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COMPANIES INCOME TAX VOLATILITY AND ECONOMIC GROWTH IN NIGERIA

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Abstract

This paper argued that economic growth is a progenitor of steady revenue generation through company income tax. The contradiction as evident in Nigeria is a derivative of less focus on income from taxes. Hence, the investigation of companies' income tax volatility and economic growth in Nigeria from 1981-2017. Ex post facto research design was adopted. Data were obtained from certified sources;National Bureau of Statistics, Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Services. Data were exposed to legal scrutiny by the appropriate regulatory agencies for validity and reliability. Data were analyzed using both descriptive and inferential statistics. Findings revealed that company income tax volatility had positive and significant effect on economic growth in Nigeria ($R^2= 0.55$, $\beta_1 = 0.348$, $t(107) = 2.524$, $p<0.05$). This study concluded that companies' income tax volatility affected economic growth. It was recommended that government should implement tax-friendly policies to encourage tax payment in order to boost tax revenue and channel such funds to developmental activities.

Introduction

Nigeria's Economic Outlook (2018) provided diverse empirical and theoretical explanations on tax revenue and Gross Domestic Product (GDP) and the ripple effect if sustained. Nevertheless, the historical antecedent of Nigeria economic growth shows that tax is less collected and infrastructural development and other development activities are below expectations. The work of Okoli, Njoku and Kaka (2014) mentioned that over sixty percent of Nigeria population lives in extreme poverty, youth unemployment around eighty percent, daily violence and Boko Haram activities are exacerbating. Pockets of kidnapping activities are predominantly in the South-East and some other parts of the country. Evidence of chronic power shortage, which has increased the cost of doing business in Nigeria is unending. The aforementioned events elicit both academic and professional questions with reference to the extent which taxation contributions can engineer economic growth in Nigeria.

The work of Asaolu, Olabisi, Akinbode and Alebiosun (2018) mentioned that taxation remains a strong socio-political and economic tool to sponsor poverty alleviation project as well as ensuring economic prosperity. However, the judicious utilisation of tax revenue enhances the enabling environment for business to survive and economic growth to occur. Okonjo-Iweala and Osafo-kwaako (2007), posited that Nigeria embarked on a comprehensive reform programme during the second term of the Obasanjo's administration with the view to improving on the nation's economic growth. The National Economic Empowerment and Development Strategy (NEEDS), with emphasis on management of the nation's resources was not adequate to handle projects that bring about economic growth as noted by Ogbonna (2010), Ogbonna (2011), Ogbonna and Ebimobowei (2012a) and Ogbonna and Ebimobowei (2012b). Okonjo-Iweala and Osafo-Kwaako (2007) accounted for reforms in the areas of privatization, civil service reforms, banking sector reforms, trade policy reforms as well as institutional and governance reforms which to a larger extent did not usher in intended results. Jones, Ihendinihu, and Nwaiwu (2015) identified tax system as critical aspect of reform which was not addressed, hence the National tax policy of 2017 to sustained growth.

Anyadugba and Efionayi (2019) expressed that though governments all over the world raise revenue through taxation, however the judicious use of the revenue to provide social amenities, infrastructure and security translates to economic growth. Anyadugba and Efionayi (2019) affirmed that taxation has not actually played its role in promoting economic growth of Nigeria with variability in tax revenues which complicate government

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budget. Ogwuche, Abdullahi and Oyedokun (2019) associated government generated tax revenue as the breath of its nostril to grow the economy. This assertion (Ogwuchee al., 2019) enriches the understanding that income tax enhances development of the nation which Arisoy and Unlukaplan (2010) and Nwanakwere (2019) had identified. Arisoy and Unlukaplan (2010) perspective was the instrumental role tax incomes play in development along resource mobilization, reduction in income, structural inequalities, social welfare, foreign exchange improvement, and regional development. Volatile tax figures are envisaged to be disruptive. Consequently, as the GDP grows, tax revenue should increase as well. The major source of revenue revolves around tax collections (Abiola&Asiweh, 2012). In the work of Abiola and Asiweh(2012) where Popoola (2009) and Gordon (2010) were cited, that epileptic services of some of the social amenities financed with tax revenue in developing and underdeveloped countries left much to be desired.

