The Impact of Governance on Economic Development in West Africa: A System GMM Dynamic Panel Approach

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Abstract: This paper examines the impact of governance on sustainable development in West Africa from 2002 – 2016. It adopts the system GMM approach, using all the six governance indicators, which include voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. The results show that voice and accountability, political stability, government effectiveness and rule of law are positively related to development, with government effectiveness shown to have that largest impact, while regulatory quality and control of corruption are shown to be indirectly related to development in the short-run. However, in the long-run, all governance indicators are directly related to development in West African countries, with political stability and regulatory quality having the largest impact.

Keywords: Governance; West Africa; Economic Development; System GMM

JEL Classification: F63

1. Introduction

The desire to unravel the puzzles of factors influencing growth and development of nations has led to the development of many growth literatures (Nordhaus, 1992; Rajan & Zingales, 1998; Li, 2000; Solow, 1956). Most of these literatures (Nordhaus, 1992; Rajan & Zingales, 1998; Li, 2000; Solow, 1956) attributed capital and productivity to growth and development. However, Solow (1956), whose model serves as the basic reference point for almost all growth analysis, submitted that capital alone cannot account for the growth of nations; neither can it alone explain the vast geographical difference in output per head across nations. This submission has led to the development of other hypothesis and models to better explain the mystery behind growth and development of nations (Romer, 2012). Hall and Jones (1999) hypothesized that differences in capital accumulation, level of productivity, and consequently output across nations can be accounted for by differences in their social infrastructures. Social infrastructure is explained to be the institutions and

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governance that influence the economic environment within which other economic agents (households and firms) accumulate skills, capital, and produce output.

Governance has been described as the traditional and institution by which rules, regulations and other authorities of the state are executed (Kaufmann et al., 2010). The hypothesis that governance influences growth and development is supported by the works of (Knack & Keefer, 1997; Campos & Nugent, 1999; Acemoglu et al., 2000) and (UNDP, 2014) who posits that governance cannot be isolated from development and included it as one of the sustainable development goals. Contrary to this assertion, there are various scholars who have claimed that the influence of governance on development is rather over rated. Some argued that literatures linking governance to development are not without their problems. Bardhan (2005) identified omitted variable bias, Chong and Caldron (2000) challenged it on the ground of causality problems, Glaseer, et al (2004) on measurement errors and Weiss (2000) on conceptual vagueness.

Kaufmann, et al (2002) claimed that growth can be generated without institutional changes or government factor, and in fact, there is a tendency that high income level leads to better governance and not the other way round. He added that one of the most difficult issues in the field of governance is the imperfect understanding of how politics shapes governance and the development outcome Similarly, Grindle (2010) expresses her skepticism about the idea that good governance is essential to the development of a nation. She premised her argument on the economic growth of China, which has low rank in most governance indexes, yet, has enjoyed high rate of growth and development over several years. According to Kaufmann et al. (2005), good governance indicators can be classified into six; voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. The relevance of these indicators is well documented in literatures (Fisman & Svensson, 2007); Easterly et al, 2006; Lewis, 2006; Dollar et al, 2006; Loayza et al, 2006).

Going by these indicators, West African countries have not fared well in the rating over the decades. It was rated, on the average -0.61, -0.81 and -0.82 for government effectiveness in 2002, 2008, and 2016 out of a scale of 2.5, a category classified as to too low by standard (WGI, 2017). On the other hand, the level of development in many African countries has been disappointing over the decades (Emara & Chiu, 2016). Relating governance to development, Chauvet and Collier (2004), find that developing countries with poor quality of governance will lead to less economic development. If this is true, the anticipated development in West African countries might be decades away judging by the governance indicators for the region.

In the light of this, it is incumbent to re-examine the merits of the proposition that governance significantly matters for development, and by implication, of policy prescription that developing countries should concentrate more on governance

enhancing reform if they want to achieve development. This study therefore seeks to empirically investigate the effect of governance on economic development in West Africa. This study will contribute to knowledge in the following ways; first, it is one of the first studies that will empirically investigate the effect of governance on development in West Africa as a whole. Second, in terms of methodology, most work (Okeke & Eme, 2015; Vehovar & Jager, 2003; Kassem, 2014; Sebudubudu, 2010). on governance adopted descriptive method of analysis, except for few (Albassam, 2013; Emara & Chiu, 2016; Karim et al, 2013; Alomaisi et al., 2016; Pere, 2015) in European countries and other part of Africa[1] who adopted estimation techniques on governance and development. Also, this will be one of the first studies in West Africa to look at the short-run and the long-run impact of governance on development in West Africa. This study will adopt a dynamic panel model of estimation, particularly, the Arellano and Bond Generalized Method of Moment. Dynamic panel model better captures the dynamic relationships between economic variables. Also, it[2] is one of the prominent estimation techniques for dynamic panel when N is large and T is small (Batalgi, 2008).

