EFFECT OF TAX REFORMS ON THE NIGERIAN ECONOMY

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ABSTRACT

The objective of this study is to empirically investigate the impact of tax reforms on the Nigerian economy. The Nigerian economy was examined in the light of Gross Domestic Product (GDP), Exchange rate, and inflation. Tax reforms were explained using custom and excise duties, company income tax, value-added tax and years in which reforms took place measured by dummy variables as proxies. In conducting this research, an annual time series data from central bank statistical bulletins and Federal Inland revenue Service of Nigeria spanning from 1994-2017 were employed. The data were tested for stationarity using the Augmented Dicker-Fuller Unit Root Test and found stationary at first difference. The Johansen co-integration test was also conducted and showed that a long-run meaningful relationship exists between tax reforms and the economy. The presence of co-integration spurred the use of vector error correction model and VEC granger causality to determine the effects and decision for the formulated hypotheses. Findings revealed that tax reforms have significant negative effect on GDP and positive effect on inflation. Exchange rate was not affected by tax reforms. The study concluded that tax reforms significantly affect the Nigerian economy. It was recommended that Government should factor in tax policies when formulating policies that are meant to control inflation in Nigerian economy. Tax authorities should also establish good relationship with the professional associations involved in tax matters (e.g. tax consultants) to reduce tax malpractices perpetrated by tax payers.

KEYWORDS: *Tax Reforms and Economic Development*

1.1 INTRODUCTION

The economic growth of any nation depends on the amount of resources generated and under its control to finance its infrastructural need and meet its day to day expenditure. One of the major ways of generating revenue for the growth and development of an economy is through an efficient and well-structured tax system. Tax as a macro-economic policy tool determines the level and pace of economic growth in nations of the world (Omojemite & Godwin, 2012). A well-structured tax system offer government opportunity to generate needed revenue to meet its ever growing need. It is a potential tool for economic and social reform as it pervades all aspect of the economy, individual, companies, citizens and foreigners. The Nigerian tax system was considered lopsided and dominated by oil revenue which poses formidable challenges to the establishment of effective and efficient tax system bedevilled by paucity of data, non-availability of tax statistics, poor administration, multiplicity of tax, structural problem and non-prioritization of tax effort (Nwadialor & Ekezie, 2016).

The Nigerian government over-depended on oil, a non-renewable resource, after its discovery in 1958. This birthed the need for reforms to revive another major source of revenue, taxation which had been in existence but experienced inefficient administration. Not only did inefficiency drive reforms but also, the dynamic environment. This is supported by Ebieri & Chikezi (2016) when they stated that taxation is dynamic and therefore requires reforms that are necessary to effect the required changes in the national economy at a given period. Azubuike (2009) also opined that tax reform is an on-going process, with tax policy makers and tax administrators continually adopting the tax systems that will reflect changing economic, social, political circumstances in the economy. Ebi & Ayodele (2017) stated that the overdependence of the Nigerian government on oil revenue coupled with its incessant fluctuations due to exogenous oil price shocks formed one of the reasons for the establishment of FIRS and the subsequent tax policies aimed at diversifying the revenue based away from oil. Further efforts of the tax authorities to improve efficiency of

the tax system led to the introduction of the electronic tax filing. The e-filing is a process where tax documents or tax returns are submitted through the internet, usually without the need to submit any paper return. The e-filing system encompasses the use of internet technology, the Worldwide Web and Software for a wide range of tax administration and compliance purposes (FIRS, 2012).

The Federal Inland Revenue service (FIRS) adopted the tax automation process in 2013 with the introduction of the integrated tax administration system (ITAS). The system comprises of a set of programs that would enhance simplification of tax administration and encourage voluntary compliance while ensuring linkages with other stakeholders through the use of technology. The software is generally designed to meet the needs of developing countries who wish to increase their control over state revenue by equipping themselves with computerized systems. Through the efforts of the FIRS, the system is already being used by a significant number of taxpayers in the country who are aware of the e-payment platform (Yekeen, 2017). The type of taxes supported by ITAS include income tax, VAT, sales tax and other indirect taxes, licenses and permits (alcohol, professional etc.), pay as you earn, excise duty, driving licenses and motor vehicle registration, general income, property taxes, withholding taxes and others. The e-payment system involves making tax payment online using the FIRS official website (Ofurum et al 2018). Oyedele (2017) noted that the Nigeria's tax revenue profile is at a crisis level and government must find a turning point or face a tipping point with dire consequences. He further stated that the situation call for urgent, drastic and robust response by all stakeholders. Consequently, on 29th June, 2017, the federal government formally launched the Voluntary Assets and Income Declaration Scheme (VAIDS) an initiative designed to encourage voluntary disclosure of previously undisclosed assets and income for the purpose of payment of all outstanding tax liabilities. It is expected that this policy direction of government will boost tax revenue and in turn translate to economic growth and development.

Previous empirical literature is replete with different and disaggregated findings. Anyanwu (1997); Ogbonna & Appah, (2011); and Akwe (2014) indicated positive relationship between taxation and economic growth, others, Saibu (2015); Gareth (2000); Bonu & Pedro (2009); Saima et al (2014) showed negative relationship. Most of the studies testing empirically the relationship between taxation and economic growth have found a negative impact of the aggregate tax on economic growth, but there are some studies that do not find such results. Some others like Essoh (2011) suggested a no significant relationship between these two major variables. While some studies applied the single ordinary least square estimating technique, others utilized co-integration tests, unit root tests, and descriptive techniques. In view of these disparate findings and the recent reform policies of government, this study seeks to further examine the effect of tax reform policies on economic growth and development in Nigeria.

1.2 Objective of the Study
The main objective of this study is to examine the effect of tax reform on economic growth and development in Nigeria.
The specific objectives are to:
1. Determine the effect of tax reforms and actual tax revenue on the gross domestic product (GDP) of Nigeria.
2. Determine the effect of tax reforms and actual tax revenue on exchange rate.
3. Determine the effect of tax reforms and actual tax revenue on inflation rate in Nigeria.

1.3 Hypotheses of the Study
The following hypotheses were formulated in their null form:
1. Tax reforms and actual tax revenue have no significant effect on the gross domestic product (GDP) of Nigeria.
2. Tax reforms and actual tax revenue do not affect exchange rates significantly.
3. Tax reforms and actual tax revenue do not significantly affect inflation rate in Nigeria.

