Empirical Analysis of the Impact of Political Stability and Institutional Quality on Economic Growth: Evidence from Nigeria

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Abstract

This study seeks to empirically investigate the impacts of political stability and institutional quality on economic growth in Nigeria using annual time series spanning 2000 to 2020. The research employs Autoregressive Distributed Lag model (Bound test) and error correction technique to analyses the relationship. The result of the ARDL bound test revealed the presence of long relationship where both the political stability and institutional quality were found to have positive and statistically significant impacts on economic growth in the long run. The result of the associated error correction term was negative, less than one and statistically significant confirming the existence of long run relationship among the variables used in the study. It is therefore recommended that authorities in Nigeria should work toward further stabilizing the polity and strengthening its institutions for more sustainable growth and development of the economy.

Keywords: Political stability, Institutional Quality, ARDL, Nigeria, Economic growth.

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Background to the Study
Accountability, regulatory quality, rule of law, political stability, property rights protection and contract enforcement, and control of corruption are important aspects of growth enhancing institutions. Moreover, a well-performing economy with strong institutions and regulatory policies give support to environmental protection (Grochova 2014). Hence, the understanding of the relationship among economic growth, regulatory quality and political stability aspects is important to achieve objectives of sustainable economic development.

Nigeria has witnessed worsening quality of institutions over time. The indices for rule of law, government effectiveness, control of corruption, regulatory quality, voice and accountability, and political stability have been trending negative throughout the 21st century (World Bank, 2021). As cited in (Timothy, Victor and Adoo 2021) Same has been happening in most of the developing countries. In order to enhance the quality of institutions in Nigeria, the government established the Corrupt Practices Investigation Bureau, the Code of Conduct Bureau, and Public Complaints Commission. Further attempts were made by instituting institutions that can ensure prudence and accountability in resource utilization in both public and private sectors towards sustainable economic growth. Some of these institutions include Economic and Financial Crimes Commission (EFCC), the Independent Corrupt Practices Commission (ICPC), the Nigerian Financial Intelligence Unit (NFIU), Fiscal Responsibility Commission (FRC) among others (Timothy et-al 2021).

Only few studies have dealt with the relationship among political stability regulatory quality and economic growth. for instance, Abubakar (2020), Jonathan et-al (2020), Radulovic (2020), study regulatory quality and economic growth and Denniset-al (2020) Rosario and Cervantes (2015), Akinlo, Arowolo and Zubair (2022) focuses on the political stability and economic growth. however, based on the reviewed literature there is no study empirically examine the relationship among the political stability, regulatory quality and economic growth in Nigeria. Thus, the main purpose of this paper is to empirically investigate the relationship between political stability, institutional quality and economic growth in Nigeria from 2000 to 2020 using Autoregressive Distributive Lag ARDL. The rest of the study is structured into four sections. Section two presents literature review, while section three focuses on methodology of the study, Empirical results and conclusion are presented in section four and five, respectively.