Objectives of the Study

The broad objective of the study is to empirically investigate the impact of governance on economic development in West Africa. The specific objectives are;

i. to empirically investigate the short-run impact of governance on development in West Africa

ii. to empirically investigate the long-run impact of governance on development in West Africa

2. Literature Review

2.1. Theorectical Review

Various attempts have been made by scholars to answer the questions of what causes growth and prosperities of nations, particularly, identifying factors responsible for the difference in growth rate among nations. Most of these scholars initially focused on physical and human capital, total factor productivity, technological progress, the progress of knowledge creation and diffusion and international trade (Helpman, 2004). These factors however, have not been able to provide satisfactory answers to the questions surrounding development of nations (Solow, 1956). Consequent to this, some scholars (Feng, 2003); Przeworski et al, 2001; Knack & Keefer, 1995; Mauro, 1995; Alesina, 1998) have begun to recognize that the roles of politics and institutions are vital to the process of development by influencing the incentives to accumulate, and accommodate changes

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[1] Sub-sahara Africa, Egypt.
[2] Arellano and Bond Generalized Method of Moment.

Research looking into whether governance promotes or hinders economic development has produced three (3) schools of thought. The first is the conflict school which believes that democracy hinders economic growth, but mostly in developing countries, by creating consumption pressures, instigating distributional conflict and discouraging capital accumulation. The proponents of this theory adopted the case of South Korea, Taiwan, and Chile as evidence that "good for growth" dictatorship could create right condition for development by providing sources of political order and social control. This conclusion however, was debunked by Przeworski et al (2000), who empirically investigated the experiences of 135 countries and found that there is no trade-off between democracy and development.

The second is the compatibility theory that posits that governance positively influences growth, because the presence of fundamental human right and political right create the social environment conducive for economic development. This theory has been invested by Knack and Keefer (1995), Mauro (1995) and Alesina (1998) who confirm the existence of positive relationships between governance and growth. The third is the skeptical school that claims that there is no systematic relationship between governance and development.

According to Olson (1996) and Knack (2003), the linkages between governance and growth has been able to address some of the anomalies of the old and new growth theories, which were not able to explain the determinants of developments in most countries.

2.2. Empirical Literature

Since the end of 1980s, the importance of good governance has been dominating the international discussion about development and international assistance to Africa (Wohlmuth, 1998). This has led to various empirical investigations into the relevance of government, amidst other factors to growth and developments;

Habtumu (2008) conducted an empirical study on the roles of governance on economic performance in Sub-sahara Africa (SSA) between 1996 and 2005, using system and differenced GMM. He found that rule of law, government effectiveness, regulatory quality, political instability and voice as well as accountability influence growth in SSA, however, control of corruption has no influence on economic performance in the region. Similarly, Cooray (2009) investigated the influence of governance on economic growth and development in 71 countries (including developed, developing and transitioning countries) adopting the same methodology found that both size and quality of governance are important for economic growth, and in fact, investing in the capacity for enhanced government is a priority for the improved growth performance of the countries investigated. Their findings is corroborated in the works of Knack and Keefer (1997); Campos and Nugent (1999); Acemoglu et al. (2000).

Emara and Chiu (2016) investigated the impact of governance on economic growth in 21 Middle Eastern and North African (MENA) countries between 2009 and 2013, using Principal component analysis (PCA) method of investigation reported that constant per capita income would rise by about 2% if composite government indicator increase by one unit. Contrarily, Yerrabati and Hawkes (2015) who investigated the governance and economic growth in south and East Asia and pacific region, using meta-synthesized technics based on 29 studies with 554 estimators found out that most governance indicators, other than government effectiveness and regulation have no important effect on growth. They concluded that empirical research on governance and growth has failed to provide evidence of true effect of governance on growth.