2.0 REVIEW OF RELATED LITERATURES
2.1 Conceptual Review
2.1.1 Tax Reforms in Nigeria
The Nigerian tax system has undergone several reforms geared towards enhancing tax collection and administration with minimal enforcement cost. The system has experienced series of reforms since 1904 to date (Jelilov et al 2016). Adefeso & Tawose (2015) claims that the Nigerian tax reforms comprise the various tax policy measures carried out by the government from 1960 up to the current ongoing tax reforms. Sanni (2005) classified tax reforms in Nigeria into four attempts made by government to reform tax system in Nigeria. The first being the Task Force on tax administration of 1978; the second_ the 1991 study group on the Nigerian tax system and administration; the third, the 1992 study group on indirect taxation; and the fourth being the 2002 and 2003 study groups.

The effects of the various reforms in the country are: introduction of income tax in Nigeria between 1904 and 1926; grant of autonomy to the Nigerian Inland Revenue in 1945; the Raisman Fiscal Commission of 1957; formation of the Inland

Revenue Board in 1958; the promulgation of the Petroleum Profit Tax Ordinance No. 15 of 1959; the promulgation of Income Tax Management Act 1961; establishment of the Lagos State Inland Revenue Department; the promulgation of the Companies Income Tax Act (CITA) 1979; establishment of the Federal Board of Inland Revenue under CITA 1979; establishment of the Federal Inland Revenue Service between 1991 and 1992; and tax policy and administration reforms amendment 2001 and 2004.

In 2002, the reform embarked upon by the Nigerian government was instituting the Study Group on the Nigerian Tax System. This group was launched on the 6th of August, 2002 in a bid to examine the tax system and make appropriate recommendations towards achieving a better tax policy and overall improvement in the tax administration within the country. This group consisted of individuals from business, academia, intellectuals and the government. The result of the reform was the approval of nine (9) new bills on tax reforms by the Federal Executive Council for the consideration of the National Assembly and was subsequently passed as Acts. The Acts, include : Federal Inland Revenue Service Act 2004; Companies Income Tax Act 2004; Petroleum Profit Tax Act 2004; Personal Income Tax Act 2004; Value Added Tax Act 2004; Education Tax Act 2004; Customs, Excise Tariffs, etc. (Consolidation) Act 2004; National Sugar Development Act 2004; and National Automotive Council Act 2004.

The recent reforms include: the introduction of TIN (Tax Payers Identification Number), which became effective since February, 2008. Automated Tax System (ATS) that facilitates tracking of tax positions and issues by individual tax payer, E-Payment System (EPS) which enhances smooth payment procedure and reduces the incidence of tax touts, Enforcement scheme (special purpose tax officers), all these have led to an improvement in the tax administration in the country. Most recently in 2017, the Honourable Minister of Finance Mrs Kemi Adeosun, inaugurated a committee to review National Tax Policy to ensure that over 87% of non-oil sectors contribute their quota to the nation's revenue. The federal executive council also approved a Multilateral Competent Agreement enabling government to effectively manage its tax laws and prevent tax evasion by multinational companies. This is in tandem with the government's macroeconomic policy due to unstable oil revenue (Yekeen, 2017).

In line with the above, revenue from Value Added Tax that stemmed from the 1992 reform, company income tax, personal income tax (reform of 2004) were used as proxy for tax reforms. These taxes have been explained prior to this section. This is in line with previous studies like Jelilov et al (2016) that used tax revenue to proxy tax reforms. They used PPT, CIT and VAT. The study also adopted dummy variables of one and zero to represent years with and without tax reforms respectively in line with Ebieri & Chikezi (2016).

2.1.2 Economic Development

Economic development is a prolonged and sustainable increases in the real national income of a country accompanied with positive changes in the economic, political, technological and social structures of the country, with the result that the real income per capita of the people increases over a long period of time, subject to the stipulation that the number of people below the poverty line does not increase, the distribution of income does not become more unequal and development does not become less environmentally sustainable (Chigbu & Njoku, 2015). It is the development of economic wealth of countries or regions for the well-being of their inhabitants. From a policy perspective, economic development can be defined vices as efforts that seek to improve the economic wellbeing and quality of life for a community by creating jobs and supporting or growing incomes and the tax base. Economic development implies improvements in a variety of indicators such as literacy rates, life expectancy, and poverty rates. GDP is a specific measure of economic welfare (Abata, 2014). Economic development encompasses policies that governments undertake to meet broad economic objectives such as price stability, high employment, expanded tax base, and sustainable growth. According to Ndubuisi et al (2018) Economic growth is usually distinguished from economic development, the latter term being restricted to economies that are close to the subsistence level. The term economic growth is applied to economies already experiencing rising per capita incomes. In this study, economic development was measured using Gross Domestic Product (GDP), Foreign Exchange Rate and Inflation Rate.

Gross domestic product

This is the totality of goods and services produced in Nigeria without regards to weather income generated during the reference period accrues to or are paid to nationals of foreign countries GDP is an economic indicator which measures the welfare and economic performance of a country. The GDP of an economy is a key policy variable that has implications for government policies, economic planning, investment decisions and economic management. Hence, capturing the true picture of the economy in terms of size and structure is critical for policy makers in the domestic economy and the global economy at large.

GDP is one of the measures of National Income and Output for a given country's economy. It is defined as a total market value of all final goods and services produced by all the people and all the

companies within an economy (Abdulrasheed, 2008). Kimberly (2008) defined it as everything produced by all the people and all the companies within an economy. The difference between Gross Domestic Product and Gross National Product (GNP) is the fact the GDP is concerned with the region in which income is generated and focuses on where the output is produced rather who produces it. Abdulrasheed (2008) stated that GDP is used to determine if an economy is growing more quickly or more slowly than the same quarter the year before; to compare the size of economies throughout the world; it is used in the comparison of relative growth rate of economies throughout the world and for the investors, GDP is used as a means of adjusting their assets location and to decide where the best opportunities lie.

The components of GPD cannot easily be identified without first considering the Expenditure method of its measurement.
This method is represented as:
$GDP = C+I+G+(X - M)$
It is a simple national income computation for an open economy where;
C = Consumption, as Economists preferred splitting general consumption into both private consumption and public sector spending. This private consumption includes personal expenditure and house spending.
I = Investment, defined as expenditure in business and capital in household.
G = Government Expenditure, which could include government spending on various sectors of the economy.
X = Gross Export
M = Gross Import

Foreign Exchange Rate
Foreign exchange rate is simply the rate at which one currency exchanges for another (Jhingan, 2003; Appleyard & Field, 1998). A most prominent issue in economic literature is the degree of exchange rate flexibility that should be permitted by any country. An exchange rate system is said to be fixed if it permits only very small, if any, deviation from officially declared currency values. However, by flexible exchange rates, we mean rates that are completely free to vary. A hybrid of the two is represented by the Optimum Currency Area (OCA), which for optimal balance-of-payments adjustments and effectiveness of domestic macroeconomic policy, has fixed exchange rates within the area but maintain flexible exchange rates with trading partners outside the area.

