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Institutional Quality and Economic Performance in Nigeria

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Abstract
Some country-specific and cross-country studies have suggested that the qualities of institutions are a sine qua non for sustainable economic development in developing economies. Consequently, this study attempts to validate this position by examining the relationship between the quality of institutions and the economic performance of Nigeria over the period 2000 to 2019 using time series analysis methodology. To avoid producing unreliable estimation results, the series are tested for stationarity using the Augmented Dickey-Fuller and Phillips-Perron unit root test methods. The results indicate that the variables are stationary at order I(1). The Engle-Granger co-integration technique which involves testing the residuals of the model for unit root confirms the existence of long-run relationships among the variables. Finally, the results of the ordinary least squares (OLS) estimation of the error correction model (ECM) indicate strong positive and significant relationships between institutional quality variables and the economic performance of Nigeria. It is recommended that the various arms of government in Nigeria should formulate and implement the appropriate policies that would strengthen the various institutions in the country, particularly the civil service, the police, regulatory bodies, and the judiciary, to enable them to become more efficient and to contribute more to the economic development of the country.
Keywords: Economic Growth, Institutions, Regulatory Quality, Rule of Law, Sub-Saharan Africa

1. Introduction

The number one goal of the United Nations' 17 Sustainable Development Goals (SDGs) is ending extreme poverty globally by 2030. This may be a tall order considering the current economic performance of countries like Nigeria, the most populous country in Africa. Nigeria is now the 'poverty capital of the world' surpassing India as the country with the largest number of extremely poor persons despite the fact that India's population is seven times larger than that of Nigeria. As at 2020, Nigeria has about 86.9 million people living in poverty (World Poverty Clock/World Data Lab, 2019; Borgen Magazine, 2020).

Similarly, Nigeria's unemployment rate rose to 33.3 percent in Q1 2020 from 27.1 percent in Q2 2020 (National Bureau of Statistics [NBS], 2021). This

places Nigeria as the country with the second-largest pool of jobless persons in a list of 82 countries tracked by Bloomberg. Namibia leads the list with an unemployment rate of 33.34 percent (Bloomberg, 2021). The March 2021 NBS report also indicates that the rate of inflation measured by the consumer price index (CPI) increased to an all-time high of 18.7 percent in March 2021 (NBS, 2021). These key economic indicators paint a gloomy picture and point to the fact that the Nigerian economy is heading in the wrong direction.

Many reasons have been given on why Nigeria, a country that is so rich in human and material resources has been unable to translate the vast wealth to an improved standard of living for a majority of its citizens. Fingers have been pointed at leadership failure, mismanagement of the vast oil resources, endemic corruption, weak and inefficient institutions, amongst others.

Over the past few decades, a growing emphasis has been placed in the literature on the roles of institutions in economic growth and development. Some studies suggest that the quality of a country's institutional framework is important in determining its level of economic performance (Akpan & Effiong, 2012; Kilishi, Mobolaji, Yaru, & Yakubu, 2013; Ebaidalla, 2014; Nawaz, 2015; Kebede & Takyi, 2017; Olarenwaju, Tella, & Adesoye, 2019; Adegboye, Osabohien, Olokoyo, Matthew & Adediran, 2020). The focus on the importance of institutions in the economic growth of nations has led to the emergence of a new strand of economics called the new institutional economics (NIE).

The NIE attempts to extend the field of economics by looking at laws, legal and social norms, property rights, etc., and how they affect transactions of agents, markets, and economic efficiency and performance. Some have argued that good institutions create the needed enabling environment that promotes the rule of law, regulation, economic transactions and activities, innovations, development of markets, management of social conflicts, and generally, economic growth and development (Rodrik, 2000; Butkiewicz & Yanikkaya, 2006). Acemoglu, Johnson and Robinson (2002) state that where the rule of law is weak or non-existent, property rights will be largely unenforced, markets will be dysfunctional, contracts will most likely not be respected and this may act as a constraint to economic performance. Dysfunctional institutions often act as obstacles to trade, reduce the productive capacity of the economy, and generally hamper economic growth and development (Anyanwu & Yameogo, 2015). Good institutions are often perceived as institutions which improves freedom in markets, generally reduce transaction costs, and respect private property rights.

