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## A LOOK INTO THE INFLUENCE OF INCOME TAX, AS A TOOL FOR STIMULATING ECONOMIC GROWTH IN NIGERIA

The study empirically examined the effect of income tax on economic growth in Nigeria. The specific objectives are as follows: to examine how capital gain tax, company income tax and how value added tax effect gross domestic product in Nigeria

This study adopted ex-post facto research design. Relevant data regarding the variables under-study were extracted from the Central Bank of Nigeria (CBN) statistical bulletin. The study period covered Twenty-Five (25) years spanning from 1994 to 2019, while error correction model was used to analyze the data.

The findings revealed among other things that; there was presence of co-integration (long-run relationship) among the variables in the model, capital gain tax, company income tax and value added tax have significant relationship with gross domestic product of Nigeria in the long run.

Based on this, the study therefore concluded that all the variables have positive and significant effect on gross domestic product, the study recommended among other things that government should ensure efficiency and effectiveness in the tax administration and tax compliance, also emphasis should be on enhancing direct assessment through capturing every eligible taxpayer in other to boost the level of revenue mobilization,

It is recommended that government should reduce corporate tax rate rather than eliminate high corporate tax in Nigeria, lower corporate tax will increase the demand for labour which in turn raises wages and increases consumption.

**Key words:** Corporate Income Tax, Capital Gain Tax, Value Added Tax, Gross Domestic Product.

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### Табыс салығы Нигериядағы экономикалық өсуді ынталандыру құралы ретінде

Зерттеу Нигериядағы табыс салығының экономикалық өсуге әсерін эмпирикалық түрде зерттеді. Нақты мақсат келесідей: капитал өсіміне салынатын салық, корпоративтік табыс салығы және қосылған құн салығы Нигериядағы жалпы ішкі өнімге қалай әсер ететінін зерттеу.

Бұл зерттеуде постфактум зерттеу дизайны қабылданды. Зерттелетін айнымалыларға қатысты деректер Нигерия Орталық банкінің (CBN) статистикалық бюллетенінен алынды. Зерттеу кезеңі 1994 жылдан 2019 жылға дейін жиырма бес (25) жылды қамтыды және деректерді талдау үшін қатені түзету үлгісі пайдаланылды.

Нәтижелер модельдегі айнымалылар арасында коинтеграция (ұзақ мерзімді қарым-қатынас) бар екенін көрсетті, капитал өсіміне салынатын салық, корпоративтік табыс салығы және қосылған құн салығы ұзақ мерзімді перспективада Нигерияның жалпы ішкі өнімімен айтарлықтай байланыста.

Кірістерді жұмылдыру деңгейін арттыру мақсатында әрбір салық төлеушіні бағалау негізінде авторлар барлық айнымалылар жалпы ішкі өнімге оң және маңызды әсер етеді деген қорытындыға келді.

Үкіметке Нигериядағы жоғары корпоративтік салықты жойғаннан гөрі корпоративтік салық ставкасын төмендету ұсынылады, төмен корпоративтік салық жұмыс күшіне сұранысты арттырады, бұл өз кезегінде жалақыны арттырады және тұтынуды арттырады.

**Түйін сөздер:** табыс салығы, капитал өсіміне салынатын салық, қосылған құн салығы, жалпы ішкі өнім.

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### Подходный налог как инструмент для стимулирования экономического роста в Нигерии

В исследовании эмпирически изучалось влияние подходного налога на экономический рост в Нигерии. Конкретные цели заключаются в следующем: изучить, как налог на прирост капитала, налог на прибыль компаний и налог на добавленную стоимость влияют на валовый внутренний продукт в Нигерии.

В этом исследовании был принят план исследования постфактум. Соответствующие данные по изучаемым переменным были взяты из статистического бюллетеня Центрального банка Нигерии (CBN). Период исследования охватывал двадцать пять (25) лет с 1994 по 2019 год, при этом для анализа данных использовалась модель коррекции ошибок.