Foreign exchange rate policy relates to the determination of exchange rates under different exchange rate regimes. Appleyard & Field (1998) noted that central issue in the fixed-flexible exchange rate debate relates to provision of "domestic policy discipline" effects, the need to serve as instrument of

greater growth in international trade and investment. It also includes the need to provide for greater efficiency in resource allocation and promotion of growth as well as forestall destabilizing speculations in foreign exchange markets. Mohanty & Tuner (2006) opined that there are no simple indicators to show how exchange rates may have become misaligned as a result of continued sterilization actions by monetary authorities. However, real exchange rates do not rise significantly in countries with large stock of foreign reserves. In their own study Usman & Waheed (2010) reports that holding of reserves has been found to have influence on exchange rates. Olayungbo & Akinbobola (2011) did a study on foreign exchange and exchange rates in Nigeria, the study showed that foreign reserves are significant in influencing nominal exchange rates in the short run. Also their result reveals that changes in foreign exchange reserves are significant in influencing the real exchange rates in the short run. Also the Granger causality test supports the view of a unidirectional causality running from nominal exchange rate to foreign reserves accumulation both in the short and long run. For the purpose of this study the exchange rate of the dollar against the naira was used.

Inflation
Inflation is a sustained or continuous rise in the general price level or, alternatively, as a sustained or continuous fall in the value of money. Several things should be noted about this definition. First, inflation refers to the movement in the general level of prices. It does not refer to changes in one price relative to other prices. These changes are common even when the overall level of prices is stable. Second, the rise in the price level must be somewhat substantial and continue over a period longer than a day, week, or month (Labonte & Makinen, 2008). There has been practically no period in history in which a significant change in the price level has occurred that was not simultaneously accompanied by a corresponding change in the supply of money. This has led to a widely held view that inflation is always and everywhere a monetary phenomenon resulting from and accompanied by a rise in the quantity of money relative to output (Friedman, 1966). Although this view is generally accepted, it is, in fact, consistent with two quite different views as to the cause of inflation.

In one view a more rapid rate of money growth plays an active role in inflation and results either from mistaken policies of the Central bank or the Central bank subordinates itself to the fiscal requirements of the federal government and finances budget deficits through money creation (Labonte & Makinen, 2008). According to this view, the control of inflation rests with the Central bank and depends

upon its willingness to limit the growth in the money supply. An alternative view comes in several versions. They have in common a belief that the major upward pressure on prices comes from activities which would produce a fall in real output. A favourite candidate is the attempt by organized labour to obtain increases in real wages. Other activities include the monopolistic pricing behaviour of OPEC, major crop failures or changes in the terms of international trade produced by a decline in the foreign exchange value of the naira. The decline in real output that these activities produce will, in general, lead to rises in unemployment. To prevent unemployment from increasing, in one version of this alternative, the Central bank is seen to pump up demand by easing the growth of the money supply. In the process it ratifies the rise in the price level. Thus, in this version, while a growth in the money supply is necessary to ratify the upward movement in the price level, it is not the cause of the rise in prices.

It is interesting to speculate what would happen if the Central bank refused to expand demand in the face of the rise in unemployment. Presumably, after a protracted period, the additional unemployment would lead to a fall in wages, costs, and other prices. Over the longer run, output would return to its previous level or growth path, the price level would fall back to its previous level and only relative prices and wages would be different. Thus, while the Central bank has the power to curb inflation, it is unlikely to exercise this power in the face of a large run-up in unemployment (Labonte & Makinen, 2008). In another extreme variant, what the Central bank does is really irrelevant. Should it refuse to expand what is conventionally called money to pump up demand in the presence of these developments that reduce output, money substitutes under the guise of credit will emerge that will allow demand to grow and the price increases to be ratified. This variation, interestingly, precludes excessive money growth from causing inflation for it also holds that the Central bank cannot force too much money on the economy. Inflation, then, cannot be a case in which too much money is chasing too few goods.

There are three ways of measuring inflation. The first two are very broad based and derived from the measurement of the nation's gross domestic product (GDP). They differ in the quantities that are used to weight the prices. The first uses side-by-side year quantities (that move every year) and is called, the chain weight deflator. The second uses current year quantity weights and is called the implicit price deflator. The third index is the Consumer Price Index (CPI), which prices a "market basket" of goods and services purchased by an urban family, a market basket whose individual items are weighted by how much the urban family spent on them in a base year period.

2.2 Theoretical Review
The theory for this study was the Ability to Pay Theory by Arthur Cecil Pigou which was published in his book 'A Study in Public Finance' in 1928. This theory has the assumption that a citizen is to pay taxes just because he can and his relative share in the total tax burden is to be determined by his relative paying capacity (Bhatia 2009). Similarly, Musgrave & Musgrave (2004) in line with this theory stated that people should contribute to the cost of government in line with their ability to pay. They categorized this theory into two namely; Horizontal and Vertical Equity. In horizontal equity, it calls for people with equal capacity to pay the same amount of tax whereas in vertical equity, that people with greater ability should pay more as tax. Jhingan (2011) argued that this theory of taxation is the just, equitable and the most accepted theory of taxation. This theory favours the income redistribution function and it is a progressive form of tax system. It is practicable in indirect taxes as people with greater ability will pay more. In Nigeria, the Pay as You Earn (PAYE) form of personal income tax is based on the Ability to pay theory as the tax system provide for concessional deductions or relief from personal allowance, life insurance, pension deduction etc. This theory conforms to the concept of justice and equity as the tax burden is shared among the citizens according to their relative ability of the tax payers to pay. It is considered the most appropriate theory and therefore adopted as the theoretical basis for this study.

2.3 Empirical Review
Basila (2010) empirical investigated the relationship between VAT and GDP in Nigeria. Applying time series data set spanning the period from 1994 to 2008 using Pearson's Product Moment Correlation (PPMC) The test revealed a strong at about 96% strength. Further, a test of significance confirmed that VAT revenue is significantly different at 99% confidence level in relation to GDP. It also shows that there is a strong positive correlation between VAT revenue and GDP. Ogbonna & Appah (2011) examined the impact of tax reforms on the economic growth of Nigeria from 1994 to 2009.To achieve the objective of the study, relevant secondary data were collected from the Central Bank of Nigeria (CBN) Statistical Bulletin, Federal Inland Revenue Service (FIRS), Office of the Accountant General of the Federation, and other relevant government agencies. The data collected were analysed using relevant descriptive statistics and econometric models such as White test, Ramsey RESET test, Breusch Godfrey test, Jacque Berra test, Augmented Dickey Fuller test, Johansen test, and Granger

Causality test. The results from the various test shows that tax reforms is positively and significantly related to economic growth and that tax reforms granger cause economic growth. On the basis of the findings, the study concluded that tax reforms improves the revenue generating machinery of government to undertake socially desirable expenditure that will translate to economic growth in real output and per capita basis.