Ferrini (2012) outlined four broad ways through which institutions affect economic performance. First, institutions reduce the cost of economic transactions, risks, and uncertainty through contract enforcement, and increase in the availability of information. Institutions increase the returns to investment through upholding the rule of law and protecting property rights. Similarly, good institutions reduce

the capacity for the dominance of powerful elites to the detriment of others as well as reducing the likelihood of inequalities amongst citizens. Lastly, institutions provide the good and enabling environment for businesses to thrive, and improves the extent to which the resources of nations can be exploited to create sustained levels of wealth thereby enhancing economic growth and development.

Generally, institutions include such issues as how well laws and regulations are enforced, the ease of doing business, how property rights are protected, the effectiveness of government parastatals and bodies, corruption, democratic practices, and the level at which government protects its citizens from social and economic shocks. A good institutional framework that enables the excesses of agents to be promptly curbed allows the growth of markets and encourages transactions to take place in an orderly manner is necessary for optimum performance of an economy.

Thus, given the poor state of the Nigerian economy and the need to find lasting solutions to the high poverty rate, the objective of this paper is to investigate the relationship between institutional quality and economic performance in Nigeria to ascertain whether the quality of institutions drives economic performance. In this study, economic performance is assumed to be synonymous with economic growth. The remaining part of the paper is divided into the following sections: Section 2 contains the empirical literature review, Sections 3 and 4 presents the methodology of the study as well as the results and discussion of findings, while Section 5 takes care of the conclusion and policy recommendation.

2. Literature Review

In this section, a review of some empirical studies conducted on Nigeria and cross-country studies on sub-Saharan Africa on the relationship between the quality of institutions and economic growth is done. Though the results of many studies indicate positive relationships between institutional quality and economic growth, there is still no common agreement amongst researchers on the nature of the relationship. Some studies find a negative relationship between institutional quality and economic growth (Iyoboyi & Pedro, 2014; Akinlo, 2016; Ogbuabor, Onuigbo, Orji & Anthony-Orji, 2020).

Ogbuabor, Onuigbo, Orji and Anthony-Orji (2020) attempted to find an answer to the question of whether institutional quality is an important driver of growth in Nigeria by relying on time series data covering the period Q1 of 1981 to Q4 of 2016 and using the Autoregressive Distributed Lag (ARDL) regression approach. The study found that institutional quality had an insignificant and negative impact on economic growth in Nigeria at the sectoral and aggregate levels.

Olarenwaju, Tella and Adesoye (2019) investigated the causal relationship between institutional quality, financial inclusion, and inclusive growth in Nigeria adopting the Toda-Yomamoto Granger non-causality test and time-series data from 1988 to 2017. The results of the study indicated that institutional quality was the major force behind the economy's inclusive growth. The study recommended that improvement in the quality of institutions was needed to harness the human resources of the country to achieve better inclusive growth.

Similarly, Dandume (2013) probed the relationship between institutions and economic growth in Nigeria using data from 1980 to 2011. The study employed the ARDL approach to ascertain the co-integration and direction of causality as well as the error correction method (ECM). The findings show the existence of a long-run and bi-directional causal relationship between institutions and economic growth in Nigeria. The study recommended that attention should be given to critical sectors of the economy that drive growth so that quality institutions can emerge.

On cross-country studies, Adegboye, Osabohien, Olokoyo, Matthew and Adediran (2020) reviewed the relationship between institutional quality, foreign direct investment, and economic development in sub-Saharan Africa during the period 2000 to 2018 using a sample size of 30 out of 46 countries that make up sub-Saharan Africa. The model of the study was estimated using the fixed and random effects technique. The results of the study indicated that the quality of institutions was crucial for increased foreign capital inflow and economic development of sub-Saharan African countries. The authors recommended that governments of SSA countries should emphasize improving the quality of institutions in order to increase foreign direct investment and invariably economic growth in the sub-region.

