Resource governance: Does abundance of resources guarantee socioeconomic development in Nigeria?

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Abstract

This study aims to assess how resource governance affects socioeconomic development in Nigeria. Using the multivariate regression technique, a statistical analysis system involving the dependent variable and independent variables, secondary data was adopted for this empirical investigation and were sourced from the World Bank's World Development Indicators (WDI), the United Nations Development Program (UNDP) and the Central Bank of Nigeria Statistical Bulletin. The dataset spans from the first half of 2003 to the second half of 2022. The main analytical technique employed in this study is the Dynamic Ordinary Least Squares (DOLS) regression model, a systematic and effective method of estimating variables that do not change over time, otherwise known as stationary time series data. Empirical findings indicate that government effectiveness significantly negatively impacts socioeconomic development (proxied by the Human Development Index), while the Rule of Law positively and significantly impacts HDI. Furthermore, oil revenue exhibits a negative but insignificant impact on HDI, while Foreign Direct Investment has a significant negative impact on HDI. The findings of this study align with the Resource Curse Theory which states that countries with abundant natural resources tend to experience economic downturns as a result of high dependence on their natural resources. To address these issues, this study recommends that the government should implement sustainable and equitable management policies that ensure the responsible use of natural resources in Nigeria by embracing good governance, accountability, transparency, and ethical leadership to enhance capacity to address socioeconomic challenges.

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1. Introduction

The debate on whether abundant resources guarantee development is persistent (Lashitew & Werker, 2020). Some scholars argue that an abundance of resources leads to development (Jack et al., 2016; Gyang et al., 2010), while others view it as a curse, particularly for developing countries (Fu & Liu, 2023; Osaghe, 2015; Kolstad & Soreide, 2009). Fu and Liu (2023) argue that prolonged reliance on natural resources can harm the economy, a phenomenon often termed a curse. Resource governance has been a pressing issue across African countries since the 1950s and 1960s. Nigeria, the most populous African country, is rich in natural resources, including oil, gas, gold, and iron ore (Gyang et al., 2010; Adesopo & Asaju, 2004). However, these resources have not translated into significant benefits for the population (Habiyaremye, 2020; Ogunleye, 2008), largely due to mismanagement.

Nigeria continues to grapple with poverty, unemployment, illiteracy, and insecurity. Two divergent schools of thought exist regarding countries that possess substantial natural resources. The first school of thought acknowledged the fact that the availability of natural resources is a fundamental determinant of a nation's wealth (Jack et al., 2016; Gyang et al., 2010) and the overall well-being of its citizens, the abundance of natural resources in any given country can significantly contribute to its economic prosperity and facilitate its socio-economic development (Habiyaremye, 2020; Jack et al., 2016). The second school of thought believes that countries with natural resources, like Nigeria, are always victims of the resource curse "paradox of plenty" (Kolstad & Soreide, 2019). Regarding Nigeria's situation, it can be deduced that Nigeria's situation is the latter (Kolstad & Soreide, 2019; Osaghe, 2015).

Accordingly, countries with access to natural resource supplies should enjoy a considerable advantage in their socio-economic development and ability to attract foreign investment and partnerships with other countries and multinational corporations (MNCs) (Mahtani, 2008). However, in most African countries, like Nigeria, there has been a problem of poor governance of these natural resources (Mabrey, 2017), especially in the mining and extraction sector (Mahtani, 2008). The country has experienced more negative impacts than positive ones due to a lack of governance of this abundance of resources instead of socio-economic development (Osaghe, 2015; Ogunleye, 2008). Moreover, the Central Bank of

Nigeria reported that more than half of Nigeria's total revenue is generated from oil exports (CBN, 2022). The report also highlighted that Nigeria experienced a drop in oil revenue in 2020 due to the global challenges of the pandemic as well as the trade wars between Saudi Arabia and Russia (Uduu, 2022; Campbell, 2020).

In Nigeria, the lack of effective management of natural resources has given rise to a plethora of negative occurrences (Osaghe, 2015), including inter-ethnic conflicts, heightened incidents of banditry, and border conflicts, to cite a few examples. The root cause of these issues can be traced back to the inadequate governance of natural resources. Insufficient management of such resources results in their overexploitation, which, in turn, leads to resource depletion, environmental degradation, and social unrest (Erdoğan et al., 2021), for instance, the Niger Delta region have experienced the negative effect of natural resources rather than it positive effect (Osaghe, 2015). It should be noted that before natural resources can bring development, they must be properly extracted, mobilised and logically distributed (Fu & Liu, 2023; Jack et al., 2016), and use of these resources in a sustainable, transparency and accountable manner to ensure that the benefits are shared equitably and that the environment is not unduly damaged (Nkoa et al., 2024; Gotan, 2004).

