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The Effects of Fiscal Policy on Nigeria's Economic Growth

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Abstract
This study investigates the influence of fiscal policy on economic growth in Nigeria by employing the econometric method of Autoregressive Distributed Lag (ARDL). Analysing time series data spanning from 1981 to 2020, the study incorporates variables such as economic growth rate, government capital expenditure (CAPEXP), government recurrent expenditure (CUREXP), petroleum profit tax (PPT), company income tax (CIT), and budget deficit (BUDEF). Data sources include the National Bureau of Statistics (NBS) for economic growth rate, the Central Bank of Nigeria Statistical Bulletin for CUREXP, CAPEXP, and BUDEF, and the Federal Inland Revenue Service (FIRS) for PPT and CIT. The findings highlight key relationships between these variables. Government CAPEXP demonstrates a significant and positive correlation with economic growth rate in the long run, contrasting with the negative and insignificant association observed for government CUREXP. Company income tax (CIT) exhibits an insignificant and negative relationship with economic growth, while Petroleum Profit Tax (PPT) and budget deficit (BUDEF) both display significant and positive connections at varying significance levels. In light of these results, the study recommends specific policy measures. It suggests an augmentation of government expenditure on capital projects to bolster economic growth, emphasizing the positive impact of such investments. Furthermore, the study advocates for a reduction in the cost of governance and other recurrent expenditures, aligning with observed negative correlations between these expenses and economic growth.

Key Words: *Fiscal Policy, Economic Growth, Nigeria*

I. Introduction

Market mechanisms alone are insufficient to fulfill all of a country's economic functions, necessitating the role of public policy to rectify, guide, and complement market forces. Government interventions, such as fiscal and monetary policies, are crucial for addressing market defects and failures. Fiscal policy, involving deliberate actions in spending, taxation, and debt management, plays a pivotal role in influencing economic variables like national income (Babalola, 2015). In Nigeria, achieving economic growth, measured by increased aggregate productivity, is a central objective of fiscal policy due to its integral role in national development.

Despite continuous government spending driven by substantial revenue from crude oil production, Nigeria grapples with persistent economic challenges, remaining among the world's poorest nations. High government spending has not translated into significant growth, exacerbating issues like widespread poverty, dilapidated infrastructure, and heightened insecurity, contributing to industrial collapses and rampant unemployment. Macroeconomic indicators, including balance of payments, inflation, exchange rates, and national savings, underscore Nigeria's struggles in recent years. Critics argue that the Nigerian economy has been mismanaged, citing negative inflation trends, fluctuating foreign exchange rates, and rising unemployment as evidence of macroeconomic insecurity (Babalola, 2015). Imbalances in public expenditure and revenue policies, along with substantial deficits, have further contributed to macroeconomic disequilibrium (Usman, 2008).

There are conflicting views on the role of fiscal policy in promoting economic growth. Some contend that well-directed government fiscal policies supporting knowledge accumulation, research, development, and public goods can foster short and long-term growth. Conversely, bureaucratic inefficiencies and misdirected procedures may hinder progress, leading to the

belief that government fiscal policy can impede economic growth by distorting taxes and promoting wasteful expenditures (Romer & David, 2007). This study aims to scrutinize the impact of fiscal policy on Nigeria's economic growth.

II. Literature Review

2.1 Concept of Fiscal Policy

Fiscal policy has long been associated with the use of taxation and government spending to control the level of economic activity. Fiscal policy is primarily implemented through the budget of the government. As a result, the budget is more than just a plan for running the government. The budget both mirrors and shapes the economic life of a country. In fact, the most crucial feature of a public budget is its use as a tool for economic management (Onyemaechi, 2014).

The Budget is concerned with how the government spends money and collects taxes to influence macroeconomic variables in an intended way. This involves long-term economic growth, increased job creation, and low inflation (Khosravi & Karimi, 2010). As a result, fiscal policy attempts to keep the economy stable. Increased government spending or lower taxes tend to lift the economy out of a slump, whereas reduced expenditure or higher taxes tend to impede a boom (Alex & Ebieri, 2014).

The use of government spending, taxation, and borrowing to influence the pattern of economic activity, as well as the level and growth of aggregate demand, production, and employment, is known as fiscal policy. Fiscal policy refers to the government's manipulation of the economy's income and spending capacity to achieve macroeconomic objectives (goals), one of which is economic growth (Medee and Nembee, 2011). Fiscal policy, according to Olawunmi and Tajudeen (2007), has traditionally related to the use of taxation and public spending to impact the level of economic activity. They also stated that fiscal policy is primarily implemented through the government's budget. Fiscal policy is primarily designed to achieve macroeconomic policy; it is used to reconcile the changes that the government makes in taxation and expenditure, programs, or to control the full employment price and total demand using instruments such as government spending, taxation, and debt management (Hottz-Eakin, Lovely & Tosin, 2009). The goal of fiscal policy, according to Anyanwu (1993), is to encourage economic conditions that are beneficial to business growth, while ensuring that government interventions are in line with ensuring a stable economy. sGiven the foregoing, it is obvious that fiscal policy, when handled with caution and in concert with other policies, may smooth out business cycles and contribute to economic development and stability.