Adereti et al (2011) studied value added tax and economic growth in Nigeria. Time series data on the Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and Total (Federal Government) Revenue from 1994 to 2008 sourced from Central Bank of Nigeria (CBN) were analyzed, using both simple regression analysis and descriptive statistical method. Findings showed that the ratio of VAT Revenue to GDP averaged 1.3% compared to 4.5% in Indonesia, though VAT Revenue accounts for as much as 95% significant variations in GDP in Nigeria. A positive and significant correlation exists between VAT Revenue and GDP. No causality exists between the GDP and VAT Revenue, but a lag period of two years exists. Okafor (2012) investigated the impact of income tax revenue on the economic growth of Nigeria as proxied by the gross domestic product (GDP). The study adopted the ordinary least square (OLS) regression analysis technique to explore the relationship between the GDP (the dependent variable) and a set of federal government income tax revenue heads over the period 1981-2007. The regression result indicated a very positive and significant relationship between the components of tax revenue and the growth of the Nigeria economy.

Akwe (2014) analysed the impact of Non-oil Tax Revenue on Economic Growth from 1993 to 2012 in Nigeria. To achieve this research objective, relevant secondary data were used from the 2012 Statistical Bulletin of the Central Bank of Nigeria (CBN). These data were analyzed using the Ordinary Least Squares Regression. The result from the test shows that there exists a positive impact of Non-oil Tax Revenue on economic Growth in Nigeria. Yakubu & Jibril (2013) investigated the relative impact of value added tax on economic growth in Nigeria. Johansen co-integration test was employed. The result of co-integration test does not provide any evidence of long-run equilibrium relationship among the variables. An unrestricted vector auto regressions (VARs) technique was employed. Impulse response functions (IRFs) and Forecast error Variance decompositions (FEVDs) were computed through 1000 Monte Carlo simulations. The results derived from the impulse response function (IRF) and forecast error variance decomposition (FEVD) entailed that value added tax have positive impact on economic growth in Nigeria , they also added that where variation in this variables growth rate will cause variation in real economic activity with about

50% in the near future. The study concluded that the policy makers in Nigeria should continue this fiscal policy with other macroeconomic indicators.

Mawia & Nzomol (2013) utilized a time series approach to estimate tax buoyancy for Kenya for the period 1999/2000-2010/2011. Tax buoyancies were computed for income, import, excise, VAT and total taxes. Specifically, their paper examined the buoyancies of tax revenues to changes in economic growth (GDP) and proxy bases using quarterly data instead of annual data of GDP and tax revenues and their bases. They also analyzed the tax buoyancy of pay as you earn (PAYE), other income tax, as components of income tax and local and import VAT as components of total VAT, in order to ascertain the response of these specific taxes to their bases. Their results showed that the total tax was buoyant with a buoyancy value of 2.58 while the individual taxes were not buoyant except the excise duty which was buoyant with respect to the base. Tax bases were found to respond well to economic changes with buoyancy values greater than unity, with an exception of excise duty base to income buoyancy coefficient being less than unity. Okwara & Amori (2017) examined the impact of tax revenue on the economic growth in Nigeria for the period of 1994-2015. Secondary data were used and sourced from journals, textbooks and Central Bank of Nigeria (CBN) statistical bulletin. The variables considered are: Gross Domestic Product (GDP) as a proxy for economic growth, Value Added Tax (VAT), and non-oil income (tax). To avoid spurious results, Ordinary Least Square (OLS) with the aids of Statistical Package for Social Sciences (SPSS) was used to test the significant impact of value added tax and non-oil income on Gross Domestic Product (GDP). The results revealed that non-oil income has significant impact on gross domestic product while value added tax has negative relationship and statistically insignificant for the period under review. The study concludes that tax revenue have significant impact on Nigerian economy growth.

Shahzad et al (2016) empirically investigated the relationship between total tax revenues and economic growth in Pakistan. For estimation annual time series data from 1974 to 2010 is used. The main purpose of the research is to find long run and short run relationship in-between total tax revenues and economic growth. Auto Regressive Distributed Lag (ARDL) bounds testing approach for co-integration, is applied to estimate, the long run and short run relationship, among the variables. Total tax revenues have negative and significant effect, on economic growth, in long run. Due to one percent increase in total taxes, economic growth would decreased by -1.25 percent. ECM coefficient of total taxes shows 51 percent speed of adjustment in a year. Ebieri & Chikezi (2016) assessed the impact of tax reforms on

the economic growth of Nigeria. Time series data were extracted from the Central Bank of Nigeria statistical bulletin, Federal Inland Revenue Service and Federal Ministry of Finance from the period 1985-2011. The ordinary least squares based multiple regression was adopted to analyse the data. The study found that the adjusted R-square of 0.99 implies that 99% of the total variation in gross domestic product, that is economic growth, is as a result of variation in petroleum profit tax, company income tax, customs and excise duties, value added tax, personal income tax and education tax and tax reforms in Nigeria. Customs and excise duties, value added tax, personal income tax and education tax have no statistical significant impact on economic growth at 5% level of significance. However, Petroleum profit tax and company income tax each has positive significant impact on economic growth at 0.35% and 2.87% level of significance respectively. They concluded that overall, tax reforms have significant impact on the economic growth in Nigeria. The study therefore recommends that chartered tax practitioners should be allowed to play leading roles in any tax reform process to ensure a robust tax system.

