

Institutional Factors and Economic Growth in Nigeria

Oluwaseun Adeniran Sunday^{1*} Zechariah Wanujeh^{2*} and Hamisu Ali

^{1,2}Federal University Wukari, Taraba, Faculty of Social Science,
Department of Economics, Taraba State-Nigeria

³Adamawa State University Mubi, Adamawa, Faculty of Social Science, Department of
Economics, Adamawa State-Nigeria

Corresponding Author: hamisu682@adsu.edu.ng

Oluwaseun Adeniran Sunday (ORCID:0009-0003-3424-1953)

Hamisu Ali (ORCID:0000-0002-8416-5587)

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Abstract

This study investigates the relationship between institutional factors and economic growth in Nigeria from 1996 to 2022. It aims to examine the direction of causality among measures of institutional factors and economic growth. The endogenous growth theory provided the theoretical framework for the study. Data were obtained from the World Bank Database. Economic growth was measured using gross domestic product per capita and institutional factors were measured by political stability, government effectiveness, rule of law, and corruption. The Toda-Yamamoto non-granger causality test was used to determine the direction of causality among measures of institutional factors and economic growth. There is unidirectional causality running from political stability to economic growth, government effectiveness to economic growth, and from the rule of law to economic growth. There is bidirectional causality between corruptions to economic growth. The results suggest that strengthening institutions, improving governance, and promoting transparency are essential for unlocking Nigeria's economic potential. The study recommends judicial reforms, anti-corruption measures, and capacity building to foster a conducive environment for economic growth.

Keyword: *Economic growth, Institutional factors, Nigeria, Rule of law, Political stability, Corruption, Government effectiveness.*

Introduction

The extent to which the determinants of economic growth play a role in different economies is an important issue for both scientific and practical research. While there is extensive research on economic development, conventional economic paradigms require a structure to elucidate the variations in economic frameworks across the countries, beyond factors such as human capital, physical capital, labor, technology, and natural resources (Kim et al., 2022). A new study area within institutional economics has surfaced to develop a framework to investigate these remaining disparities. Many studies suggest that high institutional factors accelerate economic growth by stimulating economic activity, such as consumption and investment, increasing productivity,

allocating resources more efficiently, protecting property rights, and promoting freedom of choice (Abubakar, 2020).

The concept of economic growth and its factors have changed over time. In general, economic growth lies in the increase in welfare, good governance, and institutional framework, measured as GDP per capita (Al-Naser & Hamdan, 2021). The broader concept also includes social aspects of growth— sustainable development, poverty reduction, better education and health, more equal income distribution, environmental protection, social justice, and institutional quality (Alfred, 2020). In the long run, economic growth should be sustainable, which means that growth need not compromise the capacity of future generations to satisfy their needs. Traditionally, economic growth has been seen as determined by institutional factors, investment in physical and natural capital, technological progress, macroeconomic stability, and investment in human capital. However, differences in the speed of economic growth among countries with similar factor endowments and production technologies have called for the introduction of new economic factors (Tinta, 2022).

Institutional factors are formal and informal rules, norms, and structures that shape the behavior and interactions of individuals and organizations within a society or economy (Peters, 2022). These factors include political, economic, social, legal, regulatory, and international institutions. Institutional factors aid in promoting economic growth, encourage investment and innovation, enhance governance and reduce corruption, foster competitiveness, improve human capital formation and technology adoption, and support sustainable development (Kwilinski et al., 2022). Economic growth of a country can lead to increased investment in human capital, and improving institutional factors. Growth can strengthen property rights and the rule of law as governments seek to attract investment and promote business confidence. Increased economic activity can lead to greater tax revenues, enabling governments to invest in infrastructure, education, and healthcare, further improving institutional factors (Zolfaghari et al., 2020).

Nigeria's economic growth is constrained by weak institutional factors, leading to a persistent cycle of slow economic development, poverty, and inequality. These problems include inefficient and corrupt institutions that discourage investment and hinder economic growth, lack of transparency and accountability in governance leading to cronyism and nepotism, brain drain and talent flight due to unfavorable work environments and limited opportunities, low investment in human capital resulting in a skilled labor shortage and reduced productivity, dependence on oil exports, vulnerability to external shocks and lack of diversification. (Procházka & Čermáková, 2015; Kouadio & Gakpa, 2022; Gasimov et al., 2023) Investigation of the studies on the relationship between institutional factors and economic growth in Nigeria indicates that the existing literature is quite limited. Therefore, this paper aims to examine the direction of causality among measures of institutional factors (political stability, government effectiveness, rule of law, corruption) and economic growth in Nigeria.

