Institution and Economic Growth performance in Nigeria

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ABSTRACT

Emerging consensuses among growth economists view institutions as the key determinant of improving economic growth. This study examines institutions and growth performance in Nigeria. In order to obtain the aforementioned objective, we employed ARDL approach to co-integration and Causality. The findings of this study indicate long run relationships between institutions and economic growth. However, on the direction of the relationship the findings suggest two –way causal relationship, which implies, economic growth and Institution causes each other. The causal influence of economic growth on institutions reveals that despite, much rhetoric to the contrary good institutions in Nigeria requires resources, which implies that poor institutions are associated with having low income. The policy implication is that for Nigeria to achieved better institutions emphasis must be given to critical growth driven sectors.

Key words: Institutions, Growth, Sustainable Development, Nigerian Economy

INTRODUCTION

The literature on institutional approach to development stresses the importance of the term "good institutions". The term is generally described as the traditions and institutions which explain how the authority is applied in a given country, (Quibria, 2006). This understanding emerged from the earlier pioneering work of institutional economists such as Douglass North (1973) and Mancur and Olson (1965) the findings of these empirical evidences reached the conclusion that there is a positive relationship between institutional structures and economic

growth. On the basis of these conclusion there is wide believe among growth economists, development specialists and international policy- makers that establishment of good institutions" are necessary requirements for achieving economic growth, North (1990), Zaum, Taxell, and Johnson (2012). Despite these plausible comparative literatures on institutional structures and economic growth, the ongoing empirical evidences of institutions matter for development have been marred with a number of shortcomings. Some of the empirical studies which purported to showed that good institution is important for economic growth have suffered a number of shortcomings, for example, measurement error, Keefer, & Knack, (2006) missing variables Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, (2004), conceptual vagueness La Porta, Lopez-de-Silanes, Shleifer, & Vishny (1999).

The weakness with these types of cross-sectional regression exercise has been documented, by Quibria (2006) using a sample of East Asia countries. The author pointed out that these types of cross-sectional studies have failed to capture the nuances of interactions between governance and economic growth. Qubria further elaborated that the failure is because the governance measures were developed based on the implicit governance model which exists only in institutions available in Western advanced countries. This argument is justified based on the fact that some of the successful Asian developing economies did not do well in terms of conventional governance scores, but, yet they are superstars when it comes to economic growth performance. These economies created, in a matter of short span of time, a kind of growth and development miracles hitherto which have never expected in human history. The conspicuous example is China - today occupying the second most enviable fasted growing economy in the World despite poor conventional governance scores.

These curious arguments raised by Quibria, (2006) was rooted on the concerns of Sachs, Jeffrey, John McArthur, Guido Schmidt-Traub, Margaret Kruk, Chandrika Bahadur, Michael Faye, and Gordon McCord (2004) in their studies on *Understanding African poverty: Beyond the Washington Consensus to the Millennium Development Goals (MDG) Approach*. The authors succinctly reveal that the reasons of African countries failing to grow are due to low income. In other words economic growth in African requires resources.

This paper attempt to trickle down, this general argument to Nigeria. The study of Adogamhe, (2010), and, Sach *et al* (2004) focused much attention on the correlation. This study is interested on the causal relationship. In addition this study try to determine whether institutions are a preconditions and necessary things that a country must have before it can achieve faster economic growth at it early stage of development. Moreover, the studies of Adogamhe, (2010) and Sach *et al* (2004) focused on political institutions and found positive and significant effects on economic growth. In contrast, this study is focusing on the validity of the empirical evidences established through the use of the measures of institutions. This study significantly differs from the previous studies by considering a time series data instead of cross sectional data in order to address heterogeneity of a country specific issues and context specificity. Indeed addressing context specificity through a time-series matters for Nigeria because time series outcomes may provide better understanding than cross-countries–section research that combines countries together.

Based on the above introduction, the remaining sections are structured as follows: part two focuses on materials and method, while sections three present results and discussion, and last part provides conclusion and policy recommendation.

