



## Tax Policies and its Impact on Economic Growth in Nigeria

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**Abstract:** The main objective of this study is to analyze the impact of tax policies on economic growth in Nigeria between 1981 and 2019. Data employed for this study were extracted from World Bank Data Base: World Developmental Indicators of 2019 and Federal Inland Revenue quarterly publications. This study employed gross fixed capital formation as proxy for economic development in Nigeria, while company income tax, petroleum profit tax and custom and excise duties were adopted as explanatory variables. This study employed Auto Regressive Distributed Lag (ARDL) Model to analyze data. Inferential results pointed that company income tax and petroleum profit tax had significant positive impact on gross fixed capital formation in Nigeria, while customs and excise duties recorded a negative significant impact on gross fixed capital formation in Nigeria. The study recommended that government of Nigeria should be more serious with tax collection by bringing more taxpayers into its tax net and also curb the illegal activities of militants in the oil producing areas in Nigeria so as to enable the smooth oil exploration in these areas which will in turn increase petroleum profit tax; this would bring about economic growth in Nigeria.

**Keywords:** tax policies, economic growth, company income tax, petroleum profit tax, gross fixed capital formation, custom and excise duties.

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## 1.0 INTRODUCTION

### 1.1 Background to the Study

National sustainability and strategic growth is achievable through adequate economic resources. For Nigerian government to effectively carry out its primary function and other subsidiary functions, she requires adequate funding. Government responsibilities has continued to increase over time especially in developing countries like Nigeria due to the increasing size of the population, and infrastructural decay [1]. But quite unfortunately the revenue of the government has not been growing above her expenditure to enable capital formation possible. Taxation is seen as an essential part of a country's investment and growth pattern. Tax is a compulsory levy imposed on a subject or upon his property by the government to provide security, social amenities and create conditions for the

economic wellbeing of the society [2]. The funds provided by tax are used by the states to support certain state obligations such as education systems, health care systems, and pensions for the elderly, unemployment benefits, and public transportation.

Tax is a major player in every society of the world [3]. The tax system is an avenue for government to use in collecting additional revenue needed in discharging its pressing obligations. A tax system is one of the most effective means of mobilizing a nation's internal resources and it lends itself to creating an enabling environment to promote economic growth. Towing this line of argument, Tabansi [4], also argued that taxes constitute key sources of revenue to the federation account shared by the federal, state and local governments. Hence, a tax policy represents key

resource allocator between the public and private sectors in a country. Chang *et al.* [2], stated that taxes are imposed to regulate the production of certain goods and services, protection of infant industries, control business and curb inflation, reduce income inequalities etc. Similarly, Ojo [3] submitted that taxes are used as proxy for fiscal policy (negatively or positively). They outlined five possible mechanisms by which taxes can affect economic growth. First, taxes can inhibit investment rate through such taxes as corporate and personal income, capital gain taxes. Second, taxes can slow down growth in labour supply by disposing labour leisure choice in favour of leisure. Third, tax policy can affect productivity growth through its discouraging effect on research and development expenditures. Fourth, taxes can lead to a flow of resources to other sectors that may have lower productivity. Finally, high taxes on labour supply can distort the efficient use of human capital high tax burdens even though they have high social productivity.

In essence, taxation is a core pillar of a country's regulatory framework for investment and smooth business environment. Hence, this study looks at econometric consequences of taxes for various entities and their transitional growth rates, with a large part of the empirical analysis devoted to assessing the effects of different forms of taxes on the performance of economy in Nigerian. Taxation plays a crucial role in promoting economic and social activities and growth. Through taxation, government ensures that resources are channeled towards important projects in the society while giving support to the weak and infant industries. In line with Ariwodola [1] that taxation is useful in raising revenue, controlling the consumption of certain commodities, controlling monopoly, reducing income inequalities, improving the balance of payments as well as protecting infant industries. Ojo [3] is of the view that tax is a compulsory contributions made by animate and inanimate beings to government being a higher authority either directly or indirectly to fund its various activities and any refusal is meted with appropriate punishment. Furthermore, tax is an involuntary payment made by a resident of a state in obeisance to levy imposed by a constituted authority of a sovereign state at a particular period of time; and that Taxation is the process put in place by government (which ever tier) to exercise authority on and over the imposition and collection of taxes based on enacted tax laws with which projects are financed [2]. Taxation is therefore seen as the transfer of resources as income from the private sector to the public sector for its utilization to achieve some if not all the nation's economic and social goals such as provision of basic amenities,

social services, educational facilities, public health, transportation, capital formation among others.