Tax volatility brings about tax revenue change in volume and persons. The likelihood of sudden change in peoples' attitude becomes dangerous for prediction revenue collected and economic growth. A highly unstable and volatile tax situation could develop into an economic riot level and consequences could be great on government expenditure (Gale &Samwick, 2016). Thus, volatility of tax revenue could explain over or under remittance of tax revenue relative to budget and its consequences. In addition, a volatile series changes could trigger shocks with ripple-effect reaching return on stock, market price of stock, financial ratios, foreign exchange rates, value of assets, equity, earnings, liabilities, inflation, exchange rate as identified by Ariyo and Bekoe (2012). This creates gaps between public expenditure and revenue. Further tax inspectors' moral standing and opportunistic behaviors have fueled the propensity for volatile tax revenue. Naiyeju (2005) provides sufficient evidence to show that tax clerks live above their incomes and their ostensible livings have been found to be totally unrelated to their salaries and status. The tax audit process, tax corruption (Ponomariov, Balabushko & Kisunko, 2017), prosecution process and deliberate default have affected the amount of tax collected (Pavel &Vitek, 2014) which in turn could cause tax volatility and dwindling in economic growth.

Literature Review
Convergence in perspectives has emerged on the value of studying economic growth from tax revenue volatility premise (Putra & Firmansyah, 2018; Rahhal, 2017) but the exploration of such insight has remained largely conceptual, descriptive and perceptual. To deepen understanding, this work reviewed concepts along the constructs, the interactions from empirical approach and sustained such with theoretical synopsis. The position of Rodrik (2008) is that economic growth is the most effective way to pull people out of poverty or stimulate economic growth. Rodrik (2008) perspective was progressively expanded along tax revenue and better life studies (Owino, 2018; Owolabi&Okwu, 2011), poverty reduction (Oyedele, 2011), development (Paper, Gadi & Gadi, 2016; Puspita, Subroto, &Baridwan, 2016; Putra & Firmansyah, 2018; Rahhal, 2017; Ramot & Ichihashi, 2012; Rauscher, 2012; Rosid, Evans & Tran-Nam, 2017; Sabri, 2010). In other words, economic growth is obtained by efficient use of available resources which increases a nation's capacity utilization and production (Puspita et al., 2016). Economic growth is a complex long-run phenomenon subjected to constraints like excessive rise of population, limited resource (Rosid et al., 2017), inadequate infrastructures (Rahhal, 2017), inefficient utilization of resources, excessive governmental intervention institutional and cultural models (Haller, 2012). One of the most fundamental economic issues that had received extensive attention in literature to date is economic growth (DFID, 2016) and tax structure. In furthering this discussion, Ajide (2014) mentioned that economic growth is the most powerful instrument for reducing poverty and improving the quality of life in developing countries. This premise was anchored on economic growth ability to generate vicious circles of prosperity and opportunity in the areas of employment opportunities and improved incentives for parents to invest in their children's education. The extent to which growth reduces poverty depends on the degree to which the poor participate in the growth process and share in its proceeds.

Tax volatility
Volatility of tax is the unpredictability and unstable nature of tax revenue due to non-compliance by tax payer (Schaufele, 2016). Stiglitz (1971) and Das-Gupta (2006) stated that volatility of tax revenue is due to changes in nation's tax rate, indirect impulsiveness in nation's economic condition, or changes in tax base as supported by Schaufele (2016). Stiglitz (1971) argued that tax rate, economic conditions, and tax revenue could be noticeable but tax base changes such as increase in e-commerce are likely to be unnoticeable. McGranahan and Matrtoon

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(2012) examined the causes of tax revenue volatility with evidence pointing at fiscal turbulence or shocks in uncertainty. Within context, Lyndon and Paymaster (2016) argued that companies in Nigeria are generally taxed under the Companies Income Tax Act, 1990 while those engaged in "petroleum operations" are taxed specifically under the PPTA. Afuberoh and Okoye (2014) stated that tax is levied on a resident company's worldwide income being its profits accruing in, derived from, brought into or received in Nigeria and should be devoid of corruption.