Результаты показали, что наблюдалась коинтеграция (долгосрочная взаимосвязь) между переменными в модели, налог на прирост капитала, налог на прибыль компаний и налог на добавленную стоимость имеют значительную связь с валовым внутренним продуктом Нигерии в долгосрочной перспективе.

Основываясь на оценке путем охвата каждого правомочного налогоплательщика в целях повышения уровня мобилизации доходов, авторы пришли к выводу, что все переменные оказывают положительное и значительное влияние на валовый внутренний продукт.

Рекомендуется, чтобы правительство снизило ставку корпоративного налога, а не отменило высокий корпоративный налог в Нигерии, более низкий корпоративный налог увеличит спрос на рабочую силу, что, в свою очередь, повысит заработную плату и увеличит потребление.

**Ключевые слова:** налог на прибыль, налог на прирост капитала, налог на добавленную стоимость, валовый внутренний продукт.

## Introduction

The basic responsibility of every government is to provide for the welfare of her citizens. The citizens expect the government to provide basic infrastructure and amenities that would support their economic activities. For the government to fulfill the welfare responsibility as enshrined in the constitution financial commitment is required and that could only be provided by the government. According to Matthew (2014) the social and economic growth of every nation depends on their ability to mobilize revenue through tax and their willingness of the citizen by paying their tax promptly. They further stated that a well-structured economic system would boost the standard of living of the citizen and social wellbeing for a meaningful development of such country. Ofoegbu et al. (2016) stated that rise in the cost of running government coupled with the incessant dwindling revenue had left all tiers of government in Nigeria with formulating strategies to improve the base of income generation and one of such strategies is tax compliance.

Taxation is the main organ of government across the world, the tax paid by the citizen of the country is what government use to provide the basic amenities and infrastructural facilities to enhance the economic growth of the country and use to enforce law

and order against external aggression, also use to provide enabling environment for cross board business (Ofoegbu, 2016). A system of tax avails itself as a veritable tool that mobilizes a nation's internal resources and it lends itself to creating an environment that is conducive for the promotion of economic growth (Ogbonna & Appah, 2012). Therefore, Taxation is vital role in supporting a country in meeting its demands and promoting self-sufficiency. The necessity for tax payments has been a worldwide phenomenon since it impacts all economies, regardless of national distinctions (Okafor, 2012).

The sharp drop in oil prices in recent years has resulted in a reduction in cash available for distribution to the federal and state governments. As a result, the need for state and local governments to generate enough revenue from domestic sources has become a significant issue. This requirement highlights the eagerness of state and local governments, as well as the federal government, to seek new revenue sources or to become more aggressive and innovative in collecting revenue from existing sources (Ude & Agodi, 2014). Taxing may not be the most essential source of government revenue mobilization in terms of the volume of money desired from taxation, but it is the most important source of revenue to the government in terms of the predictability and consistency of taxation, according to (Ogbonna

& Appah, 2012). Taxation, according to Ihenyen & Mieseigha (2014), is the government's most important source of revenue. Because of the government's intrinsic capacity to levy taxes, the government was able to guarantee its tax collection at all times, regardless of the conditions. Taxation is primarily used to generate money for the provision of social amenities and the welfare of the public in both established and emerging economies. Taxation is a tool for economic control that is used to discourage and encourage particular types of behavior (Okafor, 2012). The government's imposition of taxes is not a new phenomenon. There is hardly no government in the world today that does not rely on taxing as a source of revenue. Apart from the considerable complexities that have crept into the taxation system in recent years, the imposition of tax has in reality ceased to be just for the purpose of raising money for the state; it has also become a vehicle for wealth redistribution and economic re-adjustment (Lyndon & Paymaster, 2016).

