DETERMINANTS OF INCLUSIVE GROWTH IN NIGERIA: THE IMPACT OF NATURAL RESOURCES, HUMAN CAPITAL, AND FINANCIAL DEVELOPMENT.

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Abstract
Inclusive growth has a broad impact on development across several continents; it has attracted the attention of many scholars in recent years. Thus, while examining the factors that influence inclusive growth in Nigeria, this study considers the wealth of Nigeria's resources. The study sourced data from The World Development Indicators (WDI) and Central bank of Nigeria (CBN) statistical bulletin covering the data range of 1981 to 2022 for the variables employed. The autoregressive distributed lag (ARDL) model was used to estimate the model. The empirical results indicated that, in the short- and long-run, respectively, health and education spending decreased and supported inclusive growth for the general model that does not take the function of fiscal policy into account. The effects of resource rents and agriculture, however, differed throughout the two periods. While resource rents hindered inclusive growth in both the short and long terms, agriculture was the primary driver of inclusive growth in both. Together with the outcome, financial deepening led to an increase in inclusive growth in both periods; in contrast, credit to the private sector decreased Nigeria's growth's inclusivity, while financial deepening increased it. In conclusion, we discovered that the regressor's influence remains constant over time when fiscal policy assumes the moderating function, suggesting that fiscal policy does not affect reviving the regressor on the dependent variables.

Keywords: Inclusive growth, Human capital development, financial development, Natural resource abundance.

1. Introduction

Inclusive growth has a broad impact on development across several continents; it has attracted the attention of many scholars in recent years. Numerous organizations, especially international ones, have come to recognize this. This insight was brought about by the continued increase in poverty, inequality, and income and gender differences even though several of these countries including Nigeria are growing at historically high rates. Instead, policymakers and major stakeholders began to inquire about how the nation's expansion and development are affecting the average person. One of the subsequent actions was the summit of African leaders in 2001, which was motivated by the empirical finding that boosting health is crucial to raising the nation's overall welfare. African Union member states adopted the Abuja Declaration in 2001 to allocate at least 15% of their yearly budget to the health sector. As recently as February 2023, African leaders reiterated their commitment to implementing the Abuja Declaration Target.

Goal 3 of the 2015 SDGs seeks to guarantee healthy lifestyles and promote well-being for everyone, at all ages, in place of. A person's health and well-being are crucial from the very beginning of their life. All the key health goals are covered by this aim, including universal health coverage, infectious and non-communicable diseases, maternity, infant, child, and adolescent health, and access to safe, effective, high-quality, and reasonably priced medications and vaccines for all (SDGs, 2015). SDG 3 sets important goals to improve the general health of a nation's population to stop needless suffering from avoidable diseases and early mortality. Priority locations include those with the highest illness burden and underserved population segments. Further investments in R&D, health funding, and health risk reduction and management are also required by Goal 3.

Despite the role played by international organisations in making health accessible to all in Nigeria, the average life expectancy is 55 years, with a newborn death rate of 56 per 1,000 people. Approximately 2 million people in the country live with AIDS, and the under-5 mortality rate of 88 per 1,000 people illustrates how the government is unable to accomplish growth through these means. According to the World Bank, there were 24,000 physicians in Nigeria in 2019. Nigeria's lack of investment in the health sector demonstrates how the nation is suffering from a brain drain in the field, with at least 16,000 doctors having departed the country. This indicates that Nigeria has one doctor for every 8,000 citizens.

The current strike in Nigeria's education sector also demonstrates how the government has disregarded UNESCO'S 1990 recommendations. According to UNESCO, developing countries must set aside at least 26% of their projected expenditure for education. The evidence that is now available indicates that whereas targeted nations including several in West Africa are meeting or exceeding the UNESCO criteria, Nigeria is a long way from accomplishing this. As a result, the nation's human development index is extremely low. According to HDI data, Nigeria's HDI increased by just 0.2% between 2016 and 2017. As a result, it is not shocking that so-called minor nations like Equatorial Guinea, Kenya, Ghana, Cameroon, and Cameroon surpass Nigeria in terms of educational attainment.

A sizable portion of the literature on financial economics indicates that the growth of the financial sector is crucial to the economic development of any given economy. It does this by

accelerating capital accumulation, fostering technological advancement, and promoting economic growth through raising the rate of savings, mobilizing, and pooling savings, producing information about investments, facilitating and encouraging foreign capital inflows, and optimizing capital allocation. As a result, nations with sophisticated financial systems should experience longer-term growth at a quicker rate. Because financial services are difficult to obtain, there hasn't been much adoption of them in Nigeria. Many Nigerians lack access to financial services, as evidenced by the recent policy adopted by the most recent CBN Governor of Naira redesign. This indicates that growth over the years has not been inclusive, as many people, particularly in rural areas, lack access to financial services, including loans for business expansion and promotion.

Given its track record of supporting more strong poverty reduction, the agriculture sector is essential to inclusive growth and will require significant stimulation and sustained growth for this to occur. This is especially significant because 40% of Nigeria's population depends on agriculture for their livelihood, and the bulk of the citizen impoverished are employed in this field. Even though agriculture is widely recognized as the primary driver of growth in many Nigeria and many other nations of the world, the sector's potential to contribute to growth and development has not been fully realized, primarily because of several obstacles such as the growing technological divide, inadequate infrastructure, and dwindling technical capacity. Weak input and output marketing systems and services, sluggish regional integration progress, problems with land access and rights, restricted access to low-cost credit, difficult governance issues in certain nations, conflicts, the effects of climate change, and the scourge of HIV/AIDS and other diseases have all made these problems worse.

In terms of natural resource endowment, the picture is similar because developing nations rely more on natural resources than do industrialized nations. The World Bank's 2022 data shows that the total natural resource rent as a percentage of GDP in 2019 is approximately 7.33% in regions like sub-Saharan Africa, home to many poor countries, while it is 0.17 and 0.67 in countries in the European Union and North America, respectively. According to data from the specified source, the GDP proportion of total natural resource rent in low-, middle-, and high-income countries is 6.20%, 3.23%, and 1.29%, respectively. The "resource curse" hypothesis is one of many theoretical theories for why natural resources do not drive economic expansion that is supported by actual data. Supply shock is caused by overexploitation that goes beyond what the current stock can withstand, whereas demand shock is brought on by changes in the price of natural resources and worldwide pandemics like COVID-19. Furthermore, the discovery of a high-value natural resource, such as oil, can be viewed as a positive shock to the resource; this phenomenon is also known as a "resource boom" or a "resource windfall." Cockburn et al. (2018) state that underdeveloped countries are highly vulnerable to cash derived from natural resources. Nigeria is one of the most resource-rich nations on the African continent. Dennis Brown and Stephen (2017) claim that the nation is endowed with more than 34 different kinds of natural resources. In Nigeria, oil in particular and natural resources in general are important economic indicators. Despite Nigeria's reliance on natural resources, the "resource curse" theory appears to apply in this instance (Fosu and Gafa, 2019; Sala-I-Martin and Subramanian, 2003).