Jelilov et al (2016) examined the impact of tax reforms on the economic growth of Nigeria from 1986 to 2012. The ordinary least square method of multiple regression analysis was adopted. Results showed that tax reforms is positively and significantly related to economic growth and that tax reforms indeed causes economic growth. It was concluded that favorable tax reforms improves the revenue generating capacity of government to undertake socially desirable activities that translate to economic growth in real output and per capita basis. Onakoya & Afintinni (2016) investigated the co-integration relationship between tax revenue and Economic growth in Nigeria from 1980 to 2013. Various preliminary tests including descriptive statistics, trend analysis, and stationary tests using Augmented Dickey Fuller (ADF) test were conducted. The Engle-Granger Cointegration test was employed to determine whether a long run relationship existed between the variables. The Vector Error correction model was employed to confirm the long run relationship and determine the short run dynamics between the variables. Two post estimation diagnostics tests (autocorrelation, and Heteroscedasticity) were also conducted in order to confirm the robustness of the model. Findings indicated that a long run (but no short run) relationship existed between taxation and economic growth in Nigeria. The result also, revealed a significant positive relationship at 5% level of significance between Petroleum profit tax, Company Income tax and economic growth, but a negative relationship between economic growth and customs and Excise Duties. However, the tax components are jointly insignificant in impacting the Nigerian economic growth.

3. METHODOLOGY

The research design adopted was the *ex post facto* research design. This design was adopted because the study sought to determine the cause-effect relationship between tax reforms and economic development using past time series data. All tax-paying individuals and entities constitute the population of study. The study was centred on the Nigerian economy and thus aggregate terms (macro-economic data) were used. This cancelled the need for sampling procedures. The major sources of the data for the study are the publications of the Central Bank of Nigeria and the National Bureau of Statistics. Time series data on taxation and economic growth and development in Nigeria for the period ranging from 1994 to 2017 were collated and employed. Tax reforms and the Nigerian economy are the independent and dependent variables respectively of this study. The Nigerian economy was operationalized into Gross domestic product, Inflation, exchange rate. Tax reforms were measured using actual revenue from different forms of taxes. These were used because it is believed that tax reforms are translated into the extent of funds realize from taxes. Previous studies also used these proxies. The study also used dummy variables one and zero for each year of study. 1 was allocated to years in which tax reforms were made while 0 was allocated to years without tax reforms.

Data were analysed using the Augmented Dicker-Fuller test (ADF) to test stationarity of variables, the Johansen Cointegration test to test long term relationship, the vector error-correction model (VECM).and the vector error-correction granger causality test (VECGC). Since the data collected were time series data, the analyses were performed with the aid of E-view version 9. The Augmented Dickey-Fuller (ADF) test constructs a parametric correction for higher-order correlation by assuming that the y series follows an AR(p) process and adding p lagged difference terms of the dependent variable y to the right-hand side of the test regression. The ADF tests involve estimating the following equation:

$$\Delta yt = \gamma + \delta \, xt + \alpha y_{t-1} + \beta 1 \, \Delta y_{t-1} + \beta 2 \, \Delta y_{t-2} + \dots + \beta p \Delta y_{t-p} + v_t \dots \dots \dots \dots (I)$$

Where, γ is constant α, β and δ are the parameters, p is the lag order of the autoregressive process and v is the error term.

The models were a modified form of Shahzad et al (2016) model:

$$GDP = \alpha_0 + \alpha_1 VAT_J + \alpha_2 CIT_J + \alpha_3 PIT_J + \alpha_4 TRF_J + e_J \dots \dots \dots \dots (I)$$

$$FX = \alpha_0 + \alpha_1 VAT_J + \alpha_2 CIT_J + \alpha_3 PIT_J + \alpha_4 TRF_J + e_J \dots \dots \dots \dots (II)$$

$INF = \alpha_0 + \alpha_1 VAT_J + \alpha_2 CIT_J + \alpha_3 PIT_J +$
$\alpha_4 TRF_J + e_J \ldots \ldots \ldots$ (III)

Where: GDP= Gross Domestic Product; FX= Dollar Foreign Exchange Rate; VAT= Value Added Tax; CIT= Company Income Tax; PIT= Personal Income Tax; INF= Annual Inflation Rate; TRF= Tax reforms; and e_J= error term

The Johansen co-integration model is:

$$X_t = \gamma_o + \gamma_1 Z_t + \epsilon_t \sim I(1)$$
$$Z_t \sim I(1)$$

ϵ_t are stationary process ($I(0)$) with zero mean, but they can be serially correlated

4. DATA ANALYSES

Table 1 Descriptive Statistics

	Log(CED)	Log(CIT)	Log(GDP)	Log(VAT)	Inflation	FX_rate
Mean	26.26876	25.81060	30.63355	25.22233	0.167088	128.2563
Median	26.13876	25.94558	30.86044	25.35927	0.119000	129.2900
Maximum	28.53524	28.72930	32.36469	27.60298	0.728000	306.3100
Minimum	23.62989	23.23083	28.19793	22.33789	0.054000	21.89000
Std. Dev.	1.279941	1.494839	1.301095	1.523384	0.158657	75.58877
Jarque-Bera	0.880991	0.709519	1.911181	1.359265	64.17839	1.811350
Probability	0.643718	0.701342	0.384585	0.506803	0.000000	0.404269

Source: E-Views 9

Table 4.1 showed that the average gross domestic product (GDP) value in logarithm terms is 30.63, minimum value is 28.19, maximum value of 32.36 and standard deviation value of 1.30. Average Inflation rate is 16.7%, minimum value of 5.4%, maximum value of 72.8% and a standard deviation value of 1.58. Average foreign exchange rate in terms of the dollar is ₦128.26/$, minimum value of ₦21.89/$, maximum value of ₦306.3/$ and a standard deviation value of 75.59. Average Value added tax (VAT) in logarithm terms is 25.22, minimum value of 22.34, maximum value of 27.60 and a standard deviation value of 1.52. Average Company Income Tax (CIT) in logarithm terms is 25.81, minimum value of 23.23, maximum value of 28.72 and a standard deviation value of 1.49. Also, custom and excise duty (CED) in logarithm terms has an average value of 26.27, minimum value of 23.63, maximum value of 28.53 and a standard deviation value of 1.27. The Jarque-Bera statistics showed that inflation is normally distributed at 5% (p=.00<.05) while the other variables are not normally distributed.

Inferential Statistics
Unit Root/Stationarity Test

Table 2 Summary of Unit Root Tests

	Level			First Differencing		
Variables	ADF	P-Values	Remark	ADF	P-Values	Remark
Log(CED)	-1.45	0.5407	Non-stationary	-5.61	0.0002	stationary
Log(CIT)	-1.06	0.7121	Non-stationary	-7.74	0.0000	stationary
Log(VAT)	-1.39	0.5694	Non-stationary	-5.28	0.0003	stationary
Reforms(Shift)	-5.04	0.0005	stationary	-7.76	0.0000	stationary
Log(GDP)	-3.29	0.0272	stationary	-4,66	0.0014	stationary
Inflation	-12.98	0.0000	stationary	-4.77	0.0011	stationary
FX_Rate	0.30	0.9731	Non-stationary	-4.24	0.0035	stationary

Source: E-Views 9

To ascertain the stationary state of the time series variables, The Augmented Dickey-Fuller unit root test was employed. This was important because we are ignorant of the data generating process. The results at 5 percent level were summarized on table 2 above for easy referencing (the full output results are in the appendices section). Results showed that most of the variables are non-stationary at levels, but all became stationary after first differencing, hence the variables have an order of integration of one. This conclusion is based on comparison of the augmented Dickey fuller statistics and the critical values provided by MacKinon (1996). Hence, this permit us to carry out the Johansen's co-integration test.