Tax Volatility and Economic Growth

According to Ola (2006), companies' income tax administration in Nigeria does not measure up to appropriate standards. Festus and Samuel (2007) asserted that company income tax is a major source of revenue in Nigeria but non-compliance with tax laws and regulations by tax payers is deep in the system because of weak control. Adegbie and Fakile (2011) connected tax with economic development but tax evasion and avoidance were the major hindrances to revenue generation. Chigbu, Akujuobi, and Appah (2012) demonstrated that taxation as an instrument of fiscal policy affects economic growth and taxation granger cause economic growth of Nigeria. Worlu and Nkoro (2012) revealed that tax revenue collected stimulated economic growth through infrastructural development. Similarly, Gwangdi and Garba (2015) discovered that low tax compliance and enforcement have become grave concern. The position of low compliance and enforcement induce volatility which seems to limit the capacity of governments to raise revenues for development purposes. The anomaly was attributed to dysfunctionalities in the income tax system, loopholes in tax laws and inefficient tax administration (Olaleye, Riro & Memba, 2016).

Okafor (2012) explored the impact of income tax revenue on the economic growth of Nigeria as proxied by the gross domestic product (GDP). The ordinary least square (OLS) regression analysis was adopted to explore the relationship between the GDP (the dependent variable) and a set of federal government income tax revenue with result indicating positive and significant relationship. However actual tax revenue generated in most years fell below the level expected. Das-Gupta (2006) looked into compliance cost of meeting obligations under the income tax law results revealed that social compliance cost, gross versus net private cost, and mandatory versus voluntary cost can be distinguished. Olaleye et al. (2016) investigation showed strong positive linear relationships between reduced company income tax incentives and foreign direct investment.

Albrecht (2013) investigated managing tax revenue volatility and posits that social science methods are vital but portfolio analysis remains robust in managing tax revenue volatility. This position is anchored on Modern Portfolio Theory that investment decisions should be based on the mean-variance characteristics of "portfolios" which are collections of financial assets. Sobel and Holcombe (1996) measured the growth and variability of tax bases over the business cycle with indications of asymptotic bias, inconsistent standard errors, and fluctuations in tax base over the business cycle. Trusts (2015) expressed how researches help policymakers for better understanding of how volatile state taxes affect the accuracy of revenue projections. That is how revenue volatility with the main causes changes to the tax system and budgetary changes, economic boom-boost and trade-offs inherent in each of the alternatives. Fricke and Süssmuth (2013) perspective to economic growth and volatility of tax revenues resulted from macroeconomic instability and the need to meet the demands of public spending. Chimilila (2017) found that tax revenue increased steadily over time with a persistent volatility in all the years studied. Ebeke and Ehrhart (2010) study found that instability of government tax revenue leads to an instability of public investment and also government consumption. Saima, Tariq, Muhammad, Sofia, and Amir (2014) observed that high taxes have negative effects on consumption, investment and finally on GDP. Overton, Nukpezah and Ismayilov (2017) found that late payments impact sales tax revenue volatility while early payments do not. Branimir, Mirovic and Milenkovic (2018) found that there is no significant relationship between tax forms and gross domestic product of Serbia and Croatia.

Theoretically, ability to pay theory remains relevant pillared on the assumption that a citizen is to pay taxes and shares in the total tax burden determined by paying capacity (Bhatia, 2009). Similarly, Musgrave and Musgrave (2004) stated that people should contribute to the cost of government in line with their ability to pay. Jhingan (2011) argued that taxation is the just and equitable subject to people's ability-to-pay principle. The attempt to use tax policy to reduce inequity can create costly distortions, prompting a partial return to the view that taxes

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should not be used for redistributive purposes (Charles, Ekwe & Azubike, 2018). The position of Charles et al. (2018) bears resemblance to expediency proposition that economic and social objectives are effects of a tax system and should be treated as irrelevant (Bhartia, 2009). Expediency is the principle of taxing as circumstances seem to warrant and with chief regard to the more immediate, practical and pressing considerations (Andreasa, 2015).

Tax structure and tax proposal must pass the test of practicability. Economic and social objectives of the state as also the effects of a tax system should be treated as irrelevant (Charles et al., 2018). However, writers have referred to this perspective as expediency, political expediency, general expedient and social expediency (Ibanichuka et al., 2016). Islahi (2006) identifies two different effects: the arithmetic and the economic effect which the tax rates have on revenues. The essences of the empirical and theoretical discussions revolve around development of nations across the world through internal taxes for the purpose of economic growth. However, the clue from exploration is that nonpayment of taxes is revenue loss to the nation. The deterrence is penalty which is placed on erring tax payer (Alkhatib& Abdul-Jabbar, 2017;Alkhatib, Abdul-Jabbar, &Marimuthu, 2018; Charles et al., 2018; Musa et al., 2016; Oladipupo&Obazee, 2016). The investigation into income tax revenue volatility justifies government budgeting and economic growth which the works of Adeyemi (2012), Aderibigbe and Zachariah (2014), and Adeyemi (2015) affirmed.