Literature Review
Institutional Quality and Economic Growth
Maduka, Ogwu and Ekesiobi (2022) examine the effect of institutional quality on economic growth carbon emission nexus in Nigeria from 1990 to 2020. Study employs the long-run and short-run dynamic ARDL regression, quartile regression and Granger causality test for the estimation. The result shows that regulatory quality (RGQ) has an insignificant impact on CO2 emissions in the long run and short run even when interacted with income. Utile, Ijirshar and Sem (2021) examine the impact of institutional quality on economic growth in Nigeria using annual time series date from 2001 to 2019. The auto regressive distributive lag (ARDL) model was used. The study found that institutional quality exerts a significant
negative influence on economic growth. Oanh Kim, Dinh Le and Nguyen (2021) investigate the impact of institutional quality on economic growth by taking a panel of data 48 Asian countries between 2005 to 2018. Using the quantile panel regression methods. The results show that institutional quality was found to be a key factor for economic development also there is an institutional threshold for economic growth to reach its highest level, if the institution indicator exceeds the threshold, it causes reverse effect on growth. Mohammad, Alabed, Abdulkarim, and Shahzaidi (2021) examine the relationship between institutional quality and economic growth in Jordan for the period of 1996 – 2017. Using autoregressive distributive lag (ARDL). The results reveal that there is a co-integration between economic growth and its determinants and exerts a positive and significant relationship between institutional quality and economic growth in both short-run and long-run. Wandeda, Masai and Nyandemo (2021) employs GMM to analyse the impact of institutional quality on economic growth of Sub-saharan African Countries for the period from 2006 to 2018. The findings reveal that institutional quality exerts positive and significant relationship with economic growth of Sub-saharan African Countries. Sule (2020) the study ascertained the effect of institutional quality on economic growth in Nigeria using the annual time series covering 1979 to 2018. The study employs both the Johansen cointegration and Ordinary Least Square (OLS) approach. The estimated cointegration test reveals joint relationship among variables. The OLS model shows that economic growth responds positively to institutional quality and statistically significant. Ogbuabor, Orji and Anthony (2020) study examine the institutional quality and economic growth performance from 1981Q1 to 2016Q4. The study adopted autoregressive distributive lag (ARDL) which uses a bound test approach. The results reveals that institutional quality impacts negatively but insignificant on Nigerian economic growth. Radulovic (2020) examines the impact of institutional quality on economic growth a comparative analysis of the EU and Non-EU countries of southeast Europe for the period 1996-2017. using worldwide Autoregressive Distributed Lag (ARDL). The results show that in EU countries there is a long-run relationship between institutional quality and economic growth and no short run relationship while in the non-EU countries of southeast Europe exerts significant relationship.

**Political Stability and Economic Growth**

Akinlo, Arowolo and Zubair (2022) Using annual data spanning from 1984 to 2020. Analysed the effect of political instability on economic growth in Nigeria. The study employs Autoregressive Distributed Lag (ARDL) technique. The cointegration test shows that political instability and economic growth are cointegrated also in both short run and long run, political instability negatively impacted economic growth. Bakaboukila, and Hakizimana (2021) analyze the effects of political instability on economic growth in Republic of the Congo. The Autoregressive Lagged Model (ARDL) was used in the study period from 1986 to 2017. The results of this estimation show that political instability has a significant negative impact on economic growth in the Republic of the Congo. Becheikh (2021) examine the impact of political stability and economic growth in the developing economies lesson from amorocco, Tunisia, and Egypt ten years after the Arab spring. The analysis covers the economic, institutional, competitiveness, business environment, infrastructural, and human capital aspects in the three countries base on authors own
research and knowledge of the region. The study reveals that “Western” democracy has several limits when applied into the Arab region context as it led to neither socio-political stability nor economic growth. Dennis and Lorember (2017) investigated the relationship between political stability and economic growth in Nigeria for the period of 1999 to 2014. Using auto regressive distributive lag (ARDL) econometric technique. The result revealed a positive and significant relationship between political stability and economic growth in short-run and long-run.

**Theoretical Review**

According to Arthur (1987), Mancur Olson’s theory of stability and growth posits that wars, revolutions and other destabilizing events disrupt economic activities in the short run and determine to a large extent economic situations in the medium term however, in the long-term political stability can be dysfunctional and subsequently slow down the rate of growth because of self-seeking activity of interest groups or "distributional coalitions. Political stability and institutional strength are prerequisite for a sustainable economic growth and development, as only stable political environment guaranteed by strong institutions can attract the needed investment that is capable of driving the economy. According to Campus and Nugent (2002) as cited in Chouki and Raouf (2021) theoretically a frequent shift in political regimes and manifestation of politically induced unrest is usually the root cause of defiant growth which weakens the ability of economic system to preserve sustainable development. Unstable political environment characterized by wars, revolutions, state costs, riots and other outbreaks of collective violence, the notion of “faith in the future” suddenly diminishes (Chouki and Raouf 2021). Confidence and trust which attract the needed investment and productivity that drives the economy are usually the result of stable political environment (Shabbir et al., 2016). Political instability has a severe negative consequence on economic growth prospect of a country. As noted by Tabassam et al. (2016) because of policy uncertainties caused by political instability risk averse domestic and foreign investors are discouraged from investing in a risky environment and consequently this leads to drastic decline in economic growth.

