Institutional Quality and Economic Growth: Evidence from Sub-Saharan Africa

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Abstract

The paper investigated the relationship between institutional quality and economic growth in a sample of Sub-Saharan African (SSA) economies. Deploying data spanning 1996 to 2013 on 28 countries, and an assortment of panel estimation techniques, a number of findings ensued. The System GMM estimation technique as well as the other approaches suggested substantial evidence that institutional quality had trifling effect on economic growth in SSA. This result surprisingly remained robust to the six alternative measures of institutional quality adopted with a view to capturing the diversity of governance dimensions. Plausible explanations could be envisaged particularly owing to the use of a dynamic panel estimator, and the reckoning that growth performance in the region has rather been more significantly influenced by other covariates, especially investment and human capital. Therefore, it becomes imperative to put in place institutional reforms in these SSA countries. This is in order to allow the rule of law to prevail, engender effective regulation of markets, promote control of corruption, and ensure the effectiveness of government institutions. Put together, these will go a long way in guaranteeing sustained growth performance.

1. Introduction

Studies on long-run issues, especially those bordering around determinants of long-run growth such as convergence and non-convergence, have led to the emergence of quite a number of revealing and widely accepted fact about long-run growth. One of such facts was summarized by Sala-i-Martin (2002), namely that institutions do matter as a determinant of long-run growth. He argued further that, in fact, it is one of the justifications of why the convergence postulation never manifested. To a large extent the African continent has not boasted of per capita income equalling that of the developed countries, the continent is home to more countries with less than $5,000 per capita income (WEF, 2013), prompting the need to unravel why Africa has slowed in its growth and development pace and pattern.

Studies by the World Bank (1993, 1997) and Stiglitz (1998) emphasized the role of institutions in promoting growth in developing and emerging economies. Also, Acemoglu and Robinson (2002: 6) observed that unlike other determinants, such as human capital, physical capital, technology, which are proximate causes, institutions "… are the fundamental cause of economic growth and development differences across countries and that it is possible to develop a coherent framework for understanding why and how institutions differ across countries, as well as how they change." In fact, Sala-i-Martin (2002) submitted that institutions can be modelled, understood and made endogenous; thus, implying that we can understand how much Sub-Saharan African (SSA) countries have maximized the benefits and empirically-proven impact of institutions in driving long-run growth.

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Institutions, as defined by North (1990: 6), "… are the rules of the game in a society or, more formally, are humanly devised constraints that shape human interactions. Institutions have been found to affect how efficient an economy is: economies with bad institutions are more inefficient relative to those with good institutions, implying that the quality of institutions is what really matters, and not the existence or non-existence of institutions in an economy. Institutions (in the form of property right protection and less distortionary policies) could provide incentive or disincentives to investment and technological development, both of which are proximate causes of economic growth and development. Institutions of poor quality can increase uncertainty, unpredictability, instability, corruption and transaction costs (Zouhaier, 2012). According to Calderón et al. (2012), most emerging and developing countries have relatively low level of high-quality institutions compared to their counterparts in developed countries. Acemoglu and Robinson (2012) opined that many countries are poor and stay poor because of the preponderance of weak economic institutions and corruption, which can mainly be explained from their colonial experiences. In the colonies, sub-optimal institutions were put in place to the advantages to the colonizing countries in the pursuit of their extractive interests.

The surfacing arguments, therefore, is not just a question of whether institutions exist in Africa or not, but if the existing institutions are of the required standards to stimulate economic growth and development. There are institutions (economic, political and legal) in SSA, and majority of the countries in the region also practice democracy, which studies have linked to being a stimulant of economic growth and development. There is therefore a concern as to why the African continent, especially SSA, still lags behind; and a much deeper concern about why, if these institutions are seen to be dysfunctional, do they still persist? IMF (2014) revealed that the SSA has been growing at an impressive rate for more than a decade now. There should be clear evidence as to whether this growth trajectory is institutionally-induced (fundamental cause) or driven by proximate factors as categorized by Acemoglu and Johnson (2005). Understanding this will, therefore, help countries in the region properly navigate their thinking on how to maintain this growth pace in the face of adverse shocks such as possible FDI reversal. On the foregoing basis, this study attempts to answers two important questions:

(i) Does institutional quality play a significant contributory role in the economic growth of SSA countries?
(ii) (ii) What is the relative performance of SSS economies in terms of improving institutional quality compared to other regions in the world?

The broad objective of the study is to empirically uncover the relationship between institutional quality and economic growth, with evidence from SSA.[1] Specifically, it seeks to explain if there are consistencies in the explanatory power of the indicators of institutional quality in explaining growth dynamics in SSA Africa, which will be judged from the conformity of the regressions to *a priori* in terms of

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[1]The countries studied include: Benin, Botswana, Burkina Faso, Cameroun, Congo, Congo (DRC), Ethiopia, Ghana, Guinea, Ivory Coast, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland, Tanzania, Togo, Uganda and Zambia.

significance and direction. The reason for this is to explore possible weaknesses in the indicators, and to add to the growing consensus that there is still much to do as far as establishing a conclusive proxy for institutional quality is concerned.

