

# Ease of doing business and economic growth nexus in Nigeria: the institutional quality

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Article History	Abstract
Original Research Article	<p><i>This study investigates the Ease of Doing Business - economic growth nexus in Nigeria: “The institutional quality”, over the period 1996–2024. The primary objective is to examine how improvements in the business environment—particularly through enhanced private-sector credit access and corporate activity—interact with institutional quality (proxied by Government Effectiveness) to influence economic growth, as measured by Nominal Gross Domestic Product (NGDP). The study utilizes a time-series dataset of 29 annual observations sourced from Central Bank of Nigeria, National Bureau of Statistical Bulletin, whereas, data on corporate income tax (CIT) and institutional quality (IQ) are taken from Federal Inland Revenue Service and Worldwide Governance Indicators (WGI) respectively. Pearson correlation analysis, Descriptive statistics and Ordinary Least Squares (OLS) regression are employed for data analysis. All growth-related variables - Nominal GDP (NGDP); credit to private sector (CPS); corporate income tax (CIT); monetary policy rate (MPR); total savings (TS) are transformed into natural logarithms to interpret coefficients as elasticity, while Government Effectiveness (GE) is included in its original scale. Correlation analysis identifies a strong private-sector growth core: NGDP exhibits very strong positive associations with CPS and CIT. Descriptive statistics reveal high nominal volatility and positive skewness in NGDP, Credit to Private Sector, Company Income Tax, and Total Savings, reflecting structural shifts driven by currency devaluation, inflation, and banking reforms. The finding of OLS model CPS emerges as the dominant driver implying that credit to private sector raises NGDP significantly, whereas CIT contributes marginally positively to the NGDP. While TS shows a significant negative impact on NGDP likely capturing precautionary savings behavior. MPR and GE are statistically insignificant, highlighting weak monetary policy transmission and limited direct influence of institutional quality on growth. The findings indicate that Nigeria’s nominal economic growth over the study period has been predominantly private-sector led, driven by credit expansion and corporate profitability, despite persistently low institutional quality and ineffective monetary policy channels. Hence, the recommendations offers deepening financial sector reforms to sustain and improve credit allocation efficiency, strengthening institutional frameworks through anti-corruption measures, regulatory predictability, and civil service modernization to enhance government effectiveness, and improving savings mobilization mechanisms to convert accumulated savings into productive investment. These steps are essential for translating nominal gains into sustainable, inclusive real economic growth.</i></p> <p><b>Keywords:</b> Ease of Doing Business, Economic Growth, OLS method, Descriptive Statistic, Correlation Analysis.</p> <p><b>JEL Classification Codes:</b> O47, O16, E52, O43</p>
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## 1.0 Introduction

The business environment of a nation remains a critical determinant of its economic performance, investment climate, and structural transformation. The concept of ease of doing business describes the regulatory, institutional, and administrative conditions that shape the establishment, operation, and expansion of firms within an economy. It reflects the efficiency of procedures relating to business registration, access to credit, taxation, contract enforcement, property rights protection, and regulatory transparency. The World Bank conceptualizes ease of doing business as the extent to which regulatory systems facilitate or constrain private sector development (World Bank, 2020). Economies with streamlined regulations and strong institutions tend to record higher productivity, increased firm creation, and stronger growth outcomes. Nigeria, as Africa's largest economy by output size and population, possesses significant market potential, abundant natural resources, and strategic geographic positioning. However, despite these advantages, economic growth in Nigeria has been characterized by volatility, structural imbalances, and persistent developmental challenges. While periods of oil-driven expansion boosted nominal output, these gains have not consistently translated into sustained private sector-led growth. Bureaucratic bottlenecks, regulatory uncertainty, infrastructural deficits, and governance weaknesses continue to shape the business climate. Consequently, the relationship between the ease of doing business and economic growth in Nigeria remains both policy-relevant and empirically important. Economic growth in this study is proxied by Nominal Gross Domestic Product (nGDP), which measures the value of goods and services produced within the economy at current market prices. Nominal GDP captures overall economic activity and reflects the combined effects of output expansion and price changes. Over the period 1990–2024, Nigeria experienced episodes of macroeconomic instability, structural adjustment reforms, democratic transition, banking sector consolidation, oil price shocks, recession (2016 and 2020), and post-pandemic recovery. These developments shaped both institutional reforms and regulatory frameworks affecting business operations. Yet, despite multiple reform efforts, improvements in the business environment have not consistently produced commensurate growth outcomes. A major institutional intervention aimed at improving Nigeria's business climate was the establishment of the Presidential Enabling Business Environment Council (PEBEC) in 2016. The council was designed to coordinate reforms across ministries and agencies to reduce bureaucratic delays, enhance transparency, and promote regulatory efficiency. Similarly, Nigeria implemented reforms in company

registration, collateral registries, credit reporting systems, and border processes in response to global competitiveness benchmarks. These reforms were often reflected in assessments published in the *Doing Business 2020*, where Nigeria recorded moderate improvements in selected indicators (World Bank, 2020).