In theory, fiscal dominance arises when fiscal policy is established exogenously to monetary policy in a setting where the quantity of government debt that the public can hold is limited (Auerbach, 2009). As a result, if the intertemporal budget constraint must be met, budgetary deficits must be magnetized sooner or later. When the size of the financial system is modest in comparison to the size of the fiscal deficits, a central bank may be forced to magnetize the deficits (Adefeso & Mobolaji, 2010). As a result, in nations with weak financial systems, monetary policy is the opposite of fiscal policy and can only be accommodating. Government securities markets are underdeveloped in low-income countries, and central banks do not possess significant amounts of tangible securities. The central bank's lack of relevant and enough monetary control instruments is one of the factors that leads to fiscal dominance. When fiscal dominance exists, a country's economic policy is only as good as its fiscal policy, and formalized central bank independence does not always imply independent monetary policy (Al-Shatti, 2014).

2.2 Theoretical Framework

Wagner's Law of Increasing State Activity

The Law of Increasing State Activities, famously articulated by Adolf Wagner in 1876 through his study of the economic evolution of Germany, represents a pivotal concept in economic theory. Wagner's postulation asserts that as an economy undergoes industrialization, there is a substantial and intensive augmentation in the share of public spending in national revenue. This principle, expounded upon by scholars like Mohammadi, Cak, and Cak in 2008, was a groundbreaking observation that has since shaped discussions on the role of the state in economic development.

Wagner's rationale for this phenomenon is multifaceted, as illuminated by Mohammadi et al. (2008). Firstly, the economic growth intertwined with industrialization and urbanization begets a myriad of additional needs for government services, extending beyond the conventional realms of national defense and legal systems. Secondly, the upswing in real per capita income spurs an augmented demand for income-elastic cultural and social expenditures. Thirdly, the advent of economic progress and technological innovations provides a compelling case for government spending to complement private sector funding, particularly in long-term investments (Paolo, 2006). Additionally, the decentralization of administration and the subsequent rise in local government spending contribute to the expansive trajectory of state activities.

While Wagner's theory provides a robust framework for understanding the dynamics of increasing state activities, critics, as noted by Njikamp and Poot in 2004, have identified certain limitations. These include the absence of a precise mathematical formulation of Wagner's law, prompting the application of alternative mathematical approaches for testing its validity. Furthermore, the hypothesis was perceived as imprecise, leaving ambiguity as to whether the growth of government should be measured by its share in national GDP or by the absolute amount of government expenditure.

Despite these critiques, Wagner's law endures as a foundational pillar in economic thought. Its recognition of the expanding role of the state in tandem with economic development provides a valuable theoretical underpinning for comprehending the pivotal role of fiscal policy in stimulating sustained economic growth. Wagner's insights continue to influence discourse on the evolving relationship between state activities and economic progress, making his theory an enduring and influential contribution to economic theory.

2.3 Empirical Review

Studies have been conducted on the relationship between Fiscal policy and economic growth.

Etsemitan (2021) used time series data from 1981 to 2019 to examine the relationship between fiscal policy and economic growth in Nigeria. The data was analyzed using the Johansen Cointegration test and the Error Correction Model (ECM). The study discovered that the variables studied had a long-run association, and that non-oil revenue, capital spending, and recurrent expenditure have a substantial positive link with economic growth. The study also discovered that oil revenue had a negligible positive link with Nigerian economic growth, whereas domestic debt, external debt, and fiscal deficit had a negative relationship with growth throughout the time under consideration. As a result, the study concludes that fiscal policy in Nigeria has a considerable impact on economic growth.

Yusuf and Mohd (2021), in a related study, looked at the effects of fiscal policy on economic growth in Nigeria from 1980 to 2018. They used the non-linear ARDL to discover that in both the long and short run, growth responds asymmetrically to changes in recurrent expenditure.

Titiloye and Ishola (2020) used the ARDL model (Autoregressive Distributed Lag Model) as the estimate technique to conduct a time series study on the effect of Fiscal Policy and Monetary Policy on Economic Growth in Nigeria from 1989 to 2018.

However, the findings suggest that the money supply, as well as overall government expenditure and revenue, has a major impact on Nigerian economic growth.

Onifade, Cevik, Erdogan, Asongu, and Bekun (2020) used annual time series data from 1981 to 2017 to conduct an empirical study on the impact of government expenditure on economic growth in Nigeria. The Granger Causality Test was used, as well as Pesaran's ARDL method. The study found that government recurrent spending had a large negative impact on economic growth, whereas public capital expenditures have a negligible beneficial impact. According to Onyema and Onuoha (2019), empirical data reveals that when fiscal policy is utilized correctly in conjunction with other policies such as monetary policy, it is likely to smooth out business cycles and produce or achieve the intended economic growth.

Ugwuanyi and Ugwunta (2017) investigated the impact of fiscal policy factors on sub-Saharan African countries' economic growth. The study used an ex-post facto research design, which allowed it to employ secondary data from Sub-Saharan African countries in a panel least squares analysis. The results of the linearly modelled hypotheses tested using the panel data estimation technique under fixed-effect assumptions revealed that government productive and unproductive expenditures, distortionary tax (a proportional tax on output at a rate), and non-distortionary taxes have all been found to have a positive impact on economic growth in the sub-Saharan African countries.

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The findings also found that budget balances in Sub-Saharan African countries have a beneficial but minor impact on economic growth.