The other sections of the paper are organized as follows. Section 2 discusses the conceptual, empirical and theoretical framework of the paper; section 3 captures the methodology employed, data and measurement issues, model specification; while section 4 details the results of the data analysed. Section 5 presents the conclusion and policy implications of the findings.

2. Literature Review
Institutions can be a very broadly construed term. There have been several attempts in recent times to clearly describe the contextual meaning of institutions, especially as it pertains to discussions that seek to describe it as a major stimulant of economic growth and development. Greif (2006) argued that institutions might be defined as a set of social factors, rules, beliefs, values and organizations that jointly motivate regularity in individual and social behaviour. This section attempts to lay bare what institutions are and are not, document empirical submissions on the institutions-growth nexus, as well as offer theoretical underpinning of the relationship between institutions and economic growth and development.

2.1 What are Institutions?
Following from North's definition of institution, Acemoglu et al, (2005) provided a detailed and fragmented description of institutions; as a combination of three interrelated concepts: (i) Economic institutions; (ii) Political institutions; and (iii) political power.

(i) *Economic Institutions:* This concept describes factors governing the nature and system of incentives for economic actors in making economic decisions, ranging from investment, consumption to production, as well as distribution of resources. Examples include property rights, contract enforcement, redistributive tax-transfer schemes, etc: all of which affect economic growth and development.

(ii) *Political Institutions:* This includes institutions concerned with allocating *de jure* political power across groups, particularly asking questions on the quality of government, and how the elected have performed in the discharge of key public services and controlled political power.

(iii) *Political Power:* Political power in a way affects the effectiveness of economic institutions and the responsiveness of political institutions to established objectives. The relevance of this concept is due to the existence of groups with conflicting interests in a society. The distribution of political power, which emanates from *de facto* political power and *de jure* political power, largely determines the design and quality of economic performance (Frederic, 2014), and even the effectiveness of the responsiveness of political institutions.

Interactions between these three concepts governing the growth and development of institutions is shown in Fig. 1.
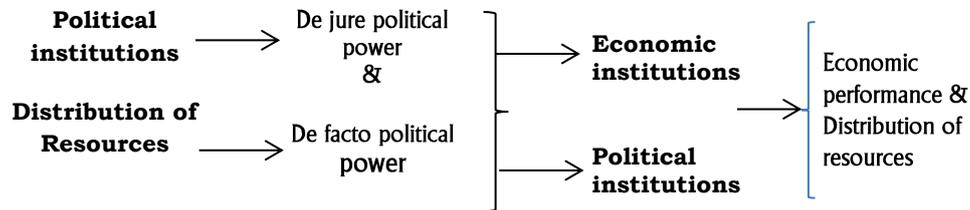
Figure 1: *The Determinants of Institutions*
Source: Acemoglu, Johnson and Robinson (2005b)

2.2 *Institutional Quality*

Institutions indeed matter, but their quality is what determines their impact in the growth and development process. As submitted by Alonso and Garciamatin (2004), institutions do not work if they are not capable of shaping agents' behaviour in an effective manner; implying that institutions that are not made to be respected by agents may be unfit for purpose, thus hindering their potency. Institutions in an economy function as transaction cost reducer, and a gauge for what is right and wrong in social interactions. In explaining institutional quality, Jose and Carlos (2004) identified certain criteria that make a good institution:

   (a) *Static efficiency*: the institutional capacity to be *incentive-compatible:* capable of rewarding behaviours seen to reduce social costs; and sanction behaviours not in the interest of the general and common good.

   (b) *Credibility (or legitimacy):* the institutional capacity to define inter-temporally credible contracts; implying the institution's ability to generate a normative framework that truly determines agents' conduct in any contractual arrangement and agreement.

   (c) *Security (or predictability):* Risks are prevalent in any economy, and institutions should have the capacity to reduce these risks, which are known to increase transaction costs. This infuses some element of certainty into economic, political, and even social relationships. One function of institutions is to guarantee a higher level of safety and engender stability of social and economic relations.

   (d) *Adaptability (or dynamic efficiency):* Institutions are products of normative aspects of a society. Since societies are dynamic, institutions should be able to anticipate social changes, and also have the capacity to promote incentives that can shape behaviours towards those expectations.

2.2.1 *What Determines Institutional Quality?*

Alonso and Garciamatin (2004) provided more empirical and conceptual insights on the determinants of institutional quality; factors that, if present, can shape the quality of institutions. Some of these factors include:

(a) *Level of Development:* This operates through both supply and demand. At first, it determines the availability of resources to build good institutions, and then when the economy is developed, sustaining the level of development also requires some certain level of quality institutions.