The study contributes to literature on investigating the institutional factors that influence economic growth by examining the relationship between institutional factors and economic growth in Nigeria. It is necessary to take into consideration the various measures of institutional factors.

Methodologically, many studies (Marakbi & Turcu, 2016; Javadov et al., 2022; Nguyen, 2022) on the relationship between institutional factors and economic growth in developed Countries and developing Countries like Nigeria are limited. This study make use of World Bank (2022) database. Furthermore, several studies (Kouadio & Gakpa, 2022; Gasimov et al., 2023) on the Social and institutional factors of economic development were carried out on a macro scale. While (Procházka & Čermáková, 2015) have attempted to investigate Influence of Selected Institutional Factors on the Economic Growth at a micro level. Also, studies such as (Nwachukwu, 2024) investigate the phenomena in Nigeria on a regional perspective. This study however seeks to bridge the identified gaps by examining the direction of causality among measures of institutional factors (political stability, government effectiveness, rule of law, corruption) and economic growth in Nigeria by using Toda-Yanmamoto causality test.

The paper consists of five sections: introduction, literature review, data and methodology, empirical results, and conclusions. Finally, a summary of findings and relevant policy recommendations.

Literature Review

Evidence of the relationship between institutional factors and economic growth in Nigeria is limited. The study on the relationship between institutional factors and economic growth relies on the Endogenous growth theory. The Endogenous growth theory is associated with economists such as Arrow (1962), Lucas (1988), and Romer (1990). This theory posits that economic growth is primarily driven by internal factors within the economy (Udochukwu, 2024). Unlike previous models, such as neoclassical theory, which emphasizes external factors, this theory asserts that knowledge, innovation, and human capital are key determinants of economic growth. Specifically, Romer's (1990) model, building on Lucas' (1988) work, assumes technological changes and innovative ideas as endogenous, underscoring the importance of research and development for national technological advancements and economic improvement. Critics, like challenge the theory's empirical validation while others question the distinctiveness between physical and human capital in the model.

Relating to this study, Romer's (1990) model incorporates institutions, such as the market, property rights, and the state, using economic tools like subsidies to understand their impact on the speed of technological change and its influence on the growth rate of the economies. According to Schilirò (2019), the rationale for this institutional arrangement lies in the idea that expanding the workforce committed to research pushes the frontier of technological knowledge, potentially leading to an increase in the rate of growth. Additionally, Udochukwu, (2024) emphasize the role of government effectiveness, particularly through well-funded education and health sectors, in developing human capital which is necessary for economic growth. In all, this model posits that economic output growth depends on enhancing both physical and human capital, along with institutional frameworks and the technological level of the economy.

According to Akıncı et al., (2023) examined the relationship between economic growth and institutional variables using a panel cointegration analysis for European Union countries between 1996 and 2019. They found that there is a positive and statistically significant relationship between economic growth and political stability, the absence of violence and control of corruption for the

EU. Gasimov et al., (2023) examined the impact of institutional quality on economic growth for a sample of post-Soviet countries from 1996 to 2021. Using the Auto regressive Distributive Lag Model, the study observed a similar link for four out of six institutional factors as political instability and violence, government effectiveness, rule of law, and control of corruption had a positive significant impact on economic growth while the other two dimensions such as regulatory quality and voice and accountability exhibited inverted u-shaped impact on the dependent variable. Moreover, control variables such as trade openness had a positive impact while inflation and population growth rate both had negative impacts on economic growth. Udochukwu (2024) accessed the effect of institutional quality on economic growth in Ghana and Nigeria, using panel data covering 1996 to 2019. Using the auto regressive distributed lag as the method of analysis, the study found that control of corruption was very effective in Ghana while the reverse was the case in Nigeria thereby promoting economic growth in Ghana and retarding growth in Nigeria. Regulatory quality was also found to promote economic growth in Nigeria, whereas it retarded growth in Ghana. This study also found that there was government ineffectiveness has a negative impact on economic growth in both countries.

Wandeda et al (2021) examined the impact of institutional quality on economic growth for Sub-Saharan African countries from the period of 2006 to 2018 using the Two-step system GMM (Generalized Method of Moments) method. They found that institutional quality is more effective in driving income growth in the West African region than the other three regions of Eastern Africa and Central Africa. An improvement in institutional quality is more likely to improve the economic performance of low-income SSA economies than the middle-income SSA countries. Utile et al., (2021) investigated on the impact of institutional quality on economic growth in Nigeria from 2001 to 2019 utilizing the auto-regressive distributed lag (ARDL) model. The findings revealed that institutional quality exerts a significant negative influence on economic growth. Abubakar (2020) analyzed the impact of institutional quality on economic growth in Nigeria from 1979 to 2018 using the ordinary least square. The results showed a positive and significant impact of institutional quality and domestic investment on economic growth and effective governance index exerts a positive and insignificant influence on economic growth while foreign direct investment executes a negative and significant effect on economic growth.

