# TAX REFORMS AND INVESTMENT IN NIGERIA: AN EMPIRICAL EXAMINATION

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## Abstract

This study is informed by the quest to examine the investment implication of the series of tax reforms in Nigeria, particularly the tax reforms of 2003 and National tax policy of 2012. Annual time series data spanning the years (1981-2012) were utilized. Preliminary diagnostic test was conducted to examine whether the estimated model satisfies the OLS assumptions. The basic assumptions of the OLS were satisfied. The result of the estimated OLS model shows that tax reform as proxied by VAT and CIT, both positively and significantly stimulate investment in Nigeria. The study recommends that efforts should be made towards intensifying the tax reforms. Further, policies should be directed towards redressing multiple taxation and high company income tax as both have the tendency to adversely affect investment.

Key words: Tax reform, Investment, Preliminary diagnostic test, National tax policy

### Introduction

Taxation constitutes a major source of revenue to both developed and developing countries. Tax generated revenues are used to finance public utilities, perform social responsibilities and grease the administrative wheel of the government. The Institute of Chartered Accountants of Nigeria (2006) and the Chartered Institute of Taxation of Nigeria (2002) define tax as an enforced contribution of money to government pursuant to a defined authorized legislation. The World Bank (2000) defines tax as a compulsory transfer of resources to the government from the rest of the economy. Tax is a compulsory levy imposed on individuals and corporate identities regardless of the status (Nightingale, 2002; Soyode & Kajola, 2006).

In Nigeria, tax administration has been encumbered by several factors ranging from inadequate and unreliable data, paucity of administrative capacity, shortage of skilled manpower, corrupt tax officials, high incidence of tax avoidance and evasion, complex tax codes and the hydra – headed monster of multiple taxation (Odusola, 2006). Nigerian

government has embarked on several tax reforms, since the year 1991. Prior to tax reforms, tax administration reflected inefficiencies, characterized by deficiencies in the tax administration and collection system, complex legislations and apathy on the part of those outside the tax nets (Ndekwu, 1991 cited in Ariyo, 1997). According to Odusola (2006), the need for tax policy reforms in Nigeria may be summarized as: (i) the compelling need to diversify the revenue portfolio for the country in order to safeguard against volatility of crude oil prices, and (ii) to promote fiscal sustainability and economic viability at the lower tiers of government.

Multiplicity of taxation constitutes a major challenge to tax administration in Nigeria even in the post-tax reforms era. Companies are subjected to several tax levies at all the levels of government. This has the concomitant outcome of raising cost of production, making locally produced goods loose international competitiveness and prevent inter-state commerce (Chartered Institute of Taxation of Nigeria, 2002). In addition, we observe that the corporate income tax rate is so high that it creates investment disincentive effect, since it erodes private investment profit . In Nigeria, the investment rate has been so low with investment constituting less than ten percent of the GDP (UNCTAD, 2005). In this study, an attempt is made to examine the impact of tax reforms on investment in Nigeria, with special attention on the tax reforms of 2003 and the new national tax policy of 2012. The study is structured into five sections. Section one presents the introduction of the subject matter, section two presents review of extant literatures both theoretical and empirical, while section three presents the theoretical framework, specified model and method of analysis, section four presents the results of the estimated model as well as the policy implications of the results. Lastly, section five presents a summary of the paper and a few concluding remarks.

## **Review of Related Literature**

Taxation has been defined as a compulsory levy imposed on the citizens of a country by the government, in order to generate revenue that will be used in general administration (Anyanwu, 1997). Ogundele (1999) defines taxation as the process of or machinery by which communities of group of persons are made to contribute in some agreed quantum and method for the purpose of administration and development of the society. Tax is dynamic, so reforms are necessary to effect the required changes in the national economy (Ola, 2001). According to Azubuike (2009), tax reform is an ongoing process which policy makers and tax administrators continually adopt in the tax systems to reflect changing economies, social and political circumstances in the economy. Tax reform is a way of changing the way taxes are collected and managed by the government. It is an attempt to correct weaknesses in the existing tax system, which may bring about introduction of a new tax rate, a new legal clause, a new assessment system to enhance its efficiency. Tax reform measures are undertaken to strengthen modern taxes and drastically reduce the complexity and lack of transparency of the system (Oriakhi & Rolle, 2014; Odusola, 2006; Anyanwu, 1997). Furthermore, tax reforms are designed to reduce the burden of taxation of all people by the government, make the tax system more progressive and less regressive and simplify the tax system, by making it more accountable and understandable.