**Methodology**

**Data Sources and Variables**

In order to empirically explore the impacts of political stability and institutional quality, the study used annual time series data spanning from 2000 to 2020. Real Gross Domestic Product Per capita Growth rate which serves as a proxy of economic growth is the independent variable while political stability and regulatory quality are the independent variable. Corruption and interest rate were used as control variables. GDP per capita and interest rate were sourced from World Bank Development indicators (WDI2020) while political stability, Regulatory quality and corruption were extracted from World Governance indicators (WGI2020).

The data on real GDP per capita and real interest rates are in percentages, while estimates of the governance index which include (political stability, regulatory quality and control of corruption) approximately ranges from -2.5 representing the weakest/lowest to 2.5.
representing strongest/highest. For instance, the closer the estimate to -2.5 the more politically unstable while the closer to 2.5 the more politically stable a country is. The indicators are research datasets summarizing the perceptions of quality of governance provided by enterprises, citizens and expert survey respondents.

**ARDL Bound test**

In order to investigate the long run and short run impacts of political stability and institutional quality on economic-on-economic growth, the study applied Autoregressive Distributed Lag ARDL bound test approach to cointegration. The bound test, an econometric technique developed by Pesaran and Shin (1999) and later extended by Pesaran et al (2001) is adopted by the study to explore the long run and short run causal relationship among the variables used. The advantage of using this method over other approaches to cointegration like Engle-Granger (1987), Johansen (1988), Johansen and Julius (1990) are that it can be applied when variables are a mixture of at level, I (0) and first difference, I (1) or purely I (0) or purely I (1). But there should not be I (2) variables in ARDL Model. Otherwise, the model will be leading the spurious results. According to Narayan (2005) the ARDL bound technique is compatible and suitable for small sample size in determining the stationarity of the variables, Augmented-Dicky Fuller (ADF) and Philip-Perron test (PP) tests have been adopted.

The ARDL bound testing equation is expressed as:

\[
Y_t = \alpha_0 + \sum_{i=1}^{p} \delta_i Y_{t-i} + \sum_{i=0}^{q} \gamma_i PLST_{t-i} + \sum_{i=0}^{r} \eta_i INQY_{t-i} + \sum_{i=0}^{s} \theta_i CCRP_{t-i} + \sum_{i=0}^{t} \phi_i INTR_{t-i} + \mu_1 Y_{t-1} + \mu_2 PLST_{t-1} + \mu_3 INQY_{t-1} + \mu_4 CCRP_{t-1} + \mu_5 INTR_{t-1} + \epsilon_t \quad \text{eqn 1}
\]

Where \(Y\) is the real GDP per capita which is a proxy for economic growth, \(PLST, INQY\) are the political stability and regulatory quality which are independent variables, while \(CCRP\), and \(INTR\) are the control of corruption and real interest rates which are control variables. While \(\gamma, \delta, \tau, \theta\) and \(\phi\) are coefficients that captures short run dynamics while \(\mu_1 - \mu_5\) captures the long run impacts. \(\alpha\) and \(\epsilon\) are the intercept and error term of the model.