Since no empirical investigation has combined these key determinants in a single study, to the best of the researcher's knowledge, this study's initial contribution is strong because it clarifies

how these determinants of resource abundance, financial development, and human capital development play important roles in promoting inclusive growth in Nigeria. This study distinguishes itself from previous empirical endeavors by examining the function of fiscal policy, or government policy, in fostering inclusive growth in Nigeria. This is its second unique contribution. Given Nigeria's weak policy framework, this is important since it raises the possibility of choking inclusive progress in the nation, a possibility that deserves empirical investigation. The paper is organized into five sections: this is the introduction and Section 1, section 2 reviews the literature; Section 3 explains the data and establishes the methodological framework; Section 4 talks about the findings; and Section 5 concludes the study and its implications for policy. The results of this kind of analysis provide clarity and accuracy to the design of policy.

2. Review of the Literature

2.1. Theoretical Issues

The different measurements that different researchers have employed over the past few decades are one of the issues related to inclusion in Africa and country-specific. Diverse perspectives on inclusive growth have been offered by Africa's unique characteristics and the differences among its member states. It appears that the measurement of inclusive growth is biased and has not been consistent across time, based on the literature's available information. Even more frequently, many resource-rich nations have provided empirical justifications for why the endowment of natural resources can lead to inclusive growth, not forgetting measurements like human capital development, health, education, and many other determinants. This literary divergence is once more investigated to increase the corpus of knowledge and to better clarify and comprehend the existing literary work.

Goshit (2015) investigated the theoretical framework through which the Central Bank of Nigeria (CBN) can implement monetary policy to promote inclusive growth in the economy. The promotion of strong economic performance and excellent citizen living standards is the goal of monetary policy. Because of this, monetary policy is a vital component of macroeconomic management, and the success of this strategy affects Nigeria's entire economic output. In addition to providing the determinants of inclusive growth in the economy, the article built a theoretical model for inclusive growth in Nigeria. The study also identified and deliberated upon the principal obstacles to the execution and management of monetary policy in Nigeria, undermining its efficacy. These obstacles include the unmonetized rural sector of Nigeria, inadequately developed money and capital markets, and a substantial amount of money that is not accounted for by the banking system. Other factors include the economy's bad banking practices, the growth of illicit financial houses, and the quality of the data. However, the report points out that effective monetary policy development and implementation can have a favorable impact on all the major drivers of inclusive growth in Nigeria as well as the actual economic sectors.

2.2. Empirical Literature

Ajayi and Oburota (2020) investigated using the social opportunity function to measure inclusive growth in Nigeria. The growth and equity components of inclusive growth were examined in this study using the opportunity index to examine the complete population distribution. The National Bureau of Statistics General Household Survey (GHS) 2015 provided the cross-sectional data that was used. According to this study, inclusive growth was not attained in the areas of employment, secondary and higher education, and healthcare delivery in private and rural health facilities. The report also acknowledges that decreasing poverty and inequality cannot be achieved by GDP growth alone. Growth must be inclusive to prevent the issue of unneeded labor reserves with rapid growth.

Oluseye and Gabriel (2017) conducted a study that used annual data from 1981 to 2014 and investigated the long-run and short-run parameters among the variables using the autoregressive distributed lag model (ARDL) and the error correction method (ECM). The results point to a short- and long-term negative correlation between government consumption, education spending, and inclusive growth. On the other hand, the population growth and inflation variables show a short-term beneficial impact on inclusive growth, but a long-term negative result. Lastly, the link between beginning capital and FDI was negative in the near term but highly positive in the long term for inclusive growth.

Tella and Alimi (2016) looked at the importance of health and demographic shifts as factors of inclusive growth in Africa in their search for the factor that makes a region inclusive. From 1995 to 2012, 14 African nations were chosen for the study. Based on the Fixed Effect Method, the results show that health sector funding has a bigger influence on how inclusive growth is in Africa. It showed that improving pro-poor growth in Africa requires sufficient funding for the health sector. The population growth of African countries was found to have a detrimental effect on achieving inclusive growth. Therefore, African nations must welcome their expanding population as a blessing rather than a threat to accomplish pro-poor growth in the region. Furthermore, greater government funding of the healthcare industry through the provision of sufficient medical facilities is required.

Enilolobo and Ohalete (2017) use macroeconomic variables such as agricultural GDP, per capita income, unemployment, and poverty rates to investigate the impact of inclusive growth factors on agricultural output in Nigeria. The control variables included government spending on health, labor force participation, and education. Johansen co-integration tests and the Augmented Dickey-Fuller (ADF) unit root test were used to evaluate the characteristics of the time series data, which covered the years 1981 to 2013. The model was also subjected to the error correction model (ECM) analysis approach. The ECM results show that when per capita income rises and unemployment and poverty rates decline, agricultural output (AGDP) rises as well. This implies that one practical way to achieve the much-desired inclusive growth is through the agriculture sector.

Ayinde and Yinusa (2016) investigate the relationship between financial development and inclusive growth in Nigeria for the period 1980 – 2013. The technique of analysis is quantile regression, which is to obtain a threshold for which the former impacts on the latter. The result shows a threshold level of 90th percentile. Interestingly, the study also found that the impact of financial development on inclusive growth depends on the measure of the former up to the

threshold level and not beyond. Through a granger causality test, the direction of causality is through the inclusive growth rather than through financial development, through the financial deepening measure. Although the study concluded that trade and capital investment openness, whether high or low, are desirable for inclusive growth in Nigeria, the findings also show that financial openness and government involvement in the country's economy are sensitive to patterns in financial development. When financial spreading is considered, both are positively associated to inclusive growth but adversely related to it when financial deepening occurs.

The rise of inclusive growth: Issues, difficulties, and policy alternatives for Nigeria was examined by Eregha and Mesagan (2017). Important factors that influence inclusive growth were found, including investments in human resources, the creation of jobs, structural change, social protection, and high-quality institutions. It was noted that Nigeria's high dependency ratio, extreme poverty, and depletion of natural capital make the country far from realistically achieving inclusive growth. In addition, there is a severe lack of institutional quality and poor health care delivery.