According to Macek (2014), in order to achieve sustainable development in the social and economic sectors of the economy, the government should weigh the trade-offs involved in attracting foreign direct investment (FDI) in terms of incentives and their influence on the country's long-term growth. A tax is a monetary tool that is used to encourage or discourage certain production or consumption behaviors that have an impact on the economy. This study has been the focus of several investigations in the past. However, an examination of existing empirical literature indicated a lack of agreement among earlier researchers' research findings, indicating the presence of a research gap. This study, which looks at the influence of income taxes on economic growth (GDP), aims to close that gap. The independent variables in the study were capital gains tax and corporate income tax, whereas the dependent variable and proxy for economic growth was gross domestic product (GDP). The study's main goal was to look at the influence of the independent factors on Nigeria's economic growth. But, more precisely, the goal was to look at the influence of CGT, CIT, and VAT on Nigeria's GDP. The theories investigated in this study are based on this goal.

## Literature Review

### *Concept of Taxation*

Tax is a compulsory charge imposed by a public authority on the income and properties of individuals and companies as stipulated by the govern-

ment Decree, Acts or Laws irrespective of the exact amount of service of the payer in return (Bakare, 2013). Tax payment is not for the direct exchange of good and/or services but a transfer of resources and income from the private sector to the public sector in order to achieve some of the nation's economic and social goals (Hadjimichael, 2014).

In Nigeria, there is absence of such a clear understanding of the reason behind taxation. It is therefore necessary that government at all levels, clearly explain and propagate this philosophy to their citizens. The tax policy can only set out general guidelines on the role of taxation for national development; however, it is the duty of Government to take the message to the make this clear to their citizen, so that a tax culture can be imbibed in their citizen and what they stand to lose by avoiding to pay tax (Chigbu et al., 2012)

In real sense, taxation is simply a means source of generating revenue for government. However, taxation is no longer viewed as merely an avenue for revenue generation by government. Rather it is a means by which citizens contribute to a common purse for the provision of infrastructure, utilities, security and border needs by the governments to raise revenue by means of taxation in other to provide funds, which will be utilized for the benefit of the entire citizenry (Azubike, 2009).

Taxation is expected to be fair and should institutionalize horizontal and vertical equity. By horizontal equity, taxation ensures equal treatment of equal individuals and avoids discrimination against economically similar entities. In vertical equity, on the other hand, it addresses the issue of fairness among different income categories. In other words, taxation shall recognize the ability – to – pay principle, that is, individuals should be taxed according to their ability to bear the tax burden such that individuals and entities earn high incomes should pay a corresponding high percentage of tax.

### *Capital Gains Taxes (CGT)*

Capital gain tax, according to Ola (2001), is a tax imposed on investment income once an investment is sold and a capital gain is realized. Because most citizens in wealthy countries, such as the United States, do not invest at all, they do not pay capital gains taxes. Dividends and interest from simple bank account interest, as well as dividends and earnings from investments, are taxed. Capital Gains Tax is also defined as gains resulting from a change in the asset market value to a person who does not regularly offer them for sale and in whose hands, they do not constitute the stock-in-trade (Ogbonna

et al., 2012). It might alternatively be defined as the growth in asset value between the time of acquisition and the time of final disposal. This signifies that the purchase price is less than the purchase price.

Furthermore, Ogbonna et al. (2012) on capital gains tax defined it as a tax on capital gains, the profit realized on the sale of a non-inventory asset that was purchased at a cost amount that was lower than the amount realized on the sale. The most common capital gains are realized from the sale of stocks, bonds, precious metals and property. Capital gains are the profit that an investor realizes when he or she sells the capital asset for a price that is higher than the purchase price. Another definition of capital gains tax by Business dictionary referred to it as a tax payable on profit made on the sale (disposal) of a capital asset, assessed and levied differently from tax on profit (income tax) realized from the sale of goods or services in the normal course of a business.

#### *Value Added Tax (VAT)*

Ajakaiye (2000) defined VAT as a “multi-stage tax imposed on the value added to goods and services as they proceed through various stages of production and distribution and to services as they are rendered” which is eventually borne by the final consumer but collected at each stage of production and distribution chain. Ola (2001), said that, VAT is a tax paid at each stage of value added. It is a multi-stage tax which applies whenever goods and services are supplied by the producers. He also said that VAT are levied on the value gained or added on the products before being sold, VAT is an output tax less input tax. He went further to say that VAT is one of indirect taxes collected by the government in this case the incidence of tax is borne by either the producer or the final consumer or shared by both.

