

## Institutional Quality, Macroeconomic Policy and Economic Development in Nigeria

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### Abstract

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This paper examines the relationship between institutional quality, macroeconomic policy, and economic development in Nigeria. We employ data from four development indicators: the prevalence of undernourishment, life expectancy at birth, the Human Development Index (HDI) and Gross Domestic Product (GDP) per-capita from 1995 to 2013 to examine the validity of the proposed framework. Our result indicates an insignificant impact of domestic institution on Nigeria development indices. Interest rate was also found to have an insignificant impact on economic development in Nigeria, even when growth related indices were considered. On the other hand, government expenditure was found to exert a significant, though small, impact on the country's development indices. Based on these, a holistic approach of attitudinal change, systematic strengthening and development of institutions is recommended for the attainment of the country's developmental objectives.

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**Keywords:** Institutional quality, Economic development, Macroeconomic policy

**JEL Classification:** EO1, EO2

### 1. Introduction

In recent times, there has been widespread doubt among economists and policy makers alike as to the adequacy of traditional economic theory in explaining and proffering solutions to the problems of modern economies. This is based on the continued underdevelopment of third world countries in spite of the myriad combination of policies they have implemented over the years. This has been further reinforced by the recent global economic recession which was largely attributed to institutional failure, and has led to an increased recognition (in main stream economics) of the role of institutions as a critical determinant of the level of economic growth and development of a nation. The general consensus is that the continued underdevelopment of the third world countries, especially those in sub-Saharan Africa is a product of institutional failure (Siba, 2008). It has been argued that macroeconomic policies, no matter how well formulated, will have little impact in an environment characterised by weak institutions. The importance of institutions on the relations of production can be seen in terms of their impact on individual and social behaviour. The quality of social characteristics which are necessary for the attainment of efficient economic outcomes such as norms, ethics and morals, are dependent on the quality and strength of a society's institutions. In general, it would be difficult to enforce contracts, protect property rights, business contracts, ensure the adequate and timely dissemination of information to economic agents, and ensure transparency and accountability in an environment characterised by low moral and ethical standards, and thus, weak institutions. In such a situation, the cost and risk involved in carrying out a business venture becomes very high for firms and will generally reduce the propensity of firms to invest in such countries (Budak, 2006; Budak & Sumpor, 2009).

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Another dimension of this has also been highlighted by Jude and Leveuegez (2013) who observed that strong institutions not only induce complementarities between foreign and domestic investment, but will also promote the synergy between foreign direct investment and domestic firms, thereby leading to spill overs. In Nigeria for instance, the much touted and vaunted view that the effectiveness of monetary policy is constrained by fiscal dominance may largely be due to the failure of the relevant institutions to ensure fiscal discipline. This may also account for the recurrent problem of extra-budgetary spending, high level of corruption and misappropriation of public resources. Recent efforts towards solving this problem included the establishment of the Independent Corrupt Practices Commission (ICPC), Economic and Financial Crimes Commission (EFCC) and the National Agency for Food and Drug Administration and Control (NAFDAC) by the Olusegun Obasanjo government, as well as the strengthening of the Central Bank of Nigeria (CBN) and the Security and Exchange Commission (SEC). However, these efforts notwithstanding, the country still one of the most corrupt nations in the world. This can be seen in terms of its CPIA accountability, corruption, and transparency in the public sector rating of 3, on a ratio of 1 to six, in 2012, a CPIA public sector management and institutions cluster average of 2.9 Percent in 2011, and a CPIA business regulatory environment rating of 3.5 percent in 2011 (World Bank, 2014). In view of the above, questions still arise as to the effectiveness of the efforts toward strengthening of the country's institutions and their effect on the country's effort towards the attainment of economic development. This is the core issue which this study seeks to address. Based on this, the study is divided into six sections, with section one being the introduction, followed by a review of the relevant literature, the presentation of the model upon which the study is anchored, the presentation of the empirical results and finally a section containing the conclusion and policy recommendations.