The association between inclusive growth and the unemployment rate for the years 1970 to 2018 was examined by Abada et al. in 2021. For estimate, the Autoregressive Distributed Lag (ARDL) bounds test approach was used. The study determined the long-term correlation between unemployment and metrics of inclusive growth. The measurement of the impact of inclusive growth policies or programs on the growth of the manufacturing, industrial, and agricultural sectors during the study periods was used to account for the inclusive growth. Therefore, real agricultural output, real manufacturing output, and real industrial output, respectively, serve as proxies for measures of inclusive growth when evaluating the short- and long-run dynamics of the agricultural, manufacturing, and industrial sectors. Additionally, we took into consideration the impact of trade restrictions being lifted on unemployment through openness, as indicated by export as a percentage of real gross domestic product relative to unemployment rate. The empirical results showed that the increase in the industrial and agricultural sectors had a substantial negative link with the unemployment rate.

Olarenrewaju et al. (2020) conducted an empirical investigation on the connections between inclusive growth and institutional quality, as determined by Nigeria's real GDP per person employed (RGDPE). We used annual secondary time series data from 1998 to 2017 to test the cointegration process using an Autoregressive Distributed Lag (ARDL) Bounds testing technique. The Central Bank of Nigeria's statistical bulletin, the National Bureau of Statistics' final accounts, the International Monetary Fund's International Financial Statistics (IFS), and Worldwide Governance Indicators (WGIs) were the sources of the data. According to the study's findings, inclusive growth in Nigeria was significantly impacted by institutional quality. It is consequently advised that to fully utilize the basis of human capital resources, institutional improvement must go above the current liberal democratic barrier. For the best value-chain finance-growth inclusivity, the Nigerian government should implement a labor-intensive development strategy that fully integrates low-income active households into productive activities. According to Lin's comparative advantage conformity hypothesis, this would alleviate the long-term triangular socioeconomic problems of poverty, inequality, and unemployment.

Olarenwaju et al. (2019) use the Toda-Yamamoto (TY) Granger non-causality test in the enhanced VAR framework to investigate the causal relationships between the institutional, financial, and inclusive growth variables. We used annual time series with data spanning from

1998 to 2017. The TY analysis demonstrated that all the factors Granger caused inclusive growth, but without any indication of feedback, except for the financial inclusion index. Nonetheless, a two-way causal association between inclusive finance and the relationship between financial inclusion and institutional quality was discovered. Thus, when real GDP per person employed (RGDPE) is used as the dependent variable, the block homogeneity null hypothesis can be disproved. This suggests that although institutional quality may have a wide range of consequences on an economy, institutional quality seems to be the main factor promoting equitable growth. Therefore, it is advised that institutional development be pursued to fully utilize the human capital resource base, even beyond the current liberal democratic threshold. For optimal value-chain finance growth inclusivity, the Nigerian government should implement a labor-intensive development plan that integrates impoverished active households into productive activities on a comprehensive level.

Adeosun *et al.'s* (2020) research examines inclusive growth and public investment in Africa. Asymmetric impulse responses, variance decomposition estimates, and non-linear autoregressive distributed lag are used to represent the time-varying structures and nonlinearities in the government investment series. The results of the study demonstrate that favorable investment shocks promote inclusive growth by giving the whole public access to possibilities through job creation and productive employment; this effect is particularly noticeable in Morocco and Algeria.

The relationship between human capital and inclusive growth is examined by Oluwadamilola et al. (2018), who show how it can be a useful instrument for advancing the accomplishment of Goal 4 of the Sustainable Development Goals (SDGs) of the United Nations. The study also demonstrates how achieving SDG Goal 4 can lead to more equitable growth via high-quality education (human capital development). Techniques: The World Development Indicators (2015) and the National Statistical Bulletin (2015) provided annual data for the study, which covered the years 1981 to 2015. It makes use of Johansen co-integration estimation methods and the Error Correction Mechanism (ECM). The outcome demonstrates that the association between human capital and the inclusive growth metric over the long term is statistically significant.

Ozegbe (2019) investigated how well exports worked to achieve inclusive growth in Nigeria. The study provided a functional expression of inclusive growth in terms of foreign direct investment, non-oil export, and oil export. The findings of the study showed that, while investment and foreign direct investment had a positive impact on inclusive growth, the coefficients of both oil and non-oil exports had a negative long-term impact on inclusive growth (as measured by real GDP per capita). In the short term, however, both types of exports significantly and favorably impacted inclusive growth in Nigeria. This study also recommended that the government step up its efforts to encourage oil exports and international investment inflows.

The long-term relationship between financial inclusion and economic growth in Nigeria between 1981 and 2014 is examined by Odeleye and Olusoji (2020). The money supply, liquidity ratio, and lending to the private sector seem to be the main forces behind Nigeria's economic growth, according to the regression model that was used. Additionally, the study proved that finance drives growth in Nigeria and supports the finance-led growth concept.

Using time series data from 1981 to 2019, Eboh et al. (2022) investigated the impact of social protection on inclusive growth in Nigeria, paying particular attention to the function of financial soundness and depth on inclusive growth. The model was estimated using the System Generalized Method of Moments (SYSTEM – GMM) estimator. It was discovered that inclusive growth was significantly and favorably impacted by social protection. The scale of financial intermediaries in the financial system was also found to have a positive and significant impact on inclusive growth; however, the impact of social protection on inclusive growth was not influenced by the size of financial intermediaries in the financial system. Even while bank credit to the private sector has a small and negative impact on GDP when it comes to inclusive growth, this channel of credit can supplement social protection and promote inclusive growth. The impact of the liquidity ratio on inclusive growth was noteworthy and favorable, serving to reinforce the efficaciousness of social protection in augmenting the rate of inclusive growth.

There are still a lot of unanswered questions regarding the factors that influence inclusive growth in Africa, particularly in Nigeria, despite the abundance of research in this area. First, the fact that most African countries are resource-rich has not been experimentally considered, particularly Nigeria, which is only second to South Africa in terms of resource abundance. Remarkably, most of these nations are recognized for certain attributes like excessive dependence on their natural resources and either enhanced or deteriorated economic growth (based on the validity of the resource curse or not). Furthermore, most of these African nations continue to pursue agriculture in a primitive and environmentally destructive manner despite having abundant natural resources. Each of these elements directly strains the environment and undermines the nation's efforts to promote inclusive growth. Nigeria's natural resources are the focus of a country-specific examination that is conducted in opposition to these distinctive characteristics of resource-rich nations. Second, studies that carefully examined Nigeria's plentiful natural resources in conjunction with other growth-related criteria in the literature are difficult to come across, given the model and data choices made for the study. The literature review suggests that researchers have not come to a consensus regarding the elements to be used because, depending on the goals of their respective studies, each of them has conducted a different set of empirical analyses to find the determinant of inclusive growth. Three, we further deviate from earlier research by looking at the interacting role of government efficacy and regulation, given Nigeria's reputation for having low-quality institutions. Lastly, a threshold (nonlinear) impact is not taken into consideration in the analysis of previous investigations. In this study, we hypothesize that the relationship between the impacts of the highlighted indicators and inclusive growth may depend on a fiscal policy threshold.