Using the Vector Error Correction Model (VECM) and secondary data from World Bank development indicators, Mohammed and Mahfuzul (2017) investigated Bangladesh's fiscal deficit and its impact on economic growth. The study's findings show that the budget deficit and GDP growth rates have a positive and significant link, proving Keynesian theory. The study concluded that the government should aim to keep the deficit under control rather than stifle growth, and that spending should be controlled to avoid enormous deficits that lead to debt financing and the crowding-out of private investment. The impact of fiscal and monetary policy on economic growth in Bangladesh was studied by Soeb, Shoayeb, and Mohsan (2015). The information was gathered on an annual basis from 1979 to 2013. On fiscal and monetary factors, the study used a line diagram, correlation matrix, multiple linear regression models, and trend analysis. The study's main goals were to assess trends in policy variables and investigate the effects of fiscal and monetary instruments on economic development (RGDP). According to the findings, narrow money, broad money, exchange rate, government revenue, and spending all show a positive correlation with RGDP, implying that a unit rise in the variables will result in a unit increase in RGDP. Inflation and investment interest rates, on the other hand, have a negative influence on Real Gross Domestic Product. The results also portrayed that there was 75% worth of total variation in the dependent variable of each model used in the study, which was explained by the explanatory variables in the model under consideration. The study found that the exchange rate, interest rate, inflation rate, government revenue, and government expenditure are all important factors that influence Bangladesh's economic growth.

Babalola (2015) used annual time series data from World Development Indicators (2014) and the Central Bank of Nigeria to investigate the short and long run effects of fiscal policy on economic development in Nigeria between 1981 and 2013 (2014). To show fiscal policy, it employed government recurrent expenditure, government capital expenditure, government investment, and tax revenue. Real per capita income was used as a proxy for economic development.

After establishing the data's stationarity with the Unit Root Test, the model was estimated using Pair-wise Correlation to determine the relationship and then Cointegration and Error Correction Mechanism for impact. The findings revealed that government recurrent spending and government investment have a considerable favorable impact on economic development in the short and long term during the study period. The rate of equilibrium adjustment was found to be fast. The report proposed that fiscal policy instruments be used effectively to stimulate growth. Brunela (2015) investigated the impact of fiscal policy on economic growth in the context of Albania, a small and open emerging country. The major goal of this research is to analyze the impact of fiscal policy on Albanian economic growth empirically. The research spanned the years 1994 through 2014. The study used the co integration technique with its implicit Error Correction Model. Profit tax, government expenditure, and external debt were employed as fiscal policy indicators. According to the findings, these three factors had a favorable impact on Albania's economic growth. As a result, the study recommended that fiscal policy be used wisely to improve Albania's economic growth.

III. Methodology

3.1 Model Specification

The model specification for this research is a multiple linear regression model adapted from the works of Adefeso and Mobolaji (2010), Adeoye (2011), Charles (2012) and Chukwu (2010). In a bid to empirically investigate the impact of fiscal policy on the Nigerian economy. The variables included in the models are Real Gross Domestic Product (EGR), Total Government Recurrent Expenditure (CUREXP), Total Government Capital Expenditure (CAPEXP), Petroleum Profit Tax (PPT), Companies Income Tax (CIT) as well as Budget Deficits (BUDEF). The dependent variables are Economic growth rate (EGR) while other variables are explanatory variables.

The functional relationship between variables is expressed as follows:

EGR = F (CAPEXP, CUREXP, PPT, CIT, BUDEF)

The model is explicitly expressed as follows:

$EGR = a_0 + a_1 CAPEXP + a_2 CUREXP + a_3 PPT + a_4 CIT + a_5 BUDEF + U$ ……. (1)

Where:

EGR = Economic Growth Rate

CAPEXP = Total Government Capital Expenditures

CUREXP = Total Government Recurrent Expenditures

PPT = Petroleum Profit Tax

CIT = Companies Income Tax

BUDEF = Budget deficits

U = Stochastic error term.

a_0- a_5, are parameters of the model.

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The auto regressive distributed lag (ARDL) version of the model takes the following quasi linear form:

$EGR_t = a_1 + \beta_{11}EGR_{t-1} + \beta_{12}CAPEXP_{t-1} + \beta_{13}CUREXP_{t-1} + \beta_{14}PPT_{t-1} + \beta_{15}CIT_{t-1} + \beta_{16}BUDEF_{t-1} + \sum_{i=1}^{n}\beta_{11}EGR_{t-1} + \sum_{i=1}^{n}\beta_{12}CAPEXP_{t-1} + \sum_{i=1}^{n}\beta_{13}CUREXP_{t-1} + \sum_{i=1}^{n}\beta_{14}PPT_{t-1} + \sum_{i=1}^{n}\beta_{14}CIT_{t-1} + \sum_{i=1}^{n}\beta_{14}BUDEF_{t-1} + \varepsilon_{1t}$

A-Priori Expectations

By theoretical postulation, the parameters of the model in equation one (1) are expected to be positive as a positive relationship is expected between Economic Growth Rate (EGR) and all the explanatory variables explicitly captured in the model. $a_1>0$, $a_2> 0$, $a_3 >0$, $a_4> 0$ and $a_5 > 0$

3.2 Nature and Sources of Data

The research relied heavily on secondary data published by the Central Bank of Nigeria (CBN) and the Federal Inland Revenue Service (FIRS). These annual time series data for analysis relate to fiscal policy and economic growth in Nigeria during the period under review. The annual time series data with respect to Economic Growth Rate (EGR) were obtained from National Bureau of Statistics (NBS), while Total Government Recurrent Expenditure (CUREXP), Total Government Capital Expenditure (CAPEXP) as well as Budget Deficits (BUDEF) were obtained from the Statistical bulletin of the Central Bank of Nigeria (CBN). Figures on Petroleum Profit Tax (PPT) and Companies Income Tax (CIT), were obtained from the Federal Inland Revenue Service (FIRS).