The effective management of natural resources has the potential to bring about significant socioeconomic development (Erdoğan et al., 2021; Gotan, 2004), and this is if resources such as land, water, forests, and minerals are used judiciously, it can lead to improved livelihoods and enhanced economic growth (Gyang et al., 2010), the socioeconomic development of a country is influenced by both exogenous and endogenous factors (Ewetan, 2014). Exogenous factors can be a country's relationships with other state and non-state actors (Charountaki, 2018), the foreign policy it adopts or the agreements it signs (Haesebrouck & Joly, 2021; Morin & Paquin, 2018). These can contribute to a win-win or a win-loss situation (Lixin & Wanling, 2019), affecting the country's socio-economic development. On the other hand, endogenous factors include internal factors such as government administration, public policy, and the strength of public institutions (Onyango, 2023; Dobra, 2021). For instance, policies made by the government of a country can determine the level of a development-driven environment or hinder it. With natural resources available to a country, how a country manages its resources internally and in relation to other

countries (Mahtani, 2008), especially its trading strategy in the international market, has a huge impact on its socio-economic development.

The measurement of socioeconomic development is fundamental to assessing a nation's economic and social progress. In this regard, indicators such as Gross Domestic Product (GDP), life expectancy, literacy rates, and employment levels are widely recognised as key measures of socioeconomic development (Ewetan, 2014). Gyang et al. (2010) identified several challenges impeding development in Nigeria. One particular concern is the management of natural resources, which has been identified as a significant obstacle to development. Hence, this paper seeks to evaluate the impact of resource governance on Nigeria's socio-economic development in Nigeria, to determine whether an abundance of resources ensures socioeconomic development in the country.

2. Literature Review

2.1. Natural resources and Natural Resources Governance

Resources can be human and natural (Adeope & Asaju, 2004). The focus of this paper is on the latter. According to Adesope and Asaju (2004), natural resources are gifts of nature that can be either renewable or non-renewable, including minerals, water, agriculture, forests, and the atmosphere. Barlowe (1978:228), as cited in Adeope and Asaju (2004), regarded natural resources as land resources, categorised into three as; fund resources, flow resources and a composite group. According to Barlowe (1978), the fund resources include metals, mineral fuels, coal, stone, and other similar resources, which is the focus of this work. On the other hand, flow resources refer to resources such as precipitation, water in streams and lakes, sunlight, wind, tides, and climate. Lastly, the composite group of resources includes subclasses like biological resources, soil resources, and manmade improvements such as buildings, reservoirs, or highways. On the other hand, Acosta (2010) defines natural resource governance as "*the set of strategies to improve the transparency and accountability of governments and private companies during the licensing, exploration, contracting, extraction, revenue generation, and allocation of natural resources.*" This transparency and accountability must be in all areas of natural resource management (Nkoa et al., 2024). These areas include licensing, exploration, contracting, extraction, and revenue generation. It is crucial to involve all stakeholders, starting from the government (including the executive,

Parliament, and other state institutions), private companies involved in extraction, non-governmental organisations (NGOs), the media, and civil society organisations (Osawe & Uwa, 2023).

According to Osawe and Uwa (2023), natural resource governance does not only focus on regulating the extractive practices of private companies, such as the voluntary principles on security and human rights. Instead, it also considers how governments manage these resources. From the definition, natural resources governance is the management and distribution of a country's natural resources by its government to promote socioeconomic development in a sustainable manner. This also involves policies regulating foreign multinational corporations' extraction of these natural resources.

Socio-economic development, as defined by Ijere (2014), is a process that encompasses social and economic progress within a society. This progress can be quantified through indicators such as GDP, literacy rates, employment levels, and life expectancy. However, other equally important factors must also be considered, such as personal safety, dignity, freedom from fear of physical harm, and the degree of participation in civil society. Technological advancements and law changes are among the state's responsibilities in the governance process that contribute to socio-economic development. According to Chrisman (1984), as cited in Ijere (2014), socio-economic development is a collaborative process between different sectors and groups in society to enhance people's well-being. In essence, socio-economic development denotes the progress in the standard of living and economic conditions of society. The term encompasses the combination of social and economic development. In this context, socio-economic development pertains to the enhancement or betterment of the quality of life and the upswing in the economic welfare and conditions of the people.

Barlowe (1978) as cited in Jack et al. (2016) describes natural resources as productive assets that support economies by providing necessary resources. However, he also noted that they can be sources of ethnic conflicts and environmental degradation; this can happen when management lapses occur. The presence of natural resources has a profound impact on countries' socio-economic and political relations (Osawe & Uwa, 2023). Natural resources are finite and non-renewable (Adeope & Asaju, 2004), and their extraction can lead to significant environmental, social, and economic consequences (Osawe & Uwa, 2023).