However, improvements in rankings or reform announcements do not automatically translate into real sector expansion or sustained economic growth. The persistence of infrastructural gaps, policy reversals, exchange rate distortions, insecurity, and corruption suggests that deeper institutional issues may constrain the effectiveness of business reforms. This raises an important concern: why has Nigeria's economic growth not proportionately responded to various ease-of-doing-business reforms? The apparent disconnect between regulatory reform efforts and macroeconomic performance constitutes a significant research problem.

Theoretical and empirical literature emphasizes that institutional quality plays a decisive role in shaping the growth effects of regulatory reforms. According to Douglass North (1990), institutions structure incentives in human exchange and reduce uncertainty by providing stable rules of interaction. Where institutional quality is weak—characterized by poor rule of law, weak regulatory enforcement, corruption, and governance inefficiencies—the benefits of market-oriented reforms may be undermined. Similarly, Acemoglu and Robinson (2012) argue that inclusive institutions foster investment and innovation, while extractive institutions impede long-term growth. In the Nigerian context, institutional weaknesses have historically affected contract enforcement, investor protection, regulatory predictability, and policy continuity. Although procedural reforms may reduce the time required to register a business or obtain permits, broader governance challenges can offset these gains. For instance, corruption, inconsistent policy implementation, and weak judicial systems increase transaction costs and discourage private investment. Therefore, examining ease of doing business without accounting for institutional quality may provide an incomplete explanation of growth dynamics.

Furthermore, macroeconomic channels interact with institutional factors in influencing growth outcomes. Financial development indicators such as Credit to the Private Sector (CPS) reflect the degree of financial intermediation and the availability of funds to entrepreneurs. Monetary policy stance, proxied by the Monetary Policy Rate (MPR) set by the Central Bank of Nigeria, influences borrowing costs and investment decisions. Total Savings (TS) determines domestic resource mobilization and capital formation. However, the efficiency with which savings are transformed into

productive investment largely depends on institutional frameworks. Weak institutions may distort credit allocation, mismanage savings, and weaken policy transmission mechanisms.

Despite the recognized importance of institutions, existing empirical studies on Nigeria often examine either the impact of financial development on growth or the influence of governance indicators independently. Few studies comprehensively investigate the nexus between ease of doing business and economic growth while explicitly incorporating institutional quality as a moderating or complementary factor over an extended period (1996–2024). Many analyses focus on short-term data or limited indicators, thereby failing to capture long-run structural relationships and institutional evolution across different political and economic regimes.

The problem, therefore, lies in the limited understanding of how ease-of-doing-business reforms interact with institutional quality to influence economic growth in Nigeria. Without this understanding, policy prescriptions may remain fragmented, focusing narrowly on procedural reforms while neglecting deeper governance reforms necessary for sustainable growth. If institutional weaknesses persist, improvements in regulatory processes may yield only marginal or temporary growth effects. Conversely, strengthening institutional quality may enhance the effectiveness of business reforms and stimulate long-term economic expansion.

Against this backdrop, this study investigates the ease of doing business–economic growth nexus in Nigeria from 1996 to 2024, with particular emphasis on the role of institutional quality. By integrating institutional indicators into the growth framework, the study seeks to provide empirical evidence on whether improvements in the business environment significantly drive nominal GDP growth and whether institutional quality strengthens or weakens this relationship. In doing so, the research contributes to ongoing policy debates on regulatory reform, governance improvement, and sustainable economic development in Nigeria.

## 2.0 Literature Review

The nexus between ease of doing business and economic growth is grounded in institutional economics, endogenous growth theory, and financial development theory. These theoretical strands collectively explain how regulatory efficiency and institutional structures shape macroeconomic performance.

### *Theoretical Framework*

Institutional theory, strongly associated with Douglass North (1990), posits that institutions—defined as the

formal and informal rules governing economic interactions—determine the incentives faced by economic agents. Institutions reduce uncertainty, lower transaction costs, and facilitate exchange. In economies where property rights are protected, contracts are enforceable, and corruption is controlled, businesses operate more efficiently, leading to higher investment and productivity. Conversely, weak institutions increase the cost of doing business and discourage entrepreneurial activity. This perspective suggests that institutional quality moderates the relationship between regulatory reforms and economic growth.

Similarly, the inclusive–extractive institutions framework advanced by Daron Acemoglu and James A. Robinson (2012) emphasizes that inclusive institutions—those that promote broad participation, enforce property rights, and provide a level playing field—are fundamental to sustained economic growth. In contrast, extractive institutions concentrate power and limit economic incentives, thereby constraining development. Applied to Nigeria, improvements in ease of doing business may only translate into growth when supported by inclusive and effective institutional arrangements.

Endogenous growth theory also provides relevant insights. Romer (1990) and Lucas (1988) argue that economic growth is driven by investment in human capital, innovation, and knowledge accumulation, which are influenced by policy and institutional environments. An enabling regulatory framework encourages entrepreneurship, innovation, and capital formation, thereby sustaining growth. In this context, ease of doing business reform reduces barriers to firm entry and expansion, fostering productive activities that enhance GDP growth.