Carraro and Karfakis (2018) analyzed the impact of political and economic institutions on structural transformation in eleven sub-Saharan African countries. Annual panel data for the period 1990 and 2010 was estimated using the system generalized method of moments (GMM) estimation technique. The outcome of the regression exercise reveals a positive and significant effect of the quality of institutions and economic freedom on structural transformation across sectors of the economy. The study opines that good institutions help labour markets to create more opportunities for increased employment, especially in the formal sectors.

Akinlo (2016) studied the relationship between institutions and economic growth in sub-Saharan Africa using data collected from thirty countries over the period 1986 to 2013. The estimation of the model was conducted using the pooled ordinary least squares (OLS) and the dynamic generalized method of moments (GMM) estimation techniques. The study found that the rule of law variable which represented institutions in the model was significant and negatively related to

economic growth indicating that the rule of law was not well entrenched in the sub-region.

Also, Kilishi, Mobolaji, Yaru and Yakubu (2013) examined the role of institutions in explaining economic growth rates in sub-Saharan Africa. Their major focus was whether institutions matter in enhancing growth in sub-Saharan Africa, and if it matters, which of the institutional factors matters most. They adopted the Arellano and Bond first difference and the Blundell-Bond System Generalised Method of Moments (GMM) techniques to estimate their model. The results of the study indicated that institutions were important in propelling economic growth in sub-Saharan Africa and that regulatory quality was the most important. The study recommended that the governments in the sub-region should improve regulatory quality in their countries in order to increase their economic performance.

The summary of the empirical literature review show that while most of the studies indicate positive relationships between institutional quality and economic growth, some others suggest the contrary. This paper will attempt to deepen the discussion and add to the existing literature on the subject as it relates to Nigeria.

3. Methodology

3.1 Model Specification

To examine the relationship between institutional quality and economic performance in Nigeria, the study estimates a neo-classical growth model used by Barro (1991); Makinw, Romer and Weil (1992); Sachs and Warner (1997) and adopted by Ebaidalla (2014). The growth equation is modified by introducing the institutional quality variables. Thus, the model is specified as:

$$Yt = \beta o + \beta 1Xt + \beta 2INSTt + \mu t \quad (1)$$

Where Y is economic performance represented by per capita Gross Domestic Product (GDP), X is a set of macroeconomic and control variables, INST is a set of institutional quality variables, and μ is the stochastic error term. In this study, the quality of institutions in Nigeria is represented by two governance indicators of regulatory quality (REGQ) and the rule of law (RLAW). The regulatory quality captures people's perception of the ability of government to formulate and implement good policies that allow and promotes the development of the private sector. The rule of law takes into account the perceptions of people of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts as well as the likelihood of crime and violence (World Governance Indicator [WGI] 2020). The control variables are growth-enhancing macroeconomic variables in the

literature, foreign aids (AID), level of employment (EMP), and the degree of openness of the economy (OPEN).

The dynamic time-series model with an error term (μ_t) is specified in econometric form as;

$$GDPPCt = \beta 0 + \beta 1REGQt + \beta 2RLAWt + \beta 3AIDt + \beta 4EMPt + \beta 5OPENt + \mu t \quad (2)$$

The ECM model is given as:

$$\Delta GDPPCt = \beta 0 + \beta 1\Delta REGQt + \beta 2\Delta RLAWt + \beta 3\Delta AIDt + \beta 4\Delta EMPt + \beta 5\Delta OPENt + \alpha ECMt(-1) \quad (3)$$

The βs are parameters, Δ is difference, α is the coefficient of the error correction term, and t denotes time.

3.2 Method of Data Analysis

The method of data analysis adopted in the study is the time series data analysis method. The regression method applied is the Error Correction Model (ECM). The ECM method was developed by Sargan in 1964. The model is one of the multiple time-series models that is commonly used in estimating time series data that are proven to have long-run relationships, and to reconcile the short-run dynamics with the long-run equilibrium. The ECM involves the use of lagged residuals to correct for deviations of the actual values from the long-run equilibrium values and it helps to explain the short-run dynamics of the model. The ECM directly calculates the speed at which a dependent variable adjusts to its original equilibrium after some change in the explanatory variables. Thus, the application of the co-integration and ECM methods introduces more robustness and flexibility to analysing dynamic econometric models as well as the integration of short-run dynamics with long-run equilibrium (Iyoha 2004).