The hypothesis to test long run relationship are

Null hypothesis \(H_0\): \(\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = 0\). No cointegration exist

Alternative hypothesis \(H_1\): \(\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq 0\). Cointegration exist

If the result obtained from the bound test reveals the presence of cointegration, then there is long run relationship among the variables. If the calculated F-statistics is higher than the appropriate upper bound of the critical values, then the null hypothesis of no cointegration is rejected and long run relation exist. However, if it is lower than the appropriate lower bound the null hypothesis cannot be rejected and absence of long run relationship is reported. And if it falls between the upper and lower bound then the result is inconclusive.
Long run and short run models implied by equation (1) are expressed in equation (2) and (3) below:

\[ Y_{t} - \alpha_{0} + \sum_{i=1}^{P} \delta_{i} Y_{t-i} + \sum_{i=0}^{r_{1}} \theta_{i+1} PLST_{t-i} + \sum_{i=0}^{r_{1}} \phi_{i+1} INQY_{t-i} \]

\[ + \sum_{i=0}^{r_{1}} \theta_{i+1} CCRP_{t-i} + \sum_{i=0}^{r_{1}} \phi_{i+1} INTR_{t-i} + \epsilon_{t} \]  

**ECT** is the speed of adjustment parameter that captures short run dynamics. Its negative sign implies convergence to long-run equilibrium whereas the positive sign implies divergence. While other parameters are as defined in equation (1). Finally post estimation diagnostics test to check the problems of serial correlation, heteroskedasticity, Normality, functional form misspecification, as well as model stability have been conducted.

**Empirical Results and Discussion**

**Unit Root Test**

Determining the level of stationarity of the variables used in the study is important in order to avoid making wrong inference as a result of spurious regression and to ensure that none of the variables used is integrated of order two I (2). The study adopted Augmented Dickey-Fuller (ADF) and Philip-Perron unit root tests whose results are presented in table 1 below.

**Table 1:** Unit root test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Augmented-Dickey Fuller</th>
<th>Philip-Perron</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t- statistics</td>
<td>P-value</td>
</tr>
<tr>
<td>Y</td>
<td>0.196534</td>
<td>0.9637</td>
</tr>
<tr>
<td>∆Y</td>
<td>-4.019051</td>
<td>0.0077***</td>
</tr>
<tr>
<td>PLST</td>
<td>-2.579250</td>
<td>0.1135</td>
</tr>
<tr>
<td>∆PLST</td>
<td>-4.920954</td>
<td>0.0012***</td>
</tr>
<tr>
<td>INSQ</td>
<td>-2.201793</td>
<td>0.2116</td>
</tr>
<tr>
<td>∆INSQ</td>
<td>-4.989933</td>
<td>0.0009***</td>
</tr>
<tr>
<td>CCRP</td>
<td>-1.627473</td>
<td>0.4508</td>
</tr>
<tr>
<td>∆CCRP</td>
<td>-4.139196</td>
<td>0.0053***</td>
</tr>
<tr>
<td>INTR</td>
<td>-3.401510</td>
<td>0.0249**</td>
</tr>
<tr>
<td>∆INTR</td>
<td>-4.137724</td>
<td>0.0061***</td>
</tr>
</tbody>
</table>

**Notes:** ∆ Denotes first difference, **, *** significant at 5% and 1% level, ADF and PP are determined by Schwarz information criteria.

**Source:** Authors’ computation using E-views10.

The result of the unit root from both Augmented Dickey-Fuller (ADF) and Philip-Perron (PP) indicates that all the variables are integrated of the first order I (1) except interest rate that was found to be stationary at level I (0). None of the variables used was found to be
integrated of order two I (2) or higher. Therefore, degree of mixing order makes ARDL bound test of cointegration appropriate in estimating the relationship among the variables used in this study.

**Bound Test**
In order to explore the presence or otherwise of long run impacts of political stability and institutional quality for the period under investigation, bound test is applied, the result of the cointegration is presented in table 2 below.

**Table 2: Bound test**

<table>
<thead>
<tr>
<th>Bound critical (Restricted constant and No trend)</th>
<th>Significance level</th>
<th>F-statistics</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper bound I (1)</td>
<td>Lower bound I (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.37</td>
<td>3.29</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>3.49</td>
<td>2.56</td>
<td>5%</td>
<td>4.402631</td>
</tr>
<tr>
<td>3.09</td>
<td>2.2</td>
<td>10%</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Authors’ computation using E-Views 10.