3. Methodology

In Nigeria, the study focuses on the factors that contribute to inclusive growth. Labor and capital are the two most important factors in production, according to the theoretical explication and the empirical literature now in existence. No country can ever go beyond its production potential, according to the literature. This input gave this study further impetus, and it now examines the fundamental relationship that determines inclusive growth in Nigeria. The definition of the relationship is.

$$IGR_t = \partial_0 + \partial_1 AGRIC_t + \partial_2 RENTS_t + \partial_3 CTPS_t + \partial_4 FD_t + \partial_5 GHE_t + \partial_6 GEE_t + \varepsilon_t \quad (1)$$

where IGR, $AGRIC$, $RENTS$, $CTPS$, FD, GHE and GEE denote inclusive growth, agriculture, resource rents, credit to the private sector, financial deepening, government health expenditure,

and government education expenditure respectively. ε_t is the assumed normally distributed residual term.

The baseline specification of the effects of resource abundance, human capital development, and financial development is the first phase of the study's three-phase methodological construction. Using the autoregressive distributed lag (ARDL) model, this relationship is investigated. The long- and short-run parameters can both be estimated by the ARDL. For the baseline relationship, the ARDL model is given as follows:

$$\begin{aligned}\Delta IGR_t = \delta_0 + \sum_{j=1}^{N_1} \emptyset_j \, \Delta IGR_{t-j} + \sum_{j=0}^{N_2} \omega_j \, \Delta AGRIC_{t-j} + \sum_{j=0}^{N_3} \eta_j \, \Delta RENTS_{t-j} + \sum_{j=0}^{N_4} \tau_j \, \Delta CTPS_{t-j} \\ + \sum_{j=0}^{N_5} \pi_j \, \Delta FD_{t-j} + \sum_{j=0}^{N_6} \varkappa_j \, \Delta GHE_{t-j} + \sum_{j=0}^{N_7} €_j \, \Delta GEE_{t-j} + \delta_1 IGR_{t-1} + \delta_2 RER_{t-1} \\ + \delta_3 HCD_{t-1} + \delta_4 R\&D_{t-1} + \delta_5 AGR_{t-1} + + \delta_6 GHE_{t-1} + \delta_7 GEE_{t-1}\mu \\ + \varepsilon_t; \qquad (2)\end{aligned}$$

Where the optimal lag lengths are represented by N_1, N_2, N_3, N_4, N_5, N_6 and N_7 μ and ε_t respectively and the effects of the disturbance term. The long-run estimates of the intercept and the independent variables are derived thus: $\vartheta_0 = -\frac{\delta_0}{\delta_1}$, $\vartheta_1 = -\frac{\delta_2}{\delta_1}$,$\vartheta_2 = -\frac{\delta_3}{\delta_1}$,$\vartheta_{3i} = -\frac{\delta_4}{\delta_1}$, $\vartheta_4 = -\frac{\delta_5}{\delta_1}$, $\vartheta_5 = -\frac{\delta_6}{\delta_1}$ and $\vartheta_6 = -\frac{\delta_7}{\delta_1}$with the assumption that $\Delta IGR_{t-k} = \Delta AGRIC_{t-k} = \Delta RENTS_{t-k} = \Delta CTPS_{t-k} = \Delta FD_{t-k} = \Delta GHE_{t-k} = \Delta GEE_{t-k} = 0$ occurs in the long run.

where the error correction term of individual variable is given a$ect_{t-1} = IGR_{t-1} - \vartheta_0 - \vartheta_1 AGRIC_{t-1} - \vartheta_2 RENTS_{t-1} - \vartheta_3 CTPS_{t-1} - \vartheta_4 FD_{t-1} - \vartheta_5 GHE_{t-1} - \vartheta_6 GEE_{t-1}$. It is a measure of the adjustment speed to long-run equilibrium following a one-time shock that causes disequilibrium in the short-run. The presence of a long-run relationship is established if the coefficient of the error correction term, α, is significant, negative, and less than unity in absolute value.

We proceed to the second phase of the methodology where the interactive role of institutional quality with each of the regressors is examined on inclusive growth. Using the same methodology as above, equations (2) is extended to capture the interactive impact of institutional quality thus:

$$\begin{aligned}\Delta IGR_t = \delta_0 + \sum_{j=1}^{N_1} \emptyset_j \, \Delta IGR_{t-j} + \sum_{j=0}^{N_2} \omega_j \, \Delta AGRIC_{t-j} + \sum_{j=0}^{N_3} \eta_j \, \Delta RENTS_{t-j} + \sum_{j=0}^{N_4} \tau_j \, \Delta CTPS_{t-j} \\ + \sum_{j=0}^{N_5} \pi_j \, \Delta FD_{t-j} + \sum_{j=0}^{N_6} \varkappa_j \, \Delta GHE_{t-j} + \sum_{j=0}^{N_7} €_j \, \Delta GEE_{t-j} + \delta_1 IGR_{t-1} + \delta_2 RER_{t-1} \\ + \delta_3 HCD_{t-1} + \delta_4 R\&D_{t-1} + \delta_5 AGR_{t-1} + + \delta_6 GHE_{t-1} + \delta_7 GEE_{t-1} + \delta_8' Z'_{t-j} \\ + \mu + \varepsilon_t \qquad (3)\end{aligned}$$

where Z' is a vector of interactive variables, i.e. interaction of fiscal policy with each of the agricultural productivity, resource rent, credit to the private sector, financial development, government health expenditure, and government expenditure on education, while N_7' is the vector

of their optimal lags. The vector of the long-run estimates of the interactive variables is computed as $\vartheta_6' = -\frac{\delta_7'}{\delta_1}$ with the assumption that $\Delta IGR_{t-k} = \Delta AGRIC_{t-k} = \Delta RENTS_{t-k} = \Delta CTPS_{t-k} = \Delta FD_{t-k} = \Delta GHE_{t-k} = \Delta GEE_{t-k} = 0$ occurs in the long run. The new error correction term is defined as: $ect_{t-1} = IGR_{t-1} - \vartheta_0 - \vartheta_1 AGRIC_{t-1} - \vartheta_2 RENTS_{t-1} - \vartheta_3 CTPS_{t-1} - \vartheta_4 FD_{t-1} - \vartheta_5 GHE_{t-1} - \vartheta_6 GEE_{t-1} - \vartheta_7' Z'_{t-1}$.Other variables are as defined earlier.