The residual from the regression is given as:

$U(t) = Y(t) - \beta X(t)$ which is I(0), since $Y_{(t)}$ and $X_{(t)}$ are assumed to be co-integrated. The following equation results from differencing the non-stationary variables.

$$\Delta Y(t) = \beta \Delta X(t) + \alpha \mu(t-1) \quad (4)$$

The ECM regression is allowed if all the variables are I(1). The ECM can be written as

$\Delta Y = \beta \Delta X(t) + \alpha ECM$ or alternatively as

$$\Delta Y = \beta \Delta X(t) + \alpha ECM + \alpha(Yt - 1 - \beta Xt - 1) \quad (5)$$

Where: Y = the dependent variable

X = the independent variables

α = the error correction term that shows the pattern of movement to the long-run equilibrium.

The coefficient of the ECM is required to be significant and negative and less than one (Iyoha, 2004). That is, $0 < / \alpha / < 1$ for adjustment to be asymptotic and $\alpha < 0$ for there to be long-run adjustment. To ensure that regression results are reliable, preliminary checks on the series are carried out to determine the stationarity conditions of the series. To do this, the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) unit root test methods are applied while the Engle-Granger residual likelihood test is adopted to ensure the variables used are co-integrated.

3.3 Source of Data

The study relied on time series data on Nigeria spanning 2000-2019. The institutional quality data of regulatory quality (REGQ) and the rule of law (RLAW) were extracted from the Worldwide Governance Indicators [WGI] database (2020). Secondary data on per capita gross domestic product (GDPPC), foreign aids (AID), and degree of openness (OPEN) were obtained from the World Bank *World Development Indicators* [WDI] database (2020) while data on the level of employment (EMP) was sourced from the Penn World Table Version 10.0 database (2021).

4. Results and Discussion

In this section, results of descriptive statistics, unit root tests, co-integration test, serial correlation test, model stability test, and model estimation are presented.

4.1 Descriptive Statistics

Table 1: Descriptive Statistics

Var.	Mean	Max.	Min.	Std. Dev.	Skew	Kur tosis	J-B	Prob	Obs.
GDPPC	1864.39	3098.98	567.93	793.30	-0.31	1.96	1.22	0.54	20
REGQ	20.00	27.01	7.81	5.48	-0.65	2.71	1.48	0.47	20
RLAW	12.74	18.75	5.44	3.93	-0.26	2.30	0.63	0.72	20
AID	2.51	1.14	1.68	2.57	2.28	8.56	43.16	0.00	20
EMP	52.35	73.02	38.33	11.14	0.41	2.00	1.40	0.49	20
OPEN	0.78	1.39	0.36	0.27	0.54	2.70	1.07	0.58	20

Source: Authors compilation from Eviews 9

From the table, the mean value of per capita GDP in Nigeria during the period is US$1,864.39 while for sub-Saharan Africa, it is US$1,424.24. This means that on average, income per day for Nigerians during the period under review was US$5.11. Specifically, in 2019, the per capita GDP for Nigeria was US$2,229.85. This shows the very low standard of living in Nigeria when

compared with annual per capita GDP figures for 2019 of US$6,584.74 for the Arab World, US$16,298.48 for Central Europe and the Baltics, US$11,502.87 for East Asia and Pacific, US$34,913.19 for the European Union, US$63,343.34 for North America, and an average of US$11,433.21 for the World (WDI, 2020). The minimum and maximum values of per capita GDP of US$567.93 and US$3,098.98 respectively in addition to the standard deviation of 793.30 portray high dispersion in GDPPC data during the period. This is attributed to the growth in income during the period under review. The negative skewness value of -0.31 shows that the distribution is skewed to the left while the kurtosis value of 1.96 which is close to 2 indicates that the GDPPC variable is not sharply peaked (i.e. fairly flat - mesokurtic). The Jarque-Bera statistic which is used to test whether a variable is normally distributed has a value of 1.22 with a probability of 54 percent suggesting that the variable is normally distributed.