The table 3 above indicates that the F-Statistics is 4.40 which is above the upper critical bound 4.37 at 1% significance level and therefore the null hypothesis of no cointegration is rejected, based on this an evidence of long run relationship is found among the variables used in this study.

**ARDL Regression**
In order to confirm the presence of long run relationship among the variables used and to examine the sign and magnitude of long run parameters and short run dynamics as well as associated error correction term, the study applied autoregressive distributed lag model and the results are presented in the table below.
Table 3: Long run and short run coefficients

<table>
<thead>
<tr>
<th>Regressors</th>
<th>ARDL (1,2,0,1,2) Based on Akaike information criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long run coefficients</td>
<td>Dependent variable: ( Y )</td>
</tr>
<tr>
<td>PLST</td>
<td>28.28518 8.999722 3.142894 0.0137**</td>
</tr>
<tr>
<td>INSQ</td>
<td>16.90504 6.770925 2.496711 0.0371**</td>
</tr>
<tr>
<td>CCRP</td>
<td>-8.053576 7.528482 -1.069748 0.3159</td>
</tr>
<tr>
<td>INTR</td>
<td>0.003219 0.210999 0.015254 0.9882</td>
</tr>
<tr>
<td>C</td>
<td>61.96546 24.93140 2.485438 0.0378</td>
</tr>
<tr>
<td>Short run coefficients</td>
<td>ARDL (1,2,0,1,2) Based on Akaike information criterion</td>
</tr>
<tr>
<td>Dependent variable: ( \Delta Y )</td>
<td></td>
</tr>
<tr>
<td>( \Delta PLST )</td>
<td>5.241356 2.554864 2.051520 0.0743</td>
</tr>
<tr>
<td>( \Delta PLST_{t-1} )</td>
<td>-12.98472 2.268951 -5.722786 0.0004***</td>
</tr>
<tr>
<td>( \Delta CCRP )</td>
<td>-18.20480 3.304475 -5.509135 0.0006***</td>
</tr>
<tr>
<td>( \Delta INTR )</td>
<td>0.083087 0.051987 1.598239 0.1487</td>
</tr>
<tr>
<td>( \Delta INTR_{t-1} )</td>
<td>0.307395 0.049064 6.265192 0.0002***</td>
</tr>
<tr>
<td>ECT_{t-1}</td>
<td>-0.603617 0.092130 -6.551767 0.0002***</td>
</tr>
</tbody>
</table>

Notes: *** and ** denotes significance at 1% and 5% respectively
Source: Authors’ computation using E-Views 10.

The long run component of the results indicates that political stability and institutional quality both have positive and significant impact on economic growth in Nigeria. Based on this result 1 unit increase in political stability leads to 28.28 unit increase in economic growth while 1 unit increase in institutional quality will translate in to 16.91 unit increase in economic growth. This is in conformity with the priori expectation. This means the more politically stable and institutionally strong a country is, the more it will attract new domestic and foreign investment and retain the existing ones, when this happens the productive base of the economy improve and hence more economic growth will be actualized. However, both corruption and interest rates were found to be insignificant in affecting economic growth in the long run.

In the short run political stability in the current period is positive and statistically insignificant but it was found to be negative and significant in the previous year where 1 unit increase in political stability leads to 12.98 unit decrease in economic growth. This is a reflection of the fact that Nigeria’s political environment was less stable in the short run thereby retarding economic growth. Corruption was found to have negative and significant impact on economic growth of Nigeria for the period under investigation, where 1 unit increase in corruption leads to 18.20 decline in economic growth. Corruption hampers economic growth by negatively affecting economic activities that stimulate growth such as investment, taxation, effectiveness of government expenditure through diversion of resources meant for
development in to personal pockets and distortion of market forces which results in to inefficient resources allocation. The result also shows that interest rates in the previous year have positive and significant impact on economic growth in the short run where 1% increase in interest rate leads to 30% increase in economic growth. This is because higher interest rates encourage more savings and hence more fund to channel in to the real sectors of the economy that propels economic growth.