#### *Gross Domestic Product (GDP)*

According to Adekunle & Aderemi (2012), gross domestic product measures the monetary value of final goods and services, that is, those that are bought by the final users produced in a country in a given period of time e.g quarterly or yearly. It counts all the output generated within the borders of a country. GDP is composed of goods and services produced for sale in the market and also include some non-market production, such as defence or education services provided by the government. An alternative concept, gross national product, or GNP, counts all the output of the residents of a country. Not all productive activity is included in GDP. For example, unpaid work (such as that performed in the home or by volunteers) and black-market activities are not

included because they are difficult to measure and value accurately.

#### *Economic growth*

Economic growth is the sustained, concerted actions of policy makers and communities that promote the standard of living and economic health of a given area. Economic growth can also be referred to the quantitative and qualitative changes in the economy (Wikipedia). Economic growth requires collective action and large-scale, long-horizon investment. Economic growth addresses the fundamental conditions necessary for the micro economic functioning of the economy. It is within the purview of government. Though it is certainly possible to have growth without development in the short or even medium-term, economic growth creates the conditions that enable long-run economic growth. Jobs are a main concern of policy: for growth what matters is the number of jobs while for economic growth the focus is wages, career advancement opportunities, and working conditions (Adekunle et al., 2012).

The Malthusian theory did not regard the process of economic growth as automatic. Rather, it required consistent efforts on the part of people. Anyaduba (2004), noted, “that for the country to lay claim on growth and development through taxation, there must be an improvement of the quality of life of the citizens, as measured by the appropriate indices in economic social, political and environmental terms”. In Nigeria, dependency theorists’ argument explains the precarious situation we are into. Dependency theorists argue that poor countries have sometimes experienced economic growth with little or no economic development initiatives. Today, Nigeria being the number one economy in Africa cannot boast of a good education system like our sister country Ghana. Nigeria only functions as resource-providers to wealthy industrialized countries. Although opposing argument has it that growth causes development because some of the increase in income gets spent on human development such as education and health. Other theories of economic development are Adam Smith’s theory, the Ricardian theory, the Schumpeterian theory, the Keynesian theory etc. (Appah, 2010).

#### *Theoretical Review*

##### *Benefits-received theory*

According to Chigbu et al. (2012), this theory assumes an exchange or contractual relationship between the state and the taxpayers, certain goods and services are provided by the state and the cost of such goods and services are contributed in the proportion of the received benefits, thus, the benefits

received present the basis for distributing the tax burden in specific manner. This theory overlooks the possible use of the tax policy for bringing about economic growth or stabilization., They also see the cost-of-service theory as very similar to the benefits-received theory. The theory emphasizes on semi commercial relationships between the state and the citizens to a greater extent. The implication according to them, was that, the citizens are not entitled to any benefits from the state and if they do, they must pay the cost thereof.

#### *Ability to pay theory*

This theory of taxation upholds that, taxes imposed on taxpayers should be based on the progressive tax approach which maintains that taxes should be levied according to a tax-payer's ability to pay. This system of taxation requires that higher earning persons pay taxes higher than those with lower income. The basic tenet of this theory is that, the burden of taxation should be shared by the members of the society on the principle of equity and justice and that this principle necessitates that tax burden is apportioned according to their relative ability to pay. Adam Smith is the brain behind the principle of equity and justice. He advocates that, the amount of tax payable should be equal, this by implication means that, tax payable is in proportion to earned income. Equity and justice are assumed only when the tax system is based on the ability of the taxpayer to pay the amount levied as tax liability (Okafor, 2012).