Hypothesis 1: Tax reforms and actual tax revenue have no significant effect on the gross domestic product (GDP) of Nigeria.

Table 3 Johansen Co-Integration Test 1

Date: 10/29/18 Time: 09:43
Sample (adjusted): 1996 2017
Included observations: 22 after adjustments
Trend assumption: No deterministic trend (restricted constant)
Series: LOG(GDP) LOG(CED) LOG(CIT) LOG(VAT) SHIFT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.741668	88.21777	76.97277	0.0054
At most 1 *	0.703363	58.44058	54.07904	0.0194
At most 2	0.494392	31.70519	35.19275	0.1134
At most 3	0.363478	16.70134	20.26184	0.1441
At most 4	0.264655	6.763127	9.164546	0.1395

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: E-Views 9

The Johansen's co-integration test using trace statistics indicates that the variables are co-integrated at the 5% level. This implies that there is a long-run relationship between the variables in the model. The presence of co-integration depicts that Vector Error Correction Model should be used to get error correction terms.

Table 4 Vector Error Correction Estimates 1

Date: 10/30/18   Time: 09:47
Sample (adjusted): 1996 2017
Included observations: 22 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
GDP(-1)	1.000000
CED(-1)	-4.336005 (1.42016) [-3.05319]
CIT(-1)	5.124909 (1.43793) [3.56410]
SHIFT(-1)	4.33E+12 (1.6E+12) [2.76548]
VAT(-1)	-218.4317 (10.3284) [-21.1486]
C	-5.17E+12 (1.5E+12) [-3.48016]

Error Correction:	D(GDP)	D(CED)	D(CIT)	D(SHIFT)	D(VAT)
CointEq1	-0.138647 (0.07925) [-1.74953]	0.060008 (0.03180) [1.88705]	-0.102006 (0.04500) [-2.26682]	-2.20E-15 (4.3E-14) [-0.05146]	0.013900 (0.00392) [3.54875]
R-squared	0.898181	0.530180	0.539464	0.360975	0.664471
Adj. R-squared	0.866362	0.383361	0.395546	0.161279	0.559618
Sum sq. resids	2.63E+25	4.24E+24	8.50E+24	7.668303	6.44E+22
S.E. equation	1.28E+12	5.15E+11	7.29E+11	0.692293	6.34E+10
F-statistic	28.22823	3.611113	3.748425	1.807627	6.337172
Log likelihood	-641.0833	-620.9944	-628.6327	-19.62323	-574.9235
Akaike AIC	58.82576	56.99949	57.69388	2.329384	52.81123
Schwarz SC	59.12331	57.29705	57.99144	2.626942	53.10878
Mean dependent	5.04E+12	6.06E+10	5.42E+10	0.000000	4.39E+10
S.D. dependent	3.51E+12	6.56E+11	9.37E+11	0.755929	9.56E+10

Determinant resid covariance (dof adj.)	7.96E+91
Determinant resid covariance	1.62E+91
Log likelihood	-2466.273
Akaike information criterion	227.4794
Schwarz criterion	229.2647

Source: E-Views 9

Note: *As a rule of thumb, Co-integration coefficients signs are changed for interpretation (for example: negative on the table will be changed to positive and vice versa).*

From table 4 above, Customs and Excise Duties has positive (4.336) and significant (-3.05) impact on gross domestic product at 5% level of significance (t=3.05>1.96). This therefore means that increase in Customs and Excise Duties would significantly increase the value of gross domestic product at 5% level of significance. Company Income Tax has negative (5.125) and significant (3.56) impact on gross domestic product (RGDP) at 5% level of significance (t=3.56>1.96). This therefore means that increase in Company Income Tax revenue would significantly decrease the value of gross domestic product and vice versa at 5% level of significance. This implies that all the variables had long run effect on GDP. Tax reforms periods has negative and significant (2.76) impact on gross domestic product at 5% level of significance (t=2.76>1.96). This therefore means that increase in Tax reforms years would significantly decrease the value of gross domestic product and vice versa at 5% level of significance. Value added tax has positive and significant (21.15) impact on gross domestic

product at 5% level of significance (t=2.76>1.96). This therefore means that increase in VAT revenue would significantly increase the value of gross domestic product (RGDP) and vice versa at 5% level of significance. The adjusted R-squared value of 0.8663 shows that 86.63% of the systematic variation in the government expenditure is jointly explained by the independent variables. A positive effect is attributed to GDP because the positive coefficients have larger values (shift) (error correction section). On the error correction terms, GDP and Tax reforms years had negative coefficients of -0.138 and -2.2E-15 but were not statistically significant (t=1.75<1.96). CED and VAT had positive ECMs and thus are not desirable because they move away from equilibrium. Company Income tax revenue however had a negative ECM that was statistically significant (t=2.27>1.96). This shows that short-run deviation from (-0.5902) can be quickly corrected. This result clearly shows that deviation from long term growth in CIT is corrected by 10.2% by the following year or in the short run.

Table 5 VEC Granger Causality/Block Exogeneity Wald Tests 1

Date: 10/30/18 Time: 11:32
Sample: 1994 2017
Included observations: 22

Dependent variable: D(GDP)

Excluded	Chi-sq	df	Prob.
D(CED)	10.66714	1	0.0011
D(CIT)	2.647550	1	0.1037
D(SHIFT)	1.422408	1	0.2330
D(VAT)	0.764788	1	0.3818
All	24.95313	4	0.0001

Source: E-Views 9

Only Customs and Excise Duties has short term relationship with inflation (Prob>0.05). Jointly however, all independent variables predict GDP (p=0.0001<.05).

Decision Rule: Accept null hypothesis if calculated f value is less than critical value of F at (4, 19) degree of freedom. However, reject null and accept alternate hypothesis if calculated F value is greater than critical value of F at (4, 19) degree of freedom.