Methodology
This study employed *ex-post facto* research design. The design is evident in the works of Adegbie, Jayeoba and Kwarbai (2016) and Akinyemi (2016)to assess value added tax on growth and development in Nigeria. As such, Akinyemi(2016)determined the association and predictive relationship between the variables. The study's time frame is 1981-2017 within the political uncertainty and economic boom and boost. It should be noted that data for value added tax and education tax started from 1994 and 1996, respectively. This was the reason for both variables data not starting in 1981because the implementation started at a later date. The total sample period is thirty-seven years, while for value added tax and education tax it was twenty-four and twenty-two years. The data were sourced from the publications of the Central Bank of Nigeria (CBN) Statistical Bulletin, Federal Inland Revenue Service (FIRS) and the National Bureau of Statistics (NBS).

The study employed both descriptive and inferential statistics. First, the study examined the descriptive properties of the data using the mean median, maximum, minimum, standard deviation. Second, it examined the time series properties of the variables, the Augmented Dickey Fuller (ADF) and the Phillip and Perron (PP) unit root tests were used. Third, it tested for the long-run relationship between tax revenue volatility and economic growth, the Autoregressive Distributed Lag (ARDL) model for cointegration was used to also test for short-run model, and the error correction model was used. For the model to adjust back to equilibrium, the error correction term was expected to be negative and statistically significant at 1%, 5% or 10% level of significance. Finally, the post-estimation test was carried out to assess the probability of using the results for policy purposes. Here, the LM-test was employed to check if correlation exists in successive error terms. In addition, Ramsey RESET Test was utilized to examine if the estimated model is linearly and correctly specified. The Breusch-Pagan for heteroscedasticity tests was used to test if the variance of the error term is constant or not. The Jarque-Bera test was employed to test if the specified model follows a normal distribution or not and finally, the cumulative sum of residual and cumulative sum of square residuals were used to test the stability of the model.

Model Specifications
The functional estimation used to achieve the pre-stated assumption;

$$Y = f(X)^n \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Note that Y = Dependent Variable proxy as Economic Growth (GDP)

X = Independent Variable proxy as Companies income tax volatility (CITV)

$$GDP = f(CITV) \dots\dots\dots\dots\dots\dots\dots \dots\dots\dots\dots\dots\dots\dots\dots (2)$$

The long-run relation of companies' income tax revenue volatility and economic growth in Nigeria as stated in equation 1 is transformed into;

$$LGDP = \beta_0 + \beta_1 CITV + \varepsilon_t$$

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The scale variable measures Nigerian real GDP and CITV is the companies' income tax revenue volatility. The measure of companies' income tax revenue volatility was constructed using the GARCH (generalized autoregressive conditional heteroscedasticity) approach. To distinguish the short-run effects of volatility measures from the long-run effects, Equation (3) is specified in an error-correction modeling form. Following Pesaranet al.'s (2001) bounds testing approach and rewritten (1) as follows:

$$\Delta LnGDP = \alpha + \sum_{i=1}^{n1} \beta_i \, \Delta LnGDP_{t-1} + \sum_{i=0}^{n2} \delta_i \Delta \, LnCITV_{t-1} + \rho_0 LnGDP_{t-1} + \rho_1 LnCITV_{t-1} \quad \text{........ (3)}$$
$$+ \, \varepsilon_t \qquad\qquad (3.8)$$

Where α is the intercept from equations 3 and ρ_1 is the estimated coefficients for the explanatory variable, t represents the periods under study, ε_t is the error term.