## 1.2 Statement of the Problem

Nigeria and other African Countries are today facing series of challenges when it comes to optimizing taxation revenue for economic and social growth while aiming to reach development targets. The most glaring difficult challenge is how to find the optimal balance between a tax regime that is business and investment friendly while at the same time leveraging enough revenue for public service delivery which in turn makes the economy more attractive to investors. We see the taxation system in Nigeria as not being fully tapped and maximized and its role in promoting economic and social activities and growth is not felt because of it's poor administration. In this direction, Ariwodola [1] submitted that the economy has remained in deep slumber or shamble as all macroeconomic indicators show that the economy is in urgent need of changes, balancing and indeed radical reform.

In addition, the attitude of Nigerians towards taxation is worrisome as many prefer not to pay tax. As a result of the unwillingness to pay tax as well as evading tax, the economy therefore continues to lose huge amount of revenue. If this lost revenue is ployed back into the economy and well utilized, can change the fortune of the nation. In developing countries like Nigeria, this problem has been lingering for so long which requires urgent attention and solution. The cost of collecting tax in Nigeria is too high to the extent that if left unchecked the cost may soon outweigh the benefit or value derived from such operation and that will not be appropriate for the system as this unwholesome act is against the cannon of administrative efficiency.

Administrative Efficiency being the process of levying and collecting taxes in an administratively efficient, transparent manner and must not cause economic distortion. Collection should be done in such way that the system brings in sufficient revenue to the government at less cost. Economy of administration is an important quality of a good Tax, whereby assessment and collection of taxes require personnel and equipment at minimal cost. This means that the cost of collecting a tax should not be more than the revenue to be derived from the tax itself but this is not so in Nigeria. Identifying the impact of taxation on an economy empirically is a contemporary issue carried out at the right time as there is an urgent need to examine more deeply and to look into the relationship between tax policies and economic growth in Nigeria.

## **2.0 REVIEW OF RELATED LITERATURE**

### **2.1 Conceptual Review**

#### **2.1.1 Nigeria and its Tax Reform Policies**

The most recent Nigerian tax adjustment is the increase of Value Added Tax (VAT) from 5% to 7.5%. The Finance Act, 2019, signed by the president and effective on 13 January 2020, included the VAT rate change. However, enforcement of the VAT rate change would be 1 February 2020. Historically, Nigeria's over dependence on oil revenue has made the federal government to scout for other forms of revenue generation base leading to reformation in the existing tax laws. The aims of tax policy reforms in the country are: to cover the gap between the National needs and funding; ensure smooth tax administration as a fiscal policy instrument, to achieve improved service delivery to all, reduce tax evasion and further decrease dependency on oil revenue among others.

The Nigerian tax system has witnessed series of reforms since 1904 to date. 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.

A recent reform embarked upon by the Nigerian government was instituting the Study Group on the Nigerian Tax System. This group which was set-up on the 6th of August, 2002, was in a bid to assess the tax system and make appropriate recommendations towards achieving a better tax policy and strategic enhancement in the tax administration in the country. This group consists of experts from academia, intellectuals, business 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 ratification of the National Assembly and letter passed as Acts. Included in the Acts are; 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, and National Automotive Council Act 2004.

### **2.2 Theoretical Review**

#### **2.2.1 Agency theory**

The study anchors on the agency theory. The agency theory brought to fore the agency problems arising from the separation of powers of ownership and control. It emphasis on the relationship that subsists between providers of corporate finances and those entrusted to manage such provision. Conflicts often arise between firm owners and management because managers who entrusted to oversee the affairs of the firm to make tax-effective decisions may in fact behave opportunistically and divert corporate wealth for their private benefit [5]. Soyede & Kajola [6] was among the few to view corporate tax avoidance within the agency framework. Tax avoidance is associated with agency problem, that is, tax avoidance is understood as a tool of the creation a shield for opportunistic managers to divers finance. In practicing the agency theory, the owner asks the manager to reduce the amount of profit paid to the tax authority in the form of taxes [7]. The managers often seek for ways to use their position to value assets, liabilities, capital, income, and expenses not inconsistent with government regulations relating to taxation. This will lead the managers to reduce the amount that supposed to be officially paid to the government. Tax avoidance can reduce the after-tax value of the firm [8].