The error correction term (ECT) reflects the speed of adjustment to equilibrium in the long run. This term indicates how quickly variables return to equilibrium; therefore, it is an indicator of long-run relationship among variables. The empirical result shows that the coefficient of ECT is 0.60 which has expected negative sign and highly significant at 1% level indicates high rate of convergence to long run equilibrium which further supports the presence of long run relationship among the variables used. Based on the result adjustments are corrected by 60% from short-run to long-run of the time span over every year.

**Diagnostic Tests Results**

Various econometrics diagnostic tests were conducted for the underlying ARDL equation, these include heteroscedasticity, serial correlation, normality, Functional form misspecification as well as stability of the model. The econometric tools employed included Breusch-Pagan-Godfrey, Breusch-Godfrey Serial Correlation LM Test, Jarque-Bera, Specification tests (Ramsey RESET test) CUSUM and CUSUMSQ tests respectively. The estimated diagnostic indicators are summarized in table 4 below.

**Table 4:** Diagnostic test results

<table>
<thead>
<tr>
<th>Test</th>
<th>CHSQ (2)</th>
<th>F (2, 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Godfrey Serial Correlation LM Test</td>
<td>5.922315</td>
<td>1.358570</td>
</tr>
<tr>
<td>Breusch-Pagan-Godfrey heteroscedasticity test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHSQ (10)</td>
<td>14.94078</td>
<td>2.944561</td>
</tr>
<tr>
<td>Ramsey RESET specification test: t-statistic</td>
<td>0.551337</td>
<td>0.597960</td>
</tr>
<tr>
<td>Jarque Bera Normality test</td>
<td></td>
<td>0.741574</td>
</tr>
</tbody>
</table>

**Source:** Authors’ computation using E-views 10

The diagnostic test results in table 4 above indicates that the model passes all the tests. The null hypothesis of the normality of residuals, no first-order serial correlation, no heteroscedasticity, and no misspecification of functional form are accepted as the probabilities of LM, F and t-statistics exceeds 5% level and by implication model is free from serial correlation, heteroscedasticity, functional form misspecification, and the issue of normality.

To ensure structural stability of the model, The cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residual square (CUSUMSQ) statistics are applied. A visual examination of CUSUM and CUSUMSQ graphics are
presented in Figure (1) and (2). Based on the two figures, the plots of each blue line did not cross the red line (5\% critical value line).

Figure 1: Model stability (CUSUM)

Figure 2: Model stability (CUSUM)

Conclusion and Policy Recommendation
This study empirically investigated both long run and short run impacts of political stability and institutional quality on economic growth of Nigeria using time series data spanning from 2000 to 2020 using Autoregressive Distributed lag (ARDL) bound test approach to cointegration. The empirical results of the bound test indicate the existence of long run relationship among the variables used in the study. The result also showed that both political stability and institutional quality were found to have positive and significant impacts on economic growth in Nigeria for the period under study. However, corruption and interest rate
both have insignificant impact on economic growth in the long run.

The result also indicates that political stability and corruption both have negative and significant impacts while interest rate has positive and significant impact on economic growth in the short run. The error correction term coefficient showed evidence of high convergence to long run equilibrium where adjustments are corrected by 60% from short-run to long-run of the time span over every year. Based on the findings the following recommendations are made:

Governments in Nigeria at all levels should double their efforts in proving stable and sound political environment that will attract more domestic and foreign investment in order to actualize more growth of the economy.

Government should improve the capacity of its institutions to enable them formulate and implements sound policies that will propel the economy to a sustainable economic growth path. Anti-graft agencies such as EFCC and ICPC should intensify the fight against corruption which penetrated every sector and hindered the economy from actualizing its full growth potentials.

Reference