MATERIALS AND METHOD

Theoretically, the studies that examined qualities of institutions are attributed to the study of North (1990). This study was among the early studies that emphasized on the role of institutions for an economy. This study was backed up by the work of Olsen, (2002 and De Soto (2000) , The main idea behind the work of North is the importance of public and private institutions, as well as formal and informal institutions. The study included economic and social as well as political factors that determine how an economy functions. In fact, the author went further to describe institutions as the set of rules that determine how a society behaves in a particular setting. The author went further to explain that institutions encompass taboos, customs, and traditions as well as norms and values that hold the back bone of a society, and extended the definition to include formal written constitutions and laws governing economic, political, and social interactions in the society.

North (1990) explained that the configurations, of rules, establishing institutions influence the incentives arrangement to which individual responds. Feeny, Hanna., & McEvoy, (1996) and Dollar, & Kraay, (2003) have argued that institutions change as the transaction costs of interaction change. This is more obvious as the economy advances and technological advancement also improves. Equally institutions change as the political and social forces within a society change. North (1990) Olsen, (2002 and De Soto (2000) all have expressed the importance of property rights and contract enforcement in achieving economic growth.

One of the good empirical studies which examined the relationship between institutions and economic growth was conducted by the World Bank group of researchers Dollar, & Kraay, (2003) .The findings of their study concluded that there is a bidirectional relationship between quality of institutions and economic growth and the directions of influence is from institutions to growth Dollar, & Kraay, (2003) and Kaufman, (2012) examines the direction of influence between governance and per capita income of 173 countries, using data of 300 indicators of governance selected from a large number of cross-country studies for the years 1997-98. The results of their study revealed that there is a significant positive relationship moving from good governance to economic growth. Thomas,(2009), Kaufmann, Kraay, & Mastruzzi, (2011). Suggest similar conclusions that institutions cause economic growth. Other important case studies on Nigeria emphasizing on the role of institutions includes the work of Adogamhe, (2010) Abdulai, & Ndekugri, (2008). On the reverse causality outcomes is attributed to the works of Acemoglu, Johnson and. Robinson (2002), Olsen, (2002 and Rodrik, (2010).

However, on the contrary, despite the proliferation of the above qualitative studies, there is a serious skepticism on the validity of the claims that qualities of institution are necessary preconditions for economic growth. This growing skepticism arises both from within and outside the main stream of the heterodox economists. The fact remains that such types of empirical studies did not precisely explain how institution is a necessary and precondition for growth, rather than the reverse causality. For instance, Sach *et al* (2004) demonstrated an econometric analysis that standardized the measurement of institutions by level of income and found that; in fact, a lot of African countries are properly governed based on the level of their income, therefore, concluded that such claim is doubtful. The general conclusion, within the context of heterodox studies, is that it is economic growth that influences institutions by improving higher

income; this is clear in the case where growth was accompanied by greater need for higher good institutions (for example, desire for political institutions, with greater checks and balance). Institutions are desirable things to have but not preconditions for development, they can only be possess, after certain level of economic prosperity is attained (Aron, 2000)

Ignoring the important possibilities that good governance and quality of institutions may require real resources constitutes the motivation of this study. These make it imperative to find out whether poor institutions are associated with having low income in Nigeria.

Model Specification

This study utilizes autoregressive distributed approach to co- integration, recently developed by Pesaran, Shin, & Smith, (2001) to overcome the difficulties of estimating time series data and establishing the long run relationship among economic variables. One of the advantages in the application of ARDL approach to co- integration is that it overcomes the unnecessary difficulty of achieving the order of 1(0), and 1(1) as a condition of integrating order of series. This approach appears to be more reliable when compared with Engle, & Granger, (1987) and Phillips, & Hansen,(1990) approach. One interesting thing with ARDL model is that it provides avenue for using OLS estimation criteria for identification and estimation of certain variables under consideration (Lee, Pesaran, & Smith, 1998). The application of OLS in the estimation of a long run relationship overcomes some of the weaknesses of other techniques. Thus, ARDL provides means for detecting the direction of causality through the modified OLS error correction representation mechanism However, the decision rules of establishing the long run relationship in bound testing follow the rules that if the estimated F- test value of the joint significance is higher than the upper critical value computed values, the null hypothesis of no long run relationship is rejected. On the other hand, if the computed F- tests value of the joint significance lays below the lower critical value, the null hypothesis of no long run relationship is not rejected. But in any case where the F-test value falls in between the upper and lower critical values the outcome result is inconclusive. In every step of ARDL selection, the lag order is very important, therefore, the choice considers minimum lag value based on the Akaike Information criteria, (AIC), or the maximum lags length based on Schwartz-Bayesian Criteria (SBC).