The regulatory quality and rule of law variables (the main variables of interest) have means of 20 and 12 percent respectively. In 2019, the figures were 17.78 and 18.75 percent respectively. When this is compared with regulatory quality and rule of law statistics recorded in 2019 by South Africa (61.53 percent and 50.96 percent respectively) and other developed countries of the world such as Australia (98.55 percent and 93.26 percent respectively), France (90.86 percent and 89.42 percent respectively), Germany (96.15 percent and 92.31 percent respectively), the United Kingdom (93.75 percent and 91.34 percent respectively), and the United States (88.94 percent and 89.90 percent respectively), we can infer that the quality of institutions in Nigeria is very weak (WDI, 2020). The skewness values of -0.65 and -0.26 for the regulatory quality and rule of law series respectively show that the distributions are negative and skewed to the left. The kurtosis value of 2.70 for the regulatory quality variable which is also close to 3 indicates that the variable is fairly peaked (i.e. leptokurtic) while the figure of 2.30 for the rule of law variable portrays a flatter curve. The Jarque-Bera value of the REGQ variable is 1.48 while that of the RLAW variable is 0.63. Both have probability values that are highly insignificant at 47 and 72 percent respectively, hence the acceptance of the null hypothesis that the variables are normally distributed. Consequently, these results suggest that the two variables are normally distributed.

The other variables follow a similar pattern apart from the foreign aids variable which is not normally distributed as the J-B values are significant at the 1 percent level. The foreign aids variable is normalized after first differencing.

4.2 Stationarity Test

From the Economics literature, it is observed that most times series data tend to be strongly trended and non-stationary. Consequently, it is wise to ascertain the unit-root (stationarity) status of all the individual variables so that the results

from the regression exercise will not produce spurious and unreliable results (Iyoha, 2004). The stationarity tests will be conducted using the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) methods under three exogenous conditions of intercept, trend and intercept, and no trend or intercept. The null hypotheses for the tests are that the variables have unit-roots. The outcomes of the tests are presented in Table 2.

Table 2: Summary of Unit Root Tests

Variables / Tests	t-statistics	5% Crit. Value	t-statistics	5% Critical Value	Order of Int.
	Levels		First Difference		
ADF Test					
GDPPC	-1.661339	-3.029970	-2.804947***	-3.040391	I(1)
REGQ	-2.706880	-3.673616	-4.737291*	-3.690814	I(1)
RLAW	-0.887081	-3.029970	-4.443396*	-3.098896	I(1)
AID	-3.200632	-3.690814	-4.148358**	-3.710482	I(1)
EMP	-1.541012	-3.673616	-6.372313*	-3.791172	I(1)
OPEN	-2.820396	-3.673616	-7.076305*	-3.690814	I(1)
PP Test					
GDPPC	-1.629588	-3.029970	-2.854696***	-3.040391	I(1)
REGQ	-2.821836	-3.673616	-4.839667*	-3.690814	I(1)
RLAW	-3.229826	-3.673616	-3.427387***	-3.690814	I(1)
AID	-2.542566	-3.673616	-7.278676*	-3.690814	I(1)
EMP	-1.502857	-3.673616	-3.994989**	-3.690814	I(1)
OPEN	-2.985037	-3.673616	-7.400779*	-3.690814	I(1)

Note: The asterisked (* ** ***) denote the rejection of the unit root null hypothesis at the 1%, 5%, 10% levels of significance respectively**.**

Source: Authors compilation from Eviews 9

The outcome of the unit-root tests shows that all the variables were non-stationary at levels but became stationary after first differencing.

4.3 Co-integration Test

To ensure that the variables in the model have a long-run co-integrating relationship, the residual of the model is tested for unit root using the Engle-Granger residual likelihood test. The Engle-Granger co-integration approach involves running the Ordinary Least Squares (OLS) regression and testing for unit root on the residual. If the result of this test affirms that the residual is stationary, then the series possess a long-run relationship, hence they are co-integrated. The result of the co-integration test is presented in Table 3.

Table 3: Summary of Co-integration test

Variable	Augmented Dickey-Fuller	Lag Length	Probability	Remark
Residual	-2.998941*	0	0.0530	Stationary

*5% level of significance

Source: Authors' Compilation from Eviews 9

The result indicates that there exists a long-run co-integrating relationship among the variables in the model. The t-statistic of -2.998941 and p-value of 0.0530 indicate significance at the 5% level, hence the residual is stationary.