3.43Method of Data Analysis

The analysis of the data collected for the purpose of this research were carried out using quantitative analytical technique which involves running a regression of the specified econometric model using the multiple linear regression model and the least square method of estimation. The Least Squares estimation technique has been adopted mainly because of the desirable properties it possesses and the relative simplicity of its application. Data diagnostic tests will also be carried out on the relevant variables with a view to avoiding the phenomenon of spurious regression associated with the use of time series data.

3.4 Justification of Estimation Techniques

The justification of the model hinges on its effectiveness in measuring the effects of fiscal policy on economic growth in Nigeria during the period under review. Hence, the ARDL model is considered appropriate in achieving the objectives of the study. In measuring the effects of fiscal policy on economic growth, the specified model allows for the integration of relevant indicators of fiscal policy. The model is also justified based on the simplicity of its application.

IV. Data Presentation, Analysis and Discussion of Findings

4.1 Descriptive Statistics

Table 4.1 shows the mean, standard deviation, maximum, minimum and other values of the variables. Descriptive statistics show the statistical characteristics of the variables used.

Table 4.1: showing the Descriptive statistics of the variables.

	EGR (₦'B)	CAPEXP (₦'B)	CUREXP(₦'B)	CIT (₦'TH)	PPT (₦'TH)	BUDEF (₦'B)
Mean	3.026750	7035.597	2201.623	129.1831	3454.531	34718.47
Median	3.700000	2480.000	139.5000	0.895750	10.37635	9865.000
Maximum	15.33000	45300.00	13400.00	1711.000	32256.72	154000.0
Minimum	-13.13000	87.10000	2.470000	0.067700	0.228000	-8.79E-07
Std. Dev.	5.453220	10048.20	3166.375	385.3186	7798.691	45565.87
Skewness	-0.800840	2.223209	1.481109	3.014803	2.405783	1.261240
Kurtosis	4.501712	8.076019	5.005910	10.86061	7.689521	3.367800
Jarque-Bera	8.034195	75.89433	21.33068	163.5755	75.23796	10.83030
Probability	0.018005	0.000000	0.000023	0.000000	0.000000	0.004449
Sum	121.0700	281423.9	88064.93	5167.326	138181.2	1388739.
Sum Sq. Dev.	1159.767	3.94E+09	3.91E+08	5790346.	2.37E+09	8.10E+10
Observations	40	40	40	40	40	40

Source: Author generated using Stata 15.2022. Note that (₦'B) is Billion Naira and (₦'TH) is Thousand Naira.

Descriptive statistics presented in the Table 4.1 provide a summary of the statistical properties of the variables employed in the study. There is moderate variance in the deviation between the

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standard deviations and the mean values across the variables suggesting some degree of stability over time. All the variables are positively skewed while Kurtosis figures suggest the presence of possible outliers in the data. Furthermore, the series appears to be unevenly distributed given the low probability values. further tests to ascertain the stationarity of the parameters is required. This study adopts the widely used Augmented Dicky Fuller (ADF) test to establish the stationarity of the variables.

4.2. Trend analysis of the variables.

This section shows the trend of all subject variables from 1981 to 2020. This helps us to observe the behavior of the variables over time.

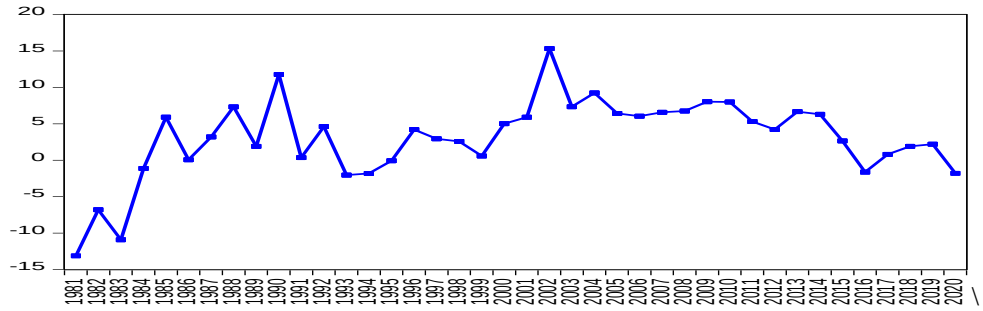

Figure 4.1: Economic Growth Rate.

Source: Author generated using Stat 15, 2022

Figure 4.1 illustrates a dynamic history of EGR levels. It shows a slight downward trend in the early 1980s, a period of fluctuation with an overall upward trajectory until 2001, a significant and continuous increase from 2001 to 2015, and a subsequent slight decrease until 2020. This data suggests a complex interplay of technological, regulatory, and industrial factors that have influenced the EGR trend over the years. Understanding these trends is vital for making informed decisions and improvements in emissions control and related technologies.