Appiah et al., (2020) examined the relationship between financial development and economic growth taking into consideration the roles played by institutional quality in 15 emerging countries in the ECOWAS region from 1996 to 2017. Employing the two-step system generalized method of moment estimators, the study discovered that financial development has no significant and positive impact on economic growth in the ECOWAS region. Also, regulatory quality and capital formation have a positive association with growth while control of corruption and labour force have a negative impact on economic growth. Ogbuabor et al., (2020) investigated the relationship between institutional quality and economic performance in Nigeria from 1981Q1 to 2016Q4. The study adopted the ARDL approach and the findings indicate that institutional quality impacts negatively but insignificantly on growth in Nigeria, both at the aggregate and sectoral levels. However, initial output growth levels, capital and labour were found to have a positive impact on economic growth while trade had a negative impact on economic growth. Nguyen et al.

(2022) believe that institutional quality may promote the innovation process and lead to an innovative economy, which can be considered an important factor for sustainable development.

3. Methodology

This paper is anchored on the endogenous growth theory which simply states that economic growth is driven by strong influences within the economy. The underlying assumption is that economic prosperity is primarily determined by the endogenous factors as opposed to external exogenous factors. The traditional endogenous growth model is the Arrow model which is defined as

$$Y_i = f(K_i, L_i,)$$

Where Y denotes the output, K denotes the stock of capital, and L denotes the stock of labour. However, this study is anchored on the Romer (1990) model which is an advanced version of the Arrow model (AK model) as it considers knowledge as an input in the production function which follows this form

$$Y_i = f(K_i, L_i, R_i)$$

Where R represents the stock of knowledge from expenditure on research and development. It is important to note that the output in any economy will be influenced in one way or another by the institutional framework represented by IF. Hence, there is a need to introduce an institutional framework into the equation as follows

$$Y_i = f(K_i, L_i, R_i, IF_i)$$

It is important to note that IF_i is a vector of institutional factors comprising of the four measures, which includes political stability, government effectiveness, rule of law and corruption. Based on the theoretical and empirical literature presented above, the general model is specified following, Nwachukwu (2024) to examine the relationship between institutional factors and economic growth. The model is specified as:

$$GDP_t = \beta_0 + \beta_1 PS_t + \beta_2 GE_t + \beta_3 RL_t + \beta_3 COR_t + \mu_t$$

Where: GDP_t is GDP per capita at time t; PS is the political stability, GE represents government effectiveness, RL is rule of law, COR is corruption, β_0 is the intercept term, β_1 to β_3 are parameters estimated, and μ_t is the error term which is introduced to accommodate the effect of other factors that influence economic growth which are not included in the model. Data on these variables were obtained from the World Bank (2023) Database.

Testing for cointegration

In this paper the bounds testing approach for cointegration suggested by Pesaran et al. (2001) is adopted. The ARDL approach is preferred in this study to other cointegration tests as it does not require the variables to be integrated of the same order. In this regard, the approach does not require pre-testing of variables to determine the order of integration although it is inappropriate when the variables are integrated of order two or more. Therefore, pre-testing of unit root of variables is done to verify that none of the variables is integrated of order two or more. Another advantage is

that the bounds testing for cointegration is more efficient in a small sample size as the case in this study. Apart from this, the method is still applicable even when variables show any signs of endogenous properties as it makes corrections for any residual serial correlation (Pesaran et al., 2001). The autoregressive distributed lag (ARDL) framework is specified below

$$\Delta GDP = \sum_{i=1}^p \delta_1 \Delta GDP_{t-i} + \sum_{i=1}^p \delta_2 \Delta PS_{t-i} + \sum_{i=1}^p \delta_3 \Delta GE_{t-i} + \sum_{i=1}^p \delta_4 \Delta RL_{t-i} + \sum_{i=1}^p \delta_5 \Delta COR_{t-i} \\ + \pi_1 GDP_{t-1} + \pi_2 PS_{t-1} + \pi_3 GE_{t-1} + \pi_4 RL_{t-1} + \pi_5 COR_{t-1} + \varepsilon_t$$

The expression π_1 to π_4 on the right hand side depicts the Long-run relationship between the series while the expression δ_1 to δ_5 with summation notations corresponds to the Short-run dynamic of the variables. The following hypotheses are tested with respect to equation (6) following the ARDL technique.