Therefore, it is imperative to understand the implications of natural resource extraction to promote sustainable development and minimise negative impacts. The extraction of natural resources shapes countries' economic, social, and political landscape. Natural resources serve as a critical source of revenue for many countries (Lashitew & Werker, 2020), and their extraction and usage (Teng, 2023) often drive socioeconomic development (Fu & Liu, 2023).

Socioeconomic development is a primary objective for economies worldwide, and various strategies can be employed to attain this goal. One such approach entails effectively managing available natural resources, a strategy heavily influenced by a country's historical background and resource endowment (Ogunleye, 2008). Effective resource governance is fundamental in promoting socioeconomic development, which can be achieved through efficient management techniques.

2.2. Resource Governance Challenges and Socio-economic Development

Corruption and rent-seeking behaviour in resource management. Many resource-rich countries underperform economically due to corruption (Mlambo, 2022). Two main forms of corruption in these countries are rent-seeking and patronage. Rent-seeking occurs when individuals compete for a share of the resource rents rather than using their time and skills productively. Meanwhile, patronage occurs when governments pay off their supporters to remain in power, which leads to reduced accountability and a poorer allocation of public funds (Kolstad & Soreide, 2019). According to Erum and Hussain (2019), corruption in the natural resources sector can be viewed in two ways; first, the presence of natural resources without checks and balances can cause corruption, and second, the existence of corruption within the management system of natural resources poses a significant challenge to the attainment of optimal utilisation of these resources, resulting in adverse economic consequences (Kolstad & Soreide, 2019). The abundance of natural resources can lead to the creation of opportunities for rent-seeking and patronage (Mlambo, 2022; Erum & Hussain, 2019); however, as observed by Kolstad and Soreide (2019), countries having an abundance of natural resources perform poorly because of corruption impeding the achievement of socio-economic development. Nations with a surplus of natural resources are susceptible to falling prey to the resource curse due to mismanagement. The resource curse refers to the paradoxical phenomenon in which resource-rich countries experience economic stagnation or decline despite abundant natural resources (Alssadek, & Benhin, 2023; Saeed, 2021). This

condition is often attributed to a combination of factors, including weak governance, corruption, poor economic policies, and a lack of economic diversification (Erum & Hussain, 2019).

Lack of transparency and accountability in the extractive industries. The process of extracting natural resources is linked to environmental degradation, a connection that is often ignored. When seeking sustainable development, it is important to address this issue. The extractive industries' lack of accountability and transparency is costlier than ever imagined (UNCAC Coalition, 2022). When natural resources are managed effectively, with the help of proper systems, transparent and participatory decision-making processes, and efficient institutions, the sector can attract foreign direct investment and generate government revenues (UNCAC Coalition, 2022). This can lead to socio-economic development. However, most countries with natural resources face challenges related to accountability and transparency, making it difficult to manage these resources effectively.

Environmental degradation and social impacts of resource extraction. It is evident that all 36 states in Nigeria possess abundant natural resources, as reported by the Ministry of Foreign Affairs (Ministry of Foreign Affairs, n.d). If these resources are effectively managed may contribute to the country's socioeconomic development. It is logical to deduce that environmental degradation is inevitable in areas where mining and extraction of natural resources occur (Gyang et al., 2010). It was recorded that farmers leave their farms and students drop out of school, joining the army of illegal mining (Vanguard News, 2024). For instance, in Zamfara state in Nigeria, illegal mining has undermined the socio-economic development area of Bukkuyum and local government areas. Due to the degradation of the environment, many peasant farmers have left farming, increasing the poverty level in that area. The illegal mining in Zamfara is always carried out by local artisans and illegal mine traders from countries like Russia and China (Vanguard News, 2024).

Conflict over resource control. Ineffective management of resources has caused conflict and civil unrest among groups fighting for control of resources (Conrad et al., 2018). There are several ways in which natural resources can contribute to conflict. One such way is when the extraction or mining of natural resources is not properly regulated. This can allow rebel groups to gain access to these resources, which in turn provides them with the means to acquire weapons and recruiting fighters can potentially increase their military capacity and

prolong the war (Conrad et al., 2018). Another instance that can lead to conflict is the inequitable distribution of natural resources; it is a factor that has been known to contribute to conflict in society. Specifically, marginalised groups may resort to aggressive measures to voice their grievances when their access to resources is compromised. As a result, conflicts often arise, leading to societal instability. The abundance of valuable minerals, including oil, gas, californium, and precious stones, in Borno, within the shores of Lake Chad and select areas of the Sambisa Forest, has piqued the interest of international investors. Unfortunately, this has also made the region more susceptible to the ongoing conflict, the current terrorism war being waged by Boko Haram rather than religious interest (Vanguard, 2024). The impact of this on socio-economic development lies in the fact that when there is conflict, people can go on their day-to-day activities, which impedes economic activities and reduces development. The productivity of the people has been hampered as there is no safe environment in which to carry out business transactions.