## 2. Review of Related Literature

Institutions refer to the collection of rules, beliefs, values and organizations which act together to encourage the proper behaviour of individuals in the society. They are inter-temporary contracts which determine the actions of individuals in the society, and have also been referred to the collection of beliefs within a society with respect to the equilibrium of a game played repeatedly (Aoki, 2000; Greif, 2006). On the other hand, Levchenko (2006) defines institutions as the collection of structures which influence economic outcomes such as the safeguarding of property rights, the enforcement of contracts and investors etc. As it was earlier pointed out, there has been an increase in interest in the growth and development impact of institutions in recent times. Interestingly, the study by Gwartney, Holcombe and Lawson (2004) used the Economic Freedom of the World (EFW) index to examine the relationship between institutional quality and economic freedom, and the cross-country variations in growth and income for 99 countries. The results of the study indicated that the existence of stronger institutions was associated with higher income, and that the strengthening of institutions resulted in higher rates of economic growth. Valeriani and Peluso (2011) also had similar results in their study. However, their findings also revealed that difference in the impact of institutional quality on developing and developed nations was with respect to the size of the impact, as opposed to its direction. Their results revealed that the number of veto players had a more significant impact on economic growth in developed countries, while higher civil liberties had a larger growth impact in developing countries.

Basu and Das (2010) used the Li-Racine (2004) generalized kernel estimation methodology to examine the relationship between institutions, based on data for 102 countries from 1980 to 2004. Their results indicated that the effect of institutional quality on development was heterogeneous across countries and with respect to time. Their results also revealed that institutions had a positive impact on the level of development. Bartlett, Cuckovic, Jurin, Nojkovic and Popovski (2013) carried out a study to appraise the institutional reform-economic growth link in the neighbouring countries of the European Union. The findings of their study revealed that level of political stability, government accountability, degree of press freedom and effectiveness of efforts towards the reduction of the level of corruption are critical determinants of the effectiveness macroeconomic policies. The institutional capacity-macroeconomic performance link in Nigeria has also been analysed by Iyoboyi and Pedro (2014) using the VAR technique. The results of the generalized impulse response function showed that one standard deviation innovation on institutional capacity reduced macroeconomic performance, while variance decomposition revealed that a substantial amount of the changes in macroeconomic performance in Nigeria macroeconomic performance is not due to changes in institutional capacity.

Another study by Okoh and Ebi (2013) assessed the relationship between the amount of investment in the development of infrastructure, and institutional quality, captured through the use of contract enforcement and corruption as proxies, and economic growth in Nigeria.

The results of the study revealed that a positive and significant linkage between investment in infrastructural development and contract enforcement, and economic growth. On the other hand, the level of corruption was found to have a negative and significant growth effect.

**3. The Model, Method of Estimation and Sources of Data**

The study makes use of four models, each of which captures a particular indicator of economic development. In measuring economic development, the study makes use of four development indicators: the human development index (HDI), the life expectancy at birth (LEBT), the GDP per-capita (PGDP) and the prevalence of undernourishment (PUMT). These measures are chosen on account of their embodiment of a country’s ability to meet the three basic human needs of food, clothing and shelter which constitute the threshold for economic development as specified by the basic needs approach to economic development. Furthermore, in measuring institutional quality, the study makes use of the contract intensive money (CIM) which has also been used by Okoh and Ebi (2013), and Iyoboyi and Pedro (2014), and the corruption index (COPT). The CIM is a measure of a country’s ability to ensure the enforcement of contracts and the safeguarding of property rights (Esfahani & Ramirez, 2002). On the other hand, the study uses the interest rate (INRR) and government expenditure (GEXP) as measures of the impact of macroeconomic policy in the country. The models for the study are specified as follows:

$$\begin{aligned}
 PUMT &= f(CIM, COPT, INRR, GEXP) \text{ ----- (1)} \\
 LEBT &= f(CIM, COPT, INRR, GEXP) \text{ ----- (2)} \\
 HDI &= f(CIM, COPT, INRR, GEXP) \text{ ----- (3)} \\
 PGDP &= f(CIM, COPT, INRR, GEXP) \text{ ----- (4)}
 \end{aligned}$$

The models are econometrically expressed as:

$$\begin{aligned}
 PUMT &= \beta_0 + \beta_1 CIM + \beta_2 COPT + \beta_3 INRR + \beta_4 GEXP + U_1 \text{ ----- (1)} \\
 LEBT &= \beta_0 + \beta_1 CIM + \beta_2 COPT + \beta_3 INRR + \beta_4 GEXP + U_2 \text{ ----- (2)} \\
 HDI &= \beta_0 + \beta_1 CIM + \beta_2 COPT + \beta_3 INRR + \beta_4 GEXP + U_3 \text{ ----- (3)} \\
 PGDP &= \beta_0 + \beta_1 CIM + \beta_2 COPT + \beta_3 INRR + \beta_4 GEXP + U_4 \text{ ----- (4)}
 \end{aligned}$$