Analysis and Results

This section presents the results of the analyses as cushioned in model 3 with the dependent and independent variables. Noticeably, the descriptive statistics are presented in Table 1, the relationship was determined through Pearson Product-Moment, the diagnostic test and the regression results herewith respectively. The results shed academic light on how income tax volatility may engineer economic growth

Descriptive statistics

Table 1   Descriptive Statistics

Variables	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob	Obs
LGDP	7.06	7.19	10.30	3.56	2.28	-0.16	0.59	2.86	0.12	148
LCITV	-1.63	-1.64	8.93	-10.68	5.19	-0.01	0.97	1.54	0.17	147

Notes: Table 1 shows the mean, median, maximum, minimum, standard deviation, skewness, kurtosis and Jarque-Bera test for normality of the variables. The dependent variable is log of gross domestic product (LGDP) the explanatory variable is logarithm company income tax volatility (LCITV) for the period 1981-2017 in Nigeria. The estimation process was facilitated using Eviews 10.
Source: Researcher's Computation 2020

Interpretation of Descriptive Statistics
For log of gross domestic product (LGDP); the mean value of the gross domestic product was 7.06, median of 7.19 with maximum value of 10.30 and the minimum value 3.56. This implies that the levels of economic growth differ across time period. It also shows that the total value of goods and services produced follows upward trends during the period of study. Standard deviation of 2.28 was recorded which shows that the level of growth was susceptible to endogenous change. It also shows that economic growth in Nigeria follows a normal distribution because the Jarque-Bera test shows that the variable was normally distributed. The Log of company income tax volatility (LCITV) recorded a mean value of company income tax volatility -1.63, median -1.64 with maximum value of 8.93 and minimum value -10.68. This implies that company income tax volatility differs across time frame and also standard deviation was 5.19 indicating that company income tax volatility was susceptible to change. It also shows that company income tax volatility follows a normal distribution because the Jarque-Bera test of 1.54 pointed to normally distributed variable.

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Pearson Correlation Result

Table 2: Correlation Matrix for Tax Revenue and Gross Domestic Product

Variables	LGDP	LCITV
LGDP	1.00	
LCITV	**0.92**	1.00

Notes: Table 2 shows the Pearson pairwise correlation matrix. The dependent variable is log of gross domestic product (LGDP) the explanatory variable is logarithms of company income tax volatility (LCITV) for the period 1981-2017 in Nigeria. The correlations are below the major diagonal and the bold coefficients was statistical significant at 1, 5 and 10 per cent. The estimation process was facilitated using Eviews 10.
Source: Researcher's Computation, 2020

This section discusses the degree of association between logarithms of company income tax volatility with the log of gross domestic product (LGDP) for the period 1981-2017 in Nigeria. The level of associations was 92%, with implication that an increases in company income tax volatility exhibits corresponding increase in economic growth.

Result of the Stationary Test
Stationary test was conducted to examine the time series properties of the variables over the study period. Specifically, Augmented Dickey Fuller (ADF) and the Phillip-Perron unit root tests were used to test for stationary in the series and the result is presented in Table 3.

Table 3: Result of the Unit Root Test

Variables	ADF	PP	Remarks
LGDP	-1.470	-0.900	
ΔLGDP	-3.779[***]	-5.000[***]	I(1)
LCITV	-4.690[***]	-4.046[***]	I(0)
ΔLCITV	-6.105[***]	-11.863[***]	I(1)

Notes: Table 3 presents the unit root test. The dependent variable is log of gross domestic product (LGDP) the explanatory variable is logarithm of company income tax volatility (LCITV) for the period 1981-2017. The correlations are below the major diagonal and the bold coefficients denotes statistical significant at 1, 5 and 10 per cent. The estimation process was facilitated using Eviews 10. The critical value at 5 for intercept and trend is -3.50 and for intercept alone is -2.93. ** & *** indicates significant at 5% and 1% respectively.
Source: Researcher's Computation, 2020

Stationary test result shows that economic growth proxied with the gross domestic product, company income tax volatility, 3.779, 6.105, were stationary in their first differences, while company income tax volatility and value added tax volatility 6.105 and 3.321 were stationary at 5% level of significance. It should be noted that because of the different order of integration of the variables, the autoregressive distributed lag (ARDL) model approach to cointegration of Pesaran (2001), which allows for combination of levels and first difference stationary variables were used.

Regression analysis
The assumption was that companies' income tax volatility affects economic growth in Nigeria within the period 1981-2017. The regression analysis was used to estimate the interaction between the variables.