To estimate the above models, we obtain annual data on gross domestic product per person employed (Constant 2017 PPP $), government health expenditure (N' Billion), and government education expenditure (N' Billion) as human capital development proxy, Agricultural productivity (N' Billion) and total natural resources rents (% of GDP) as natural resources endowment, financial development is proxy to credit to the private sector (N' Billion) and financial deepening (M3/GDP in %) and the moderating role of fiscal policy is captured with government revenue (N' Billion) and government expenditure(N' Billion). The two fiscal policy metrics taken into consideration are government expenditure and government revenue. This is because they are typically more closely linked to the growth and development of any economy. According to Wagner (1883), an increase in state activities leads to expansion in productive means and the standard of living of any economy depends on its ability to produce goods and services. The World Development Indicators (WDI) and Central Bank of Nigeria (CBN) statistical bulletin covering the data range of 1981 to 2022 is the source of some institutional quality indicators.

4. Empirical results

4.1 Preliminary results

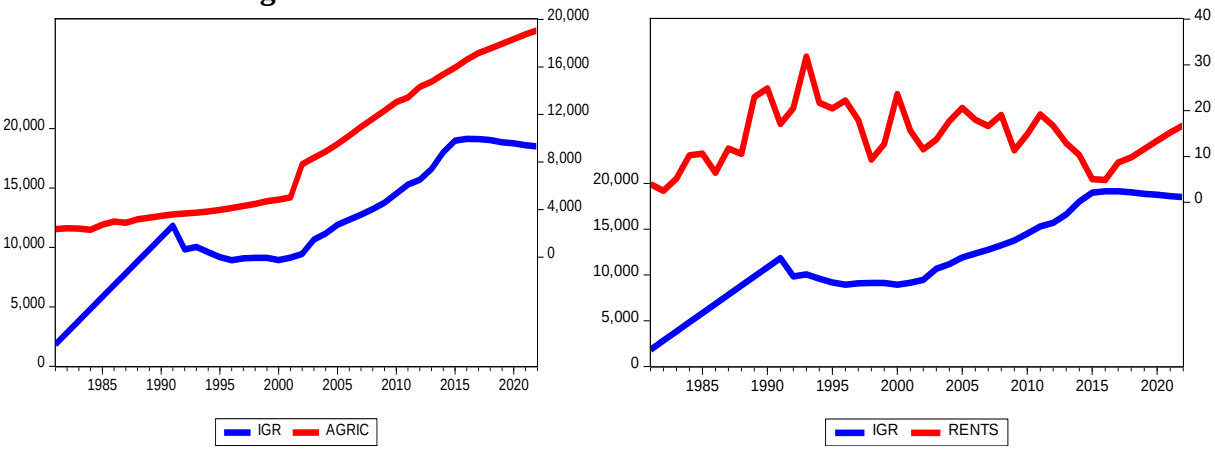
The descriptive statistics of all the underlying data used in this investigation are shown in Table 1. Nigeria has an average productivity per person of N11,776, which is still low when compared to other major economies in Africa and the world. In terms of government spending on human capital development, over time, the government has spent, on average, N98.02 and N161.4 on health and education, respectively, showing a progressive trend in the sector. However, the government's commitment peaked at N437.5 and N702.9, significantly less than the minimum threshold of 26% for education and at least 15% for health set by UNESCO in 1989 and African leaders in the Abuja Declaration of 2001. Over the course of the study, the private sector has been credited with N7341.7 on average for Nigeria's financial development, with the country's money supply making up 15.6% of GDP. Furthermore, in terms of resource abundance, the share of total natural resource rents in GDP is as high as 14.53%, thus demonstrating Nigeria's resource-wealth and resource-dependence position. The average value of government revenue and spending for the fiscal policy is N3657.5 and N3952.4, which is reasonably close. This indicates that Nigeria spends a significant portion of its income, which implies that the nation would have a budget deficit. The earlier assertions that Nigeria was running a budget deficit were substantiated by the maximum and minimum values of government spending and revenue, which are N12586 and N24431, respectively. There are further noteworthy descriptive statistics provided. For example, the government revenue is the only data set where the standard deviation statistics are not distributed from the mean. The huge variations between the series' minimum and highest values further reinforce the idea that the series has experienced significant volatility

throughout time. Additionally, certain series' departure from the normal (Gaussian) distribution assumption is reflected in their deviation from their skewness and kurtosis values from the zero and three (3) thresholds, and vice versa. Then, we plot the inclusive growth graph (the dependent variable) with each of the regressors (panels A to D) to trace out their possible co-movements (see Figure 1). Seen, the relationship in various panels of the work shows that financial development, human capital development, resource abundance, and fiscal policy stimulate inclusive growth in Nigeria. From the graph, the movement in various panels has slight differences as financial development of which financial deepening have a significant and similar movement with inclusive growth from other series. We corroborate the graphical trends with the correlation results shown in Table 2. A significant correlation is found among the variables at the critical level of 1%.