(b) *Income Distribution:* If income is not evenly distributed, the tendencies for preponderance of quality institutions will be greatly hampered as the few in control of more income can subvert the need or demand for quality institutions as the case may be. Therefore, it implies that if institutional quality is to be guaranteed, income distribution needs to be checked.

(c) *International Openness:* The extent of openness of an economy can determine the quality of its institutions. Openness requires dynamism and some level of sophistication, which in turn enforces the need for quality institutions to cope with global and dynamic challenges. It also facilitates shared learning of innovations in the building of institutions, which in turn affects the quality of institutions in driving economic growth.

(d) *Education:* A more educated clime is likely to have more quality institutions. Education is related to institutions' dynamic efficiency. This suggests that with more information and creating more expectations, institutions are adjusted to serve better.

(e) *Country's Historical Features:* Greater heterogeneity in some cases may fuel tensions and conflicts between groups, reduce social cooperation and compact, create an imbalance and delink formal from informal institutions. Easterly and Levine (1997) and Alesina et al. (2003) found evidence supporting these hypotheses.

(f) *Country's Legal System Origin:* This is another potential determinant of institutional quality. It is mostly argued that the British origin system is based on a greater recognition of freedom relative to the French origin system. Accordingly, British and Nordic legal traditions are expected to be associated with better institutional quality.

(g) *Geographical Conditions:* Literature has also established a role for geographical conditions and natural resources. It is considered that a country's location in the tropics, lack of access to the sea, or soil fertility may have influenced the development of strong quality institutions. Also, valuable natural resources can affect institutional quality. They can negatively affect institutions by fostering rent-seeking activities and replacing tax revenues by other revenue sources less transparent and less subject to accountability.

2.2.3 Institutional Quality Measurement – World Governance Indicators (WIG)
Literature is replete with several indices of institutional quality. Examples include: the International Country Risk Guide (ICRG) and Business, Environment Risk Intelligence (BERI) and the World Governance Indicators (WGI). The WGI is one of the best measures for institutional quality, and is used in research on

institutional quality. It is an aggregate indicator of governance, capturing the perceptions of governance operations by a large number of survey respondents and expert assessments worldwide. Six indicators are constructed from more than 31 sources from 33 organizations around the world. The index covers 212 countries for the period 1996-2013.

Although it is noteworthy that there are margins of error in accurately measuring governance, the WGI helps with inter-country comparison over time. For each of the six indicators, the observed governance score per country is modelled as a linear function of unobserved governance and an error term. The intercept and slope of the unobserved governance parameter capture differences in the units used to measure governance in different sources. The estimates of governance take values between -2.5 (reflecting weak governance quality) to 2.5, (reflecting high governance performance). Briefly, the six indicators in the WGI are:

1. *Voice and Accountability:* This refers to freedom of association, expression, and the press, as well as the degree to which people can be involved in the selection of their government.

2. *Political Stability and Absence of Violence:* The probability that terrorism, violence or other unconstitutional means result in the destabilization of the government.

3. *Government Effectiveness:* The capability of the civil and public service, the quality of policy formulation and implementation, as well as the independence from political pressures and the credibility of the government to commit to its policies.

4. *Regulatory Quality:* The capability of the government to make appropriate regulations and policies that promote and enable private sector development.

5. *Rule of Law:* The degree to which the rules of the society are supported and followed by the citizens, which includes the quality of the police, property rights and the risk of crimes.

6. *Control of Corruption:* Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as the 'capture' of the state by elites and private interests.

2.3 Sub-Saharan Africa: Growth and Development Experience
Many African countries possess weak public and private institutional frameworks, and until recently, Sub-Saharan Africa (SSA) has experienced the slowest economic growth relative to other regions in the world, with poverty large and deepening (Janine, 2000; Collier & Gunning, 1999; Easterly & Levine, 1997). In its global economic prospects, the World Bank (2015) observed that growth in the Region is fairly resilient to a variety of external shocks, but highly vulnerable to possible domestic shocks such as drought and civic conflict despite its growing tendencies (see Fig. 2).
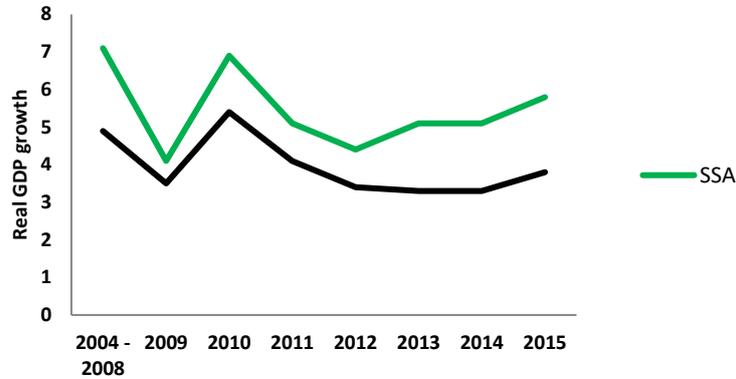
Figure 2: *Real GDP Growth in SSA and the World*

At its best, growth in the region is largely dependent on imported capital due to shallow pools of funds needed for investment. The persistent deceleration of some economies in Europe—and some parts of America—has also contributed to this influx of surplus capital among other reasons. In turn, growth in the region has greatly helped in balancing growth deficiencies in some other parts of the world.