2.3. Theoretical Framework

In this study, two theories were used as theoretical framework. The first theory is the resource curse theory, which explains the Nigeria's current socio-economic status. The second theory is the governance theory, which was used to solve the problem posed by the resource curse theory and achieve socio-economic development.

According to the resource curse theory, nations with plentiful natural resources, such as Nigeria with abundant oil reserves, frequently encounter difficulties such as sluggish economic expansion, heightened corruption, and social unrest (Kolstad & Soreide, 2019). In the case of Nigeria, this theory sheds light on the socio-economic obstacles the country confronts despite its vast oil wealth. It underscores how Nigeria's excessive dependence on oil revenue has given rise to governance problems, economic disparities, and social strife (Osaghe, 2015), all of which have impeded the attainment of socioeconomic development.

On the other hand, governance theory emphasises the crucial role of transparent, accountable, and effective institutions in driving equitable and lasting progress (Lockwood et al., 2010). It provides a means to combat the obstacles presented by the resource curse theory. By prioritising good governance practices like transparency, accountability, and citizen engagement (Nkoa et al., 2024; Acosta, 2010), Nigeria can confront the root causes of

its resource curse and chart a course towards socio-economic growth. This theory offers a blueprint for implementing reforms that can strengthen resource governance and foster sustainable development across Nigeria.

3. Methodology

This study seeks to assess how resource governance affects socioeconomic development in Nigeria. To achieve this goal, this study adopts a specific methodology encompassing the research design, data collection, estimation technique, model specification, and the underlying economic expectation.

3.1. Research Design

A research design is a blueprint or model for specifying various empirical analysis techniques (Khanday & Khanam, 2019). This study utilises a multivariate time-series research design, a statistical approach suitable for examining multiple dynamic variables for an entity. Given the focus on Nigeria, the scope of the study, and the availability of quantitative data on the variables adopted, a time series analysis is appropriate for analysing multiple variables measured (in this case, resource governance and economic growth indicators) at different points in time for a single entity (Nigeria). This design focuses on the dynamic relationships between these variables over time.

3.2. Description and Sources of Data

Secondary data adopted for this empirical investigation were sourced from the World Bank's World Development Indicators (WDI), the United Nations Development Program (UNDP) and the Central Bank of Nigeria Statistical Bulletin. The dataset spans from the first half of 2003 to the second half of 2022. It is important to note that ethical considerations were put in place to ensure that all external data sources, empirical studies and publications referenced in this study are properly cited. This study adopts a multivariate time-series regression technique, a statistical analysis system involving the dependent and independent variables. In this regard, the Human Development Index (HDI) is the dependent variable, and it is used as a proxy for socio-economic development. On the other hand, the independent or explanatory variables include Government Effectiveness (GE) and Rule of Law (ROL) – the indicators of good governance, Oil Revenue (OIL) and Foreign Direct Investment (FDI).

The Human Development Index involves three fundamental areas of human development, which are health (measured by life expectancy at birth), educational attainment (average years of schooling) and living standards (income per capita). The HDI combines these three indicators into a single index using geometric mean. In a nutshell, the HDI, according to UNDP, is the best measure of socioeconomic development as it shows how far a country has gone in attaining human development.

Government Effectiveness represents perceptions of the standard of public policy implementation, political power and the reliability of the current government and its agencies. It accesses the proficiency of bureaucrats in implementing adequate policies that will improve various sectors of the economy, thus allowing for investments in necessary infrastructure, such as access to socioeconomic benefits like education, health, and decent work. Government effectiveness also ensures transparency in the public sector as well as the absence of corruption.

Meanwhile, the Rule of Law demonstrates how unbiased government agents are when prescribing policies that affect the overall economy (Paleri, 2022). When there is a strong rule of law governing the resource sector, there will be transparency and accountability in resource governance (Osawe & Uwa, 2023), because individuals can survey how revenue from natural resources is distributed. This discourages corruption and ensures that proper infrastructural investments that will contribute to socio-economic development are made.

Oil revenue is the total revenue the country generates from oil exports, petroleum profit taxes and other rents and royalties directly or indirectly related to the oil sector; while Foreign Direct Investment entails the revenue the government generates from foreign investors that own businesses, company shares and other local facilities within the country.