Alomaisi et al (2016) in their analysis of the impact of governance on growth in Yemen, using multiple regression models found rule of law and political instability as the most important indicators of economic growth in Yemen, while other variables were declared no so significant. Kaufmann and Kraay (2012) on their paper titled Growth without Governance, using correlation analysis for 173 countries for the periods of 2000-2001 found that per capita income and the quality of governance are strongly positively correlated across countries. Furthermore, they adopted an empirical strategy that allows the separation of this correlation into two components; the first result confirms the existing evidence on the importance of good governance for economic development. However, the second result is rather unpopular and suggests that there is a virtuous circle in which higher incomes lead to further improvement in governance. This result is similar to the recent report from Habyarimana and Dushimayezu (2018) who studied good governance, economic growth, and development in Rwanda, adopting similar method of investigation found the existence of pro-cyclical relationship between governance and economic development. The paper did emphasize that the level of economic growth and development not only depend on fixed capital formation and labour force, but also on good governance.

Bayar (2016) empirically investigated public governance and economic growth in the transnational economies of the European Union between 2002 and 2103, using static panel analysis revealed that all governance indicators except regulatory quality had a statistically positive impact on growth, and control of corruption and rule of law had the largest impact, while political stability had the lowest impact. In the same vein, Tarek and Ahmed (2013), adopted the same methodology to investigate governance and economic performance in developing countries reported similar result, claiming that the institutional failure that characterize developing countries lead inevitably to destabilize their long-term economic growth and an improvement in governance would contribute greatly to their economic growth. Author with similar method and results to Bayar (2016) and Tarek and Ahmed (2013) are Fayissa and Nsiah (2010) on 28 sub-African countries between 1990 and 2004, and Adams

and Mengistu (2008) on privatization, governance and economic development in developing countries between 1991 and 2002.

Theoretical framework

This study adopts the theoretical framework presented by Hall and Jones (1999) using the simplest Cobb-Douglas approach.

Assume that the production function in country *i* is specified as follow;

$$Y_i = K_i^{\propto}(A_i H_i)^{1-\alpha}, \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{ (1)}$$

Where K_i represents the stock of physical capital, H_i, the amount of human capital – augmented labor employed in production, and A_i, the labor –augmenting measure of productivity. It is assumed that labor L_i is homogeneous within a country and that each unit of labor has gone through E_i years of training (education). Thus, Human capital-augmented labor is given by;

$$H_i = e^{\Phi E_i} L_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(2)$$

In equation two above, the function Φ (E) shows the efficiency of a unit of labor with E years of training relative to one with no training (Φ (0) = 0). The derivative $\Phi^{'}$ (E) is return to training estimated in a mincerian wage regression (Mincer 1974): an additional year of training raises a worker's efficiency proportionally by $\Phi^{'}$ (E). This is suggested by Bils and Klenow (1996) that it is the appropriate way to incorporate training into an aggregate production function. It is noted that if Φ (E) = 0 for all E, it is the standard production function for undifferentiated labor.

3. Methodology

The study adopts a dynamic panel model in estimating the effect of governance on economic development in West Africa[1] between 2002 and 2016. Dynamic panel estimation is more befitting in capturing the dynamic behavior of economic relationships. This model is closer to reality than any other panel model of estimation (Olubusoye et al., 2016). A typical dynamics panel model is specified as follow;

$$y_{it} = \delta y_{i,t-1} + X'_{it}\beta + u_i + \eta_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(1)$$

Where y_{it} is the regressand for individual country i over the period t, X'_{it} is the matrix of exogenous variables for individual country over the period t, u_i is the individual country specific effect, and η_{it}, the remainder disturbance term.

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[1] Nigeria, Niger, Gambia, Liberia, Burkinafaso, Cote d'ivoire, Cape verde, Sierra-leone, Mali, Quinea, Togo, Quinea Bussau, Senegal, Mauritania, Ghana.

According to Batalgi (2008), dynamic model is characterized by two sources of persistency over time. First, autocorrelation resulting from the inclusion of lagged dependent variable as an explanatory variable. That is, $\delta y_{i,t-1}$ is correlated with error tern η_{it} ($E(\delta y_{i,t-1}, \eta_{it} \neq 0)$). Second is the unobserved main effects and interaction effect which characterized the heterogeneity among units.