Despite this, the region still has a lot to do to make this progress sustainable. The *Doing Business* 2015 fact-sheet reveals that 47 economies in the region implemented at least one regulatory reform, and 75 reforms in total. Amongst the top ten improvers in the world are Benin, the Democratic Republic of Congo, Cote d'Ivoire, Senegal, Togo and Rwanda, who implemented the largest reform during this period, followed by Mauritius and Sierra Leone.

Institutional quality, measured by the WGI, shows considerable weakness, as revealed in the figures below.
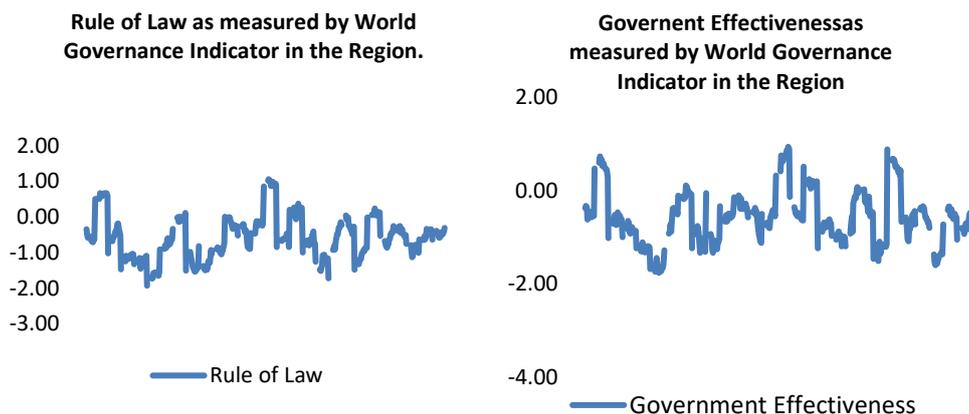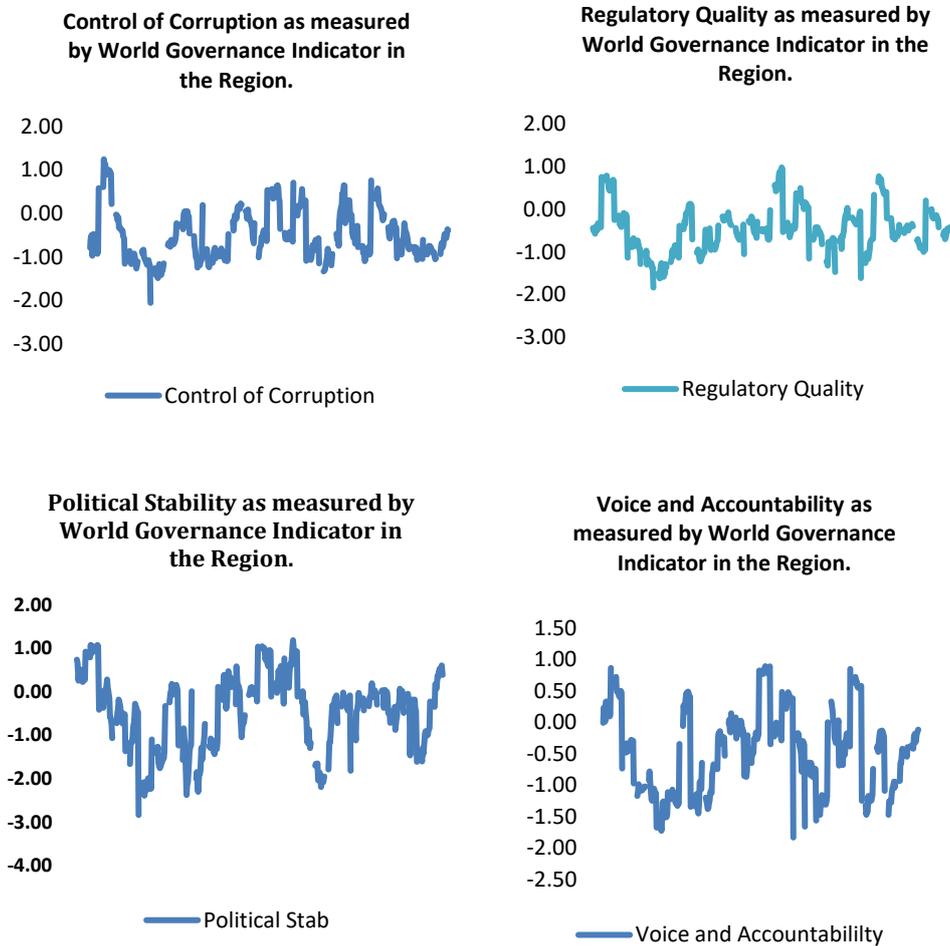
Figure 3: *Institutional Quality Measured by WGI*

On all the institutional quality indicators, the region scores negative on average as shown in the mean column, expressing weak institutional quality. The minimum and maximum scores shown in Table 1 also attest to this.