3.3. Data Estimation Technique

The main analytical technique employed in this study is the Dynamic Ordinary Least Squares (DOLS) regression model which is a systematic and effective method of estimating variables that do not change over time, otherwise known as stationary time series data. As the name implies, the DOLS model estimates the dynamic relationships between the dependent and independent variables. The DOLS model was developed by Stock and Watson (1993)

and this estimator is a valuable tool for analysing small sample datasets (in this case, Nigeria for the period of 2003 to 2022). Unlike many alternative estimators, it can handle higher orders of integration and account for potential bias among variables, making it particularly suitable for complex economic systems. By addressing small sample bias and dynamic issues, the Stock-Watson DOLS technique provides more reliable long-run estimates than the conventional method of ordinary least squares (OLS).

Additionally, the DOLS method is a robust single-equation approach that corrects for endogeneity by including leads and lags of first differences of the regressors. This approach is particularly useful for analyzing co-integrated panels, where using OLS to estimate long-run relationships can lead to inconsistent and inefficient parameters. Hence, this approach is best suited for analyzing the long-run relationship between resource governance and socio-economic development in Nigeria and the statistical software adopted for this analysis is EViews 12 due to its excellent statistical tools and user-friendly interface.

3.4. Model Specification

To verify if the "Resource Curse" and "Governance" theories collectively hold in Nigeria, this study presents the following model:

$$HDI = f\ (GE,\ ROL,\ LOIL,\ FDI) \qquad\qquad (eqn1)$$

Where:

HDI = Human Development Index; GE= Government Effectiveness; ROL= Rule of Law, OIL= Oil Revenue, FDI= Foreign Direct Investment

Equation 1, which is the functional form of the model is further transformed into the DOLS model as follows:

$$HDI_t = \beta_0 + \beta_1 GE_t + \beta_2 ROL_t + \beta_3 OIL_t + \beta_4 FDI_t + \beta_5 \Delta GE_t + \beta_6 \Delta ROL_t + \beta_7 \Delta OIL_t + \beta_8 \Delta FDI_t + \beta_9 \Delta GE_{t+1} + \beta_{10} \Delta ROL_{t+1} + \beta_{11} \Delta OIL_{t+1} + \beta_{12} \Delta FDI_{t+1} + \beta_{13} \Delta GE_{t-1} + \beta_{14} \Delta ROL_{t-1} + \beta_{15} \Delta OIL_{t-1} + \beta_{16} \Delta FDI_{t-1} + \varepsilon_t \qquad (eqn2)$$

Where:

L= Logarithmic function

β_1 = Constant or intercept parameter

β_1, β_2, β_3, β_4, = Long run parameters

β_1, β_2, β_3, β_4, β_5, β_6, β_7, β_8, β_9, β_{10}, β_{11}, β_{12}, β_{13}, β_{14} β_{15}, β_{16} = Lagged terms

ε = The random disturbance or error term. This captures all other factors, (other than the independent variables) that might influence the dependent variable which are not included in the model of estimation.

3.5. Economic Expectation

This study expects the indicators of good governance (Government Effectiveness and Rule of Law) to positively impact the Human Development Index. Simply put, if the Nigerian Government is transparent and accountable in its management of the country's resources, there will be a significant improvement in the socio-economic status of the citizens. Furthermore, according to the resource curse theory, an increase in oil revenue (that is, increased oil dependence) is expected to hamper socio-economic development (proxied by the Human Development Index). Finally, Foreign Directed Investment is expected to have a positive impact on socio-economic development.

4. Findings and Discussion

4.1. Descriptive Analysis

The descriptive analysis is a statistical representation of the distinctive attributes of the data employed in this study. It involves the mean and median (which are measures of central tendency), the standard deviation, skewness, the Jarque-Bera test for normality and the number of observations.

Table 1

Descriptive Statistics

	HDI	GE	ROL	LOIL	FDI
Mean	0.503526	14.17927	14.08445	8.471399	1.354772
Median	0.501500	13.58914	13.63095	8.482116	1.296661
Maximum	0.548000	20.58824	20.95238	9.091441	2.900249
Minimum	0.449000	8.612440	4.975124	7.637370	-0.039522
Std. Dev.	0.028346	3.141071	4.399568	0.324514	0.832797
Jarque-Bera	2.394204	1.502467	0.759958	0.350308	2.867253
Probability	0.302068	0.471784	0.683876	0.839328	0.238443
Observations	39	39	39	39	39

Source: Author's compilation from EViews' Estimation Output

From table 1, the mean and median of the variables are within close range indicating that there is no outlier. In other words, none of the variables have any observation that is extremely larger or smaller than the next nearest observation in the data set. The standard deviation also shows that all the observations vary. The probabilities of the Jarque-Bera statistics are all greater than 0.05 (level of significance), thus the null hypothesis of non-normality is rejected, implying that all the variables are normally distributed. Finally, the total number of observations is 39 as adjusted by EViews.