#### **2.2.2 Benefit Theory**

The theory holds that there is basically an interchange between tax payers and the government. The government provides certain goods and services to the society and members of the society contribute to the cost of these goods and services in proportion to the welfares received [9]. According to Anyanfo [10], taxes should be based on the basis of benefits received from government spending. The members of the society should taxed according to the benefit conferred on them. The more benefits an economic entity derives from the activities of the government, the more such entity should pay to the government.

### **2.3 Empirical Review**

Olugbemi, & Bassey and Okon [11] adopted an econometric approach to analyse tax revenue and economic growth in Nigeria. Exploratory design was utilized to identify the factors that contribute to tax revenue generation to enhance economic growth in Nigeria. Secondary data sourced from Central Bank Statistical Bulletin was used. In analyzing the data, multiple regression model was employed to establish the association between dependent and independent variables. The study result revealed a positive relationship that existed between tax revenue and economic growth using GDP as an index economy. It recommended that funds generated

from tax bases needs to be strategically utilized so that the growth of Nigeria economy will be positively affected. Also investment opportunities should be duly evaluated in order to fostering economic growth rather than embark on too many project with lesser impact on the overall country's output.

In a similar study, Adefeso [12] assessed the effect of tax policy on corporate performance. The study randomly selected 54 listed companies that cut across 17 categories of non-financial in Nigeria over a period of 1990-2002. Generalised Method of Moment (GMM) was adopted, and contrary to the expectation, the study found positive association between government corporate tax policy and the performance of selected listed firms in Nigeria. The study conclude that that government revenue from corporate tax was judiciously spent on productive government projects especially in Lagos State as virtually all the selected manufacturing firms have their main base in Lagos State. The study therefore recommended that Nigerian Government should strategically adjust tax incentives, tax waivers and tax holidays to some manufacturing firms in Nigeria.

Using a descriptive approach, Asaolu, Olabisi, Akinbode and Alebiosu [13] investigated the relationship between tax revenue and economic growth in Nigeria. Adopting a historical research design, secondary data for twenty-two years (1994 - 2015) were collected sourced from the Central Bank of Nigeria (CBN) statistical bulletin. Tax revenue as a proxy for independent variable was measured with Value Added Tax (VAT), Petroleum Profit Tax (PPT), Company Income Tax (CIT) and Custom and Excise Duties (CED) while the dependent variable was Economic Growth (EG) proxy by the Gross Domestic Product (GDP). Auto Regressive Distributed Lag (ARDL) Regression and other post estimations (Jarque-Bera test; Breusch-Godfrey LM and Ramsey Reset Test) were carried out to determine the extent of relationship between the variables. The study results revealed that VAT and CED had a significant effect on economic growth ( $p < 0.05$ ), while CIT has negative significant effect on economic growth ( $P < 0.05$ ). However, PPT had no significant effect on economic growth. The study concluded that the role of tax policy in building the county is irreplaceable. It is therefore recommended that government should engage in an overhaul of tax administrative machinery to reduce incidence of tax evasion and avoidance to the barest minimum, as taxation remains a strong socio political and economic tool for economic prosperity.

In a related study Wilson, Nwarogu, Nwabuez [14] investigated the effect of tax reforms on economic stability of Nigeria. Secondary data

covering 16-year period (2000-2015). The study used a transformed econometric linear model to assess how and to what extent tax reforms support economic stability, proxied by gross domestic product (GDP). Company income tax and petroleum profit tax were used as key levers to Nigeria's fiscal stability. However, while VAT reforms have positive relationship with economic stability, the effect is not significant. Although every tax reform affects revenue accumulation, components of fiscal reforms needs to be given adequate attention because of the relevance on economic growth and stability as against a blanket reform proposal that includes aspects with a potential negative outcome. In general, the study asserts that macroeconomic reforms, especially in Sub-Saharan African countries, must develop targeted and industry-focused fiscal initiatives and programmes that will stimulate productivity and employment empowerment.