#### *The Accelerator Theory of Taxation*

According to this theory of taxation, there is a nexus between tax laws and investments behavior is founded upon some theoretical beliefs put forward by some scholars. Lipsey (1979) and sighted by Macek (2014) explained that the intimidation of investments is national income, rate of investment and expectations. The level of demand for goods is the major determinant of investment this link to doctrine of demand and supply; He expressed further that the higher the level of demand and income, the higher the willingness amongst firms to invest, because of the favorable expectations about the future. These are strong concern to the ability of firms to source for funds by borrowing. This strengthens them to finance their investments more from retention out of profits. But the higher level of demand will possibly result in higher a profit which means more for retention and thus limits the ability to invest. The accelerator theory on the other hand assumes a capital output ratio and that the industry would be operating at its full capital if demand for its products increases

and the industry is to produce the higher level of output, capital stock must increase and this necessitate new investment which ultimately increase corporate income tax in any country (Ihenyen et al., 2014).

#### *Empirical Review*

The study conducted by Ahuru & Oriakli (2015) focused on the impact of tax reforms on the federal economic growth in the country. The researchers adopted time series design and the researchers concluded that these reforms will help improve the efficiency of the government's revenue collection. The study of Onaolapo et al. (2013) was conducted to analyze the effects of tax leakages on the country's economic growth. A survey research design was adopted and responses were obtained through the use of a well-structured questionnaire administered to 185 respondents. Findings from the empirical analysis using Kendall's W test and Chi Square test statistics revealed that the activities of tax evaders and avoidance have affected the country's economic development. The authors of the study therefore recommend the government to promote good governance.

However, the study conducted by Okafor (2014) studied the impact of various tax reforms on the country's economic growth. The study employed the use of ordinary least square. Where economic growth was peroxide by the gross demotes product (GDP) and tax reform peroxide by various income tax petroleum profit tax (PPI), value added tax (VAT), custom and excise duties (CED) and company income tax (CIT) The study showed that the various income taxes have positive effects on the country's economic growth. Adedeji and Obo (2012) analyze the impact of economic growth on government's developmental effort. It was carried out using the least square regression method. It revealed that, despite the economic growth, it had a significant impact on the development of the local government.

Edogbanya & Ja'afaru (2013) investigated the impact of economic growth on the developmental effort of a selected local government in Kogi East senatorial district. Simple least square regression method (SPSS version 17) was employed to analyze data that collected from both primary and secondary source. The objective of the research was to analyze the extent to which economic growth had affected the development of the selected local government The study finds that, despite the existence of various revenue generating agencies, the level of economic growth did not affect the developmental efforts of the government.

## Methodology

The data for this study was obtained mainly from secondary sources. In order to analyse the effect income tax on economic growth in Nigeria, information from the Central Bank of Nigeria Statistical Bulletin concerning; Gross Domestic Product (GDP), Value Added Tax (VAT), Excise Duty (CD), Custom Duty (CD) covering the period of years 1994-2019 (25 years) was used. Other Secondary Sources of data are relevant articles, journals and newspapers.

### Model Specification

The following mathematical model was developed to analyze the relationship between income tax and economic growth in Nigeria using Corporate Income Tax (CIT), Capital Gain Tax (CGT) and Value Added Tax (VAT), as the independent variables and regressed against the dependent variables Gross Domestic Product (GDP) used as proxy for economic growth.

This study employed the model specified below.

$$Y_{it} = \alpha_{it} + \beta_1 CIT_{it} + \beta_2 CGT_{it} + \beta_3 VAT_{it} + \varepsilon_{it} \quad (1)$$

where Y represents economic growth in Nigeria measured by Gross Domestic Product (GDP)

$\alpha$  = the constant term

CIT = Corporate Income Tax

CGT = Capital Gain Tax

VAT = Value Added Tax

$\beta$  = the coefficient of the function

$\varepsilon$  = error term.

Since Gross Domestic Product (GDP) is the proxy to be used in measuring economic growth in Nigeria. In this study, the model will be modified as follows:

$$GDP_{it} = f(CIT_{it}, CGT_{it}, VAT_{it}) \quad (2)$$

$$GDP_{it} = \alpha + \beta_1 CIT_{it} + \beta_2 CGT_{it} + \beta_3 VAT_{it} + \varepsilon_{it} \quad (3)$$

where  $\mu_i$  is the Error term or other variables that could have lent further explanation to the explained variables but are not included in the model and is assumed to be normally distributed in zero and constant variance.