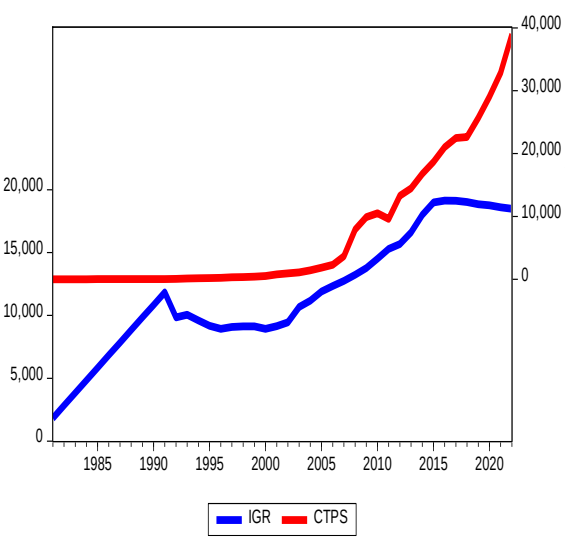
Table 1: Preliminary results

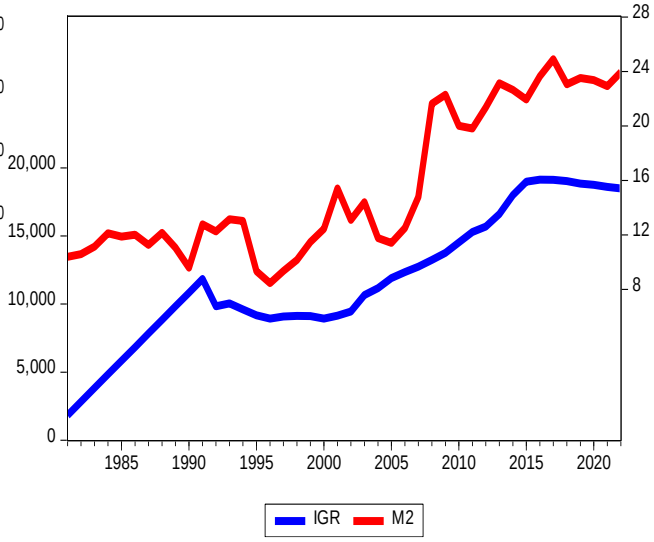
Test	Mean	Max.	Min.	Std. Dev.	Skew.	Kurt.	J-B
IGR	11776.	19133.	1836.7	4828.1	0.0493	2.2055	1.1214
M2	15.624	24.895	8.4642	5.4503	0.4851	1.5446	5.3540
RENTS	14.532	31.812	2.5195	6.3738	0.2468	2.8791	0.4519
GOR	3952.4	12586.	10.508	4168.0	0.5536	1.7839	4.733
GOE	3657.5	24431.	9.6365	5900.2	2.1424	6.7608	56.884
GHE	98.021	437.52	0.0413	133.60	1.2871	3.4161	11.900
GEE	161.40	702.97	0.1621	209.72	1.2188	3.2579	10.516
CTPS	7341.7	38952.4	8.5700	10706.7	1.3719	3.7811	14.244
AGRIC	8725.9	19091.	2303.5	5866.1	0.4603	1.6462	4.6903

Panel A: Inclusive growth and Resource abundance

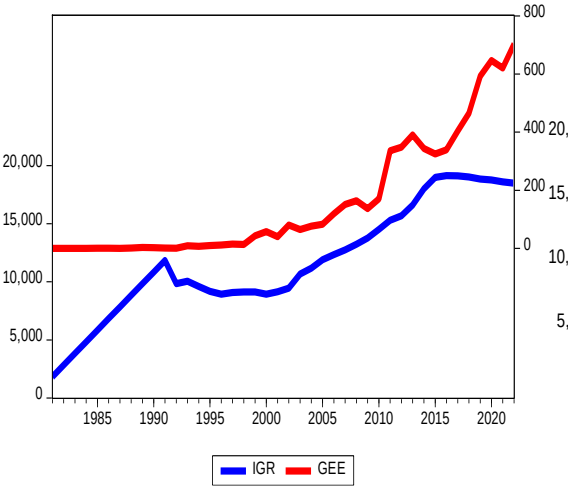


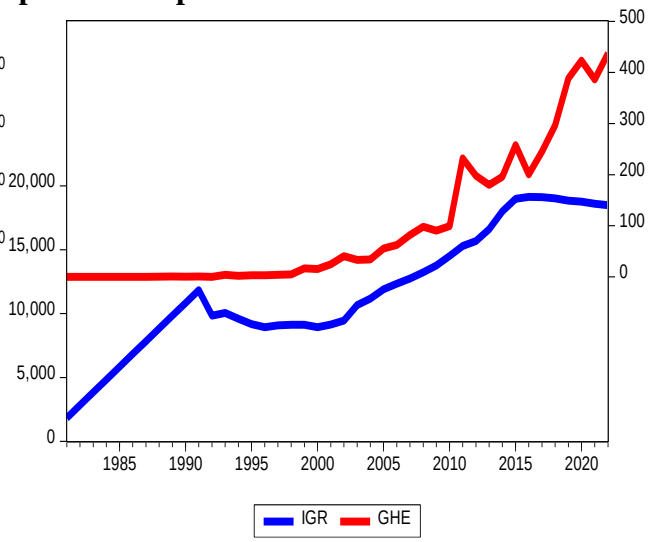
Panel B: Inclusive growth and financial development



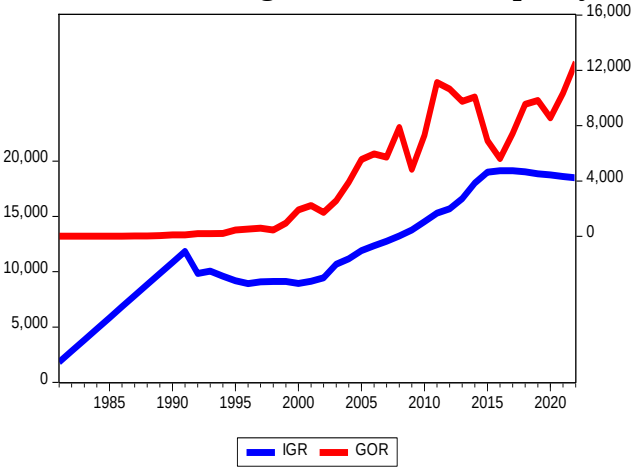


Panel C: Inclusive growth and human capital development





Panel D: Inclusive growth and Fiscal policy



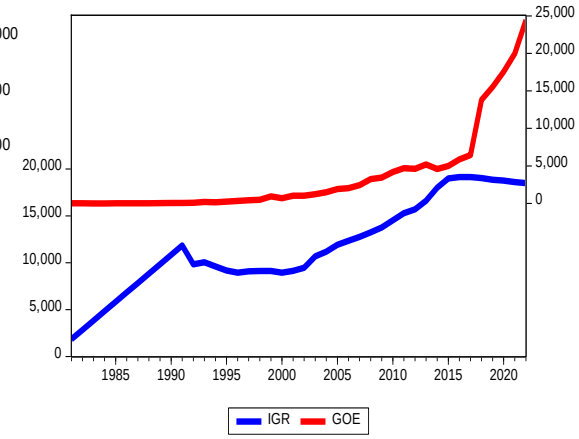


Figure 1: Graphical relationship between inclusive growth and the regressors

Table 2: Correlation results

	IGR	M2	RENTS	GOR	GOE	GHE	GEE	CTPS
M2	0.8748***	1.0000						
	(0.0000)	-----						
RENTS	0.0320	-0.2341	1.0000					
	0.8404	0.1357	-----					
GOR	0.8608***	0.8806***	-0.0628	1.0000				
	(0.0000)	(0.0000)	0.6925	-----				
GOE	0.7335***	0.7451***	-0.1000	0.7746***	1.0000			
	(0.0000)	(0.0000)	0.5285	(0.0000)	-----			
GHE	0.8543***	0.8698***	-0.1728	0.8817***	0.9420***	1.0000		
	(0.0000)	(0.0000)	0.2736	(0.0000)	(0.0000)	-----		
GEE	0.8610***	0.8805***	-0.1586	0.9003***	0.9397***	0.9930***	1.0000	
	(0.0000)	(0.0000)	0.3156	(0.0000)	(0.0000)	(0.0000)	-----	
CTPS	0.8495***	0.8852***	-0.2106	0.8452***	0.9450***	0.9749	0.9760***	1.0000
	(0.0000)	(0.0000)	0.1806	(0.0000)	(0.0000)	(0.0000)	(0.0000)	-----
AGRIC	0.9352***	0.9281***	-0.1571	0.9465***	0.8186***	0.9263***	0.9360***	0.9162***
	(0.0000)	(0.0000)	0.3204	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)

***** denotes significance at the critical level of 1%. The probability values are in the parentheses.**

Three unit root tests are used to evaluate the series' stationary feature, which is a crucial first test for the methodological decision. In summary, every test rejects the unit root null hypothesis, resulting in comparable evidence of nonstationarity in the majority of situations (see Table 3). The null hypothesis can never be accepted except in rare circumstances.