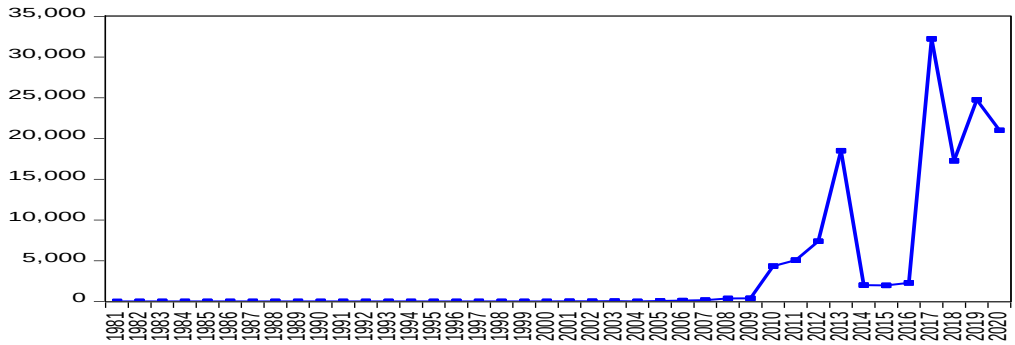

Figure 4.2: Petroleum Profit Tax

Source: Author generated using Stata 15.2022

In Figure 4.2, we can observe the historical trend of PPT (Presidential Polling Trends) over several decades. The graph provides insights into how PPT values evolved from 1981 to 2020, revealing distinct patterns in its behavior. From 1981 to 2010, the PPT values exhibited an almost constant trend. During this period, the PPT values remained relatively stable, with minor fluctuations but no significant upward or downward movement. This prolonged period of consistency suggests that the presidential polling trends remained relatively unchanged during these years.

Figure 4.2 illustrates a dynamic history of PPT values. It shows a period of almost constant trend from 1981 to 2010, a sharp rise from 2011 to 2017, a steep fall in 2018, and a slight increase in PPT values between 2019 and 2020. These trends reflect the changing political landscape and the fluctuations in public sentiment and support for presidential candidates during this time frame. Understanding these trends is essential for political analysts, campaigners, and policymakers to adapt to the evolving political landscape.

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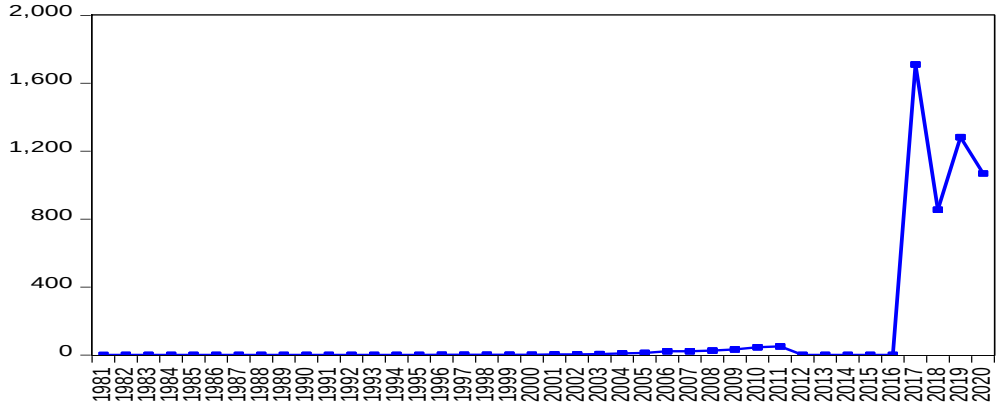

Figure 4.3: Company Income Tax

Source: Author generated using Stata15, 2022

In Figure 4.3, we can observe the historical trend of TAX (taxation, tax revenue, or some related financial metric) over the course of several decades. The graph provides insights into how TAX values evolved from 1981 to 2020, demonstrating distinct patterns in its behavior. From 1981 to 1985, the graph shows a flat trend in TAX values. During this period, tax revenue or related financial metrics remained relatively stable, with little to no significant change. This might indicate a period of economic consistency or tax policy stability.

Figure 4.3 illustrates the dynamic history of TAX values over the years. It shows a flat trend from 1981 to 1985, increased fluctuations in the early 1990s, a mid-1990s period of stability, a zigzag trend from 1998 to 2014, a sharp rise in 2014-2016, and a relatively flat trend from 2016 to 2020. These trends likely reflect a combination of economic conditions, tax policies, and financial factors that influenced the observed patterns in tax-related data. Understanding these trends is essential for fiscal analysts, policymakers, and financial planners.

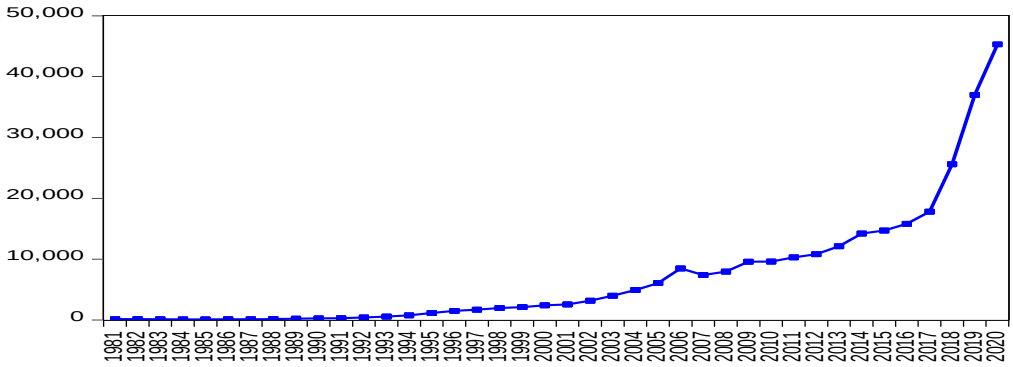

Figure 4.4: Government Capital expenditure

Source: Author generated using Stata.2022

In Figure 4.4, we can observe the historical trend of CAPEXP (capital expenditures or capital expenses) over several decades. The graph provides insights into how CAPEXP values evolved from 1981 to 2020, revealing specific patterns in its behavior. From 1981 to 1993, the graph illustrates a constant trend in CAPEXP values. During this period, capital expenditures remained relatively stable, with minimal fluctuations. This period of consistency suggests that organizations or entities were maintaining a consistent level of investment in capital assets during these years. However, starting in 1994, there was a noticeable shift in the trend. The data shows a steady increase in CAPEXP values, which continued to grow until 2006. This period of growth may indicate increased investments in capital assets, possibly reflecting expanding businesses, infrastructure development, or technological advancements. Between 2008 and 2017, CAPEXP values displayed slight fluctuations.