Table 1: Average score of the Region on the World Governance Indicator

Variable	Obs.	Mean	Std. Dev.	Min	Max
Political Stability	420	-0.4619762	0.8678628	-2.99	1.19
Voice and Accountability	420	-0.4663333	0.6798255	-1.88	1.02
Government Effectiveness	420	-0.5729524	0.5860045	-1.97	0.93
Regulatory Quality	420	-0.4641905	0.5475618	-2.41	0.98
Control of Corruption	420	-0.4989048	0.5791667	-2.06	1.25
Rule of Law	420	-0.5805	0.6124882	-2.21	1.06

2.4 Empirical Review Institution-Growth Nexus

Quite a number of studies have provided empirical insights into the institutions-growth nexus. Kaufman et al (1999) established that good governance is crucial for economic performance. Representing social infrastructure as an average of several indicators of governance from political risk survey (PRS) and other sources, and using a variable measuring trade openness constructed by Sach and Warner (1997), they found a strong causal relationship between better governance and better development outcomes. This was further corroborated in the works of Siddiqui and Ahmed (2009) and Betanncourt and Bensyishay (2010). Siddiqui and Ahmed (2009) used different measures of institutional quality, and found that different measures have positive correlation with economic growth, but when adjusted for the impact of anti-rent seeking institutions and risk-reducing ones, the former is found to have more impact on growth than the latter. Betanncourt and Bensyishay (2010), on the other hand, established the link between institutions and growth through the role of civil liberties using data from freedom house.

On how institutions impact on growth in the long run, North (19900 and Olson (2000), in their separate works, found a strong dominance of the rule of law as an important determinant of long-term growth/development. Pande and Udry (2005) proved that long-run growth is faster in countries with higher quality contracting institutions, better law enforcement, increased protection of private property rights, improved government bureaucracy, smoother operating formal sector, financial markets, increased levels of democracy, and higher levels of trust. Rodrik (2000) provided further empirical insight on how forms of government—democracy or autocracy—impact on the behaviour of institutions, and affect economic growth. He concludes that democracy is the most effective way of developing better institutions as economies practicing democracy show high growth rates compared to autocratic one, even though democratic economies do not outperform autocratic ones on average.

Acemoglu (2001) found a correlation between geography and prosperity, while also establishing that the geographic hypothesis is not the primary cause of development. On his part, Rodrik (2003) explained that there are three deep determinants of income: geography, international trade and institutions. Bosker and Garretsen (2008) contributed to this discussion by empirically showing that economic growth is not much related to a country's absolute geography in terms of, for instance, its climate, but its relative geography in terms of institutions that matters for economic development. In fact, institutions in neighbouring countries turn out to be relevant as well. On the impact on growth, whether institutions are formal or informal, Hagard et al (2008) found that formal institutions are important, but informal institutional arrangements play a significant role in economic development particularly in developing countries.

On methodological appropriateness for studying institutions and the growth nexus, and the suitability of the proxies for institutional quality, Glaeser et al (2004) showed that most of the indicators used to establish the proposition that

institutions cause growth are construed to be conceptually unsuitable for that purpose; and that some of the instrumental variable techniques used in the literature are flawed. Commander and Nikoloski (2010), addressing this methodological gap, used several sets of country-level measures of political institutions, and employed the General Method of Moments (GMM) technique to explain whether the type of political system, and its associated institution, tends to affect performance. Their findings reveal that political configurations do not affect economic performance. Elisa and Sara (2011) also used the pool regression and fixed effects models, and their results supported their main hypothesis: that institutional quality does impact on economic growth positively, and that this is true for all indicators of institutional quality. However, civil liberty is seen to exhibit greater effect in developing countries, and the only difference between developing and developed countries affected by institutional quality is the size of the impact, and not the direction.

Institutions also affect economic growth through their impact on investment. Hadhek (2012) proved this by studying a set of 11 countries under the MENA region, during the period 2000–2009 using GMM estimators. The key findings generally stipulated a significant relationship between institutional variables and investment on one hand, and economic growth on the other; as well as a positive interaction between political institutions and investment, and a negative interaction between political instability and investment. Duncan (2013) provided further insight as to how institutional quality impacts on a country's investment climate by studying the impact of institutional quality on cyclicality of monetary policy. Using a sample of 56 economies, he found that unconditional and conditional measures of monetary cyclicality are significantly related to an institutional quality index.