A diagnostic test is performed in order to make sure that the model is well specified and it is free from any forms of disturbances or instability. The stability test is conducted by employing the cumulative sum of squares of recursive residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMsq). This enables us to be certain on the error correction representation results.

Model specifications are as follows: First, We consider the standard practice in the literature following the work of Ono (2012), in this study the modified and specified model is presented as follows:

$$\Delta lnY = \beta 0 + \beta 1\Delta InYt - 1 + \beta 2\Delta XEt - 1 + \beta 3\Delta BQt - 1 + \beta 4\Delta ERt - 1 + \beta 5\Delta Not - 1 + \beta 6\Delta LGt - 1 + \beta 7\Delta KKt - 1$$

$$\beta 8InYt - 1 + \beta 9XEt - 1 + \beta 10BQt - 1 + \beta 11ERt - 1 + \beta 12Not - 1 + \beta 13LGt - 1 + \beta 14KKt - 1 + et - -(1)$$

The null hypothesis of no long run relationship is examined through F-test of the joint significant of the lagged level coefficient of equation (1).

Ho: β8, β9, β10, β11, β12, β13, β13, β14, β15, β16=0

Hi: β8≠0, β9≠0, β10≠0, β11≠0, β12≠0, β13≠0, β14≠0, β15≠0, β16≠0

Where $InYt$ is the dependent variable, XEt, , BQt ERt, Not, LGt, KKt, are the log of Accountable executive, Quality of the bureaucracy, strong civic society, rule of law, competitiveness of political participation and control of corruption respectively, and et is the white noise term.

Sources of Data

Data on GDP per capita   Proxy as InYt, were collected from World Development Indicators, and the Central Bank of Nigeria annual statement of accounts various issues. Similar Data on inequality of Income were obtained from the various National Poverty Assessments Survey, various issues. Data on inequality of income were obtained from Deininger square assembled data set on inequality of income for Nigeria.

Measurement of the indicators of governance is not an easy task, considering the abstracts nature of the concepts, this made a large amount of these indicators, in principle, multi-dimensional.

Considering these multi dimensionality of these indicators, we follow the work of Keefer, & Knack, (2006), Campos, & Nugent, (1999) and use different measures for each dimension of the indicator. Starting with Accountability of the Executive measure, the data were from the Gurrs Polity 111 data set. To measure the quality of Bureaucracy which is the second indicator of governance, in the model, the data was collected from ICRG data house and BERI data house. The data on the rule law was collected from ICRG indicators. Data on Strong Civil liberties were extracted from the Gastil (now called freedom house) indicators data set. Data on Competitive Political Participation were sourced from Gurrs Polity 111 data set; data on the control of corruption were extracted from the transparency international and World Bank CPIA.

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Results and Discussion

In table 1, the results indicate that after differencing all the variables are stationary at 5% level of significance implying that all the series are co-integrated   and safe to be use for econometric estimation. However, from the result obtained in table 2, the estimated values of the F- test statistics of all variables in the model, with exception of In XEt, have exceeded the computed upper critical value at 5% level of significance. As such the null hypothesis of no long run relationship is rejected and also, since the estimated values of the F- test statistics does not fall below the lower critical value.. This implies that in the long run all the series move together toward stable equilibrium.,