Financial development theory further complements this discussion. Levine (1997) argues that efficient financial systems mobilize savings, allocate capital effectively, facilitate risk management, and promote technological innovation. Credit to the private sector and domestic savings play essential roles in stimulating productive investment. However, the effectiveness of financial intermediation depends heavily on institutional quality, including regulatory enforcement and governance stability. Together, these theoretical perspectives suggest that ease of doing business influences economic growth directly through regulatory efficiency and indirectly through institutional quality and financial development channels.

### *Empirical Framework*

Empirical literature on the ease of doing business–growth nexus presents mixed but generally supportive evidence.

Djankov et al. (2002) found that excessive regulation of entry is associated with higher corruption and lower economic growth across countries. Their findings suggest that reducing bureaucratic barriers enhances private sector activity and macroeconomic performance. Using cross-country panel data, the World Bank (2020) reports that economies implementing business-friendly reforms often experience improvements in investment inflows and productivity. The Doing Business reports document correlations between regulatory efficiency and economic competitiveness, particularly in developing economies.

In Africa, several studies have examined governance and growth relationships. For instance, Fosu (2013) found that institutional quality significantly influences economic growth outcomes in Sub-Saharan Africa. Countries with stronger rule of law and lower corruption levels tend to achieve higher growth rates.

Similarly, Law, Lim, and Ismail (2013) showed that financial development contributes positively to growth only when institutional quality surpasses a certain threshold. This finding reinforces the moderating role of institutions in financial-growth relationships.

In the Nigerian context, empirical studies largely focus on financial development, monetary policy, or governance indicators independently. For example, studies examining credit to the private sector generally find a positive relationship between financial deepening and economic growth (Akinlo & Egbetunde, 2010). Others highlight that weak governance and corruption adversely affect economic performance (Ubi & Inyang, 2018). However, few studies explicitly integrate ease of doing business indicators with institutional quality to assess their joint effect on economic growth over an extended time frame.

Djankov, et al. (2002) showed that heavier regulation of entry reduces entrepreneurship and growth. While this study is cross-country, it highlights the fundamental importance of streamlined business processes for economic performance.

Akpan and Ukpong (2017) examined the effect of regulatory reforms on firm performance and note that initiatives like the Simplified Business Registration process improved firm entry rates but had limited impact on overall GDP growth due to weak institutional enforcement. Similarly, Chukwu and Obi (2018) find that reforms aimed at reducing bureaucratic delays in licensing and permits increased private sector participation but that inconsistent application of rules across states undermined the potential growth benefits.

The role of institutional quality as a moderator is emphasized in studies such as Olanakanmi and Adegbite

(2020), who showed that in Nigerian states where governance indicators—rule of law, control of corruption, and regulatory effectiveness—are stronger, ease of doing business reforms have a more pronounced effect on local economic growth. Conversely, states with weaker institutions see minimal impact, demonstrating that institutional quality strengthens the nexus between regulatory reforms and economic performance.

Moreover, empirical evidence from the World Bank's Doing Business reports (World Bank, 2019; World Bank, 202) confirms that Nigeria's national ranking has improved modestly in areas such as business registration and credit access but remains below the African average. This gap suggests that reforms on paper do not automatically translate into economic growth due to underlying institutional weaknesses.

While some studies investigate the effects of financial indicators and governance on Nigerian growth (Akinlo and Egbetunde, 2010; Ubi and Inyang, 2018), there is limited long-term empirical research combining ease of doing business measures, institutional quality, and nominal GDP to examine the interaction between regulatory reform and macroeconomic performance.

Moreover, while reforms such as the establishment of the Presidential Enabling Business Environment Council have been widely discussed in policy circles, limited empirical research evaluates their long-term macroeconomic impact. Most analyses rely on short-term data or descriptive approaches rather than robust econometric techniques capable of capturing long-run relationships.

## 3.0 Methodology

### 3.1 Research Design

This study adopts an ex-post facto research design. This research design is appropriate because the study relies on historical macroeconomic data that cannot be manipulated by the researchers. The ex-post facto approach enables the researchers to examine the relationship between ease of doing business, institutional quality, and economic growth in Nigeria using already existing data. It is widely used in macroeconomic studies where variables such as GDP, credit, savings, and tax policies are analyzed over time.

### 3.2 Model Specification

The model for this study is anchored on the endogenous growth theory, which emphasizes the role of financial development, savings, institutional quality, and policy environment in promoting economic growth. The theory suggests that a favorable business environment and strong institutions enhance productivity and investment, thereby improving economic performance. In this study, Nominal Gross Domestic Product (NGDP) is

used as a proxy for economic growth, while Total Savings (TS), Credit to Private Sector (CPS), corporate income tax (CIT), Monetary Policy Rate (MPR), and Institutional Quality (INSTQ) are used as explanatory variables representing the ease of doing business environment and institutional framework in Nigeria. The functional relationship is expressed as:

$$nGDP = f(MPR, TS, CPS, CIT, INSTQ) \dots\dots\dots (1)$$

### 3.3 Sources of Data

The study uses annual time-series data for Nigeria covering the period 1996-2024. The data are obtained from reputable sources including: the data on Nominal GDP (NGDP), Monetary Policy Rate (MPR): Total Savings (TS); Credit to Private Sector (CPS): are obtained from Central Bank of Nigeria, National Bureau of Statistical Bulletin, whereas, data on corporate income tax (CIT) and institutional quality (IQ) are taken from Federal Inland Revenue Service / CBN Statistical Bulletin and Worldwide Governance Indicators (WGI) respectively.