From an earlier study, Gylych, Abdulrahman and Isik [15] investigated the impact of tax reforms on the economic growth of Nigeria covering the period from 1986 to 2012. The study employs the ordinary least square regression technique as the analytical method. Results shows that tax reforms affect economic growth positively and significantly, and that tax reforms indeed increases economic growth. It concluded that favorable tax reforms improves the revenue generating capacity of Nigerian government to undertake socially desirable infrastructural development capable of translating the economy to a desired level. However, it is recommended that sustainable economic growth can be achieved through taxes in line with macro-economic objectives, when accountability and transparency is assured in tax policies of the government.

On a related broad study, Adudu and Ojonye [16] examined the impact of tax policy on economic growth in Nigeria. Utilizing time series data between 1990 and 2011, the study attempts to validate the lines of thought on the relevance of tax policy on economic growth in the country. Applying the Granger - causality and co-integrations analysis techniques, this study finds statistical evidence that efficient tax reforms are critical for enhanced sustainable economic growth especially in developing nations such as Nigeria. Sequel to the findings, the study recommends that progress in tax regimes, removal of distortions in taxation, caution in tax holidays to multinational corporations and expansion of revenue base are necessary catalysts for the desired sustained economic growth and development in the Nigeria.

Assessing revenue implications of Nigeria's tax system, Chukwuemeka, Ekeocha, Malaolu, and

Onyema [17] adopted econometric technique of OLS in estimating the sensitivity, volatility and persistence of the Nigerian tax policy. Results indicate that the country’s tax bases are volatile and not persistent. However, while the bases of the company income tax and personal income tax reacts to economic swings, value added tax (VAT) is not. The policy implications of these findings support the recent government tax policy in the country from direct taxation to indirect taxation. The study calls for a broad tax base and improvement in VAT, as this will increase the state of the economy and shield the government from budgetary shortfalls against sharp declines in aggregate tax revenues.

### 3. METHODOLOGY

#### 3.1 Research design

This study adopts the *ex-post facto* research design as it deals with event that had taken place and secondary data were readily available for collection. Gross fixed capital formation was adopted as the explained (dependent) variable, while company income tax, petroleum profit tax and custom and excise duties were employed as the explanatory (independent) variables. The model was estimated using Auto Regressive Distributed Lag (ARDL) model. Since we are making use of annualized time-series data and the study cover a long sample period, we made sure our data set were

$$GDP=f(PPT,CIT,CED) \dots\dots\dots (3.1)$$

From the above function, they derived the statistical model as follows:

$$GDP=\alpha+\beta_1PPTt+\beta_2CITt+\beta_3CEDt+\varepsilon \dots\dots\dots (3.2)$$

By transforming the linear function into their log form, we have;

$$GDP= \beta_0+\beta_1LPPT+\beta_2LCIT+\beta_3LCED+\varepsilon \dots\dots\dots (3.3)$$

Where;

GDP: Gross Domestic Product

PPT: Petroleum Profit Tax

CIT: Company Income Tax

CED: Customs and Excise Duties

$\beta_0$  is a constant

$\beta_1, \beta_2, \beta_3,$  are the coefficient of the parameter estimate

$$GFCF=\beta_0+\beta_1CIT+\beta_2PPT+\beta_3CED+\varepsilon_i \dots\dots\dots (3.4)$$

Where; GFCF = Gross Fixed Capital Formation

Other acronyms in the model remain as explained above.

#### 3.5 Description of modeled variables

The variables included in the model are classified as dependent and independent variables.

not impaired by unit root; hence we tested for stationarity of the series by employing the Augmented Dickey-Fuller (ADF).

#### 3.2 SOURCE OF DATA COLLECTION

Data for this study are elicited from Federal Inland Revenue quarterly publications and World Bank Data Base: World Developmental Indicators of 2019. The study period covers 1981 through 2019.

#### 3.3 METHOD OF DATA ANALYSIS

This study utilized descriptive statistics, unit root test, correlation and Auto Regressive Distributed Lag (ARDL) Model in testing the hypotheses of the study. Other diagnostic tests such as; stability test, test of Normality, Auto correlation test, Heteroskedasticity test and Breusch-Godfrey Serial Correlation LM test were also carried out. E-view 9.0 econometric statistical software package was used for the analysis.