Table 3 presents the results of the estimated long run coefficient of the ARDL taken economic growth as the dependent variable. From the estimated results, Control of corruption appears with highest percentage, suggesting that any 1 percent changes in corruption in Nigeria will causes 21.5% changes in economic growth. This implies high level of endemic corruption in Nigeria. Accountable executive is statistically not significant; implying that it does not impacts on economic growth. . The Rule of law is statistically not significant indicating that it does not impacts on the level of economic growth. Competitive politics is statistically not significant; meaning that it does not affect the economic growth in the long run. However, to determine the direction of causation the dynamic error correction is estimated. The result is presented in table 4. Thus from the estimated results the   in the dynamic models of all the measures of institutions

the results provides interesting information. The ECM, which is the residuals of the long run causal relationship, is statistically significant with negative values indicating a long run causal relationship between measures of institutions and economic growth. One, challenging information about the results is the existence of a bi-directional causality relationship between measures of institutions and economic growth. Because in the economic growth model, growth impacts on all the measures of institutions, while similarly, on the reverse case, the measures of institutions were found to impacts on economic growth, this findings seemingly paradoxical. Because despite much rhetoric to the contrary, it is quite surprising that economic growth causes good institutions. In other words Nigeria failing to grow May be attributed to the problem of low income. These results seem quite consistent with the work of Keefer, & Knack, (2006), who pointed out the possibility of the existence of two- way causation between institutions and economic growth. The results on a general note indicate that economic growth also changes institutions. This study is entirely consistent with Khan, (2003 who suggested that when initial incomes are taken into account (market improving) quality does not explain any significant part of growth difference. Similar conclusion was reached by the study of Sach *et al* (2004) who extensively investigated the governance indicators and economic performance in Africa.

Conclusion and Policy Implications

The primary purpose of this study was to investigate the relationship between institutions and economic growth. However, it was found that the direction of the causality remains to be established clearly which bears important implications for policy design. We discussed the theory underpinning on the role of good institutions while developing the model and we test it with plausible arguments using two methods of analysis. First, by using data for the period (1980-2011) with the sole aim of establishing the causal linkage among variables, the results suggest that the direction of causality remain indeterminate; as such, issues related to causality arising from these types of economic engagement need to be treated with caution. This study wraps up with some important policy implications for the Nigerian government. Nigerian government must pay attentions to the governance capabilities that would enhance economic growth, so that, improved economic growth would lead to good institutional governance. Because, institutional improvement such as democracy, rule of law, anti-corruptions are very expensive public goods and they can only be achieved after certain level of economic prosperity

is attained. However our finding does not resolve the intense dispute on the direction of the relationship between governance and economic growth. A bigger understanding beyond the econometric data is necessary in order to figure out a clear understanding on the direction of the relationship which may require historical lesson. This could be an area of further research.

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Appendix
Table 1. The Augmented Dickey- Fuller (ADF) test and Phillips Perron test for a Unit root

Variables	ADF Level	Critical val. level	ADF first.Diff	Critical Val. first. Diff.	PP level	Criticical Val. Level	PP first. Diff.	Critical Val. level
InY	-5.8258	3.661661	6.69156	2.967767	5.841001	2.960411	-32.241	-2.96397
		-3.66166	-6.6916	-	-5.841001	-2.960411	-32.241	-2.96397
InEX	-5.5678			2.967767				
	-3.9863	-2.96041	-6.7587	-	-3.959514	-2.960411	-19.548	-2.96972
InBQ				2.967767				
	-4.6583	-2.98104	-6.942	-	-2.997492	-2.960411	-7.4651	-2.96397
InER				2.963972				
	-2.3269	-2.96041	-8E+06	-	-2.165423	-2.960411	-8.1006	-2.96397
InNO				2.963972				
	-2.6707	-2.96041	-8.3162	-	-2.639485	-2.960411	-14.706	-2.96397
InLG				2.963972				
	-4.0272	-2.96041	-9.652	-	-4.02723	-2.960411	-18.215	-2.96397
InKK				2.963972				

Note: * ** *** indicate significant at 1% 10% 5% respectively thus all variables are significant

at 5% level of significant Sources: the table is computed by the researcher using

Table 2. Bound test for the existence of a long-run relationship

Test statistics	Significance level	Bound testing critical value with no trend	
F- Statistics		1(0)	1(1)
InY 11.9212	1%	5.754	6.483
InEX 3.6511	5%	3.993	4.533
InBQ 14.5386	10%	3.247	3.773
InER 8.5994			
InNO 21.1851			
InLG 23.5460			
InKK 16.3289			

Note: The critical values are extracted from Narayan (2005b), case11model with intercept and trend,

Table 3 Estimated Long Run Coefficient Taking Economic growth as a dependent variable