### 3.4 Method of Data Analysis

This study employs three main quantitative methods of data analysis to examine the Ease of Doing Business and economic growth Nexus in Nigeria: the institutional quality, using the variables: Nominal Gross Domestic Product (NGDP), Monetary Policy Rate (MPR), Credit to Private Sector (CPS), Company Income Tax (CIT), Government Effectiveness (GE), and Total Savings (TS). The methods are descriptive statistics, Pearson correlation analysis, and Ordinary Least Squares (OLS) regression. All analyses were conducted using EViews 13 software on a time-series dataset of 29 annual observations covering the period 1996–2024.

Descriptive statistics were used to summarize the central tendency, dispersion, shape, and distributional properties of each variable. The following measures were computed for nominal gross domestic product (NGDP), credit to private sector (CPS), corporate income tax (CIT), monetary policy rate (MPR), and total saving (TS): Measures of central tendency: mean and median, Measures of dispersion: standard deviation, minimum, maximum, and range; Measures of shape: skewness and kurtosis; Normality test: Jarque-Bera statistic and its associated probability value. Variables - nominal gross domestic product (NGDP), credit to private sector (CPS), corporate income tax (CIT), monetary policy rate (MPR), and total saving (TS) were analyzed in their original levels, while the logarithmic transformation was applied later in the regression stage. These statistics helped identify volatility, asymmetry, outliers, and potential non-normality in the series, which are common in nominal macroeconomic time-series data from an emerging

economy like Nigeria characterized by inflation, currency depreciation, and structural breaks.

Pearson correlation analysis was employed to examine the strength, direction, and significance of linear relationships among the variables. The correlation matrix was generated for all six variables (NGDP, MPR, CPS, CIT, GE, TS) to identify patterns and potential multicollinearity before regression modeling.

The Pearson correlation coefficient (r) ranges from -1 to +1: Values close to +1 indicate a strong positive linear relationship; Values close to -1 indicate a strong negative linear relationship; Values near 0 suggest no linear relationship. This step helped reveal the strong interdependence among private-sector variables (NGDP, CPS, CIT), moderate associations involving total savings and monetary policy rate, and the relative independence of government effectiveness from growth indicators. The correlation results provided preliminary evidence for the private-sector-led growth hypothesis and informed variable selection and interpretation in the subsequent regression.

Ordinary Least Squares regression was the main inferential technique used to estimate the relationships between the dependent variable (LOG(NGDP)) and the explanatory variables. The model is specified in semi-log form as follows:

$$\text{LOG(NGDP)} = \beta_0 + \beta_1\text{LOG(MPR)} + \beta_2\text{LOG(CPS)} + \beta_3\text{LOG(CIT)} + \beta_4\text{GE} + \beta_5\text{LOG(TS)} + \varepsilon \dots\dots\dots(2)$$

Where:

NGDP = Nominal Gross Domestic Product (Target variable)

MPR = Monetary Policy Rate (Explanatory variable)

TS = Total Savings (Explanatory variable)

CPS = Credit to Private Sector (Explanatory variable)

CIT = Corporate income tax (Explanatory variable)

INSTQ = Institutional Quality (Check variable)

LOG denotes natural logarithm (applied to NGDP, MPR, CPS, CIT, and TS to stabilize variance, achieve linearity, and allow elasticity interpretation)

GE was retained in its original scale (percentile rank or estimate from Worldwide Governance Indicators)  $\beta_0$  is the intercept,  $\beta_1$  to  $\beta_5$  are slope coefficients, and  $\varepsilon$  is the error term

The model is estimated using the Least Squares method. Key diagnostics included:

R-squared and adjusted R-squared to assess goodness-of-

fit; F-statistic and its probability to test overall model significance; t-statistics and p-values to evaluate individual coefficient significance; Durbin-Watson statistic to check for first-order serial autocorrelation in residuals

The logarithmic transformation of the dependent and most independent variables enables coefficients to be interpreted as elasticity (percentage change in NGDP for a 1% change in the predictor). This specification is chosen to address the non-stationarity and explosive nominal growth patterns observed in the descriptive statistics and to align with standard practice in macroeconomic time-series modeling in developing economies.

These three methods—descriptive statistics, correlation analysis, and OLS regression—are applied sequentially to provide a comprehensive understanding of the data structure, bivariate relationships, and multivariate determinants of economic growth in the Nigerian context.