Table 3: Unit root test results

Test	ADF	PP	*GLS*
AGRIC	-5.0288^{b,***}	-5.0868^{b,***}	-4.7057^{b,***}
CTPS	-3.8671^{b,**}	-3.7663^{b,**}	-1.8967^{b,*}
GEE	-4.9050^{b***}	-4.9050^{a,***}	-4.9515^{b***}
GHE	-6.8288^{b,***}	-6.8344^{b***}	-6.8344^{a***}
GOE	-3.4692^{b**}	-3.5580^{b**}	-3.5493^{b***}
GOR	-5.7884^{b,***}	-5.9983^{b***}	-5.8763^{b***}
IGR	-3.8605^{b***}	-3.8901^{b***}	-3.5909^{b***}

*****, ** and * denote significance at the critical levels of 1%, 5% and 10% respectively. a and b denote level and first-differenced stationarities respectively.**

Ultimately, there are a minimum of three implications that the preliminary analyses have for the primary empirical analysis. Above all, there is a good chance that there is a causal relationship between the regressors and inclusive growth because of the strong correlation that was discovered between them. Therefore, the regressors may have an effect on Nigeria's efforts to achieve inclusive growth. Second, in order to obtain trustworthy findings, empirical models that

adequately account for the non-stationarity of the series in the majority of situations and the heterogeneity of the series' connection as revealed by the unit root test must be used. These inspire the models we have selected.

4.2 Cointegration Test Results

Finding out if the variables are cointegrated is crucial because they show mixed orders of integration. Because the linear combination of non-stationary and stationary series is non-stationary, it can lead to misleading estimates or cointegration. Given the mixed integration orders, the ARDL Bounds test is the suitable cointegration test. The F-statistic and two crucial bounds, known as the upper (I(1)) and lower (I(0)) bounds, are the main results of the ARDL Bounds test. Cointegration is said to exist if the F-statistic value is higher than the upper bound at any significant level. Conversely, there is no cointegration if the F-statistic values are below the lower bound at any significance level. If the F-statistic value lies between the top and lower boundaries, the test is not conclusive. Given that the study's objectives include identifying the several factors that contribute to inclusive growth in Nigeria and investigating the impact of fiscal policy on this goal, Table 4 summarizes the two models. The table below shows that, at the 1% level of significance, the F-statistic values for both models, which are 33.279 and 6.1309, are bigger than the corresponding upper bound values, which are 4.9 and 4.1. They are hence referred to as cointegrated.

Table 4: ARDL Bounds Cointegration Test Results

	IGR		**IR*IGR**	
F-stat.	33.279***		6.1309***	
Bounds				
	I(0)	**I(1)**	**I(0)**	**I(1)**
10%	2.53	3.59	1.95	3.06
5%	2.87	4	2.22	3.39
1%	3.6	4.9	2.79	4.1

*** represents significance level at 1%.

5.2 ARDL Results: Short-run and Long-run Analyses

This section presents and discusses the ARDL model's long- and short-term findings. The cointegration test is followed by an analysis of two models, the dependent variable of which is inclusive growth. The independent variables in the first model take into account the effects of financial development, resource abundance, and human capital development, while the second model takes into account the interaction between fiscal policy and other variables. Initially concentrating on the short-term outcomes, Table 5 indicates that there is a negative correlation between financial depth and credit development to the private sector in Nigeria, and a positive correlation between the two in both models for inclusive growth. More precisely, a 1% increase in credit to the private sector lowers inclusive growth by 0.07% and 0.06%, respectively. On the other hand, the opposing counterpoint indicates that a unit rise in financial deepening results in a 0.0038% and 0.0029% boost in inclusive growth. Therefore, regardless of the model taken into consideration, loans to the private sector reduces inclusive growth in Nigeria, but financial deepening promotes inclusive growth. Due to a 1% short-term rise, the richness of agricultural resources during the same period propels inclusive growth by 0.163% and 0.602%. According to the same table, resource rents had a negative but not statistically significant influence in the first

model; however, when fiscal policy was taken into account for the second model, the impact changed to a positive one, indicating that a unit increase in resource rent causes inclusive growth by 0.0016%. The government's development of human capital was taken into consideration as a significant determinant for the study. According to the table report, public health spending has no effect on inclusive growth in the near term. However, in the second model, a 1% increase in public health spending results in a 0.105% rise in inclusive growth. The same conclusion is reached when government spending on education increases economic growth by 1%, or 0.055% and 0.084%, respectively. Given the interactive nature of fiscal policy, this demonstrates that one of the real instruments available to Nigerian policymakers for promoting equitable growth is policy. Even with the fiscal policy instrument taken into consideration in this study, the moderating influence of fiscal policy is evident in all the variables examined. According to the study, government revenue and spending have a short-term negative effect on inclusive growth in Nigeria. Specifically, a 1% rise in government revenue and expenditure results in a 0.049% and 0.045% decrease in inclusive growth. This outcome demonstrates even more how insignificant government efforts to promote growth have been. This works in tandem with the ways that inclusive growth is impacted by resource availability and the development of human capital in the same model.

The aforementioned outcome is not theoretically or practically dissimilar from what was anticipated. The high interest rates that financial institutions seek have hindered loans to the private sector, which has a knock-on effect on reasonable development and investment that will spur growth and advance Nigeria's financial development. Moreover, this threat merely highlights the disparity in the availability of capital for potential investors. Similarly, an increase in the money supply indicates that there is sufficient money in the economy to support the necessary expansion and development through investments in the many economic sectors. When it comes to resource richness, agricultural production indicates that there is enough food for every person, which is consistent with the adage that a nation that can feed its people can think about growing. Because food supply encourages growth, increases worker activity, and provides possibility for labor. However, a mixed impact from the paradigm for resource rent implies that the resources from rent have not been wisely used to support every resident. The fact that Nigeria's natural resources are not having the same impact on the entire country indicates that government projects have not been inclusive enough throughout time. Supporting the aforementioned short-term outcome, government policies over the years have failed to address issues of poverty, inequality, and other issues faced by various sectors of the Nigerian economy, particularly the energy, health, and education sectors. The latter have been perplexed by ongoing strikes and brain drains; even government policies have failed to calm their agitation.