4.2. Correlation Analysis

A correlation test is conducted to ascertain the degree of association between two independent variables. A correlation coefficient greater than or equal to 0.8 indicates a high collinearity among the variables.

Table 2

Correlation Matrix

	HDI	GE	ROL	LOIL	FDI
HDI	1.00000	-0.63358	0.895896	0.072467	-0.85104
GE	-0.63358	1.00000	-0.55317	-0.12806	0.393753
ROL	0.895896	-0.55317	1.00000	0.069466	-0.6648
LOIL	0.072467	-0.12806	0.069466	1.00000	0.078491

Source: Author's compilation from EViews' Estimation Output

Table 2 indicates that there are no highly collinear independent variables, as there are no correlation coefficients greater than 0.8 among the eight matrix cells housing the independent variables (GE, ROL, LOIL, FDI) except the correlation of the variable with itself, indicated by a perfect collinearity of 1.0. Hence, in this study, there is no problem of multicollinearity.

4.3. Stationarity Test Result

A test for stationarity or the unit root test is a prerequisite for the main regression analysis. It is used to determine if the mean and variance of variables are stable or stationary over time. A stationary time series is necessary to avoid a spurious or bogus regression. In this study, the Augmented Dickey-Fuller Test for Stationarity was adopted, with the following hypotheses:

H_0: Non-stationary

H_1: Stationary

Decision rule: Reject the null hypothesis (H_0) if the p-value of the ADF test statistic is less than 0.05. Otherwise, fail to reject.

Table 3

Results of Augmented Dickey-Fuller (ADF) Unit Root Test

Variables	ADF test statistic	t-statistic at 5% level of significance	Probability-value	Order of integration	Remark
HDI	-3.240130	-2.900670	0.0215	I(1)	Stationary
GE	-2.800020	-1.945456	0.0057	I(1)	Stationary
ROL	-1.993668	-1.945456	0.0449	I(1)	Stationary
LOIL	-3.357703	-2.900670	0.0157	I(0)	Stationary
FDI	-7.148845	-2.611531	0.0000	I(1)	Stationary

Source: Author's compilation from EViews' Estimation Output

Table 3 shows that all the variables are stationary, implying that the null hypothesis of non-stationarity was rejected for all. Three variables, HDI, GE, and ROL, became stationary after their first difference, while the remaining two, OIL and FDI, were stationary at their level form.

4.4. Cointegration Test Result

A cointegration test is a pre-estimation test conducted after the unit root test. It determines the possibility of a stable long-run relationship among the variables. This study adopts the Johansen Cointegration Test with the following hypotheses:

H_0: Variables have no stable long-run relationship

H_1: Variables have stable long-run relationships

Decision rule: Reject the null hypothesis (H_0) if the p-value of the trace statistic of a hypothesised cointegrating equation is less than 0.05 (denoted by *). Otherwise, fail to reject.

Table 4

Johansen Co-integration Test (Trace Statistic)

Hypothesised No. of Cointegrating Eqn(s)	Eigenvalue	Trace Statistic	5% Critical Value	Probability Value **
None *	0.584910	80.72240	69.81889	0.0052
At most 1 *	0.421833	48.18981	47.85613	0.0465
At most 2	0.386768	27.91778	29.79707	0.0811
At most 3	0.232996	9.824356	15.49471	0.2945
At most 4	0.000260	0.009637	3.841465	0.9215

Note: Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

Table 4 indicates 2 cointegrating equations, thus, the null hypothesis (H_0) of no cointegration is rejected, implying that there is a stable long-run relationship among the variables.

4.5. Regression Analysis

The estimation result is presented and analysed based on the sign and magnitude of each of the variables' coefficients. The study also determines if these results conform to the initial economic expectations. In a nutshell, the regression results verify if the resource curse and governance hypotheses exist in Nigeria.