# **Nigerian Tax Reforms**

The Nigeria tax system could be traced back to the eighteenth century when traditional rulers and local law enforcement agents collected money from their citizens, in order to finance development programmes in their communities. However, the history of modern taxation traced back to the year 1904, when personal income tax was introduced in Nigeria as community tax. The amalgamation of Southern and Northern Protectorates in the year 1914 led to the transfer of the native Revenue Ordinance of 1917 from northern region in the years 1918 and 1927 (Ola, 2001). Since then, there has been a steady progress in the tax regime with various attempts to modernize, expand, reform and improve the process, procedure and sanctions inherent in the system of taxation in Nigeria.

Furthermore, since 1986, Nigerian government has embarked on several tax reforms. Some of the objectives of the tax reforms include: (i) to accelerate improved service delivery to the public, (ii) to boost non-oil tax revenue, (iii) efforts at consistently reviewing the tax laws, in order to curb the incidence of tax evasion and avoidance, (iv) to improve the tax administration, so as to make it more responsive, reliable, skillful and tax payer friendly (Ogbonna & Ebimobowei, 2011), and (v) to bridge the gap between national development needs and funding of the needs (Federal Inland Revenue Handbook, 2012).

Instructively, some of the reforms that have been embarked upon by the Nigerian government since the inauguration of Nigeria's tax system according to Ogbonna and Ebimobowei (2011) include: (i) the introduction of income tax in Nigeria between 1904 and 1926, (ii) granting of autonomy to Nigeria inland revenue in 1945, (iii) the Raisman Fiscal Commission of 1957, (iv) formation of the Inland Revenue Board in 1958, (v) the promulgation of Petroleum Profit Tax Ordinance No.15 of 1959, (vi) the promulgation of Income Tax Management Act of 1961, (vii) the promulgation of the Companies Income Tax Act of 1979, and (viii) Tax Policy and Administration Reforms Amendment 2001 and 2004.

The tax reform of the 90s was preceded by the inauguration of two study groups. One study group examined the direct tax regime, while the second examined indirect tax. A major outcome of the second study group was the introduction of value – added tax (VAT) in the year 1993. VAT marked a shift from tax on foreign trade related activities to consumption-based tax (Oriakhi & Rolle, 2014). Prior to this, the share of central, state and local government of VAT was 20%, 50% and 30% respectively (Ogbonna & Ebimobowei, 2011). However, by the year 1995, the sharing formula was revised in favour of central government thus (Central government, 35%; State government, 40% and Local government 25%). Agitations from sub-national government provoked another revision of VAT, so that currently the sharing formula for Central, State and Local governments are respectively, 15%, 50% and 25% (Oriakhi & Rolle, 2014).

The tax reform of 2004 was the outcome of recommendations made by the study group (2002) (see for example: Oriakhi & Rolle, 2014: 194-206). This tax reform was part of the National Economic Empowerment and Development Strategies (NEEDs). Essentially, the study group recommended that Nigeria needed a national tax policy that will be principally directed towards national development. On April 7, 2012 the national tax policy document was launched by President Goodluck Ebele Jonathan. Instructively some of the provisions of the national tax policy are: the provision of a stable preference point for all stakeholders in the country, shifting the focus of the tax regime from direct to indirect tax which is considered less distortionary, reducing the personal income tax from 25% to 15%, reducing and streamlining the number of tax incentives e.t.c. (see also, Oriakhi & Rolle, 2014)

An interesting component of the National Tax Policy of 2012 was the introduction of Tax Identification Number (TIN). This was a nationwide electronic base system for the registration and storage of data of tax payers in Nigeria. It was believed that TIN will help to broaden the tax base, increase tax generated revenue and eschew tax avoidance and evasion by providing a tracking system for tax payers. Furthermore, it was alleged that TIN will modernize tax administration in Nigeria and ensure it is in keeping with best global practice (Federal Inland Revenue Handbook, 2012).