From the regression result in table 4 above, the F-statistics value of 28.23 which is greater than $F_{(0.05,4,19)} = 2.8951$ showed that the overall model is statistically significant. This means that there exists significant linear relationship between the dependent and independent variables in the model. The null hypothesis is therefore rejected and the alternate, accepted. Thus, Tax reforms and actual tax revenue have significant effect on the gross domestic product (GDP) of Nigeria.

Hypothesis 2: Tax reforms and actual tax revenue do not affect exchange rates significantly.

Table 6 Johansen Co-Integration Test 2

Date: 10/29/18 Time: 10:02
Sample (adjusted): 1996 2017
Included observations: 22 after adjustments
Trend assumption: No deterministic trend (restricted constant)
Series: FX_RATE LOG(CED) LOG(CIT) LOG(VAT) SHIFT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.833789	98.96322	76.97277	0.0004
At most 1 *	0.722596	59.48434	54.07904	0.0153
At most 2	0.526213	31.27421	35.19275	0.1246
At most 3	0.327771	14.84024	20.26184	0.2357
At most 4	0.242249	6.102797	9.164546	0.1829

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: E-Views 9

The Johansen co-integration result based on the trace test indicates that the variables are co-integrated at the 5% level. This implies that there is a long-run relationship between the variables in the model.

Table 7 Vector Error Correction Estimates 2

Date: 10/30/18   Time: 11:29
Sample (adjusted): 1996 2017
Included observations: 22 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
FX_RATE(-1)	1.000000
CED(-1)	1.01E-09
	(3.5E-10)
	[2.87505]
CIT(-1)	-1.08E-09
	(3.5E-10)
	[-3.06826]
SHIFT(-1)	1028.130
	(338.902)
	[3.03371]
VAT(-1)	-6.93E-11
	(1.8E-09)
	[-0.03849]
C	-860.1317
	(261.278)
	[-3.29201]

Error Correction:	D(FX_RATE)	D(CED)	D(CIT)	D(SHIFT)	D(VAT)
CointEq1	-0.015938	-1.44E+08	8.16E+08	-0.000518	-1.7324064
	(0.00975)	(1.9E+08)	(2.0E+08)	(0.00020)	(2.7E+07)
	[-1.63473]	[-0.74896]	[4.00512]	[-2.55153]	[-2.75946]
R-squared	0.215674	0.465464	0.705092	0.549354	0.518497
Adj. R-squared	0.029428	0.298422	0.612934	0.408527	0.368028
Sum sq. resids	12464.12	4.83E+24	5.44E+24	5.407752	9.24E+22
S.E. equation	27.91070	5.49E+11	5.83E+11	0.581364	7.60E+10
F-statistic	0.879936	2.786502	7.650849	3.900918	3.445863
Log likelihood	-100.9519	-622.4139	-623.7297	-15.78135	-578.8967
Akaike AIC	9.722898	57.12854	57.24816	1.980123	53.17243
Schwarz SC	10.02046	57.42609	57.54571	2.277680	53.46999
Mean dependent	12.92818	6.06E+10	5.42E+10	0.000000	4.39E+10
S.D. dependent	27.50888	6.56E+11	9.37E+11	0.755929	9.56E+10

Determinant resid covariance (dof adj.)	4.60E+70
Determinant resid covariance	9.36E+69
Log likelihood	-1928.343
Akaike information criterion	178.5767
Schwarz criterion	180.3620

Source: E-Views 9

From table 7 above, Customs and Excise Duties has positive (0.00000000101) and significant (-2.87) impact on foreign exchange rate at 5% level of significance (t=2.99>1.96). This therefore means that increase in Customs and Excise Duties would significantly increase foreign exchange rate at 5% level of significance. Company Income Tax has positive (0.00000000109) and significant (3.06) impact on foreign exchange rate at 5% level of significance (t=3.06>1.96). This therefore means that increase in Company Income Tax revenue would significantly increase foreign exchange rate at 5% level of significance. Value added tax has negative and significant (-1028.13) impact on foreign exchange rate at 5% level of significance (t=3.03>1.96). This therefore means that increase in Tax reforms years would significantly decrease foreign exchange rate and vice versa at 5% level of significance. Value added tax has positive but insignificant impact on foreign exchange rate at 5%

level of significance (t=0.038<1.96). This therefore means that Value added tax does not significantly affect foreign exchange rate at 5% level of significance. The adjusted R-squared value of 0.0294 shows that only 2.94% of the systematic variation in the government expenditure is jointly explained by the independent variables which is very low and shows that model is not of good fit. On the error correction terms, VAT and Tax reforms years had negative coefficients of -3.42E+10 and -0.307 but were not statistically significant (t=0.22; 0.27<1.96). CED and VAT had positive ECMs and thus are not desirable because they move away from equilibrium. Tax reform years and VAT had negative ECM coefficients of -0.0005 and -1.73 that was statistically significant (t=2.55 and 2.75>1.96). This result clearly shows that deviation from long term growth in tax reforms years and VAT is corrected by 0.05% and 173% by the following year or in the short run.

Table 8 VEC Granger Causality/Block Exogeneity Wald Tests 2

Date: 10/30/18   Time: 11:30
Sample: 1994 2017
Included observations: 22

Dependent variable: D(FX_RATE)

Excluded	Chi-sq	df	Prob.
D(CED)	3.130284	1	0.0769
D(CIT)	1.749596	1	0.1859
D(SHIFT)	2.678467	1	0.1017
D(VAT)	0.972995	1	0.3239
All	7.713013	4	0.1027

Source: E-Views 9

None of the variables have short term relationship with inflation individually (Prob>0.05) and collectively (P=0.027>.05).

Decision Rule: Accept null hypothesis if calculated f value is less than critical value of F at (4, 19) degree of freedom. However, reject null and accept alternate hypothesis if calculated F value is greater than critical value of F at (4, 19) degree of freedom.

From the regression result in table 7 above, the F-statistics value of 0.8799 which is lower than $F_{(0.05,4,19)}$ = 2.8951 show that the overall model is not statistically significant. This means that there exists no significant linear relationship between the dependent and independent variables in the model. The null hypothesis is therefore accepted. Thus, Tax reforms and actual tax revenue do not affect exchange rates significantly.

Hypothesis 3: Tax reforms and actual tax revenue do not significantly affect inflation rate in Nigeria.

Table 9 Johansen Co-Integration Test 3

Date: 10/29/18 Time: 10:00
Sample (adjusted): 1996 2017
Included observations: 22 after adjustments
Trend assumption: No deterministic trend (restricted constant)
Series: INFLATION LOG(CED) LOG(CIT) LOG(VAT) SHIFT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.940848	136.5971	76.97277	0.0000
At most 1 *	0.729637	74.38903	54.07904	0.0003
At most 2 *	0.680308	45.61329	35.19275	0.0027
At most 3 *	0.433614	20.52453	20.26184	0.0460
At most 4	0.305424	8.017967	9.164546	0.0822

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: E-Views 9

The Johansen co-integration result based on the trace test indicates that the variables are co-integrated at the 5% level. This implies that there is a long-run relationship between the variables in the model.