Table 5

Dynamic Ordinary Least Squares Estimation Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GE	-0.001648	0.000266	-6.202584	0.0002
ROL	0.002457	0.000231	10.62183	0.0000
LOIL	-0.004181	0.002430	-1.720643	0.1194
FDI	-0.016594	0.001317	-12.60033	0.0000
C	0.551218	0.016879	32.65718	0.0000

R-squared = 0.999244   **Adjusted R-Squared** = 0.997227

F-statistic = 495.3986   **Probability (F-stat)** = 0.0000

Durbin Watson Statistic = 2.442545

POST ESTIMATION TEST RESULTS			
Residual Diagnostic Test	**Test statistic**	**P-value**	**Remark**
Normality Test (Jarque-Bera)	1.118018	0.571775	Normally Distributed
Heteroskedasticity Test (Breusch-Bagan-Godfrey)	28.13870	0.2542	Homoscedastic
Autocorrelation (Breusch-Godfrey LM Test)	7.498673	0.0235	Serially Correlated (Corrected)
Specification Test (Ramset Reset Test)	3.573325	0.0954	Correctly Specified

Source: Author's Construct from EViews' Output

The estimation results of the Dynamic Ordinary Least Squares Regression analysis, presented in table 5 show that Government Effectiveness (GE) has a significant negative impact on the Human Development Index with a long-run coefficient of -0.001648 and a probability value of 0.0002. This implies that holding other factors constant, as government effectiveness increases, there will be a 0.2% decrease in socio-economic development. While this does not conform to prior economic expectations, it is noteworthy that the resource curse in Nigeria might be a reason for this outcome. Effective control over specific sectors of the economy (in this case, the oil sector) often leads to negligence of other sectors like education, agriculture and health, which are measures of socioeconomic development. Thus, even with credible resource management by the civil service, there is still a decline in the education, health, life expectancy and personal income of the citizens of Nigeria. This result aligns with

the views of Erum and Hussain (2019), who argue that government officials often prioritise their supporters. Kolstad and Soreide (2019) added that patronage occurs when governments are only effective in a bid to remain in power for the next political term. As Erum and Hussain (2019) pointed out, abundant natural resources can exacerbate these issues. Therefore, the findings of this study confirm that government ineffectiveness negatively impacts socioeconomic development in the long run, as suggested by the existing literature.

In contrast, the rule of law (ROL) significantly positively impacts socio-economic development (proxied by HDI), with a coefficient of 0.002457 and a p-value of 0.0000. Thus, other factors remain unchanged; as more clearly defined laws and regulations are put in place, Nigeria will have a 0.2% increase in socio-economic development. Intuitively, the rule of law ensures that the government is held accountable for its actions regarding resource control and revenue management. As a result, revenue can be properly invested in education, healthcare and infrastructure development when the bureaucrats involved are properly checked. The findings align with the UNCAC Coalition (2022), which emphasises the importance of effective legal and regulatory instruments for sustainable development. From the findings of this study, the rule of law ensures that the government and public services are held accountable for their actions. Osawe and Uwa (2023) suggest that if proper policies are implemented and backed by the rule of law, Nigeria can fully harness its abundant resources, leading to an improvement in the socioeconomic development of the country in the long run.

Table 5 also shows that Oil revenue (OIL) has a long-run coefficient of -0.004181 and a p-value of 0.1194, implying a statistically insignificant relationship. Based on this result, an increase in oil revenue tends to decrease socioeconomic development (HDI) by 0.4%. This supports the resource curse theory which highlights that a country's overdependence on its natural resources (oil in the case of Nigeria) impedes economic expansion and socioeconomic development. Despite Nigeria's vast oil resources, the citizens still suffer poor standards of living. However, from the empirical result, this relationship is statistically insignificant, meaning that the data available does not provide enough statistical evidence to support this outcome. This result aligns with the findings of Ezekwe et al. (2022), who recorded an insignificant relationship between oil rents and the human development index in Nigeria. They further argued that the lack of significant contributions from oil rents

to socioeconomic development can be attributed to systemic corruption and mismanagement of oil revenues in Nigeria.

This study reveals a significant negative long-run relationship between Foreign Direct Investment (FDI) inflows and the Human Development Index (HDI) in Nigeria. The coefficient of -0.016594, with a p-value of 0.0000, indicates that a 1% increase in FDI is associated with a 0.0166% decrease in HDI, all else being equal. This suggests that despite the potential benefits of FDI, such as technology transfer and job creation, its impact on socio-economic development in Nigeria may be detrimental. As previously discussed by Ogunleye (2008) and Osaghe (2015), the negative relationship between FDI and HDI can be attributed to several factors, including poor governance and institutional weaknesses. Poor effectiveness in resource governance, uncertainty, and lack of transparency can lead foreign investors to prioritize short-term profits over long-term sustainable development. This also aligns with the reports of UNCAC Coalition (2022) who suggested that the negative impact of FDI on HDI may be exacerbated by the "resource curse" phenomenon, where countries with abundant natural resources, may experience slower economic growth and development due to rent-seeking, and poor governance. In such cases, FDI may reinforce existing patterns of inequality and hinder the development of other sectors of the economy.