NWOKOYE, G. A. & ROLLE, R. A.: Tax Reforms and Investment in Nigeria: An Empirical Examination

## **Tax Reform and Investment**

The distinctive impact of tax is well documented in the extant literature. The supply-siders under the watch of Arthur Laffer expresses the disincentive effect of higher rate in excess of optimum tax rate on savings, investment and labour supply (Rosen, 2009). Taxation can strongly impact on investment by first impacting on the investment climate. A country's tax system has a strong effect on other macroeconomic indicators, hence has a systematic, predictable and regular relationship with economic growth and development.

Measures to spur investment through tax reduction command wide-spread support. Investment incentives of taxation can be roughly divided into three categories – reduction in the effective price of new capital goods through the investment tax credit or accelerated depreciation, reduction in the corporate tax rate and reductions on the returns on investment at the personal level (Chigbu, Eze & Appah, 2012). Conclusively, while multiple taxation increases the cost of production, reduces the international competitiveness of locally produced goods and hinder inter-state commerce (Chartered Institute of Taxation of Nigeria, 2002), high corporate income tax reduces the cash flow of business enterprises, hence stiffens their investment capacity.

To this extent, tax reforms that reduce the tax rate and eschew multiplicity of taxation will not only improve the investment climate, but leverage investment capacity by beefing internal fund for business enterprises. Thus, tax reforms are designed to serve three functions. They are: amendatory function, the innovative function and the revenue function. While the amendatory role attempts to correct weakness in the tax system, the innovative function attempts to introduce something new in the tax regime and the revenue role attempts to beef up public tax generated revenue by broadening the tax base and preventing tax evasion and avoidance.

#### **Empirical Studies**

Literatures on the impact of both tax and tax reforms on investment abound both locally and globally. This is owing to the fact that taxation constitutes the major source of revenue to the government, and hence government activities may ground to a halt in the absence of an effective and efficient tax administration. In this section of the study, effort is made to present empirical evidences reveal in several studies on the impact of tax reforms on investment.

In a cross country study, using fourteen OECD countries, Cummins, Hasset and Hubbard (1996) employ the GMM approach to examine the impact of tax reform on investment. The study reveals that 12 out of the 14 countries had investments that are significantly responsive to changes in the tax rate. This portends that if the tax reforms in these countries reduces the tax rate, it will stimulate investment in those countries.

Rodrigo (2004) empirically examined the relationship between tax reforms and private investment using Chile data. He employed data for the years ranging 1975-2005. The study confirmed the findings of Cummins et al. (1996) which found that tax reforms stimulate investment by freeing up investible resources. Similarly, Mihai and Dan (2011) examine the impact of tax on economic growth for the Romania economy. Using the method of Vector Auto regression (VAR), and examining the statistical properties of the variables based on Kwaitokowski – Phillip Schemidt shin and Phillip – Peron tests, the researcher admonish that tax policy in Romania cannot be taken to extremes, and thus suggested that caution be taken in the implementation because a large amount of factors that could not be accounted for may have influenced the results. In yet another study, Mika, Andrew and Shiv (2012) examine the impact of the tax system on small and medium scale enterprises (SMEs) in Shinyanga Municipality, Tanzania. The study utilized the primary data approach, which was analyzed using descriptive statistics using frequencies and percentages. The results show

that majority of the respondents' position that the prevailing tax system is detrimental to the robust performance of small and medium scale enterprises (SMEs). Thus, the study suggested the reforming of the tax policies.

Muhammed, *et al.* (2012) empirically examined the impact of Pakistan taxes on investment and economic growth. The study utilizes the Ordinary Least Square method for estimating the growth model, while the Johansen's co-integration test was utilized in estimating the investment model. Results reveal that taxes do not directly impact on economic growth, but it does indirectly influence investment. Thus, higher income taxes impeded growth and result in dis-investment due to the savings channel. Newman (1998) examines the impact of tax reform on revenue productivity in Ghana. The study concluded that tax reforms impacts on productivity positively and significantly.