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Table 4: Effect of Companies Income Tax Volatility on Economic Growth

Panel A: Long Run Estimates

Dependent Variable: LGDP

Variable	Coefficient	S.E	t-stat	Prob
LCITV	0.348	0.138	2.524	0.013
C	11.215	3.619	3.099	0.002

Panel B: Short -Run Estimates

Variable	Coefficient	S.E	t-stat	Prob
D(LGDP(-1))	0.592	0.082	7.210	0.000
D(LCITV)	0.175	0.082	2.133	0.035
ECM(-1)	-0.003	0.001	-3.393	0.001

Panel C: Diagnostic Tests	Statistic	Prob.	
Bound Test	4.783	0.050	
Serial Correlation	0.02	0.887	
Heteroscedasticity	1.783	0.172	
Linearity Test	2.003	0.169	
R-square	0.551		
Stability Test	CUSUM Stable		

Notes: Table 4 reports the long-run estimates, short run estimates and the diagnostic tests for the relationship between company income tax volatility and economic growth. The dependent variable is the logarithm of gross domestic product and independent variable is the logarithm of company income tax volatility.
Source: Researcher's Computation, 2020

The long-run volatility model in algebraic form is presented below:
$\text{LGDP} = \beta_0 + \beta_1\text{CITV} + \varepsilon_t$
Substituting the value from the table, Long-run estimate is presented below.
Lgdp = 11.215 + 0.348lcitv
(3.099)*** (2.524)**
In the same vein, the short-run volatility model is estimated thus;
$\Delta\text{LGDP} = \alpha_1\Delta\text{LGDP(-1)} + \alpha_2\Delta\text{LCITV} + \alpha_3\text{ECM(-1)}$
Δlgdp = 0.592Δlgdp(-) + 0.175Δlcitv – 0.003ECM(-)
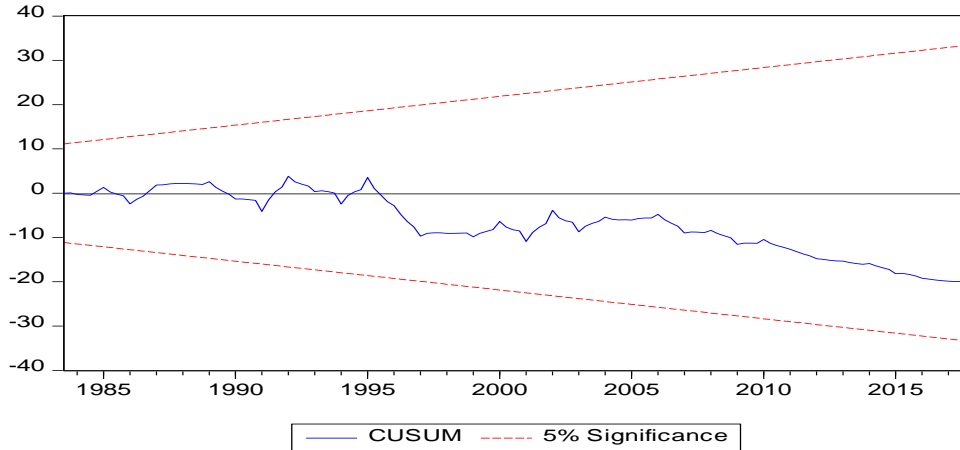 (7.210)***   (2.133)**   (-3.393)***

*As mentioned under Table 4.3, kindly note that ** and *** are at 5% and 1% level of significance.*

The stability test graph is depicted below.

The Company Income Tax Volatility Graph is depicted below.
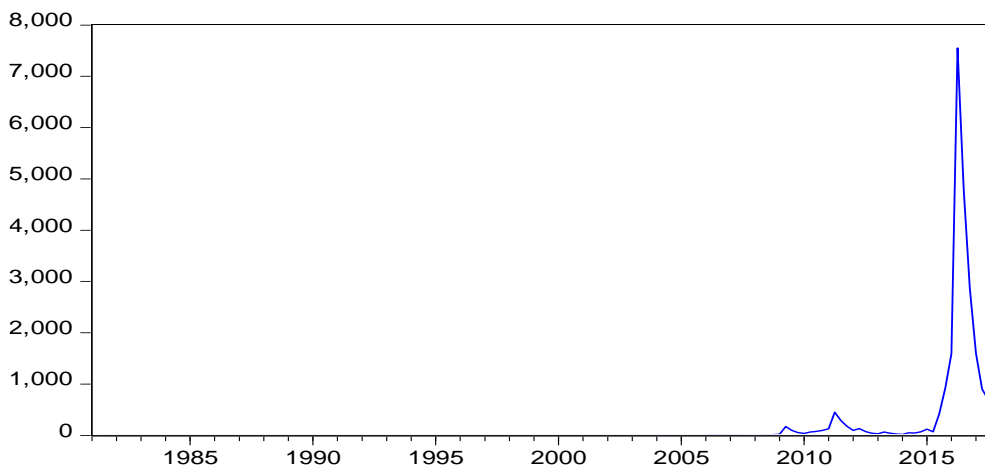
Company Income Tax Volatility