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Although there were some ups and downs during this period, there was no consistent upward or downward trend. These fluctuations could be attributed to economic uncertainty, changes in business strategies, or other factors affecting capital expenditures. Subsequently, there was a significant shift in CAPEXP values, with a sharp rise to its peak in 2020. This surge likely signifies a substantial increase in capital expenditures during this year. Factors contributing to this peak could include major infrastructure projects, investments in technology, or other strategic decisions by organizations or entities.

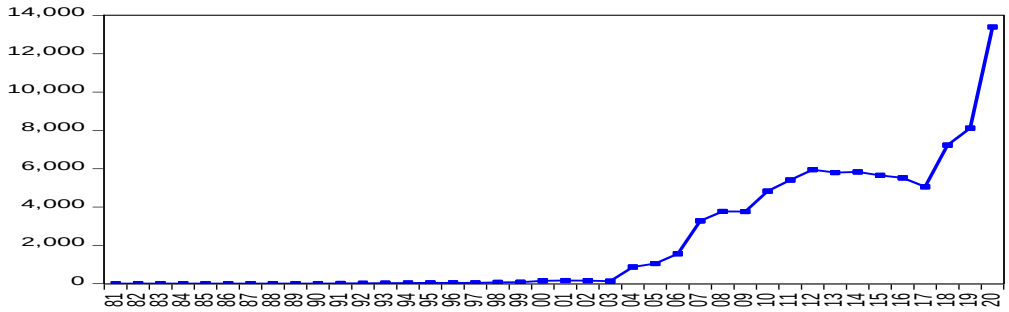

Figure 4.5: Government Current Expenditure

Source: Author generated using Stata 15, .2020

In Figure 4.5, the trend of CUREXP (current expenditures, current expenses, or some related financial metric) in Nigeria is depicted, providing insights into the behavior of this financial parameter from 1981 to 2020. From 1981 to 1992, the graph demonstrates a relatively flat trend in CUREXP. During this period, current expenditures in Nigeria remained relatively stable, showing minimal fluctuations. This might indicate a period of fiscal or budgetary consistency, where current expenses were well-managed or maintained at a constant level. However, in the early 1990s, there was a slight increase in CUREXP values. This uptick may suggest that Nigeria was beginning to allocate more resources toward current expenses during this period, possibly in response to changing economic conditions, government priorities, or public needs. Subsequently, from the mid-1990s until 2014, CUREXP values exhibited a zigzag trend. This period was marked by alternating increases and decreases in current expenditures. These fluctuations might be due to shifts in government policies, economic conditions, or changing fiscal priorities in Nigeria. From 2014 to 2016, there was a noticeable and sharp rise in CUREXP values. This significant increase may indicate a substantial boost in current expenditures during this period, possibly reflecting increased public spending or government initiatives. Following the sharp rise in 2016, there was a slight fall in CUREXP values that persisted until 2020. This period suggests that Nigeria experienced a minor reduction in current expenditures, although they remained higher than in the earlier years of the study.

4.3 Unit Root test.

Unit root tests were conducted to determine if the variables are stationary or not in Table 4.2 The results of the unit root tests for all the variables were conducted using the Augmented Dickey Fuller (ADF) test.

Table 4. 2 Unit Root Result Test Result

At Levels				At first Difference			
Variable	ADF stat	5% level	Prob. Value	ADF stat	5% level	Prob. Value	Order of Integration
EGR	-3.021	-2.964	0.0330	-	-	-	I(0)
CAPEXP	-0.108	-2.964	0.9487	-3.353	-2.966	0.0127	I(1)
CUREXP	-0.295	-2.964	0.9262	-4.221	-2.966	0.0006	I(1)
CIT	-1.641	-2.964	0.4617	-4.246	-2.966	0.0000	I(1)
PPT	-0.193	-2.964	0.9394	-5.221	-2.966	0.0000	I(1)

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BUDEF	5.941	-2.964	1.0000	-9.383	-2.966	0.0000	I(1)

Source: Computation by researcher using Stata 15,2022

Decision Rule

The decision rule here is that, when the t – statistics is greater than the critical value at 5% level of significance or the probability value is less than 0.05, it then shows that the variable is stationary. Otherwise, the difference is taken until it attains stationarity.

The results of the Augmented Dickey Fuller unit root test in table 4.2 above show that, the variables were stationary at different orders of integration. The growth rate of gross domestic product (EGR) was stationary at levels while, government capital expenditure (CAPEXP), government current expenditure (CUREXP), company income tax (CIT), petroleum profit tax (PPT) and budget deficit (BUDEF) were stationary at first difference. Therefore, since the variables were stationary at different order of integration the study tested for co – integration using the autoregressive distributed lag model (ARDL) co-integration bound test.