#### 3.4 Model specification

This research adapted the economic model previously used by Abomaye, *et al.* [18] that empirically examined tax revenue and economic growth in Nigeria from 1980 to 2015. The econometric model of this study, which had earlier been reviewed in the preceding section, is specified below:

$\varepsilon$  is the error term or random variable

However, this study adapted the scholars’ work by replacing Gross domestic product (GDP) with gross fixed capital formation as the regressand.

The regression model is specified thus:

#### 3.5.1 Dependent variable

##### 3.5.1.1 Gross fixed capital formation (GFCF)

This is a term used to describe the net capital accumulation during an accounting period for a particular country. It refers to additions of capital goods, such as equipment, plants and machineries tools, transportation assets and electricity. Generally, the higher the capital formation of an economy, the faster an economy can grow its aggregate income.

### 3.5.2 Independent variables

#### 3.5.2.1 Petroleum profit tax (PPT)

The Petroleum Profit Tax (PPT) is for any resident company or person in charge of a non-resident company who are exploring for petroleum or producing it in Nigeria.

#### 3.5.2.2 Company income tax (CIT)

Being a tax paid by resident or non-resident company incorporated in Nigeria.

#### 3.5.2.3 Customs and excise duties (CED)

These are taxes payable by importers of specified goods as well as those imposed on goods produced locally.

### 3.6 Decision rule for acceptance or rejection of hypotheses

The decision rule is to reject the null hypothesis if the computed p-value is less than 5% significant level. On the contrary, accept the null hypothesis if the computed p-value is higher than 5% significant level.

### 3.7 Apriori expected results

Company Income Tax (CIT) is expected to be positively signed. Customs and Excise Duties (CED) is expected to be positively signed Petroleum Profit Tax (PPT) is expected to be positively signed

## 4. DATA ANALYSIS AND INTERPRETATION OF RESULTS

### 4.1 Pre-estimation test result (Unit Root Test)

Table-4.1 Unit Root Test

Variables	Augmented Dickey-Fuller test statistic	Probability Value	ADF Critical at 5%	Inference
GFCF	-3.450749	0.0153	-2.943427	I(0)
CIT	-8.286318	0.0000	-2.971853	I(1)
CED	-5.265654	0.0001	-2.943427	I(1)
PPT	-4.849731	0.0004	-2.954021	I(1)

Source: Authors' analysis using e-view 9 output with data in Appendix

The unit root test from table 4.1 above shows that the stationarity of the variables were a combination of I(1) and I(0). As such, the

appropriate estimation technique to employ for inference is the Auto Regressive Distributed Lag (ARDL) Model.

### 4.2 Descriptive statistics

Table-4.2: Descriptive statistics

	GFCF	PPT	CIT	CED
Mean	36.05112	5536697.	1535723.	280885.3
Median	34.10954	525100.0	24490.00	87900.00
Maximum	89.38105	32010000	18766544	1878754.
Minimum	14.90391	3746.900	403.0000	1616.000
Std. Dev.	19.28696	10221791	4236009.	481040.5
Observations	39	39	39	39

Source: Authors' analysis using e-view 9 output with data in Appendix

Table 4.2 describes the variables employed for this study. The descriptive statistics results shows that the mean of gross fixed capital formation, petroleum profit tax, company income tax and custom and excise duties N36.05112 billion, N5536697 billion, N1535723billion and N280885.3billion respectively. The minimum of the variables for GFCF, PPT, cit and CED were N 14.90391billion, N 3746.900 billion, N 403.0000 billion and N 1616.000 respectively. While their

maximum were N 89.38105billion, N32010000billion, N 18766544billion and N 1878754for GFCF, PPT, CIT and CED respectively. The standard deviation of N 19.28696, N 10221791, N 4236009and N481040.5for GFCF, PPT, CIT and CED respectively, shows that deviations from the averages of these variables signify that the variables were not fix or static, but varies year in year out. The years under consideration was 39, hence the number of observation being 39.