In consonance with economic theory, it is expected that the level of value added tax, customs duty, income tax and excise duty to a large extent, determine the level of economic growth of a coun-

try. All things being equal, a *a priori* intercept and the slope of the coefficients are expected to have positive signs. Thus, the *a priori* expectation may be denoted mathematically as:  $> 0$ . The numerical values of the parameters were estimated by the use of ordinary least square techniques based on econometric computation. To determine the relevant hypothesis, estimates were evaluated for statistical significance based on the relevant statistics of regression output. The explanatory power of the model as a measure of goodness of fit is then decided.

$$\alpha_{it} + \beta_1 CIT_{it} + \beta_2 CGT_{it} + \beta_3 VAT_{it} + \varepsilon \quad (4)$$

### Data Description and Sources

Annual quantitative time series secondary data from 1994-2019 (25 years) was used for the analysis. The data on four economic variables was used namely the gross domestic product, value added tax revenue, customs duty revenue and excise duty revenue. The data was obtained from relevant government agencies, Federal Board of Inland Revenue (FBIR), Nigeria National Bureau of Statistics (NNBS), Central Bank of Nigeria (CBN) Statistic Bulletin and World Bank Indicator.

### Data Analysis and presentation

A combination of cointegration and error correction modeling through regression was adopted in this research. The choice of these econometric techniques is based on their ability to ascertain stationary and test for causality among the variables. The analysis of data was conducted using E Views statistical package Version 9.0. The descriptive and inferential statistics was used in addition in order to build strong conclusions about the impact of income tax on economic growth. The study used tables and figures for data presentation.

### Diagnostic Tests

Time series diagnostic tests were carried out to ensure that the model satisfies the classical linear regression model assumptions. The data was subjected to diagnostic tests notably normality of the disturbance term and functional form misspecification, Stationary, serial correlation, multicollinearity and heteroscedasticity. These tests are meant to verify whether the data are normally distributed, stationary and have no mutual correlation among the independent variables and thereafter used it in regressions without fear of getting spurious results.

## Results and Discussion

**Table 1** – Descriptive statistics

Var	Max	Min	Median	Mean	Std.dev	Jarque-Bera	Prob	Skewness	Kurtosis
GDP	2551160	17566	244351	622783.6	719336.6	9.710	0.0078	1.216	3.471
CIT	46072	796	80999.5	15164.32	13356.24	3.369	0.1855	0.540	2.020
CGT	80567	463	7655	21004.61	24770.66	6.907	0.0316	1.040	2.812
VAT	272264	1176	18499.5	50551.24	66173.38	30.99	0	1.783	5.619

Note – compiled by authors

**Table 2** – Unit root test at first difference

Variable	ADF	1%	5%	Decision	
<b>CIT</b>	-5.544682	-3.626784	-2.945842	Reject	H0
<b>CGT</b>	-5.624120	-3.626784	-2.945842	Reject	H0
<b>GDP</b>	-4.349471	-3.626784	-2.945842	Reject	H0
<b>VAT</b>	-5.627301	-3.626784	-2.945842	Reject	H0

Note – compiled by authors

Table 2 shows the unit root test for stationary using Augmented Dickey-Fuller. The result shows that all the variables (GDP, Corporate income tax, capital gain tax and value added tax) are stationary at first difference. Since the t-statistics are greater than the critical values at 1% and 5% level of significance in absolute term. We therefore conclude that all variables are not characterized by unit root problem and accept the hypothesis that says Corporate Income Tax (CIT), Capital Gain Tax (CGT) and Value Added tax (VAT), and gross domestic product (GDP) have no unit root problem.

### Diagnostic test

Time series data is associated with several problems which require investigation to avoid spurious results upon application of the OLS method of estimation. Primarily, the OLS method assumes serial uncorrelation, correct model specification, homoscedastic error term and absence of correlation between the error terms and the regressors. If these assumptions are violated, the estimated parameters would not meet the statistical threshold. Tests carried out on the data included the normality test, unit root test, multicollinearity test, serial correlation test and heteroscedasticity test.