Regressors	Coefficient	T-Ratio
InEX	-1.3366	-0.86872
InBQ	4.2032	2.2337

InER	2.8094	2.409
InNO	1.5347	1.0401
InLG	-0.0034831	-0.44393
InKK	-21.4952	-2.3042

Diagnostic test

Serial Correlation χ^2 (1) = 11.6032= (0.031), Functional Form χ^2 (1) = 2.5658 (0.109)

Normality χ^2 (1) = 3.7098 (0.156), Heteroscedasticty χ^2 (1) = 0.41224 (0.521)

These statistics are distributed as chi-square variants, based on the following tests:

A:Lagrange multiplier test of residual serial correlation.   B:Ramsey's RESET test using the

square of the fitted values.   C:Based on a test of skewness and kurtosis of residuals

 D:Based on the regression of squared residuals on squared fitted value

Table 4 Dynamic Error correction Models

Regressors	dInYt	dInEXt	dInBQt	dInERt	dInNOt	DInLGt	DInKKt
dInYt				0 (-0.024628)	-0.006589 (-4.3886)	0 -0.14321	0 (-0.23613)
dInEXt	-664.8581 (-5.9948)		-1.107 (-6.1523)	-0.020434 (-.65638)	-0.25203 (-5.2584)	-0.21719 (-6.5160)	
dInBQt	-11.1659 (-4.3977)	-312.343 (-3.5152)	-0.44724 (-5.4065)		-0.051542 (-3.4582)	-0.17804 (-12.8109)	-0.17031 (-8.4933)
dInERt	-24.8378 (-1.4498)	329.4836 -4.5228	-1.3815 (-2.9263)	-3.0362 (-4.3246)	-0.54949 (-4.0124)	-0.54949 (-4.0124)	-0.5784 (-4.2401)
dInNOt	-36.3609 (-2.3006)	129.1064 -0.76597	-2.3518 (-5.2584)	-4.9548 (-12.4578)		-0.77079 (-6.4289)	-0.88004 (-7.8361)
dInLGt	-70.6329 (-4.7561)	302.3322 -2.1599	-14.5971 (-8.4933)	-0.77079 (-6.4289)			
dInKKt	23.9472 (.1.5667)	-1644.6 (-5.9572)	3.0689 -4.0724	3.0689 -4.0724			
ECM(t-1)	-0.66143 (-5.2971)	-15886 (-3.2882)	-0.66143 (-5.2971)	-15886 (-3.2882)	-0.51555 (-4.1019)	-1.8492 (-16.2732)	-2.27801 (-1.8417)

ARDL(1,1,0,1,0,0,1,1) selected based on Schwarz Bayesian Criterion

Figure 1 Economic growth as dependent variable

Plot of Cumulative Sum of Recursive Residuals
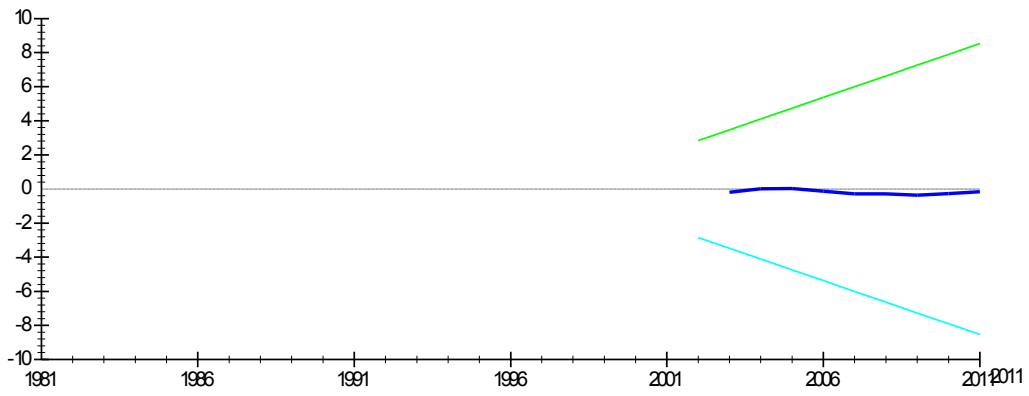
The straight lines represent critical bounds at 5% significance level