### 4.3 Correlation analysis

**Table-4.3: Correlation matrix**

	GFCF	PPT	CIT	CED
GFCF	1.000000			
PPT	-0.545042	1.000000		
CIT	-0.341259	0.596359	1.000000	
CED	-0.511887	0.569565	0.803816	1.000000

**Source:** Authors’ analysis using e-view 9 output with data in Appendix

From the result of correlation analysis in table 4.3 above, all the variables were correlated such that, GFCF had about 55.5% negative correlation with PPT, 34.1% negative correlation with cit and 51.1% negative correlation with CED.

While, PPT had about 59.6% positive correlations with cit and approximately 57% positive correlation with CED. Then, cit had about 80.4% positive correlation with CED.

### 4.4 Inferential result Results of ARDL model

**Table-4.4: Results of ARDL model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GFCF(-3)	0.350546	0.126316	2.775142	0.0110
CIT(-4)	1.06E-05	3.02E-06	3.502891	0.0020
PPT	2.82E-07	1.29E-07	2.181129	0.0401
CED	-5.96E-05	1.63E-05	-3.660161	0.0014
C	26.95883	7.307119	3.689393	0.0013
R-squared	0.956280	Mean dependent var		31.31366
Adjusted R-squared	0.932433	S.D. dependent var		13.19215
S.E. of regression	3.429128	Akaike info criterion		5.581041
Sum squared resid	258.6963	Schwarz criterion		6.158741
Log likelihood	-84.66821	Hannan-Quinn criter.		5.780463
F-statistic	40.10019	Durbin-Watson stat		1.871030
Prob(F-statistic)	0.000000			

**Source:** Authors’ analysis using e-view 9 output with data in Appendix

The ARDL result as shown in the table above suggests that all the regressors barring custom and excise duties had positive impact on gross fixed capital formation. Custom and excise duties recorded a negative or inverse impact on gross fixed capital formation in Nigeria. The result further revealed that a unit increase in company income tax would bring about a 1.06 unit increase in gross fixed capital formation, while a unit increase in petroleum profit tax would bring about a 2.8 unit increase in gross fixed capital formation. Also, a unit increase in custom and excise duties would bring about 5.9 unit decrease in gross fixed capital formation and vice versa.

The Adjusted R-squared of approximately 0.96 showed that the explanatory variables

accounted for about 96% variations in the explained variable. Put differently, about 96% variations in gross fixed capital formation was explained by the independent variables, while the remaining 4% may be attributed to variables not captured in the model.

F-statistic of 40.10019 showed that the model was a good fit as confirmed by its corresponding probability value of 0.000000 which means that the model is significant both at 1% and 5% levels of significance.

Durbin-Watson stat. of approximately 1.96 suggests that the variables were free from auto-correlation since the Durbin-Watson value is very close to 2.

#### 4.5 Test for auto correlation

**Table-4.5: Correlogram Q-statistic**

Q-statistic probabilities adjusted for 3 dynamic regressors						
Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
. .	. .	1	0.006	0.006	0.0013	0.971
. * .	. * .	2	0.142	0.142	0.7915	0.673
. .	. .	3	-0.010	-0.012	0.7955	0.851
** .	** .	4	-0.215	-0.240	2.7256	0.605
. .	. .	5	-0.059	-0.058	2.8767	0.719
. * .	. * .	6	-0.141	-0.075	3.7584	0.709
. .	. .	7	0.013	0.029	3.7660	0.806
. * .	. * .	8	-0.066	-0.090	3.9765	0.859
. * .	. * .	9	-0.102	-0.150	4.4929	0.876
. .	. .	10	0.043	0.012	4.5905	0.917
. * .	. * .	11	-0.165	-0.148	6.0636	0.869
. .	. .	12	0.009	-0.056	6.0686	0.913
. .	. .	13	0.040	0.024	6.1629	0.940
. * .	. * .	14	-0.141	-0.189	7.3876	0.919
. * .	. * .	15	0.179	0.085	9.4517	0.853
. .	. .	16	-0.044	-0.039	9.5866	0.887

**Source:** Authors' analysis using e-view 9 output with data in Appendix

This test is carried out to further test for auto correlation and to consolidate the result of Durbin Watson Stat. The result of Correlogram Q-Statistic in table 4.5 above, suggest that the variables are free from auto correlation.

The correlogram Q- Stat. table indicates that all p-values were >5% hence the conclusion that the model was free from auto correlation.