In Nigeria, there are only a handful of studies on the impact of tax reforms on investment, as myriads of the study on tax reform focus on economic growth. Adereti, Adesina and Sanni (2011) examine the impact of VAT on economic growth in Nigeria, using time series data spanning the years 1994-2008 as well as the ordinary least square as methodology. Results reveal that VAT both positively and significantly stimulate Nigeria's economic growth as proxied by the Gross Domestic Product (GDP). In the same vein, Ajakaiye (2000), using the computable general equilibrium model examine the impact of VAT on key sectoral and macroeconomic aggregates. By assuming a model with a cascading effect of VAT, the results show that VAT has the most deleterious effects on the economy. Adegbie and Fakile (2011) investigated the impact of company income tax on economic development in Nigeria. They found that tax avoidance and evasion are the major hindrances to revenue generation in Nigeria. They suggested among other things, the computerization of the integrated tax operations for enhancement of revenue collection.

Ogbonna and Ebimowei (2012) examine the impact of tax reform on Nigeria's economic growth and development. Time series data covering the period 1994-2009 as well as econometric techniques such as white test, Ramsey test, Breuch Godfrey test, Jarque Bera test, Augmented Dickey fuller test, Johansen test and Granger causality test were adopted. Results reveal that tax reform positively and significantly impact on economic growth, thus enhanced development, and that tax reform granger causes economic development in Nigeria. The study further hints that tax reform improve the revenue generation machinery of government to undertake socially desirable expenditure that translates to economic growth in real output. Olatundun (2008) in his study of the effect of taxes on business financing decisions and firm value in Nigeria, shows that adjusted for tax, cash flow, debt shield and cost of capital have significant positive effects on investment, while the marginal tax rates and interests expenses negatively and significantly impact on firm investment. Chigbu et al. (2012) empirically examine the causality between taxation and economic growth in Nigeria. They employed the following econometric tools. Augmented Dickey – Fuller, Diagnostic tests, Granger causality and Johansen Co-integration. Their results reveal that taxation as an instrument of fiscal policy affects and granger cause economic growth in Nigeria.

Re-iteratively, studies on tax reforms have focused on several particular areas, such as effect on economic growth, revenue productivity and other macroeconomic outcomes (see Newman, 1998; Ogbonna & Ebimowei, 2012; Worlu & Nkoro, 2012; Nahid, 2013; Oriakhi & Rolle, 2014). Among all the numerous studies on tax reforms, it is only Cumin *et al.* (1994 and 1996) that examine the impact of tax reforms on investment. In the light of the inconclusive state of the empirical evidences thus far obtained in this area of study, this paper sought to improve on previous studies by specifically examining the tax reforms implication for investment in Nigeria using econometric tools.

#### Some Theoretical Considerations Theories of Investment

Panoply of both theoretical and empirical studies mainly focused on the determinants of fixed business investment. There is a general consensus that business environment significantly impact on investment decisions. The tax regime of any country has been established as one of the determinants of its business climate. A key area of controversy is whether depreciation allowance and tax credit influences investment in physical assets. Several investment models have been formulated to examine the determinants of investment decisions. Three of these models will be examined. They are the accelerator model, the Neoclassical model and the cash flow model (see for example, Rosen, 2009).

The accelerator model assumes fixed capital-output ratio, proposing that the relationship between capital and output is technologically fixed. The model expresses change in capital stock as a multiplier function of change in output. Thus, the determinant of investment is change in output (Jhingan, 1976; Iyoha, 2003). Adopting this model implies that tax benefits such as depreciation allowance and tax credits cannot influence investment decisions, since investment is solely determined by output.

On the other hand, the Neoclassical model is built on the assumption that the ratio of capital to output is not technologically fixed. Thus, firms are faced with myriads of technologies to choose from. A resulting question is: how do firms choose their technologies? Jorgensen (1963) and Hall and Jorgenson (1967) posit that firms' investment decision is influenced by their user cost of capital. The user cost of capital is simply the cost a firm incurs as a result of owning an asset. This cost includes the direct cost of the asset, depreciation, taxes and the opportunity cost of the capital. The user cost of capital shows the rate of return a project must attain to be profitable. Thus, if a firm must invest in an asset, then, the rate of return of the asset must exceed the user cost of the asset.

Through some basic assumptions, Rosen (2009) obtained the user cost of capital (c) as:

$$C = \frac{r+\alpha}{(1-t)(1-\theta)} \left(1-V-K\right) \tag{3.1}$$

In equation (3.1) C represents the user cost of capital, t is the personal income tax,  $\theta$  is the corporate income tax, r is the rate of return after tax and  $\alpha$  is the rate of depreciation.