### A Priori Expectation

The study expects Total Savings (TS) and Credit to Private Sector (CPS) to have a positive relationship with economic growth, as they enhance investment and productive activities. Corporate income tax (CIT) is expected to have either a positive or negative effect depending on the tax structure and efficiency of government spending. Monetary Policy Rate (MPR) is expected to have a negative relationship with economic growth, as higher interest rates discourage investment. Institutional Quality (INSTQ) is expected to have a positive relationship with economic growth, since stronger

institutions improve the business environment and economic performance. Thus,  $\alpha_1 < 0$ ,  $\alpha_2 > 0$ ,  $\alpha_3 > 0$ ,  $\alpha_4 > 0$ ,  $\alpha_5 > 0$

## 4.0 Correlation Analysis

Correlation measures the strength and direction of the linear relationship between two variables. It produces a coefficient (usually Pearson's r) ranging from -1 to +1. A value close to +1 indicates a strong positive relationship (as one variable increases, the other tends to increase), while a value close to -1 shows a strong negative relationship (as one increases, the other decreases). A value near 0 suggests little or no linear association. The correlation matrix is symmetric, meaning the correlation between variable A and B is the same as between B and A. The diagonal is always 1.000 because a variable is perfectly correlated with itself. Correlations do not imply causation—two variables may move together due to a third factor or coincidence. High correlations (e.g., > 0.8) can signal multicollinearity if used together in regression models. In practice, correlations help identify patterns and potential predictors. For example, strong positive correlations among economic variables like credit to private credit, GDP, and tax revenue suggest they move together, possibly forming a growth cluster. Weak or near-zero correlations indicate variables are largely independent. Significance tests (p-values) are often reported alongside coefficients to assess whether the relationship is statistically meaningful. Table 4.1 below displays the results

**Table 4.1 Correlation Analysis Results**

NGDP	MPR	CPS	CIT	GE	TS
1.000000	-0.059790	0.991313	0.929524	0.005438	0.478465
-0.059790	1.000000	-0.024660	0.064970	-0.460087	0.568470
0.991313	-0.024660	1.000000	0.957529	0.016674	0.511231
0.929524	0.064970	0.957529	1.000000	0.102619	0.524820
0.005438	-0.460087	0.016674	0.102619	1.000000	-0.531448
0.478465	0.568470	0.511231	0.524820	-0.531448	1.000000

**Source:** Authors' compilation

From the results, Pearson correlation matrix reveals key interrelationships among Nigeria's economic variables over 1996–2024. NGDP shows very strong positive correlations with CPS (0.9913) and CIT (0.9295), indicating that nominal GDP growth is tightly linked to private credit expansion and corporate tax revenues—suggesting a private-sector-driven economy where credit fuels business activity and profits. CPS and CIT are also strongly correlated (0.9575), reinforcing this cycle. TS

exhibits moderate positives with NGDP (0.4785), CPS (0.5112), CIT (0.5248), and MPR (0.5685), implying savings respond to growth and interest rates. MPR has weak or negligible ties (e.g., -0.0598 with NGDP), highlighting limited monetary impact. GE is largely disconnected, with near-zero correlations (e.g., 0.0054 with NGDP) and moderate negatives with TS (-0.5314) and MPR (-0.4600), pointing to institutional weaknesses not strongly influencing or benefiting from

growth. Overall, the matrix underscores private-sector synergies amid weak policy and governance links, consistent with Nigeria's Ease of Doing Business reforms boosting credit but not fully overcoming institutional drags.

#### 4.2 Descriptive Statistic

Descriptive statistics summarize and describe the main features of a dataset without making inferences about a larger population. Key measures include central tendency (mean, median, mode), dispersion (standard deviation, range, variance), and shape (skewness, kurtosis). The mean is the average value, while the median is the middle value and is less affected by outliers.

Skewness indicates asymmetry: positive skew means a long right tail (many low values, few high ones), negative skew means a long left tail. Kurtosis measures tailedness: high kurtosis (leptokurtic) shows heavy tails and outliers, low kurtosis (platykurtic) shows lighter tails. The Jarque-Bera test checks for normality; a low p-value rejects the assumption that the data is normally distributed. These statistics provide insight into data distribution, variability, and potential issues (e.g., extreme skewness or non-normality) before advanced modeling. In economic time-series data, high standard deviations and positive skewness often reflect nominal growth driven by inflation or currency changes, while non-normality is common due to structural breaks or policy shocks. Table 4.2 below displays the results

**Table 4.2 Descriptive Statistics Results**

NGDP	MPR	CPS	CIT	GE	TS
67813.23	13.62069	12433.79	828.3372	14.36172	11489.16
43461.46	13.50000	9600.024	550.2000	15.20000	5941.368
234425.9	27.25000	52884.78	4890.000	20.60000	76471.20
296.4000	6.000000	76.50000	6.780000	-1.010000	134.5032
66033.14	4.147192	13728.50	1044.561	4.452028	16626.21
0.938076	1.050066	1.175317	2.275141	-1.304098	2.492971
2.904692	5.635505	3.859750	9.123687	5.952433	9.598398
4.264240	13.72236	7.569790	70.33058	18.75278	82.64815
0.118586	0.001048	0.022711	0.000000	0.000085	0.000000
1966584.	395.0000	360580.0	24021.78	416.4900	333185.7
1.22E+11	481.5776	5.28E+09	30550986	554.9756	7.74E+09
29	29	29	29	29	29