4.4 Regression Analysis

4.4.1 Error Correction Model Results

Table 4: Error Correction Model (ECM) Results

Dependent Variable: DGDPPC

Independent Variable	**Coefficient**	**P-value**
C	331.0581	0.0003
DREGQ	25.06007	0.0066
DRLAW	31.34288	0.0473
DAID	-5.330000	0.0019
DEMP	-103.2579	0.0062
DOPEN	-787.7894	0.0002
ECM(-1)	-0.477891	0.0003
R-squared	0.839854	
Adjusted R-squared	0.759781	
F-statistic	10.48858	
Prob(F-statistic)	0.000352	
Durbin-Watson stat	2.090925	

Source: Authors' Compilation from Eviews 9

The dependent variable in the model is per capita GDP (GDPPC). The individual effects of the explanatory variables on the dependent variable are determined based on their coefficients and p-values. The coefficient of one of the institutional quality variables (REGQ) is positive and significant at the conservative 1 percent level and it suggests that the quality of regulation in Nigeria

and economic growth move in the same direction. A 1 unit change in REGQ will sharply affect economic growth by 25 units. Similarly, the coefficient of the rule of law variable (RLAW) is positive and significant at the 5 percent level. These outcomes are consistent with the results of some empirical studies which indicate that the quality of institutions in a country has a lot to do with the performance of the economy (Kilishi, et at, 2013; Ebaidalla, 2014; Kebede & Takyi, 2017; Olarenwaju, et al 2019; Adegboye, et al. 2020). The implication of the result is that the quality of institutions is a very important determinant of economic performance in Nigeria, hence policy makers at all levels of governance in the country should formulate and implement policies that would improve the quality and efficiency of the various institutions in Nigeria.

The coefficients of other control variables in the model namely foreign aids (AID), employment (EMP), and the degree of openness of an economy (OPEN) have negative signs and are significant at the 1 percent level. This implies that foreign aids have a negative relationship with economic growth in Nigeria. This outcome may be due to mismanagement and/or misapplication of some of the funds received as foreign aids.

On the inverse relationship between the degree of openness and economic growth, this is not strange considering the high import dependence of the Nigeria economy and the nature of exports which are mainly primary goods compared with manufactured imports. There is, however, no consensus in the literature on the nature of the relationship between the degree of openness and economic growth in Nigeria. While some authors find a positive nexus others opine that the relationship is inverse. While the AID and OPEN variables may move in the opposite direction with economic growth, the EMP variable is expected to be positively related with economic growth in line with a priori expectation. Increased employment levels are expected to accelerate economic growth, *ceteris paribus*.

A further look at the ECM regression results shows that the overall fit of the model is good with R-squared of 0.83. After adjusting for degrees of freedom, the value of the adjusted coefficient of determination (adjusted R-squared) of the model is 0.75. This is good and indicates that 75 percent of the systematic variation in the model is jointly explained by the explanatory variables. The variance of 25 percent is captured by the Gaussian white noise. The F-statistic of 10.48 and the corresponding probability value of 0.0003 suggest that a significant relationship exists between per capita GDP and all the independent variables combined. The Durbin-Watson (DW) statistic of 2.09 is approximately 2.0 and indicates the likelihood of absence of autocorrelation in the model. It confirms the outcome of the Breusch-Godfrey Serial Correlation LM test which affirms that the residuals are free from serial correlation.

The coefficient of the Error Correction Model (ECM) is significant at the 1 percent level of significance and it is negative. The value of the coefficient is -0.47

and it is lies between -1 and 0 as expected. Thus, it will rightly act to correct any deviations of the dependent variable from its long-run equilibrium value. The speed of adjustment to the long-run equilibrium is 47 percent per year and it is considered moderate. Thus, it will take about two years for any deviation from the long-run equilibrium to be corrected.

4.5 Test for Serial Correlation

As a post estimation test, the study proceeds to examine the residuals in the model for evidence of serial correlation to give the required confidence that the outcome of the regression exercise is reliable. The methods of ascertaining the nature of correlation in the series include the Durbin-Watson statistic and the Breusch-Godfrey Serial Correlation LM test. The two tests will be used to confirm the status of serial correlation in the study. The result of the Breusch-Godfrey Serial Correlation LM test is presented in Table 5.