Equation (3.1) portends that while corporate and individual taxes increase the user cost of capital, tax credit and depreciation allowance reduces it. Thus, taxation can influence the user cost of capital, and ultimately influence the investment decision. Several studies have been conducted to examine the relationship between user cost of capital and investment. For instance, Engen and Skinner (1996) established that investment elasticity of user cost of capital ranges between 0.25 and 0.1, thus validating the tenets of the neoclassical investment model (see for example, Rosen, 2009).

The cash flow model posits that it is the cash flow that determines investment. Cash flow is simply the difference between a firm's revenue and its expenditure on input. Thus, firm's investments are bankrolled from their internal fund. The cash flow model unlike the neoclassical model disagree that the opportunity cost for internal fund is the same as that of external fund. Based on their assumption that firms do not have unhindered access to external fund, hence, any reduction on firm's cash flow, resulting in a fall in internal fund will discourage investment decision. A basic underlying assumption of this model is the existence of imperfect capital market with adverse selection and moral hazards, so that using external funds to finance investment projects become relatively more expensive than financing them International Journal of Development and Management Review (INJODEMAR) Vol.10 June, 2015

with internal funds (Hubbard, 1998). Though, the relationship between cash flow and investment appears to be contentious and ambiguous, yet several studies find a systematic relationship between cash flow and investment (see Hubbard, 1988).

# **Methodology / The Model**

This study will employ the Ordinary Least Square techniques, which is set to obtain the parameter estimates by minimizing the sum of squared residuals (Iyoha, 2006; Gujarati and Porter, 2009). Preliminary diagnostic test on the OLS assumption will be conducted. Such tests include descriptive analysis of the data, the Jacque Bera test, the Breach pagan-Godfret test, the Autoregressive conditional hetereskedasticity test and the Ramsey Reset test. Time series data on the various forms of taxation (value-added tax, company income tax, custom and excise duties and petroleum profit tax) and cross fixed capital formation were obtained for the years 1981-2012. Data on these variables were sourced from secondary source, such as various publication of Central Bank of Nigeria, Federal Inland Revenue for various years and published journals and articles.

In the light of the discussions in previous sections the variables used in the specification of the model to be tested empirically is specified in a functional form as follows:

 $GFCF = \beta_0 + \beta_1 VAT + \beta_2 CED + \beta_3 CIT + \beta_4 PPT + Uit -----(3.2)$ 

Where  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  and  $\beta_4$  are the parameters to be estimated and:

GFCF	=	Gross fixed capital formation
VAT	=	Value – added tax
CED	=	Custom and excise duties
CIT	=	company income tax
PPT	=	petroleum profit tax
U <sub>it</sub>	=	Stochastic error term

This study sought to empirically investigate the relationship between investment and the series of tax reforms in Nigeria. Based on previous studies, tax reforms are proxied by the following taxes VAT, CED, PPT and CIT, while investment is proxied by gross fixed capital formation. Based on *a priori* expectations, all the coefficients should be positive.

# **Empirical Analysis**

**Regression Assumption Tests** Certain assumptions are the building block on which the Ordinary Least Square rests. Gujarati and Porter (2009) suggest four critical assumptions that must be met before utilizing the OLS regressions. They are the assumptions of normality, constant variance, non-serially dependent error term and the assumption of linearity of the parameter estimates. This section presents the outcomes of the test for these assumptions.

#### Table 1

Normality Test					
Variable	Jacque-Bera Statistics	Prob			
GFCF	2184	0.00			
VAT	1312	0.00			
CED	1842	0.00			
PPT	1362	0.00			
CIT	1400	0.00			

#### **Regression Assumption Tests**

Multicollinearity Test						
Variable	Coefficient variance	Centered VIF				
GFCF	3.123	1.134				
VAT	3.152	1.428				
CED	1.212	2.341				
PPT	5.321	1.002				
CIT	4.842	2.346				