The post-estimation test results highlighted in table 5 indicate that the variables are normally distributed, meaning that the variables move together around the mean. The diagnostic test also shows that there is no problem of heteroskedasticity, implying that the residuals or disturbances (unobserved factors that also influence the dependent variable) are evenly spread along the regression line. Simply put, the residuals have constant variance across different levels of the independent variables thus, the model can adequately predict the actual impact of the independent variables on the dependent variable. Additionally, the overall model is correctly specified. However, there is autocorrelation which is corrected with Newey-West Heteroskedasticity and Autocorrelation Correction (HAC).

4.6. Parameter Stability Test (CUSUM Test)

The CUSUM test, the "cumulative sum" of the residual terms, shows that the parameters are stable over time given that they are within the bounds of the 5% significance value.

Figure 1

Parameter Stability Test Result
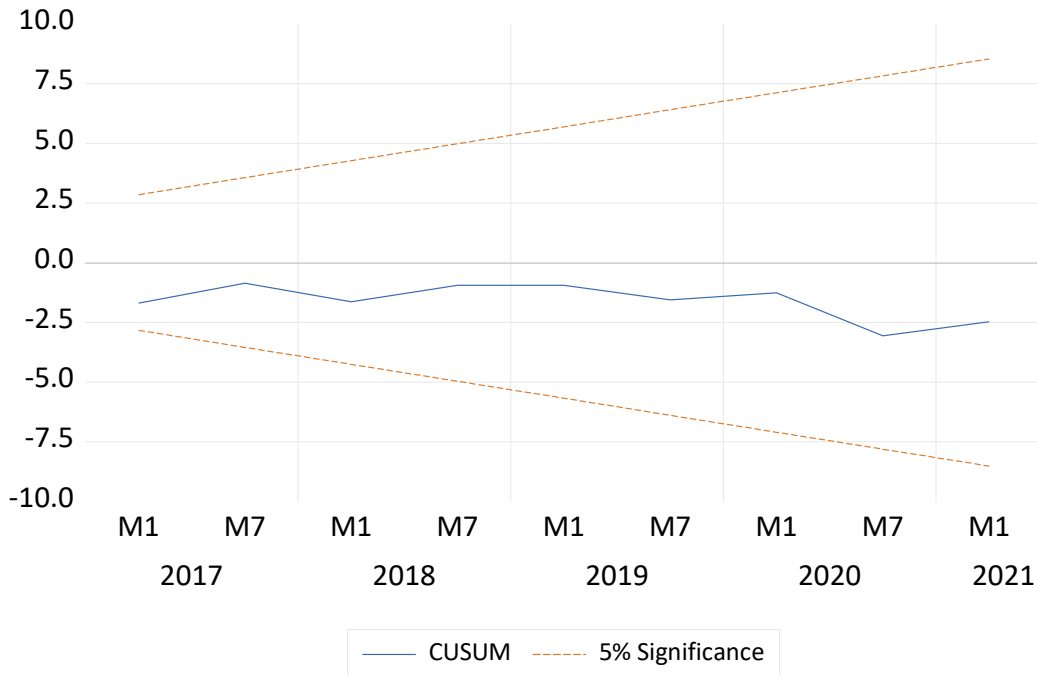
Source: Author's Construct from EViews' Output

5. Conclusion and Recommendations

The empirical findings indicate that government effectiveness has a significant negative impact on socioeconomic development (proxied by the Human Development Index) while Rule of Law positively and significantly impacts HDI. Furthermore, Oil revenue exhibits a negative but insignificant impact on HDI, while Foreign Direct Investment has a significant negative impact on HDI. The findings of this study align with the Resource Curse Theory, which states that countries with abundant natural resources (Nigeria, in this case) tend to experience economic downturns as a result of high dependence on their natural resources. This study also supports the resource governance theory, which highlights the role of transparency and accountability in resource management.

To address the challenges associated with the resource curse and build a more sustainable and equitable economy, Nigeria should strengthen public-private partnerships, enhance the rule of law, diversify the economy, promote intergenerational equity, and foster regional cooperation. Specifically, there should be a collaborative effort between Nigeria's public sector and private foreign oil companies. The government should establish an independent audit committee that would verify the exact amounts of revenue generated from the oil sector. There should be task forces with representatives from the government, oil companies, and the civil service that will develop policies that channel oil revenues to targeted stakeholders. This can be achieved by enforcing contractual obligations for oil companies to contribute to local development and social welfare programs. Also, this study has established that the rule of law is a strong force in ensuring government effectiveness and accountability. Hence, legal and policy instruments in Nigeria should check resource governing bodies by mandating oil companies to publicly disclose data on revenue generated and allocated. Finally, there should be a proper allocation of resources towards developing and improving other sectors like agriculture, education, health, and infrastructure. By diversifying the economy, there would be a reduction in Nigeria's dependence on oil, leading to a more stable economy.

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