Table 10 Vector Error Correction Estimates 3

Date: 10/30/18   Time: 10:48
Sample (adjusted): 1996 2017
Included observations: 22 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
INFLATION(-1)	1.000000
CED(-1)	-9.94E-14
	(3.3E-14)
	[-2.99144]
CIT(-1)	-1.06E-13
	(3.0E-14)
	[-3.49720]
VAT(-1)	6.08E-13
	(1.6E-13)
	[3.82501]
SHIFT(-1)	-0.108947
	(0.03039)
	[-3.58480]
C	-0.043646
	(0.02520)
	[-1.73230]

Error Correction:	D(INFLATION)	D(CED)	D(CIT)	D(VAT)	D(SHIFT)
CointEq1	-0.803322	1.55E+11	1.82E+11	-3.42E+10	-0.307305
	(0.05782)	(9.0E+11)	(1.3E+12)	(1.6E+11)	(1.10873)
	[-13.8941]	[0.17198]	[0.13488]	[-0.21839]	[-0.27717]
R-squared	0.920444	0.444011	0.390315	0.207609	0.365895
Adj. R-squared	0.895583	0.270265	0.199789	-0.040014	0.167738
Sum sq. resids	0.020692	5.02E+24	1.12E+25	1.52E+23	7.609255
S.E. equation	0.035962	5.60E+11	8.38E+11	9.75E+10	0.689622
F-statistic	37.02346	2.555515	2.048615	0.838408	1.846486
Log likelihood	45.44271	-622.8468	-631.7188	-584.3763	-19.53820
Akaike AIC	-3.585701	57.16789	57.97444	53.67057	2.321654
Schwarz SC	-3.288144	57.46544	58.27199	53.96813	2.619211
Mean dependent	-0.025591	6.06E+10	5.42E+10	4.39E+10	0.000000
S.D. dependent	0.111291	6.56E+11	9.37E+11	9.56E+10	0.755929

Determinant resid covariance (dof adj.)	5.61E+65
Determinant resid covariance	1.14E+65
Log likelihood	-1803.879
Akaike information criterion	167.2617
Schwarz criterion	169.0470

Source: E-Views 9

From table 4.10 above, Customs and Excise Duties has positive (0.0000000000000994) and significant (-2.99) impact on inflation at 5% level of significance (t=2.99>1.96). This therefore means that increase in Customs and Excise Duties would significantly increase the value of inflation at 5% level of significance. Company Income Tax has positive (0.000000000000106) and significant (3.49) impact on government expenditure at 5% level of significance (t=2.98>1.96). This therefore means that increase in Company Income Tax revenue would significantly increase the value of inflation at 5% level of significance. Value added tax has negative and significant (-0.000000000000608) impact on gross domestic product at 5% level of significance (t=3.82>1.96). This therefore means that increase in Value added tax would significantly decrease the value of inflation and vice versa at 5% level of significance. Tax reforms periods has positive and

significant (8.54) impact on gross domestic product at 5% level of significance (t=3.58>1.96). This therefore means that increase in Tax reforms periods revenue would significantly increase the value of government expenditure and vice versa at 5% level of significance. The adjusted R-squared value of 0.8956 shows that 89.56% of the systematic variation in the government expenditure is jointly explained by the independent variables. On the error correction terms, VAT and Tax reforms years had negative coefficients of -3.42E+10 and -0.307 but were not statistically significant (t=0.22; 0.27<1.96). CED and VAT had positive ECMs and thus are not desirable because they move away from equilibrium. Inflation however had a negative ECM of -0.803 that was statistically significant (t=13.89>1.96). This result clearly shows that deviation from long term growth in inflation is corrected by 80.3% by the following year or in the short run.

Table 11 VEC Granger Causality/Block Exogeneity Wald Tests 3

Date: 10/30/18 Time: 11:01
Sample: 1994 2017
Included observations: 22

Dependent variable: D(INFLATION)

Excluded	Chi-sq	df	Prob.
D(CED)	22.67186	1	0.0000
D(CIT)	21.63770	1	0.0000
D(VAT)	55.03610	1	0.0000
D(SHIFT)	8.900121	1	0.0029
All	83.10501	4	0.0000

Source: E-Views 9

All variables have short term relationship with inflation (Prob>0.05). All independent variables predict inflation.

Decision Rule: Accept null hypothesis if calculated f value is less than critical value of F at (4, 19) degree of freedom. However, reject null and accept alternate hypothesis if calculated F value is greater than critical value of F at (4, 19) degree of freedom.

From the regression result in table 4.10 above, the F-statistics value of 37.023 which is greater than $F_{(0.05,4,19)}$ = 2.8951 shows that the overall model is statistically significant. This means that there exists significant linear relationship between the dependent and independent variables in the model. The null hypothesis is therefore rejected and the alternate,

accepted. Thus, Tax reforms and actual tax revenue significantly affect inflation rate in Nigeria.

5. CONCLUSION
This study focused on the effect of tax reforms on economic growth in Nigeria by Modeling Gross Domestic Product (GDP), Inflation, foreign exchange rate and government expenditure respectively against custom and excise duties, company income tax, value added tax and years in which reforms were made. The findings have shown that the tax reforms have mixed effect on different aspects of the Nigerian economy. While inflation moves in the same direction with tax reforms, government expenditure and GDP were found to move in opposite directions against the reforms. The study concludes that fiscal reforms are important tools that have significant effect on all economic sectors and economic variables like GDP and inflation. It is expected that

the reforms improve resource utilization and production. However empirical findings show that tax reforms in Nigeria might not be consistent with the economic objective of production of goods and services. Tax reforms so far also, do not reduce inflation rate, showing another inconsistency with economic objectives. In line with study findings, the following recommendations are made:

1. There should be harmony in the objectives of tax reforms with other industrial and macro-economic objectives.
2. Foreign investment should be encouraged through tax rebates and other policies to increase foreign investment in Nigeria which will in turn lead to increased demand for the naira and reduction in foreign exchange rate.
3. Government should factor in tax policies when formulating policies that are meant to control inflation in Nigerian economy.
4. Tax authorities should establish good relationship with the professional associations involved in tax matters (e.g. tax consultants) to reduce tax malpractices perpetrated by tax payers.

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