The null hypothesis is $H_0: \pi_1 = \pi_2 = \pi_3 = \pi_5 = 0$

This states that there is no long-run relationship among the variables. While the alternative is $H_0: \pi_1 \neq 0, \pi_2 \neq 0, \pi_3 \neq 0, \pi_5 \neq 0$

The calculated F-statistic value is compared with the upper and lower critical value advanced by Pesaran et al. (2001). If the calculated F- value is greater than the upper critical then the null hypothesis of no cointegration will be rejected and conclude that cointegration exist among the series irrespective of whether the variable are I (0) or I (1). The long-run relationship will be established by estimating the chosen ARDL model using Schwarz Criterion.

Toda Yanmamoto causality test

The Toda-Yanmamoto causality test is considered if the series are of different orders of integrated (I (0) and I (1) series). The models are specified as;

$$GDP_t = \alpha_0 + \sum_{i=1}^k \theta_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \theta_{2j} GDP_{t-1} + \sum_{i=1}^k \delta_{1t} PS_{t-1} + \sum_{j=k+1}^{k+d_{max}} \delta_{2j} PS_{t-1} + \mu_{1t} \\ PS_t = \beta_0 + \sum_{i=1}^k \varphi_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \varphi_{2j} GDP + \sum_{i=1}^k \beta_{1t} PS_{t-1} + \sum_{j=k+1}^{k+d_{max}} \beta_{2j} PS_{t-1} + \mu_{2t}$$

(7)

$$GDP_t = \alpha_0 + \sum_{i=1}^k \alpha_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \alpha_{2j} GDP_{t-1} + \sum_{i=1}^k \sigma_{1t} GE_{t-1} + \sum_{j=k+1}^{k+d_{max}} \sigma_{2j} GE_{t-1} + \mu_{1t}$$

$$GE_t = \beta_0 + \sum_{i=1}^k \pi_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \pi_{2j} GDP + \sum_{i=1}^k \rho_{1t} GE_{t-1} + \sum_{j=k+1}^{k+d_{max}} \rho_{2j} GE_{t-1} + \mu_{2t} \quad (8)$$

$$GDP_t = \alpha_0 + \sum_{i=1}^k \tau_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \tau_{2j} GDP_{t-1} + \sum_{i=1}^k \vartheta_{1t} RL_{t-1} + \sum_{j=k+1}^{k+d_{max}} \vartheta_{2j} RL_{t-1} + \mu_{1t}$$

$$RL_t = \beta_0 + \sum_{i=1}^k \varphi_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \varphi_{2j} GDP_{t-1} + \sum_{i=1}^k \omega_{1t} RL_{t-1} + \sum_{j=k+1}^{k+d_{max}} \omega_{2j} RL_{t-1} + \mu_{2t} \quad (9)$$

$$GDP_t = \alpha_0 + \sum_{i=1}^k \alpha_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \alpha_{2j} GDP_{t-1} + \sum_{i=1}^k \theta_{1t} COR_{t-1} + \sum_{j=k+1}^{k+d_{max}} \theta_{2j} COR_{t-1} + \mu_{1t}$$

$$GDP_t = \beta_0 + \sum_{i=1}^k \beta_{1t} GDP_{t-1} + \sum_{j=k+1}^{k+d_{max}} \beta_{2j} GDP + \sum_{i=1}^k \gamma_{1t} COR_{t-1} + \sum_{j=k+1}^{k+d_{max}} \gamma_{2j} COR_{t-1} + \mu_{2t} \quad (10)$$

Where: k denotes the optimal lag. This is determined by using the information criteria such as AIC and SIC and d_{max} as the maximum order of integration.

4. Result and Presentation

To avoid spurious results, the pre-testing for statistical properties of the variables such as non-stationarity test for time series data is important. The unit root test results for the variables used in this paper is presented in Table 1 below.

Table 1. Unit root tests of variables

Variable	Phillips Perron			Augmented Dickey Fuller		
	LEVEL	1 st DIFF.	I(d)	LEVEL	1 ST DIFF	I(d)
GDP	-1.3722	-2.9558*	I(1)	-0.4560	-2.9801*	I(1)
PS	-0.8947	-10.3909**	I(1)	-1.7831	-4.7268***	I(1)
GE	-	-0.3706	I(0)	-3.4429*	-6.7303	I(0)
	3.7524**					
RL	-2.3688	-3.7766**	I(1)	-1.1119	-3.8748**	I(1)

COR -0.2453 -4.2645* I(1) -1.6179 -4.9798 I(1)
(*) indicates significant at the 10%, (**) significant at the 5% and (***) significant at the 1%
Source: Computed by the Author

Table 1 reveals that the variables have a mixed order of integration. Gross domestic product (GDP), political stability (PS), rule of law (RL), and corruption (COR) are stationary at first difference while government effectiveness (GE) is stationary at level.