2.5   Theoretical Underpinning: The Link between Institutional Quality and Growth

The neoclassical growth model (Solow, 1956) postulates that countries with the same production functions, savings rates, identical depreciation rates and population growth will grow at the same rate in a steady state, explaining the possibility of convergence in the long run. Poor countries, with lower initial income, are tipped to face higher growth rates than richer countries to satisfy this convergence postulation.

However, what obtains in reality looks to invalidate the convergence hypothesis due to the wide disparity in production functions across countries, in the form of technical progress, human capital differences and social infrastructure, which includes institutions (property rights and rule of law). In this way, institutional quality is endogenized in explaining growth across countries as postulated by Romer (1994). In a bid to explain or provide insights as to how developing countries can grow along a convergence path, economists have argued in favour of political and economic institutions, which are capable of ensuring the protection of property rights and human capital endowments. These institutions are important because they improve economic performance, growth, level of development and investment (North, 1981; Tornell & Velasco, 1992; Hall & Jones, 1999).

Knack and Keefer (1995) find a strong evidence for conditional convergence after the inclusion of institutional quality to the regression of growth on initial income and other control variables such as primary and secondary school enrolment, government consumption and incidences of assassinations and revolutions. Mario Gutierrez (2005) observed that the complementary effect of institutional quality and technological progress are the main reasons for the very low growth in productivity in Latin America, typical of developing countries. Institutional quality is thus the key predictor for growth by providing incentives to invest in technology (Franko, 2007).

Whitford (2014) concluded that improving institutional quality is especially important for developing countries in order to increase the growth in total factor productivity, thus stimulating accelerated and sustainable economic growth. Thus, it is crucial to study the effect of institutional quality and its determinants so as to improve both the allocation of public goods and the efficiency of decisions on economic policy.

3. Data and Methodology
3.1 Data
In this section we will describe the key variables used in our analysis. The core set of regressions reported in this paper is based on a sample of 28 countries in the SSA region. The choice of this sample is mainly dictated by issues of data availability and the intended scope of the work. The main aim of the paper is to investigate if growth in the region is significantly determined by institutional quality in a bid to interrogate the argument that growth in the region has failed to converge due to weak institutions. We use six indicators of institutional quality as provided by Kaufmann et al. (1999)—voice and accountability, political stability, absence of violence, government effectiveness, regulatory quality, and rule of law— are used to proxy institutional quality for robustness purpose.

Also, variables to control for economic conditions are included in the model to account for the impact of omitted variables. These include: gross capital formation as a percentage of GDP as a proxy for investment, primary years of schooling as a proxy for education; number of telephone lines per 100 citizens as a proxy for infrastructure, and gross per capita income is used as proxy for economic growth. Data used are obtained from world development indicators (WDI) and world governance indicators (WGI).

3.2 Model Specification
The empirical model for this study is based on the neo-classical growth model, which in its basic form specifies relationship between growth, capital and labour. To explain the effect of institutional quality (IQ), proxies for IQ are included in the model. However, it is important to understand the transmission of influence of institutions, especially how it impacts on development, which could in a way determine the kind of estimator to use.

Bearing in mind special concerns with regards to studying institutions and development, the study employs a dynamic panel regression model, using the generalized method of moments (GMM) system, covering 28 SSA countries over the

period 1996 to 2013. This dynamic framework offers many compelling features on how it addresses problems of measurement errors, omitted variables, and endogeneity bias (Dollar & Kraay, 2003). The lag of per capita income and the explanatory variables are used as instruments in the estimation.

The empirical model is specified as:

$$g_{it} = \propto + g_{it-1} + B_1 EDU_{it} + B_2 INV_{it} + B_3 INFR_{it} + B_4 INST_{it} + \varepsilon_{it} \qquad (1)$$

Where:

g_{it} = the per capita GDP for country i during time t

EDU_{it} = proxy for investment in country i at time t

INV_{it} = proxy for average yearly investment in real capital in country i at time t

$INFR_{it}$ = proxy for investment in infrastructure in country i at time period t.

$INST_{it}$ = represents institutional quality indicator j in country i at time period t.

B = vector of regression coefficient.

ε_{it} = growth regression coefficients.

As previously captured in the discussion on world governance indicators (WGIs), we use the six measures (political stability, voice and accountability, rule of law, control of corruption, government effectiveness and regulatory quality) as proxies for institutional quality in the analysis for robustness purpose; and in part, to examine if these proxies yield consistent or conflicting explanations on growth and development in the SSA region.

4. Empirical Results

Inferring from the model diagnostics shown in Tables 3a-3f, the estimated model from the system GMM estimator is adopted, going by the Sargan test, which shows that the instruments are exogenous, thus solving the endogeneity/orthogonality challenge posed by the pooled OLS, fixed effects and random effects. To this end, the p-value of the Sargan test statistic is significant at 1% level of significance.