Table 6 presents the long-term outcomes. The pattern of resource rent having no causal influence on inclusive growth in Nigeria is consistent. This demonstrates that resource rent does not significantly affect achieving inclusive growth in Nigeria in either of the models. This demonstrates even more how widespread corruption, poor management, and public money misappropriation are in the sector. Food production in agriculture continues to be able to propel Nigeria toward the inclusive progress that the nation has long yearned for. As demonstrated by the figure, a 1% increase in agriculture will propel growth in both models by 1.523% and 1.27%, respectively, beyond the short-term outcome. Compared to its short-term effects, government spending on education has a significant long-term influence. Over time, a 1% increase in government health spending results in 0.418% and 0.494% more inclusive growth. We can

conclude that government funding in the industry can contribute to fewer strikes, higher salaries, and improved infrastructure since these factors provide a crucial incentive for increased productivity in the industry. It is evident from government spending on health care that the industry is growing more slowly. This fact made it clear that the sector cannot and will not lead the nation to inclusive growth. Among other issues, the sector has been dealing with brain drains, a shortage of qualified workers, low gratitude and incentives, and a lack of basic amenities. For both models, a 1% increase puts inclusive growth far off by 0.33% and 0.42%.This lends more credence to the 2001 Abuja Declaration, which called for Nigeria to spend at least 15% of its overall budget on health care, something the country has yet to do more than 20 years later. Credit to the private sector and financial deepening have no bearing on financial development; the former have an adverse effect on inclusive growth, while the latter have a beneficial effect on attaining growth in Nigeria. Because of the probability level, government revenue appears to have no long-term impact on inclusive growth in the interaction function of fiscal policy. In a same spirit, both the short- and long-term effects of government spending are detrimental. This further demonstrates how government expenditure has been directed toward irrational projects over the years that actually affect the nation's population. For instance, corruption has spread so far throughout the nation that most elected officials, if not all of them, are more concerned with enhancing their own personal fortunes than with benefiting the voters. Not to mention the numerous crimes committed, including budget padding, figure manipulation, and the diversion of public cash into private coffers, among many others, this threat practically always affects newspaper deadlines.

On the error correction mechanism, Table 5 shows that its coefficient is consistent with the two necessary conditions to demonstrate long-run relationship and the speed of adjustment to long-run equilibrium for the inclusive growth model and the interactive role of fiscal policy models. They are significant, negative, and less than one in absolute value. The coefficients of the error correction term for these two models are respectively -0.2711 and -0.4522. This suggests that any disequilibrium that results from a one-time shock in the short-run will be adjusted for at a speed of 27.11% and 45.52%, respectively.

Table 5: ARDL Short-run Results

	IGR	**IR*IGR**
D(LGHE)	-0.020474 (0.3035)	0.1051*** (0.0014)
D(LGEE)	0.0556*** (0.0074)	0.0843*** (0.0011)
D(LCTPS)	-0.0799*** (0.0004)	-0.0689** (0.0199)
D(LAGRIC)	0.1639* (0.0601)	0.1602** (0.0419)
D(RENTS)	-0.0007 (0.1310)	0.0016** (0.0141)
D(M2)	0.0038*** (0.0007)	0.0029** (0.0387)
D(LGOR)		-0.0453** (0.0497)
D(LGOE)		-0.0862*** (0.005)
D(@TREND())	-0.003153** (0.0420)	
CointEq(-1)	-0.271113*** (0.0000)	-0.4552*** (0.0000)

***, **, and * represent significance levels at 1%, 5%, and 10%, respectively. Figures in parentheses are probability.

Table 6: ARDL Long-run Results

	IGR	IR*IGR
LGHE	-0.3345*** (0.0016)	-0.4298*** (0.0000)
LGEE	0.4181*** (0.0000)	0.4948*** (0.0000)
LCTPS	-0.2947*** (0.0014)	-0.1515** (0.0240)
LAGRIC	1.5230*** (0.0000)	1.2742*** (0.0000)
RENTS	-0.0028 (0.1705)	-0.0009 (0.4838)
M2	0.0140*** (0.0010)	0.0094** (0.0134)
LGOR		0.0122 (0.7942)
LGOE		-0.1895*** (0.0004)
C	-1.032631 (0.1094)	-0.1944 (0.4896)

***, ** and *represents significance level at 1%, 5% and 10%. Figures in parentheses are probability.

6. Conclusion and Recommendations

The empirical findings show that health and education spending respectively decline and promote inclusive growth in the short- and long-run periods. However, the impacts of agriculture and resources rents vary in both periods. While agriculture drives inclusiveness of growth in the short-run and long run, resources rents reduce inclusive growth in both periods. In conjunction with the result, for financial deepening it causes a rise in inclusive growth in both period while, credit to private sector reduce inclusiveness of growth in Nigeria, financial deepening stimulates the inclusiveness of growth in Nigeria. When the moderating role of fiscal policy is considered, we summarily observe that the influence of the regressor remains unchanged in the long run, showing that fiscal policy have no impact on stimulating the regressor on the depending variables, while in the short run the impact of government health expenditure and resource rent becomes positively related to inclusive growth. The result further exacerbates the impact of fiscal policy of the government in changing the direction of some certain variables in other to achieve her objectives. In the short run, government revenue remains insignificant compare to the negative impact of government expenditure positively affects inclusive growth in Nigeria.

These outcomes provide grounds for strong policy formulation towards the achievement of inclusive growth in Nigeria. First, the negative association between renewable energy consumption and CO2 emissions calls for a higher use of the former in the energy composition of the resource-rich countries. It is high time for the countries to begin to look beyond the consumption of available fossil fuels by deploying more of renewable energy sources so that the environment becomes sustainable. This further boils down to the need to enhance sustainable growth. Obviously, higher growth demands higher pressure on the environment since resources such as fossil fuels are critical production inputs. Nonetheless, higher investment in renewable energy can raise its consumption so that it provides a good alternative to fossil fuels in many regards. By so doing, the production process, and consequently, economic growth, becomes sustainable. Second, the unsustainable agricultural practices and the overdependence of the resource-rich countries on their natural resources tend to make the overall results to portend agriculture and resources rents as inducers of environmental decay in the short-run long-run, respectively. This thus requires that the governments of the countries curb the use of uncivilized agricultural practices such as undue application of manure, deforestation, chain saw operations,

etc. At the same time, the introduction of modern and environmentally friendly strategies should be adopted. They include farmers' orientation, appropriate irrigation system, planting support for treated seeds to support high and fast yield rather than using domestic manure, etc. More so, overdependence on natural resources should be checked by the government while additionally guarding against bad mining approaches

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