Table 5: Breusch-Godfrey Serial Correlation LM test

F-statistic	0.132164	Prob. F(2,10)	0.8777
Observed*R-squared	0.489292	Prob. Chi-Square(2)	0.7830

Source: Authors Compilation from Eviews 9

The null hypothesis of the Breusch-Godfrey Serial Correlation LM test is that there is no serial correlation in the model. From the table, the Observed*R-squared value is highly insignificant with a probability value of 0.7830. Thus, we accept the null hypothesis of no serial correlation in the model.

4.6 Test for Stability of Model

The model is further investigated for stability using the Cusum Chart as in Figure 1. The Cusum test examines the stability of coefficients $\boldsymbol{\beta}$ in a multi-linear regression model of the form $\boldsymbol{Y} = \boldsymbol{X\beta} + \in$

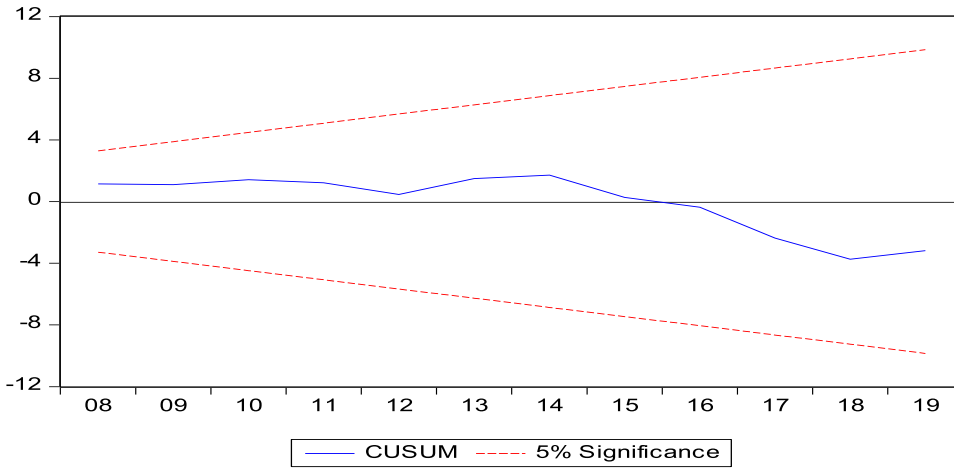

Figure 1: Cusum Test
Source: Authors Compilation from Eviews 9

The result of the test as presented in Figure 1 shows that the model passes the stability test at the 5 percent level of significance as the plotted line (the recursive errors) lies within the V-mask in the diagram. Thus, the model adopted in the study is stable and the results emanating from the regression exercise can be relied upon. The model is considered unstable if the plotted line veers out of the V-mask.

5. Conclusion and Policy Recommendations

The study examined time-series data on Nigeria for the period 2000 to 2019 to determine the relationship between the quality of institutions in the country and its economic performance. To kick start the process, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests were applied to investigate the stationarity conditions of the variables. These tests alongside the Engle-Granger residual likelihood test confirmed that the series were stationary after the first difference and co-integrated in the long run. The regression method applied is the Error Correction Model (ECM). The ECM which entails the use of lagged residuals to correct for deviations of the actual values from the long-run equilibrium values also helps to explain the short-run dynamics of the model. The results indicate a positive and significant relationship between the quality of institutions (proxied by REGQ and RLAW) and economic growth in Nigeria. The outcome implies that the issue of strong and efficient institutions must be taken seriously by governments and policymakers in Nigeria if the country is to meet the yearnings and aspirations of its citizens.

It is recommended that the various arms of government in Nigeria should formulate and implement appropriate policy reforms that would strengthen the

various institutions in the country. Specifically, the recommended improvements should focus on such broad areas as the quality of regulations and the rule of law with particular emphasis on the civil and public service, the police, the military, regulatory bodies, and the judiciary, to enable them to become more efficient and contribute more to the economic development of the country.

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