#### 4.6 Test for serial correlation

**Table-4.6: Serial correlation**

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.422159	Prob. F(2,20)	0.6613
Obs*R-squared	1.417707	Prob. Chi-Square(2)	0.4922

**Source:** Authors' analysis using e-view 9 output with data in Appendix

In line with the rules, the Breusch-Godfrey Serial Correlation LM Test table above shows that the probability values of 0.6613 and 0.4922 are statistically insignificant at 5% level of significance.

That is, the p-values (< 5%) Thus, we reject the null hypothesis that the model is not free from serial correlation and therefore submit that the model is free from serial correlation.

#### 4.7 Test for heteroscedasticity

**Table-4.6: Test for heteroskedasticity**

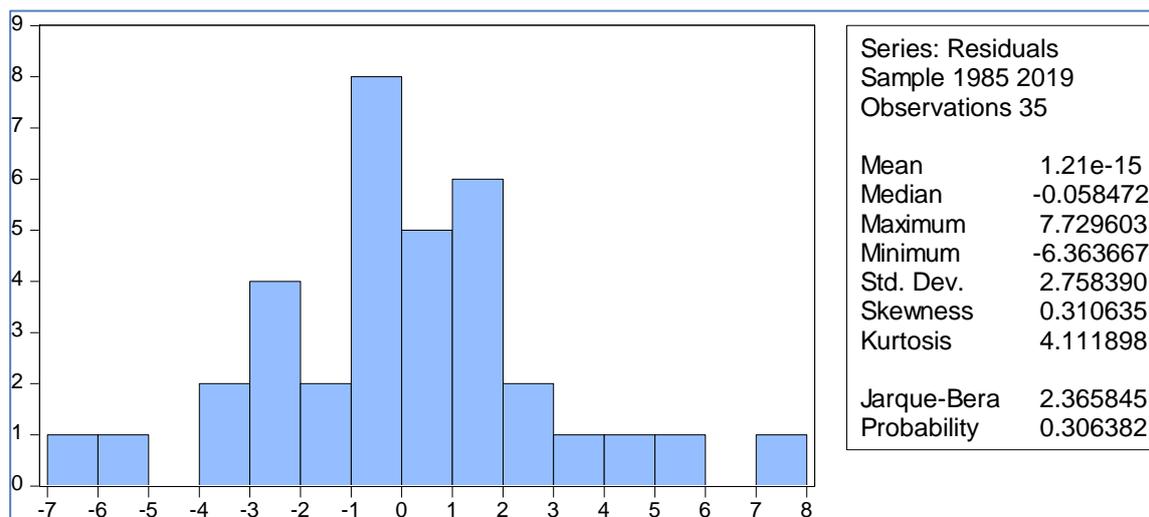
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.088925	Prob. F(12,22)	0.4144
Obs*R-squared	13.04210	Prob. Chi-Square(12)	0.3660
Scaled explained SS	8.017741	Prob. Chi-Square(12)	0.7837

**Source:** Authors' analysis using e-view 9 output with data in Appendix

The Heteroskedasticity test above suggests that the variables are free from the problem of Heteroskedasticity since the p-values of F-stat. and Obs\*R-squared of 0.4144 and 0.3660 respectively

are > 5% significance level. This outcome is further strengthened by the p-value of the Scaled explained SS (0.7837) which also suggest the absence of Heteroskedasticity.

#### 4.8 Test for normality



**Fig-4.8: Normality chart**

**Source:** Authors’ analysis using e-view 9 output with data in Appendix

This test is conducted to ensure that the data employed in this study are normally distributed. Observing from the normality diagram in figure 4.8 above, as well as the Jaque Bera value of

approximately 2.37 and its p-value of 0.30 which is >5% significant level, confirms that the data are normally distributed.

#### 4.9 Stability diagnostic test

**Table -4.9: Ramsey RESET test**

Ramsey RESET test			
Equation: UNTITLED			
Specification: GFCF GFCF(-1) GFCF(-2) GFCF(-3) CIT CIT(-1) CIT(-2) CIT(-3) CIT(-4) PPT PPT(-1) PPT(-2) CED C			
Omitted Variables: Squares of fitted values			
	Value	Df	Probability
t-statistic	0.172444	21	0.8647
F-statistic	0.029737	(1, 21)	0.8647

**Source:** Authors’ analysis using e-view 9 output with data in Appendix

From the Ramsey reset test result in table 4.9 above, the t-statistic of 0.172444 and its corresponding p-value of 0.8647 suggest that the model is correctly specified, so null hypothesis of linear specification not rejected at 5% level of significance. That is, p-value (<5%).