Table 3a: Political Stability as a Proxy for Institutional Quality

	Growth OLS	Growth Fixed Effect	Growth Random Effect	Growth Difference GMM	Growth System GMM
Lagged growth	**1.0092***	**0.7989***	**0.9986***	1.0265***	**1.0755***
Infrastructure	-0.0015	0.0455	0.0035	-0.0189	-0.0050
Investment	-0.0146	0.0589	-0.0171	0.0938	0.0277
Education	0.0269	0.3489	0.0632	-0.4522	-0.0118
Political Stability	0.0126	0.0875	0.0176	0.027142	0.0020
Diagnostics (p-values)					
Arellano Bond test for AR(1)				0.0550	0.0440
Arellano Bond test for AR(2)				0.1650	0.1040
Sargan test				0.1630	0.0000
Hansen test				0.0620	0.0100

Table 3b: Government Effectiveness as a Proxy for Institutional Quality

	Growth OLS	Growth Fixed Effect	Growth Random Effect	Growth Difference GMM	Growth System GMM
Lagged growth	**1.0119***	**0.8462***	**1.0052***	1.0514***	**1.0761***
Infrastructure	0.0007	0.0137	0.0057	-0.0264	-0.0055
Investment	-0.0114	0.0827	-0.0098	0.0973	0.0296
Education	0.0270	0.2900	0.0559	-0.5394	-0.0084
Government Effectiveness	0.0027	-0.0356	-0.0095	0.169354	-0.0070
Diagnostics (p-values)					
Arellano Bond test for AR(1)				0.0500	0.0450
Arellano Bond test for AR(2)				0.1670	0.1050
Sargan test				0.1580	0.0000
Hansen test				0.0770	0.0100

Table 3c: Voice and Accountability as a Proxy for Institutional Quality

	Growth OLS	Growth Fixed Effect	Growth Random Effect	Growth Difference GMM	Growth System GMM
Lagged growth	**1.0065****	**0.8365***	**0.9986***	1.0155***	**1.0729***
Infrastructure	-0.0037	0.0288	0.0007	-0.0086	-0.0061
Investment	-0.0180	0.0717	-0.0194	0.0846	0.0231
Education	0.0309	0.2752	0.0595	-0.4372	-0.0115
Voice and Accountability	0.0262	0.0687	0.0317	0.236376	0.0205
Diagnostics (p-values)					
Arellano Bond test for AR(1)				0.0560	0.0440
Arellano Bond test for AR(2)				0.2570	0.1110
Sargan test				0.2810	0.0000
Hansen test				0.2110	0.0120

Table 3d: Regulatory Quality as a Proxy for Institutional Quality

	Growth OLS	Growth Fixed Effect	Growth Random Effect	Growth Difference GMM	Growth System GMM
Lagged growth	**1.0123***	**0.8480***	**1.0058***	1.0243***	**1.0813***
Infrastructure	0.0008	0.0118	0.0063	-0.0194	-0.0048
Investment	-0.0107	0.0848	-0.0106	0.1075	0.0318
Education	0.0268	0.2890	0.0574	-0.4284	-0.0003
Regulatory Quality	0.0005	-0.0443	-0.0124	-0.0881	-0.0387
Diagnostics (p-values)					
Arellano Bond test for AR(1)				0.062	0.0460
Arellano Bond test for AR(2)				0.145	0.1010
Sargan test				0.215	0.0000
Hansen test				0.048	0.0090

Table 3e: Control of Corruption as a Proxy for Institutional Quality

	Growth OLS	Growth Fixed Effect	Growth Random Effect	Growth Difference GMM	Growth System GMM
Lagged growth	1.0128***	0.8417***	1.0048***	1.0291***	1.0863***
Infrastructure	0.0010	0.0169	0.0058	-0.0236	-0.0055
Investment	-0.0096	0.0811	-0.0089	0.1114	0.0362
Education	0.0269	0.2915	0.0559	-0.4492	-0.0112
Control of Corruption	-0.0048	-0.0043	-0.0144	0.082823	-0.0114
Diagnostics (p-values)					
Arellano Bond test for AR(1)				0.0490	0.044
Arellano Bond test for AR(2)				0.1240	0.109
Sargan test				0.1390	0.000
Hansen test				0.0380	0.010

Table 3f: Rule of Law as a Proxy for Institutional Quality

	Growth OLS	Growth Fixed Effect	Growth Random Effect	Growth Difference GMM	Growth System GMM
Lagged growth	1.0115***	0.8272***	1.0029***	1.0284***	1.0819***
Infrastructure	-0.0015	0.0209	0.0038	-0.0243	-0.0064
Investment	-0.0138	0.0777	-0.0141	0.1080	0.0286
Education	0.0261	0.2924	0.0579	-0.4488	-0.0138
Rule of Law	0.0155	0.0800	0.0114	0.036481	0.0173
Diagnostics (p-values)					
Arellano Bond test for AR(1)				0.0590	0.0440
Arellano Bond test for AR(2)				0.1550	0.1050
Sargan test				0.1470	0.0000
Hansen test				0.0500	0.0110

Having validated the system GMM estimation technique against the others, Table 4 reveals overwhelming evidence that institutional quality does not have significant effect on economic development in SSA. The coefficients shown in the table are not significant at even 10%.