Where:  $U_{1...4}$  = Stochastic error terms and  $\beta_0 > 0, \beta_1 > 0, \beta_2 < 0, \beta_3 < 0$  and  $\beta_4 > 0$

The above models are estimated through the use of the OLS technique. The adoption of this technique is informed by the sample size which also precludes the use of unit root testing and the estimation of an error correction model (ECM). The data for the study was derived from the Central Bank of Nigeria Statistical Bulletin of 2013 and the World Bank.

**4. Empirical Results**

The results of the study used in this study are presented and analysed as follows:

**Table 1: Regression Results for Equation One**

**Dependent Variable: Prevalence of Undernourishment (PUMT)**

Variable	Coefficient	Std. Error	t-Statistic
C	13.86501	1.915809	7.237159
CIM	-3.286164	2.028324	-1.620137
COPT	-1.286382	0.353826	-3.635635
INRR	0.047014	0.065921	0.713179
GEXP	-3.60E-07	2.30E-07	-1.564294
R-squared	0.926519		
Adjusted R-squared	0.905524		
F-statistic	44.13117		
Durbin-Watson stat	1.597055		

Source: Authors computation.

The results presented in table 1 indicate that there is an inverse relationship between the quality of institutions as captured by the contract intensive money and the prevalence of undernourishment. The t-statistic however shows that contract intensive money does not have a significant impact on the prevalence of undernourishment in the country. The results also reveal that there is an inverse and significant relationship between the index of corruption and the prevalence of undernourishment in Nigeria. On the other hand, the results indicate that the interest rate has a positive but insignificant impact on the prevalence of undernourishment, while government expenditure has a negative and insignificant impact on the prevalence of undernourishment in the country. The R<sup>2</sup> and adjusted-R<sup>2</sup> show that the model has a strong explanatory power, and that the variables included in the model account for 92.7 and 90.6 percent of the variation in the prevalence of undernourishment in the country. The calculated F-statistic confirms the adequacy of the model, while the result of the Durbin-Watson statistic is inconclusive.

**Table 2: Regression Results for Equation Two**

**Dependent Variable: Life Expectancy at Birth (LEBT)**

Variable	Coefficient	Std. Error	t-Statistic
C	44.83833	1.038341	43.18265
CIM	2.202631	1.099323	2.003625
COPT	0.134826	0.191769	0.703068
INRR	-0.042779	0.035728	-1.197347
GEXP	1.21E-06	1.25E-07	9.676322
R-squared	0.982122		
Adjusted R-squared	0.977014		
F-statistic	192.2696		
Durbin-Watson stat	1.111383		

Source: Authors computation.

The results of the second model capturing the second measure of economic development reveals that institutional quality as measured by contract intensive money and the index of corruption have a positive but insignificant impact significant impact on the life expectancy at birth in Nigeria. On the other hand, government expenditure has a positive and significant impact on the life expectancy at birth, while the interest rate is observed to have an inverse but insignificant impact on the life expectancy at birth in the country. The R<sup>2</sup> and adjusted-R<sup>2</sup> show that the model a good fit, and explains 98.2 and 97.7 percent of the variation in the life expectancy in the country. The calculated F-statistic confirms the adequacy of the model, while the result of the Durbin-Watson statistic is inconclusive.

**Table 3: Regression Results for Equation Three**

**Dependent Variable: Human Development Index (HDI)**

Variable	Coefficient	Std. Error	t-Statistic
C	0.391001	0.029351	13.32153
CIM	0.026036	0.031075	0.83784
COPT	0.001896	0.005421	0.349802
INRR	-0.000517	0.00101	-0.512187
GEXP	1.51E-08	3.53E-09	4.277574
R-squared	0.914886		
Adjusted R-squared	0.890567		
F-statistic	37.62108		
Durbin-Watson stat	1.256523		

Source: Authors computation.