Fig. 1: Company Income Tax Volatility

Interpretation
The value of *F*-Stat was 4.783 and was greater than the critical values bound at upper bound (I1) of 4.26, 3.5 and 3.13 at 1%. This implies that the variables co-moved in the long-run. Having found a long-run relationship between economic growth and company income tax volatility, the study then estimates the long-run and the short-run elasticities. The empirical results for the model, obtained through normalizing economic growth and company income tax volatility in the short and long-run are reported in Table 4. The estimated long-run coefficients (elasticities) for the UECM model are given in the Tables Panel A of Tables 4. In the long-run, there was an evidence of a positive relationship between economic growth and company income tax volatility ($\beta_1 = 0.348$, *t*-test = 2.524, $\rho = 0.013$). This is an indication that company income tax volatility exerted significant influence on the changes in economic growth in Nigeria. This implies that increases in company income tax volatility will lead to increase in the economic growth. Furthermore, 1% increase in company income tax volatility will lead to 34.8% corresponding increase in economic growth in the long-run. Thus, assumption that company income tax volatility significantly affects economic growth in Nigeria holds.

The short-run effect was conducted for two reasons; to observe changes and determine if the statistical significance experienced in the long-run also exist in the short run model and to examine the degree of adjustment back to equilibrium using the error correction term. The short-run adjustment process was measured by the error correction term ECM_{t-1} and it shows how quickly variables adjust to a shock and return to

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equilibrium. For stability, the coefficient of ECM_{t-1} should carry the negative sign and be statistically significant. The statistical result shows that in the short-run company income tax volatility had positive and significance relationship with economic growth ($\beta_1 = 0.175$, t-test= 2.133, $\rho = 0.035$). In addition, the estimated coefficient for the ECM_{t-1} reported in Panel B of Table 4 was negative and statistically significant (ECM = -0.003, t-test = -3.393, $p = 0.001$). This implies that deviations from economic growth equilibrium path were corrected by nearly 0.3% over the following year. In other words, the adjustment process was slow for Nigeria. The statistical significance of the ECM_{t-1} confirms the presence of the long-run equilibrium relationship between economic growth and company income tax volatility in Nigeria. The R^2 was 0.55, which implies that company income tax volatility explains 55% changes in economic growth, while the balance of 45% was caused by factors outside this study.

Diagnostic Test
The linearity assumption of ARDL test was estimated using **Ramsey Reset Test**, was F-statistics of 2.003 and ρ-value was greater than 5% chosen level of significance. This implies that the model was correctly specified and that there is a linear relationship between the economic growth and company income tax volatility in Nigeria. The **Heteroskedasticity Test** was conducted through Breusch-Pagan Test to determine if the covariance of the estimated model error term is constant or not. The result suggests that 1.783 was not statistically significant at 5% level of significance, thus implies that covariance of the error terms had a constant finite variance. The **Breusch-Godfrey Serial Correlation LM Test** was carried out to determine if successive error terms are correlated. The probability value of F-statistic 0.887 was in favour of no serial correlation in the residuals up to the specified lag order at 5% significant level. Thus, the study concluded that the successive error terms were not correlated in the estimated model for economic growth and company income tax volatility. The **CUSUM test** for stability was meant to determine the appropriateness and the stability of the model. In addition, the CUSUM test was used to show whether the model was stable/suitable for making long run decision. The CUSUM result reported in Panel C of Table 4 shows that the estimated model was stable, this is because the plot of CUSUM statistic stays within a 5% significance level portrayed by two straight lines.

Discussion of Findings
The academic controversy around tax and economic growth will always draw multimodal and multilateral debates with each perspective speaking through data that have political and policies dimensions and interpretations. This paper significantly did not differ from the impurities of context interference and other latent factors that influence ability to pay tax, employment and the economic actors' decision to disclose accurate information on tax. In addition, taxation and growth is selfish and reductionist from the approach of linear estimation of output growth. The next important aspect tax-volatility to economic growth fuggy debate is labor resource growth, investment rates, corruption and tax fraud which linearity will not address to understand tax and economic growth. However, tax volatility does not necessarily enter the economic growth framework without the aforementioned. This bounded reality necessitates the need to academically enrich human knowledge with progressive revelation on tax volatility and economic growth which this work has added.