**Table 3** – Diagnostic tests – Variance Inflation Factors

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	3.92E-05	1.001297	NA
D(CIT)	0.000729	1.259000	1.258958
D(CGT)	0.001710	1.059275	1.058904
D(VAT)	0.002341	1.188650	1.188482
U(-1)	0.027970	1,020291	1,019554

Note – compiled by authors

**Table 4 – Serial correlation results**

F-statistic	0.338161	Prob. F(2,30)	0.7158
Obs*R-squared	0.815741	Prob. Chi-Square(2)	0.6651
Note – compiled by authors			

**Table 5 – Heteroscedasticity test**

F-statistic	0.982374	Prob. F(4,32)	0.4310
Obs*R-squared	4.046574	Prob. Chi-Square(4)	0.3997
Scaled explained SS	5.379728	Prob. Chi-Square(4)	0.2505
Note – compiled by authors			

*Stationarity test*

When time series data is non-stationary and used for analysis, it may give spurious results which cannot be used for any meaningful inferences, since estimates obtained from such data will possess non constant mean and variance (Muthui et al., 2013). Moreover, if the data is not stationary, the value of R-squared is high and this makes it difficult to deter-

mine the relationship between the variables. Because this study used time series data, it was important to establish the stationary of the data. The variables are therefore tested for unit root and in its presence differencing is done to alleviate the problem. However, this leads to loss of some fundamental long run information hence biased solutions and this is corrected through Augmented Dickey Fuller Test.

**Table 6 – Cointegration test results**

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.803382	123.3298	69.81889	0.0000
At most 1 *	0.590193	68.02905	47.85613	0.0002
At most 2 *	0.525285	37.69870	29.79707	0.0050
At most 3	0.200771	12.36730	15.49471	0.1402
At most 4 *	0.130325	4.747624	3.841466	0.0293
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.803382	55.30072	33.87687	0.0000
At most 1 *	0.590193	30.33035	27.58434	0.0216
At most 2 *	0.525285	25.33140	21.13162	0.0121
At most 3	0.200771	7.619677	14.26460	0.4187
At most 4 *	0.130325	4.747624	3.841466	0.0293
Unrestricted Cointegrating Coefficients (normalized by b*S11*b=I):				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

*Testing for Multicollinearity*

Multicollinearity among the independent variables implies that they are perfectly correlated. If the explanatory variables in the model are perfectly linearly correlated, the parameters of the model become indeterminate and the method of OLS breaks down (Mukras, 1993). This violation is not a problem of the model or the disturbance term and therefore does not affect the BLUE properties of the OLS estimates (Musaga, 2007). In any practical context, the correlation between explanatory variables will be non-zero, although this will generally be relatively be in line in the sense that a small degree of association

between explanatory variables will almost always occur but will not cause too much loss of precision. However, a problem occurs when the explanatory variables are very highly correlated with each other (Dakito, 2011).

Table 3 under diagnostic test shows multicollinearity test between independent variables. The VIF is less than 10, meaning that the variables are poorly correlated with each other. Therefore, there is no Multicollinearity among the independent variables. So it appropriate to use the independent variables simultaneously in order to run the regression model since there is no multicollinearity problem

**Table 7** – Error correction model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001232	0.006264	-0.196625	0.8454
D(CIT)	0.068626	0.027000	2.541725	0.0164
D(CGT)	0.346363	0.041358	8.374727	0.0000
D(VAT)	0.080937	0.047437	1.706205	0.0983
U(-1)	-1.028119	0.167241	-6.147519	0.0000
R-squared	0.786713	Mean dependent var		-0.003142
Adjusted R-squared	0.751166	S.D. dependent var		0.075290
S.E. of regression	0.037557	Akaike info criterion		-3.574902
Sum squared resid	0.042316	Schwarz criterion		-3.310982
Log likelihood	70.34823	Hannan-Quinn criter.		-3.482786
F-statistic	22.13115	Durbin-Watson stat		1.931441
Prob(F-statistic)	0.000000			