The results from the estimation of the third model used in this study indicate that contract intensive money and the index of corruption have a positive, but insignificant impact on the human development index in the country. On the other hand the results reveal an inverse, but insignificant impact of the domestic interest rate on the country's human development index. Furthermore, government expenditure is observed to have a positive and significant impact on the human development index in the Nigeria.

The validity of the model can be ascertained from the  $R^2$  and adjusted- $R^2$  which reveal a strong explanatory power of 91.5 and 89.1 percent of the variation in the human development index in the country. The calculated F-statistic confirms the adequacy of the model, while the result of the Durbin-Watson statistic is inconclusive.

**Table 4: Regression Results for Equation Four**

**Dependent Variable: Per-Capita Gross Domestic Product**

Variable	Coefficient	Std. Error	t-Statistic
C	55834.63	39001.97	1.431585
CIM	-10487.89	41292.56	-0.25399
COPT	5530.214	7203.175	0.767747
INRR	-2881.556	1342.026	-2.147168
GEXP	0.0419	0.004686	8.942292
R-squared	0.97932		
Adjusted R-squared	0.973411		
F-statistic	165.7426		
Durbin-Watson stat	0.7347		

Source: Authors computation.

Finally, the results from the estimation of the fourth model show that contract intensive money has an inverse and insignificant impact on the per-capita gross domestic product in the country, while the index of corruption has a positive but insignificant impact on the country's per-capita gross domestic product. On the other hand the results reveal an inverse, but insignificant impact of the domestic interest rate on the per-capita gross domestic product. Furthermore, government expenditure is observed to have a positive and significant impact on the per-capita gross domestic product in the Nigeria. The validity of the model can be ascertained from the  $R^2$  and adjusted- $R^2$  which reveal a strong explanatory power of 97.9 and 97.3 per cent. The calculated F-statistic confirms the overall adequacy. However, the result of the Durbin-Watson test indicates the presence of positive autocorrelation in the model.

## 5. Conclusion and Policy Implications

The results of this study revealed that contract intensive money does not affect the life expectancy at birth, the level of undernourishment, the per-capita gross domestic product, and the level of the development of human capital in the country. The level of corruption was also found to have a negative and significant impact on the prevalence of undernourishment. On the other hand, it does not have a significant impact on the life expectancy at birth, the human development index and the per-capita gross domestic product in the country. Furthermore, the domestic interest rate was found to only have a significant impact on the per-capita gross domestic product. This implies that the interest rate only affects the quantitative measure of development and not the qualitative and most important indicators, of development in Nigeria. Finally, government expenditure has a positive and significant impact on the human development index, the life expectancy at birth and the per-capita gross domestic product in the country. On the other hand, government expenditure does not have a significant impact on the prevalence of undernourishment in the country. Such findings are not surprising in view of the fact that in recent years, there has been an increase in government spending on the educational and health sectors. On the basis of the results of the estimation of the relevant models, the study concluded that institutional quality is not a significant determinant of economic development in Nigeria. Even when a near growth factor (per-capita GDP) was used in the modelling process, institutional quality in the country was not found to have a significant impact and this is not in line with the findings of study's on Nigeria and other countries such as those of Okoh and Ebi (2013), Gwartney, Holcombe and Lawson (2004), Valeriani and Peluso (2011) and Basu and Das (2010).

It is also concluded that the interest rate does not have a significant impact on economic development in Nigeria. this may be traced to the earlier observed inability of the country's institutions to even affect the growth related factors such as the per-capita gross domestic product. This raises questions as to the development impact of a policy thrust which is primarily based on the use of monetary policy as was the norm in the country in yester years.

Finally, the study concludes that government expenditure has a significant impact on economic development in Nigeria. However, the estimated coefficient in the case of each dependent variable indicates that such impact is not as large as one would expect in view of the size of government expenditure over the years. The results of this study indicate a failure of the monetary institutions which can be seen in the fact that institutional quality does not have an impact on the growth indicator (PGDP), while the interest rate which is used to capture the impact of monetary policy does not have a significant impact on any of the development indicators used in the study. Based on this, the study recommends a change in the attitude toward the strengthening and development of the country's institution from the era of passive window dressing, to a deliberate, well thought out and systematic approach. This is critical to the attainment of the country's Vision 2020 goals and her bid to be economically developed.

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