Table 4: Result of System GMM Estimation of the Effect of Institutional Quality on Economic Growth in SSA

Variables of interest	
Political Stability	0.002
	(0.0214)
Voice and Accountability	0.0205
	(0.0298)
Government effectiveness	-0.007
	(0.0383)
Regulatory Quality	-0.0387
	(0.0499)
Control of corruption	-0.0114
	(0.0456)
Rule of Law	0.0173
	(0.0399)

Note: Standard errors in parenthesis.

Table 4 shows that government effectiveness, regulatory quality and control of corruption reveals a negative relationship between economic growth and institutional quality, differing from *a priori* expectation; while rule of law, political stability and voice and accountability as proxies for institutional quality show a positive relationship between economic growth and institutional quality.

We can compare the effect of different institutional quality variables/proxies on growth (Elisa & Sara, 2014) by considering the size of the standard errors reported in Table 1. This is done by calculating what happens to economic growth when an institutional quality variable is increased with one standard error unit. This experiment shows that regulatory quality has the greatest impact on economic growth in the region, though none passed the statistical significance test. Even the correlation matrix in Table 5 cannot explain direction of causation, it shows the directional relationship between growth and indices of institutional quality.

Table 5: Correlation Matrix

	Growth	Political Stability	Voice and Accountability	Government Effectiveness	Regulatory Quality	Control of Corruption	Rule of Law	Infrastructure	Investment	Education
Growth	1.000									
Political Stability	0.024	1.000								
Voice and Accountability	0.034	0.683	1.000							
Government Effectiveness	-0.003	0.496	0.642	1.000						
Regulatory Quality	0.201	0.503	0.610	0.738	1.000					
Control of Corruption	-0.144	0.523	0.447	0.699	0.535	1.000				
Rule of Law	-0.149	0.703	0.721	0.7714	0.697	0.680	1.000			
Infrastructure	-0.008	0.284	0.367	0.238	0.258	0.202	0.377	1.000		
Investment	-0.641	0.209	0.257	0.303	0.062	0.333	0.367	0.2819	1.000	
Education	0.055	0.098	0.105	0.122	0.125	0.101	0.171	0.209	0.208	1.000

5. Discussion of Findings

As the results presented above show, the impact of measures of institutional quality on economic growth in SSA is mixed. Specifically, political stability, regulatory quality and voice and accountability have positive relationship with growth in the region, while control of corruption, rule of law and government effectiveness are shown to have negative relationship with economic growth in SSA. Indeed, issues of institutional quality and its effect on economic growth can be better discussed using a dynamic model, given the endogeneity bias inherent in the relationships examined.

Instructive from the findings also is the fact that the argument on indicators for institutional quality is still on-going, implying that none of the indicators can singly capture institutional quality. *A priori*-wise, institutional quality is expected to have a positive impact on economic growth, but this is not implied from the results, as some indicators show positive while others show negative (i.e., there is no consistency in the explanatory powers of the indicators).

The non-significance of institutional quality on the region is quite baffling as there are literatures in the affirmative that institutional quality does impact economic growth in the SSA region. However, a superior argument validating this finding is the fact that a dynamic panel estimator is used as against the random and fixed effects estimator that has been majorly employed on studies of this nature. Also, it would not be out of place to assert that growth performance in the region has not been hugely impacted by institutional quality, but rather by other factors like investment and human capital as concluded by neo-classical theories. This may also explain why there has not been much sustainable growth in the region to justify the convergence postulation by growth theorists.

6. Conclusion and Implications

The empirical evidence derived from this paper shows that growth in the SSA region has not been principally driven by the quality of institution in the region. The region ranks low in all indicators of institutional quality, despite its impressive growth performance in the last decade, thereby informing and emphasizing the need to latch on the derivable benefits of institutions as a driver of sustainable development.

Evidence from other regions has proven that institutional quality strengthens the base and foundation of economic growth. However, the result of this study shows that the impressive growth performance recorded in the region might be driven by proximate causes, such as FDI inflows, huge population: all of which may be incapable of delivering sustainable growth and development, and immunizing the region from possible external shocks. The fall in oil price in the middle of 2013, which led to series of devaluation in Nigeria especially; and economic imbalance in some countries in the region shows that growth in the region is not largely impacted by institutions, implying a weak foundation for growth in the region. Thus, as a matter of urgency, it is crucial for countries in the region to put in place institutional reforms, install strong leadership, allow the rule of law to prevail, engender effective and efficient regulation of markets, control corruption, and ensure the effectiveness of government institutions, if the growth performance will be sustained.

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