In general, studies on tax and economic growth have divergent perspectives (positive and negative) prescription, and impact on output growth, although these results are not always robust from the context incidence used. Chigbu, Akujuobi and Appah (2012) examined company income tax on economic growth of Nigeria using time series to analyze the data between 1970 and 2009, which they discovered that fiscal policy has direct effect on economic growth while taxation ganger influenced economic growth. The position of this paper with its statistical significance dual effects confirmed both long-run equilibrium between companies' income tax volatility and economic growth. The results showed that companies' income tax volatility significantly induced changes in the economic growth of Nigeria. Further, the result is in tandem with Adegbie and Fakile (2011) on tax and economic development in Nigeria.

A polarized interpretative approach to tax volatility is needed to understand how macroeconomic indicators and dynamics could have fueled both tax volatility and economic expansion. This position is germane as the work of Fricke and Süssmuth (2013) addressed economic growth and volatility of tax revenues from macroeconomic instability and the resultant effect on public expenditure. Sustaining this thesis is Ebeke and Ehrhart (2010) who

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found that instability in government tax revenue leads to an instability in public investment and also government consumption which current findings sustained. Saima et al. (2014) observed high taxes negative effects on consumption, investment, and GDP which this paper differs from. Branimir et al. (2018) offered a contrary perspective that tax forms had no significant relationship with gross domestic product of Serbia and Croatia. Worlu and Nkoro (2012) recorded mixed results and claimed that tax revenue stimulates economic growth through infrastructural development, but that tax revenue has no independent effect on growth through infrastructural development and foreign direct investment.

The wide-spread discussions and imitate-thy-neighbor approaches/empirical estimation of tax to economic growth will continue, but context uniqueness/experiences in democratic, military, dictatorial, and unitary political antecedents and economic boom-boost will remain the best interpretations to the findings which are somehow elusive. Okafor (2012) explored income tax revenue to economic growth in Nigeria with result indicating positive and significant relationship which this work sustained. However, actual tax revenue generated in most years fell below the level expected not alone from human dishonesty but economic contractions. Das-Gupta (2006) revealed that social compliance cost, gross versus net private cost, and mandatory versus voluntary cost can be distinguished but influenced the amount generated. Olaleye et al. (2016) investigation showed strong positive linear relationships existed between reduced company income tax incentives and foreign direct investment to economic growth. While the findings within are empirically robust, and the existing literature sustained/differ, the discussions and debates around tax volatility to economic growth should look beyond linearity to deepen insight.

Conclusion and Recommendation

This paper's thrust was to determine the effect of companies' income tax volatility on economic growth in Nigeria. Literature was reviewed across the constructs and the variables empirical interaction established. Effort was channeled into collating data, formulating econometric equations and treating the data. From the results, it was established that tax volatility both on the short-run and long-run affected economic growth negatively. This position deepens insight   on Government inability to deliver on political agenda and economic growth. The adoption of an effective electronic method of tax processing and collection will assist in realizing tax revenue growth and reduction in tax volatility. On the strength of the finding, government should enhance compliance and collections mechanism through tax-friendly policy and system automation to increase tax revenue.

Policy arrangement could be initiated to handle surplus regimes of tax and equally shape the practice of taxation in such areas as administration, collection and compliance and data base management. With this, companies to determine Tax administration in the country to create efficient techniques of tax collection and ways of reducing tax evasion. It provides a link to the responsive regulation theory as empirical results suggested that the contribution of tax revenue to the Nation's GDP is within 6% emphasis is therefore placed on the overall tax compliance of the tax payers. The tax authority needs to develop policies beyond tax penalties that clearly and purposefully engage tax payers to eliminate avoidance and evasion in rendering their obligations and arouse a consciousness in paying for development. The increase in tax revenue will contribute prefunding to investment in development activities and GDP growth. In addition, there should be targeted policy or stringent penalties towards those who avoid tax, reduce tax liability and tax irregularities irrespective of status. In the future, there is the need to empirically examine the moderating effect of corruption on the relationship between income tax volatility and economic growth.

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