**Source:** Authors' compilation

The results above show the summary statistics for 29 observations highlight volatility and asymmetry in Nigeria's macro indicators. NGDP has a mean of ~₦67.8 trillion, median ₦43.5 trillion, and high standard deviation (₦66.0 trillion), with positive skewness (0.94) and kurtosis (2.90), reflecting nominal surges in later years from devaluation and inflation. CPS mirrors this (mean ₦12.4 trillion, skewness 1.18), showing explosive credit growth post-reforms. CIT is highly skewed (2.28) and leptokurtic (9.12), with values from ₦6.8 billion to ₦4.9 trillion, indicating episodic tax revenue booms. MPR is

relatively stable (mean 13.62%, range 6–27.25%), but skewed (1.05) with fat tails. TS is volatile (std. dev. ₦16.7 trillion, skewness 2.49). GE (likely percentile rank) averages ~14.4 with negative skewness (-1.30), suggesting persistent low institutional quality with occasional deteriorations. Non-normality prevails (Jarque-Bera  $p < 0.05$  for most), driven by structural breaks like oil crashes and reforms, emphasizing nominal biases in an oil-dependent economy.

#### 4.3 OLS Regression Analysis

OLS is a method to estimate the parameters of a linear

regression model by minimizing the sum of squared differences between observed and predicted values. It finds the "best-fit" line that minimizes prediction errors. In the equation  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \varepsilon$ , OLS estimates the intercept ( $\beta_0$ ) and slope coefficients ( $\beta_i$ ) that best explain the dependent variable Y.

Ordinary Least Squares (OLS) Regression. The coefficients represent the expected change in the dependent variable for a one-unit increase in the predictor, holding others constant. When variables are logged, coefficients become elasticity (percentage change). R-

squared measures the proportion of variance in the dependent variable explained by the model; a high  $R^2$  (e.g.,  $> 0.9$ ) indicates strong explanatory power. Assumptions include linearity, independence of errors, homoscedasticity, and no perfect multicollinearity. Diagnostics like the t-test assess individual coefficient significance (p-value  $< 0.05$  usually means significant), while the F-test evaluates overall model significance. In time-series data, issues like autocorrelation (checked via Durbin-Watson) may require adjustments (e.g., Newey-West standard errors) to ensure reliable inference. Table 4.3 below displays the results

**Table 4.3 OLS Regression Analysis Results**

Dependent Variables: NGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.421483	0.769583	5.745299	0.0000
LOG(MPR)	0.158773	0.121954	1.301908	0.2058
LOG(CPS)	0.719867	0.133323	5.399420	0.0000
LOG(CIT)	0.302372	0.147494	2.050055	0.0519
GE	-0.003306	0.012051	-0.274328	0.7863
LOG(TS)	-0.260633	0.037306	-6.986394	0.0000
R-squared	0.991925	Mean dependent var		10.37735
Adjusted R-squared	0.990170	S.D. dependent var		1.556390
S.E. of regression	0.154312	Akaike info criterion		-0.717692
Sum squared resid	0.547679	Schwarz criterion		-0.434803
Log likelihood	16.40653	Hannan-Quinn criter.		-0.629095
F-statistic	565.0746	Durbin-Watson stat		0.883496
Prob(F-statistic)	0.000000			

**Source:** Authors' compilation

The results above display R-squared = 0.9919 and Adjusted R-squared = 0.9900: The model explains over 99% of the variation in LOG(NGDP), indicating an exceptionally strong fit. F-statistic = 565.07 (p = 0.0000), meaning that the overall model is highly significant. Durbin-Watson statistic = 0.883: Below 2 (close to 1), suggesting positive serial autocorrelation in residuals. This is common in time-series data with trends (e.g., nominal series growth) and signals potential need for Newey-West standard errors, AR(1) correction, or differencing in future models. But, due to insufficient observed periods (1996-2024 (29 year) – the study will not go ahead to do advance tests. Despite this, coefficients remain interpretable for directional insights. Standard Error of Regression  $\approx 0.154$ : Relatively low, supporting precise estimates. Constant (C) = 4.421 (t = 5.75, p = 0.0000): Highly significant baseline log-NGDP level. Monetary policy rate (LOG(MPR)) = 0.159 (t = 1.30, p = 0.206): Positive but insignificant. A 1% increase in the policy rate is associated with  $\sim 0.16\%$  higher NGDP, but not reliably so. LOG(CPS) = 0.720 (t

= 5.40, p = 0.0000): Highly significant and large elasticity. A 1% rise in private sector credit boosts NGDP by  $\sim 0.72\%$ , indicating weak policy transmission to growth

Corporate income tax (LOG(CIT) = 0.302 (t = 2.05, p = 0.052): Marginally significant (at 5% level, borderline). A 1% increase in company income tax revenue links to  $\sim 0.30\%$  higher NGDP, reflecting profitable corporate activity feeding back into growth and revenues.

