impact of

adjusting its fiscal policies; in fact a detailed investigation should be conducted to ensure that such adjustment will enhance the performance of every sector of the economy including the insurance industry and not otherwise.

3. Government should eradicate wasteful spending and focus on the productive sector of the economy the will relatively need the services of the insurance industry. This will enhance patronage of insurance services and improve the performance of the sector.

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