Table 2: ARDL Bound Test Result

Test Statistic	Value	K
F-statistic	15.85371	4
Critical Value Bounds		
Significance Level	I(0) Bound	I(1) Bound
10%	2.2	3.09
5%	2.56	3.49
1%	3.29	4.37

Source: Computed by the Author

The F- statistics test shows that there is a long-run relationship among the variables. Since the F-statistics of 15.85371 is higher than the upper bound critical value at 5% level of significance. The null hypothesis of no cointegration is rejected. Thus, institutional factors measured with political stability, government effectiveness, rule of law and corruption could be assumed to have a relationship with economic growth in the long-run.

Table 3: VAR Lag Length Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-208.9180	NA	18.62058	17.11344	17.35721	17.18105
		172.9746	0.016049	10.00951	11.47216	10.41519
1	-95.11888	*	*	*	*	*
2	-70.58747	27.47517	0.021926	10.04700	12.72852	10.79074

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

The Toda-Yamamoto Granger Causality approach is used to examine the direction of causality between measures of institutional factors and economic growth. The results of the unit root test in Table 1 above indicate that the order of integration is one, I (1). The optimal lag length was selected based on different lag length criteria such as Akaike's Information Criterion (AIC), Schwarz Information Criterion (SC), Final Prediction Error (FPE) and the Hannan Quinn (HQ) Information Criterion. The results of the different lag length selection criteria is presented in Table

3. As shown in Table 3, the lag length selected by the different selection criterion indicates lag length of 1.

Table 4: Toda –Yamamoto Causality (modified WALD) Test Results

Cause	Effect	Chi squares	Prob	Decisions	Remarks
PS	GDP	17.8	0.0000	Do not reject H_0	Unidirectional Causality
GDP	PS	0.002	0.9619	Reject H_0	
GE	GDP	0.38	0.5388	Do not reject H_0	Unidirectional Causality
GDP	GE	2.73	0.0982	Reject H_0	
RL	GDP	1.91	0.1671	Do not reject H_0	Unidirectional Causality
GDP	RL	4.23	0.0395	Reject H_0	
COR	GDP	0.09	0.7687	Reject H_0	Bi-directional Causality
GDP	COR	1.62	0.2026	Reject H_0	

Source: Computed by the Authors

The results of the TY estimated by the MWALD test are presented in Table 4. The result shows that the test follows the chi-square distribution with 1 degree of freedom which is by appropriate lag length. The Toda Yamamoto result reveals that there exists a unidirectional causality running from political stability to economic growth. That is, political stability has a significant influence on economic growth and not the other way around. Similarly, the results reject the hypothesis of no causal relationship running from government effectiveness to economic growth but do not reject the hypothesis of no causal relationship running from economic growth to government effectiveness. This implies a unidirectional causality running from government effectiveness to economic growth and not the other way around. The result also indicates a unidirectional causality running from the rule of law to economic growth. That is, changes in the rule of law lead to changes in economic growth and not vice-versa. These results tend to suggest that causality runs from the rule of law to economic growth and not the other way around. This can be justified on the ground that effective rule of law is an important driver of economic growth, and improvement in the rule of law may have a positive impact on economic growth. This is likely because a strong rule of law protects property rights, encourages investment, promotes fair competition, and reduces corruption. Finally, the result rejects the hypothesis of no causation running from corruption to economic growth. Thus, the corruption causes economic growth. Also, causation runs from economic growth to corruption- unlike other measures of institutional factors.

Therefore, there is a bidirectional causal relationship between corruption and economic growth for the Nigeria data.

Conclusion, Policy Implication and Recommendations

The overall conclusion and policy implication for the findings under the period is that institutional factors, particularly political stability, government effectiveness, and rule of law are expected to have a significant impact on economic growth in Nigeria, and as such weak institutional factors have hindered Nigeria's economic growth and development. Effective implementation of policies and regulations is essential to improve the business environment and attract investment. Based on these findings, this study recommends that there is a need for the federal government to improve judicial efficiency and independence to enhance the rule of law, strengthen institutions to reduce corruption and increase transparency, foster political stability through inclusive governance and dialogue, invest in human capital development to enhance productivity and foster international cooperation to attract investment and technology which in all would foster sustainable economic growth

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