#### 4.10 Test of hypotheses

##### 4.10.1 Test of hypothesis one

H01: Company income tax has no significant impact on gross fixed capital formation in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GFCF(-3)	0.350546	0.126316	2.775142	0.0110
CIT(-4)	1.06E-05	3.02E-06	3.502891	0.0020

**Source:** Extracted from table 4.4

Since the p-value of company income tax (CIT) of 0.0020 (0.2%) is <5% level of significance, the null hypothesis that company income tax has no significant impact on gross fixed capital formation in Nigeria is rejected.

##### 4.10.2 Test of hypothesis two

H02: There is no significant impact of petroleum profit tax on gross fixed capital formation in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GFCF(-3)	0.350546	0.126316	2.775142	0.0110
PPT	2.82E-07	1.29E-07	2.181129	0.0401

Source: Extracted from table 4.4

Since the p-value for petroleum profit tax (PPT) of 0.0401 (4%) is within the acceptable significance level of 5%, that is, < 5%, we reject the null hypothesis that there is no significant impact of petroleum profit tax on gross fixed capital formation in Nigeria.

#### 4.10.3 Test of hypothesis three

H03: There is no significant impact of custom and excise duties on gross fixed capital formation in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GFCF(-3)	0.350546	0.126316	2.775142	0.0110
CED	-5.96E-05	1.63E-05	-3.660161	0.0014

Source: Extracted from table 4.4

Since the p-value for custom and excise duties (CED) of 0.0014 (0.14%) is within the acceptable significance level of 5%, that is, < 5%, we reject the null hypothesis that there is no significant impact of custom and excise duties on gross fixed capital formation in Nigeria.

#### 4.11 Apriori economic expectation result

The result is evaluated based on economic theories and literatures inline with what is obtainable in Nigeria and what is applicable all over the world.

Table-4.11 Apriori Expectation

Variables	Expected Signs	Actual Signs	Remark
CIT	Positive (+)	Positive (+)	Conform
PPT	Positive (+)	Positive (+)	Conform
CED	Positive (+)	Negative (-)	Do not Conform

Source: Authors' analysis

## 5. CONCLUSION AND POLICY RECOMMENDATIONS

### 5.1 Conclusion

This study was undertaken to analyze the impact of tax policies on economic growth in Nigeria between 1981 and 2019. This study employed gross fixed capital formation as measure of economic growth, while the various tax policies in Nigeria such as company income tax, petroleum profit tax and custom and excise duties were employed as independent variables. The results of ARDL model revealed that company income tax and petroleum profit tax had significant positive impact on gross fixed capital formation in Nigeria, while customs and excise duties recorded a negative significant impact on gross fixed capital formation in Nigeria. If the government is serious about increasing economic growth through increase in gross fixed capital formation, government should reduce customs and excise duties, this will in turn encourage importers to import more and also encourage local manufacturers to produce more and contribute to economic growth in Nigeria by increasing the volume of gross fixed capital formation in Nigeria.

### 5.2 Policy recommendations

1. Government should try as much as possible to bring more company that are avoiding and evading payment of tax into the tax net and also roll out new tax reforms that would enhance the collection of company income tax.
2. Since Nigeria is a petro dependent economy, the government should double its effort in collection of petroleum profit tax. Also, adequate and thorough measures and reforms should be put in place to enhance the collection of petroleum profit tax. If petroleum profit tax is properly harnessed, economic growth in Nigeria will be enhanced through the increase in gross fixed capital formation in Nigeria.
3. The activities of militants and other vices in the oil producing areas in Nigeria should be reduced to the minimum if not completely exterminated. The continuous loss of revenue as a result of oil theft and vandalisation of oil facilities would lead to the reduction in petroleum profit tax which would in turn impair economic growth.

4. Government should reduce customs and excise duties which will in turn encourage importers to import more and also encourage domestic manufacturers to produce more and contribute towards economic development in Nigeria by increasing the volume of gross fixed capital formation in Nigeria.

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