One of the important methods of estimating dynamic panel data models especially when dealing with many countries (N) and within a short time period (T) is the Arellano and Bond Generalized Method of Moment (GMM). This method was introduced by Arellano and Bond (1991) by differencing the dynamic model (eqn 1) to get rid of the two persistences[1] associated with dynamic models. This explains the reasons why this model is also referred to as differenced GMM dynamic panel data estimator. Adopting this method, equation 1 becomes:

$$y_{it} - y_{i,t-1} = \delta(y_{i,t-1} - y_{i,t-2}) + \beta(X'_{it} - X'_{i,t-1}) + (\eta_{it} - \eta_{i,t-1}) \ldots \ldots \ldots \ldots (2)$$

Where $(\eta_{it} - \eta_{i,t-1})$ is assumed to follow first order moving average with unit root.

Although, all dynamic models are short-run model and can only estimate short-run coefficient, some manipulation are required to obtain long-run coefficient as demonstrated below;

In the long-run, $y_{i,t} = y_{i.t-1}$; therefore, substituting into equation (1), we have,

$$y_{it} = \delta y_{i,t} + X'_{it}\beta + u_i + \eta_{it} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \quad \ldots (3)$$

$$y_{it} - \delta y_{i,t} = X'_{it}\beta + u_i + \eta_{it} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \quad (4)$$

$$y_{it} = \left(\frac{\beta}{1-\delta}\right) X'_{it} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \quad (5)$$

Where $\left(\frac{\beta}{1-\delta}\right)$ represent long-run elasticity between Y and X, assuming $\delta < 1$ and statistically significant (which is a necessary condition if the short-run model is to converge to a long-run solution (see Harris and Sollis, 2003).

Diagnostic Tests

Arellano and Bond (1991) proposed two test to validate the estimation. First is that there is no second-order serial correlation for the remaining disturbances of the differentiated equation. This is an essential condition as the consistency of GMM estimator rest on the assumption that $E(\Delta\eta_{it} - \Delta\eta_{i,t-2}) = 0$. It should be noted that first order is expected in the first differenced dynamic panel data models. Therefore, we reject null hypothesis of no autocorrelation for AR (1) and accept null hypothesis for AR (2).

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[1] Autocorrelation and the unobserved effects and interaction effect which characterized the heterogeneity and units.

Second is the instrument validity test. This becomes necessary because of the potential correlation between the lagged dependent variable and the remainder of the disturbance term (Olubusoye et al., 2016). In order to determine the validity of instruments used, the Sargan and Hansen test of over-identifying restriction have been suggested. For these two tests, we must accept the null hypothesis of validity of instruments (Roodman, 2009).

Model Specification

The model is specified into two categories: with and without control variables (Labour and Capital) in other to effectively achieve the objective of this study.

Per capita growth = f(governance)…………………………………………(6)

Per capita growth = f (capital, labour, governance)……………………………………………. .(7)

Reparametizing the specification above, we have;

$$pcg_{i,t} = \alpha pcg_{i,t-1} + \beta_j' inst_{i,t} + \eta_i + \mu_{i,t} \dots\dots\dots\dots\dots\dots\dots\dots(8)$$

$$pcg_{i,t} = \alpha pcg_{i,t-1} + \beta_j' inst_{i,t} + \gamma_i' c_{i,t} + \eta_i + \mu_{i,t} \dots\dots\dots\dots\dots\dots(9)$$

Where pcg denotes per capita growth, α is the autoregressive parameter, $inst_{i,t}$ is a matric of governance which include; voice and accountability (va), political stability (ps), regulatory quality (rq), rule of law (rof), control of corruption (coc) ang government effectiveness (ge) as identified by (Kaufmann et al., 2005). β_j' is the coefficients of institution, $c_{i,t}$, the control variables (growth rate of capital formation (gcf) and Labour force (in logarithm)), and γ_i', the coefficients to the control variables. $\eta_i \, and \, \mu_{i,t}$ are as previously defined in the methodology.

Scopes of Study and Sources of Data

The study covers the periods of 2002 to 2016. It is limited to these periods because of availability of data. The data were source from two different sources; voice and accountability, political stability, regulatory quality, rule of law, control of corruption, government effectiveness were gotten from World Governance Index (2017), while per capital growth, growth of capital formation and labour force were extracted from World Development Index (2017).