4.4 Optimal Lag Selection.

Optimal lag selection was carried out before cointegration, and all the lag length selection criteria (AIC, LR, FPE, SC and HQ) chose lag length 1. The results are presented in Figure 4.6.

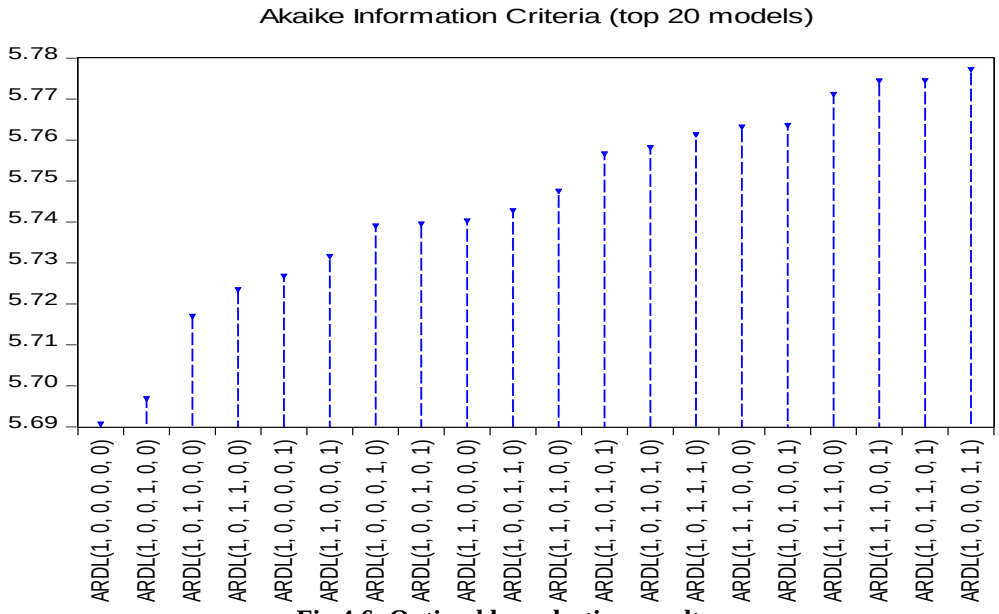

Fig 4.6: Optimal lag selection results

So, we used AIC criterion at lag one.

4.5 Co-integration test.

Based on the result of the unit root tests presented in table 4.2, the study conducted the co – integration test using the Auto Regressive Distributed Lag Bound Co - integration test (Pesaran, Shin and Smith, 2001). The result is presented in table 4.3:

Table 4.3 ARDL Bound Co – integration Test

Estimated Model	F - statistics	
	K = 3 4.395	
Critical values	Lower Bound I(0)	Upper Bound I(1)
1%	3.41	4.68

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5%	2.62	3.79
10%	2.26	3.35

Source: *Author's computation using Stata 15, 2022.*

The result of co-integration test in table 4.3, shows that the value of the F – statistics is 4.395 which is greater than the upper bound critical value at 5%, indicating the presence of co-integration among the variables in the model. Hence, this study proceeds with the estimation of both the short-run and the long-run ARDL regression estimates.

4.6 Analysis of Estimates of Long and Short run ARDL Regression of the Model

Table 4.4: Long and Short run ARDL Regression Estimates on EGR Model.

Variables	Coefficients	Std. Error	T – statistics	Prob.
Adjusted D.EGR	-0.739575	0.3896526	-4.46	0.002
LONG-RUN ESTIMATE				
LCAPEXP	0.6089	0.4885702	1.25	0.044
LCUREXP	-0.3468513	0.6913713	-0.50	0.628
LCIT	-0.2070965	1.231027	0.17	0.870
LPPT	0.443038	0.3145177	1.41	0.093
LBUDEF	0.4582989	0.769793	0.60	0.066
SHORT-RUN ESTIMATE				
D LCAPEXP	-2.171286	3.444362	-0.63	0.013
D LCUREXP	0.4944256	0.9237025	-0.54	0.605
D LCIT	2.482816	2.819369	0.88	0.401
D LPPT	-0.2578631	0.3796133	-0.68	0.514
D LBUDEF	0.1904914	2.437394	0.08	0.939
C	-41.17229	51.77061	-0.80	0.447
R – squared		0.7984		
Adjusted R – Squared		0.6304		
Durbin – Watson Statistics		2.108		
Heteroskedasticity		(Prob>chi2) 0.4125		

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Normality test (Jacque Berra)	(Prob-chi2) 0.7318

Source: *Author's Computation using stata15, 2022*

The stability of the regression coefficients is tested using the cumulative sum (CUSUM) and CUSUM of Squares of the recursive residual test for structural stability. Plots of the CUSUM and CUSUM of Square in fig 4.6 show that the regression equations seems stable given that the CUSUM and CUSUM of Squares tests statistics did not exceed the 5% level of significance boundary.