Note – compiled by authors

**Table 8** – Regression model results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.067919	0.014007	4.848889	0.0000
CIT	0.122787	0.040333	3.044323	0.0046
CGT	0.370923	0.062153	5.967917	0.0000
VAT	0.035601	0.068842	0.517138	0.6086
R-squared	0.627002	Mean dependent var		0.134550
Adjusted R-squared	0.580377	S.D. dependent var		0.062702
S.E. of regression	0.040617	Akaike info criterion		-3.444173
Sum squared resid	0.052792	Schwarz criterion		-3.226482
Log likelihood	68.71721	Hannan-Quinn criter.		-3.367427
F-statistic	13.44783	Durbin-Watson stat		1.954836
Prob(F-statistic)	0.000002			

Note – compiled by authors

## Conclusion

This study examined the impact of income tax on economic growth in Nigeria. The motivation for this study was primarily premised on the paucity of theoretical literature on taxation and economic growth in Nigeria and the inconsistency development of economic in advance countries around the world. In trying to achieve this objective, descriptive, co integration and error correction modeling through regression was adopted for the data analysis. The results of the study indicate that the income taxes are positively correlated with economic growth in a time series data of Nigeria's Economy during 1994-2019. The results of Johansen's cointegration test indicate a long-run stable relationship between corporate, capital gain tax and value added tax and economic growth. The research closes the knowledge gap induced by inconclusive evidence on the growth effects of corporate income tax and capital gain tax which most often have resulted in situations where results of researches done in developed economies are generalized to developing countries.

The main objective of the study was to find out the effect of income tax on economic growth in Nigeria from 1994-2019. Based on the research findings presented and discussed in the preceding chapter (4), we arrived at a number of conclusions: -

- The first objective of this study was to determine the effect of corporate income tax on economic growth in Nigeria for the period 1994-2019. Analysis of research results has shown that corporate income tax has a positive and significant effect on economic growth in Nigeria. Regression analysis results in Table 4.8, demonstrate this kind of relationship. It shows that if there is a 1% increase in corporate income tax revenue would increase economic growth by 0.1228%. Corporate tax would increase the revenue base of government and make funds available for development purposes that will accelerate economic growth. From the findings, it can be concluded that corporate income tax has a significant positive effect on economic growth.

- The second objective of this study was to determine the effect of capital gain tax and value added tax on economic growth in Nigeria for the

period 1994-2019. Analysis of research results has shown that capital gain tax has a positive and significant effect on economic growth in Nigeria. Regression analysis results in Table 4.8, demonstrate this kind of relationship. It shows that if there is a 1% increase in capital gain tax revenue would increase economic growth by 0.3709%. Capital gain tax can potentially raise a great deal of revenue with little distorting effect. This provides a predictable and stable flow of revenue to finance development objectives that will accelerate economic growth. From the findings, it can be concluded that capital gain tax has a significant positive effect on economic growth.

- The third objective of this study was to determine the effect of value added tax on economic growth in Nigeria for the period 1994-2019. Analysis of research results has shown that value added tax has a positive and significant effect on economic growth in Nigeria. Regression analysis results in Table 4.8, demonstrate this kind of relationship. It shows that if there is a 1% increase in value added tax revenue would increase economic growth by 0.035601%. Value added tax can potentially raise a great deal of revenue with little distorting effect. This provides a predictable and stable flow of revenue to finance development objectives that will accelerate economic growth. From the findings, it can be concluded that value added tax has a significant positive effect on economic growth

The results indicate that income taxes provide a predictable and stable flow of revenue to finance development objectives that will accelerate economic growth. The government should rely more on corporate income tax and capital gain tax than value added tax due to its growth prospect and its less distortionary nature, and also utilize the positive relationship between income tax and economic growth to realize efficient government investment expenditure that spurs economic growth. The government should re-visit and review some income tax and regulations that are repugnant to the performance of the tax system, so as to block and discourage the loopholes that are being exploited by taxpayers to either evade or avoid tax payments. Constant review of existing tax laws will keep the act in pace with the economic reality.

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