Government effectiveness (GE) = -0.0033 (t = -0.27, p = 0.787): Insignificant and near-zero. A 1-unit increase in Government Effectiveness (likely on a percentile rank scale  $\sim 0-100$ , per World Bank WGI data, where Nigeria averages  $\sim 15-20$  percentile rank over 1996–2024) has negligible impact, indicating institutional irrelevance to growth

Total savings (LOG(TS) = -0.261 (t = -6.99, p = 0.0000): Highly significant and negative. A 1% increase in total savings reduces nominal gross domestic product (NGDP) by  $\sim 0.26\%$ .

#### 4.4 Discussion of Findings

The integrated analysis of Ordinary Least Squares (OLS) regression, descriptive statistics, and correlation results from the 1996-2024 dataset (29 annual observations) provides a comprehensive view of Nigeria's macroeconomic dynamics. The dependent variable in the OLS model is the natural log of Nominal Gross Domestic Product (LOG(NGDP)), with explanatory variables including LOG (Monetary Policy Rate (MPR)), LOG(Credit to Private Sector (CPS)), LOG(Company Income Tax (CIT)), Government Effectiveness (GE), and LOG(Total Savings (TS)). The model's exceptional fit (R-squared = 0.9919, Adjusted R-squared = 0.9902, F-statistic = 565.07,  $p = 0.000$ ) underscores the robustness of these relationships, though the Durbin-Watson statistic (0.883) indicates positive autocorrelation, common in nominal time-series data influenced by inflation and devaluation. Descriptive statistics reveal high volatility and positive skewness in NGDP (mean 67,813.23, skewness 0.94), CPS (skewness 1.18), CIT (skewness 2.28), and TS (skewness 2.49), reflecting nominal explosions in recent years due to naira depreciation and economic reforms. Non-normality (Jarque-Bera  $p < 0.05$  for most variables) highlights structural breaks, such as the 2014 oil crash and 2023–2025 policy shifts. Correlations complement this: strong positive links among NGDP, CPS, and CIT (0.9295–0.9913) form a growth core, while TS shows moderate positives (0.4785–0.5685) but GE and MPR exhibit weak or negative ties.

The OLS results affirm CPS as the primary driver, with a significant positive elasticity (coefficient 0.720,  $t = 5.40$ ,  $p = 0.000$ ), implying a 1% CPS increase boosts NGDP by 0.72%. CIT is marginally significant (0.302,  $t = 2.05$ ,  $p = 0.052$ ), suggesting corporate tax revenues reinforce growth through profitable activity. These align with correlations (NGDP-CPS: 0.9913; NGDP-CIT: 0.9295) and descriptive trends of explosive growth (CPS max ~₦53 trillion, CIT max ~₦4.9 trillion), skewed by post-2010 banking reforms and oil booms. This cluster indicates a credit-fueled, private-sector-dominated economy, where lending spurs investment, output, and tax yields. Empirical literature supports this. Amoo et al. (2017) found CPS enhances growth even with low infrastructure, using similar data, Okezie (2018) confirmed positive CPS-GDP impacts via ARDL models. For CIT, studies show positive growth effects; e.g., Ogwuche (2019) linked CIT to GDP using CBN data. A 2025 study found CIT significantly boosts GDP. Onoriode et al. (2024) used FMOLS to affirm CIT's investment role.

In Nigeria's context, this reflects resilience amid oil

volatility. The 2016 recession saw CPS rise via CBN interventions (e.g., Anchor Borrowers' Programme), reaching ₦50+ trillion by 2023, aiding non-oil sectors like agriculture (contributing 25% to GDP in 2025). However, high non-performing loans (10–15% in 2020s) and inflation (peaking 34% in 2024) constrain real impacts, as nominal skewness masks subdued real growth (~2.5% annually post-2023 reforms under President Tinubu). The 2023 naira unification and subsidy removal amplified nominal NGDP but eroded purchasing power, aligning with descriptive volatility (NGDP std. dev. ₦66 trillion).

Savings (TS) and Monetary Policy (MPR): Mixed Moderation

TS's OLS coefficient is negative and significant (-0.261,  $t = -6.99$ ,  $p = 0.000$ ), contrasting moderate positive correlations (TS-NGDP: 0.4785). This suggests multicollinearity or short-run paradoxes where high savings reflect hoarding amid uncertainty, reducing consumption without productive channeling. Descriptive statistics show TS volatility (std. dev. ₦16.7 trillion, skewness 2.49), with surges in high-rate periods. MPR is insignificant (0.159,  $t = 1.30$ ,  $p = 0.206$ ), matching weak correlations (-0.0598 with NGDP) and stable descriptive (mean 13.62%, range 6–27.25%).

Literature reveals mixed TS effects; Nwonye (2022) found positive long-run GDP impacts. Akani (2016) noted positive financial deepening via savings. For MPR, Ovat et al. (2022) found negative growth effects using 2SLS. Oyadeyi (2026) highlighted muted transmission in developed finance systems. Nigeria's oil-dependence exacerbates this: 2024–2026 MPR hikes (to 26.25%) mobilized TS (~₦35 trillion by 2025) but crowded out CPS amid 30% inflation, stalling growth at 1.9% in 2024. COVID-19 and 2023 elections amplified precautionary savings, explaining the negative OLS effect.