Heteroscedasticity Test: ARCH					
F- Statistic $= 5.32$	Prob. F (4, 28)	0.201			
Obs R- Squared $= 4.86$	Pron Chi – square	0.281			
	(1)				
Breuch – Godfrey Serial correlation LM Test					
F-Statistic = 92.78	Prob F. (4,28)	0.42			
OBSR square $= 81$	Prob Chi – square	0.58			
	ID				
Ramsey Reset Test					
t-statistic = $3.51$	DF =	0.18			
t - statistics = 3.51	Prob F. (4,28)	0.18			

Source: Author's Computation (2015)

The Jargue Bera statistics help us in examining the distribution of the variables in the specified model. Result indicates that the probability values for all the variables are zero, hence, the variables are normally distributed and therefore outliers are unlikely, as each of the variables are symmetrical without skewness. The variance inflation factor helps us to examine the presence of multicollinearity.

VIF shows us the extent to which the variance of a particular variable is inflated because that variable is correlated with another variable(s). VIF that is less than 10 implies absence of multicollinearity (see Ibadin & Elijah, 2014). Results as observed in Table 1 indicate that VIF for all the variables falls below 10, implying absence of multicollinearity among our variables. The Autoregressive conditional Heteroscedasticity is a test for heteroscedasticity. Decision criterion position that probability values in excess of 0.05

International Journal of Development and Management Review (INJODEMAR) Vol. 10 June, 2015

implies the absence of the problem of heteroscedasticity. The ARCH test shows that the probability values for both F and Chi-square tests show above 0.05, implying that the error form has a finite and constant variance. The Breuch – Godfrey serial correlation test helps us in examining the presence of serial dependence of the error term. The probability values both for the t and F statistics are in excess of 0.05, implying that the error terms are independent of each other. The Ramsey – Reset test with probability value of 0.18 shows the absence of misspecification error.

# **Estimated OLS Results**

The estimated OLS results obtained using sample observations for the years 1981-2012 is shown in the table below and subsequently analyzed:

Dependent variable: GFCF				
<b>Equation 1</b>	Equation 2	Equation 3	Equation 4	
3.3418	3.1314	4.8181		
(1.1812)	(3.1218)	(1.3216)		
[2.8292]**	[1.003]	[3.6456]*		
2.3184	2.1842	3.1319	1.2382	
(1.2181)	(1.3535)	(0.1284)	(0.1821)	
[1.9031]***	[1.6137]***	[24.3917]*	[6.7996]*	
4.8912	2.1321		1.3216	
(4.2132)	(0.1842)		(0.1818)	
[1.1609]	[11.575]*		[7.2695]*	
5.3248		-12.3218	1.2342	
(1.4836)		(2.1619)	(2.3218)	
[3.5891]*		[-5.6995]*	[0.5316]	
0.32	0.08	0.85	0.18	
0.30	0.08	0.85	0.18	
2.13	3.48	8.36	1.32	
2.62	0.75	2.03	2.72	
	Equation 1 3.3418 (1.1812) [2.8292]** 2.3184 (1.2181) [1.9031]*** 4.8912 (4.2132) [1.1609] 5.3248 (1.4836) [3.5891]* 0.32 0.30 2.13 2.62	DependEquation 1Equation 23.34183.1314(1.1812)(3.1218)[2.8292]**[1.003]2.31842.1842(1.2181)(1.3535)[1.9031]***[1.6137]***4.89122.1321(4.2132)(0.1842)[1.1609][11.575]*5.3248	Dependent variable: GFCFEquation 1Equation 2Equation 3 $3.3418$ $3.1314$ $4.8181$ $(1.1812)$ $(3.1218)$ $(1.3216)$ $[2.8292]^{**}$ $[1.003]$ $[3.6456]^{*}$ $2.3184$ $2.1842$ $3.1319$ $(1.2181)$ $(1.3535)$ $(0.1284)$ $(1.2181)$ $(1.3535)$ $(0.1284)$ $[1.9031]^{***}$ $[1.6137]^{***}$ $[24.3917]^{*}$ $4.8912$ $2.1321$ $(4.2132)$ $(0.1842)$ $[1.1609]$ $[11.575]^{*}$ $5.3248$ $-12.3218$ $(1.4836)$ $(2.1619)$ $[3.5891]^{*}$ $[-5.6995]^{*}$ $0.32$ $0.08$ $0.85$ $0.30$ $0.08$ $0.85$ $2.13$ $3.48$ $8.36$ $2.62$ $0.75$ $2.03$	

# Table 2: OLS Regression of Gross Fixed Capital Formation on Taxation Determining Variables

**Source:** Author's Computation (2015)

**N.B** ( ) represents the standard error, [ ] represents the t ratio \*, \*\*, \*\*\* represents the coefficients that are statistically significant at 1,5 and 10 percent respectively.