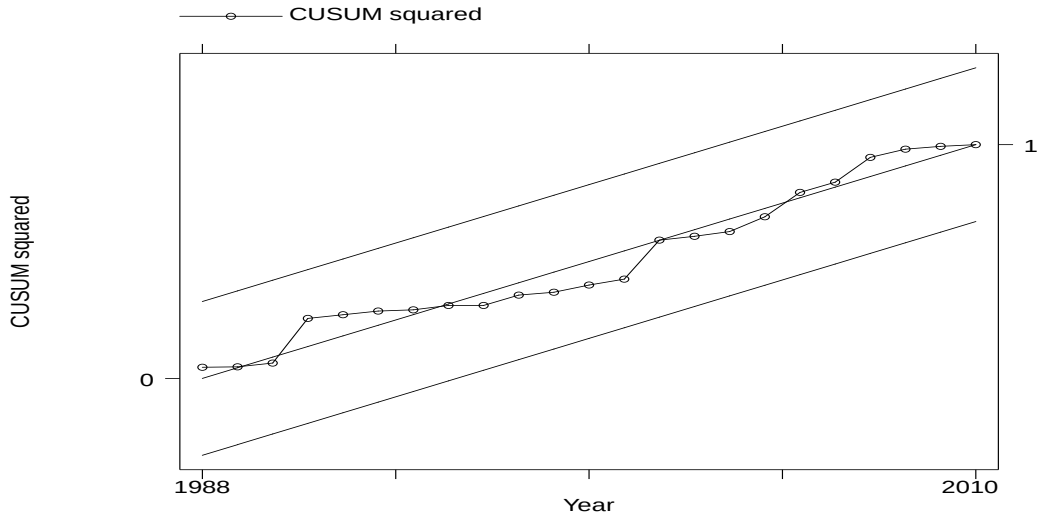

Fig 4.6 Plots of the CUSUM and CUSUM of Square

Source: Computation by researcher using Stata 15.2022

4.7 Discussion of Findings

The result of ARDL estimates on table 4.4 show that CAPEXP has a significant and positive relationship with EGR at 5% in the long run. A unit increase in CAPEXP will result in 0.608 increase in EGR. This finding conforms to *a* priori and is in tandem with the works of Adefeso and Mobolaji (2010). CUREXP has a negative and insignificant relationship with EGR in the long run. A unit increase in CUREXP will result in a 0.346 decrease in EGR in the long run. Again, this finding validates the work of Charles (2012) and Chukwu (2010) but contradicts the finding in Adefeso and Mobolaji (2010) where government current expenditure was found to be positively related to economic growth rate.

However, CIT has an insignificant and negative relationship with EGR in the long run. An increase in CIT will result in a reduction of EGR by 0.207 in the long run. PPT has a significant and positive relationship with EGR at 10% in the long run. An increase in PPT will result in an increase of EGR by 0.443 in the long run. These are in line with the study of Adefeso and Mobolaji (2010). BUDEF has a significant and positive relationship with EGR at 10% in the long run. An increase in BUDEF will result in an increase of EGR by 0.458 in the long run. Although contrary to *apriori*, it validates the findings in Charles (2012).

In the short run, a negative and significant relationship exists between CAPEXP and EGR. A unit increase in CAPEXP results in 2.171 decrease in EGR. Also, a negative and insignificant relationship exists between PPT and EGR in the short run. A unit increase in PPT will result in 0.257 unit decrease in EGR. A positive and insignificant relationship exists between CUREXP and EGR in the short run. A unit increase in CUREXP will result in a 0.494 unit increase in EGR. However, a positive and insignificant relationship exists between CIT and EGR in the short run. A unit increase in CIT will result in an increase in EGR by 2.482 unit. Again, a positive and insignificant relationship exists between BUDEF and EGR in the short run. A unit increase in BUDEF will result in an increase in EGR by 0.190 unit.

From the estimate, the coefficient of the error correction term is correctly and negatively signed (-0.739) and is statistically significant. The coefficient of the estimate of the error correction

term which is -0.739, means that the model corrects its short-run disequilibrium by about approximately 74 percent (74%) speed of adjustment in order to return to the long-run equilibrium. More so, the coefficient of multiple determination of the model, that is, the R - square showed that the explanatory variables jointly explained 79% of the variations in the performance of the EGR, while the remaining 21% of the variation is explained by other variables not included in the model and the result of the coefficient of multiple determination showed that the model has a very good fit.

Also, the result of the Durbin - Watson statistics shows that the estimate of the model is free from the problem of serial auto-correlation and that the model estimate is appropriate and can be used for policy recommendation. The Prob > chi2-value of 0.4125 indicates the absence of heteroskedasticity. The Normality test result of Jacque-Berra shows that the model is normally distributed as the p-value is greater than 0.05.

V. Conclusion and Recommendations

The role of fiscal policy in economic stabilization and growth in Nigeria cannot be overemphasized. The study empirically examined the relationship between fiscal policy and economic growth in Nigeria from 1981 - 2020. The findings of the study indicated that, federal government's expenditures, tax and credit policies are viable fiscal measures that ensured economic growth in Nigeria.

The effective use of these instruments by the government will put our economy on the path of economic progress again. The findings of the study have shown that the use of taxation, government recurrent spending are not effective for growth trajectory in Nigeria. But, government capital expenditure and borrowing as contractionary or expansionary measures impacted on the economy in the period under review.

Based on the findings of this study, the following recommendations are made:

i. Taxation which should be a veritable tool in the hand of Government should be effectively and efficiently administered by Federal Ministry of Finance and the Federal Inland Revenue Services (FIRS) to achieve the macroeconomic goals of government particularly the petroleum profit tax that exhibited positive relationship with economic growth rate.

ii. Government through the Budget office should increase her expenditure on capital project and reduce the cost of governance and other recurrent expenditures as this study has shown that government capital expenditure has significant positive effect on economic growth.

iii. Efforts should be made by the government (Ministry of Planning) towards increasing her annual budget, as this will also increase the level of investment, thereby, stimulating economic growth.

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