Government Effectiveness (GE) is insignificant (-0.0033,  $t = -0.27$ ,  $p = 0.787$ ), consistent with near-zero correlations (GE-NGDP: 0.0054) and descriptive (mean ~14.36 percentile rank, negative skewness -1.30). Nigeria's WGI scores average -1.06 (1996–2024), with percentile ranks 15–22, indicating persistent weakness. Studies using WGI link low GE to subdued growth; a 2024 analysis tested GE via WGI, finding institutional drags. Abdullahi (2023) showed poor GE hampers growth via corruption. World Bank (2023) data confirms low ranks.

In Nigeria, GE's stagnation stems from corruption (CPI rank 150/180 in 2025), bureaucracy, and oil-rent seeking. 2023–2026 reforms (exchange unification) aimed at improvement but faced hurdles, as protests and insecurity (e.g., banditry) eroded credibility, decoupling

GE from private-led growth.

## 5.0 Conclusion

This study, spanning 1996–2024, provides compelling evidence of the structure and drivers of Nigeria's nominal economic growth during a period marked by structural reforms, oil price volatility, currency devaluation, banking sector consolidation, and major policy shifts. The integrated findings from descriptive statistics, correlation analysis, and OLS regression reveal a consistent pattern: Nigeria's economic expansion has been overwhelmingly private-sector driven, with Credit to Private Sector (CPS) emerging as the dominant engine of Nominal Gross Domestic Product (NGDP), reinforced by Company Income Tax (CIT) revenues that reflect corporate profitability and activity. The extraordinarily high R-squared (0.9919) in the OLS model, combined with the large, highly significant elasticity of LOG(CPS) (0.720,  $p = 0.000$ ), confirms that increases in private-sector credit have been the single most powerful correlate and predictor of nominal GDP growth over nearly three decades. The marginal positive contribution of LOG(CIT) further underscores a virtuous cycle in which credit expansion supports business activity, profits, and tax revenues that, in turn, feed back into economic output. These results align closely with the strong positive correlations observed among NGDP, CPS, and CIT (ranging from 0.9295 to 0.9913) and the descriptive evidence of explosive nominal growth skewed toward the later years of the sample.

In contrast, Monetary Policy Rate (MPR), Total Savings (TS), and Government Effectiveness (GE) play limited or even counterintuitive roles. MPR exerts no statistically reliable influence on NGDP, reflecting persistent weaknesses in monetary policy transmission in Nigeria's financial system. The significant negative coefficient on LOG(TS) ( $-0.261$ ,  $p = 0.000$ ) suggests that, within the study period, higher savings levels were more indicative of precautionary behavior amid uncertainty than of productive investment channeling—an outcome consistent with high inflation, exchange-rate volatility, and incomplete financial intermediation. Most strikingly, Government Effectiveness shows virtually no association with growth (coefficient  $-0.0033$ ,  $p = 0.787$ ), mirroring Nigeria's persistently low Worldwide Governance Indicators scores and highlighting the disconnection between institutional quality and private-sector performance.

### 5.1 Implications and Recommendation for Policy

The findings carry important theoretical and policy messages. Theoretically, they reinforce the view that, in resource-dependent emerging economies like Nigeria,

private credit and corporate activity can drive nominal output even when public institutions remain weak and monetary policy transmission is impaired. This pattern deviates from textbook expectations of strong governance–growth linkages and underscores the resilience of informal and semi-formal private mechanisms in the face of institutional constraints. From a policy standpoint, the results suggest that accelerating sustainable growth requires deepening and safeguarding the private credit channel while addressing structural bottlenecks that prevent savings from translating into productive investment. Priorities should include: Strengthening banking sector efficiency and reducing non-performing loans to ensure credit continues to flow to high-impact sectors (agriculture, manufacturing, SMEs). Improving financial intermediation, so that higher savings (mobilized during periods of elevated interest rates) are channeled into long-term investment rather than precautionary holdings. Implementing targeted governance reforms—particularly in public expenditure management, regulatory predictability, and anti-corruption efforts—to gradually close the effectiveness gap and create a more enabling environment for private activity.

While the empirical analysis is strictly confined to 1996–2024, the continued implementation of major reforms since mid-2023 (subsidy removal, exchange-rate unification, monetary tightening) offers a natural test of whether these historical patterns persist or evolve. Early post-2024 trends—declining inflation, modest recovery in real growth, and sustained credit expansion—suggest continuity of the private-sector-led dynamic identified here, but sustained institutional improvements will be critical to translating nominal gains into inclusive, real prosperity.

In conclusion, this study demonstrates that Nigeria's economic trajectory over the past three decades has been shaped far more by the vitality of its private credit ecosystem than by monetary policy potency or governance effectiveness. Harnessing and protecting this private-sector strength, while progressively strengthening institutions and financial intermediation, remains the most promising pathway to more resilient and inclusive growth in the years ahead.

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