The OLS results are presented in table 2 above. Four distinct regression equations were utilized. In equation 1, the explanatory variables are all the various income taxes, but in

equation 2, we expunged CED, in equation 3 and 4 respectively, the expunged variables are PPT and VAT. Comparing the four regression equations using the  $R^2$ , the adjusted  $R^2$ , the F – statistics and Durbin Watson statistic, then, equation 3 presents the most robust outcome. The  $R^2$  value of 0.85 shows that 85% of the variation in GFCF is due to the included regressors, while the remaining 15% which cannot be accounted for was due to the Gaussian white noise. The f-statistics value 8.36, indicates that there is a linear relationship between the dependent variable and the regressors. The coefficients for VAT and CIT are positive, while that of CED is negative, thus, while increase in VAT and CIT by a unit will cause GFCF to rise respectively by 4.8181 and 3.13191 units, but a unit rise in CED will cause GFCF to fall by 12.3218 units. All the coefficients are found to be statistically significant with VAT, CIT and CED, while the t-ratios show: 3.6456, 23.917 and -5.6995 respectively. The Durbin Watson statistics value of 2.03, can be approximated to 2 indicating the absence of first order serial dependence.

## **Discussion of the Results / Policy Implication(s)**

The empirical results presented and analyzed in previous section provide an opportunity for us to deduce policy implications. Using CIT and VAT to proxy tax reform, the study reveals that tax reform will stimulate investment in Nigeria. The Coefficients and t – ratios for CIT and VAT are respectively 3.1319 (24.3917) and 4.8181 (3.6456). Thus, both CIT and VAT are significant and positively related to investment. Tax reform by redressing issue of double taxation and high tax rate will provoke tax compliance, boost tax generated revenue and stimulate domestic investment. These findings support those of Cummins et al. (1996), Rodrigo (2004) and Ogbonna and Ebimowei (2012). The positive and significant coefficient of CIT supports the findings of Adegbie, *et al.* (1996) who found that tax reforms tend to improve the investment climate and ultimately crowd in investment. Nigeria's government in an attempt to boost tax generated revenue must also consider the harmful effect of multiplicity of taxation and high corporate income tax on the investment clima.

#### Conclusion

This study is motivated by the fact that Nigeria like every other developing country must make effort to boost internally generated revenue in order to finance its ever burgeoning recurrent and capital expenditure, yet it needs to encourage investments as much as possible to boost growth. It is based on this premise that the study examined the impact of the various tax reforms starting from the 80s on investment in Nigeria. This study employed the multiple regression analysis with OLS estimation technique, using data from both CBN and Federal Inland Revenue service. The study proxied the various tax reform with the various income taxes, while investment was proxied by the gross fixed capital formation (GFCF). The study shows that VAT and CIT, both, significantly and positively stimulate GFCF, but CED negatively, though significantly stimulate GFCF. On the whole, the study indicate that tax reforms by addressing the teething problems of Nigeria's tax administration, particularly the hydra-headed monster of multiple taxation and the high corporate income tax, will create favourable investment climate that will stimulate investment in Nigeria.

The country is faced with the dilemma between raising internally generated revenue through taxes and still maintaining an investment friendly climate. The country must learn to muddle in between by promoting a tax clime with moderate tax rate and single tax, so as to provoke tax compliance and stimulate domestic investment. International Journal of Development and Management Review (INJODEMAR) Vol.10 June, 2015

## Recommendations

Based on the estimated results and the findings, this study recommends that effort should be made to intensify and sustain the tax reforms, particularly, the new national tax policy of 2012. Two critical areas that must be looked into are the multiplicity of taxation and the high corporate income tax. Finally, tax reform should be conscientiously directed towards investment stimulation in Nigeria.

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International Journal of Development and Management Review (INJODEMAR) Vol.10 June, 2015

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