4. Empirical Results and Findings

MODEL 1: $pcg_{i,t} = \alpha pcg_{i,t-1} + \beta'_j inst_{i,t} + \eta_i + \mu_{i,t}$

	(1)	(2)	(3)	(4)
VARIABLES	SGMM1a	SGMM1b	SGMM1c	SGMM1d
L.pcg	0.126***	-0.0844	0.158	0.152
	(0.0483)	(0.285)	(0.153)	(0.263)
Va	2.032**	3.521**	1.932**	2.700***
	(0.921)	(1.386)	(0.893)	(1.043)
Ps	0.585	1.081	0.547	1.145
	(0.783)	(0.972)	(0.951)	(1.080)
Ge	2.414	3.011	2.666	3.259
	(2.247)	(2.695)	(2.404)	(2.463)
Rq	-2.678	-1.389	-3.264	-3.262
	(3.329)	(4.814)	(4.024)	(5.023)
Rof	1.102	-1.363	1.699	0.0960
	(2.571)	(3.141)	(2.920)	(3.452)
Coc	-2.653	-3.156*	-2.985*	-3.259*
	(1.714)	(1.862)	(1.785)	(1.833)
Constant	2.091***	2.649**	1.998**	1.874
	(0.566)	(1.154)	(0.836)	(1.235)
Observations	210	210	210	210
Number of crossid	15	15	15	15
firm effect	YES	YES	YES	YES
year effect	NO	NO	NO	NO
Hansen_test	5.932	2.980	3.732	4.710
Hansen Prob	1	0.561	1	0.452
Sargan_test	91.08	1.259	70.19	5.210
Sargan Prob	0.0998	0.868	0.197	0.391
AR(1)_test	-2.311	-1.036	-2.150	-1.476
AR(1)_P-value	0.0209	0.300	0.0315	0.140
AR(2)_test	-0.246	-0.482	-0.152	-0.107
AR(2)_P-value	0.806	0.630	0.879	0.915
No. of Instruments	83	12	69	13

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

SGMM1 denotes One-Step GMM. collapse the instrument matrix. a b c & d denote lag(1 6

Lag (2 5) lag (2 6) & lag(3 7) respectively.

From the model above, different lags ((1 6), (2 5), (2 6), and (3 7)) were introduced for the estimation. These lags were introduced to avoid instruments proliferation (Roodman, 2009). It was discovered that the model with lag (1 6) met all the

requirements for a valid model using system GMM, while the rest fall short. Therefore, the model with lag (1 6) (SGMM1a) will be considered for this analysis.

The autoregressive parameter was shown to be less than one and statistically significant. According to Roodman (2009), the estimated coefficients on the lagged dependent variable (α) should be less than absolute unity, and statistically significant. If not, the system GMM is not valid. The estimated coefficient of the autoregressive parameter (α) lies within the range of dynamic stability with a value of 0.126, and statistically significant at 1%.

The result shows that all governance indexes, other than regulatory quality and control of corruption are positively related to development in West Africa. The negative effect of control of corruption on development corroborates the findings of Yerrabati and Hawkes (2015) and the negative effect of regulatory quality on development corresponds to the findings of Bayar, 2016). From the findings, it is shown that a 1% increase in voice and accountability would improve economic development by 2.03%, and statistically significant at 5%. A 1% improvement in political stability would lead to 0.59% increase in economic development, in addition, a 1% increase in government effectiveness would accelerate economic growth by 2.41% and a 1% improvement in rule of law, improves developments by 1.10%. However, political stability, government effectiveness and rule of law are not statistically significant. These results are similar to the findings of Knack and Keefer (1997); Campos and Nugent (1999).

The robustness check shows that instrument are valid (from Hansen and Sargan test above), and there is no second order autocorrelation (AR(2)).

MODEL 2: $pcg_{i,t} = \alpha pcg_{i,t-1} + \beta'_j inst_{i,t} + \gamma'_i c_{i,t} + \eta_i + \mu_{i,t}$

VARIABLES	(1) SGMM1a	(2) SGMM1b	(3) SGMM1c	(4) SGMM1d
L.pcg	0.106**	-0.0751	0.0812	0.207
	(0.0464)	(0.282)	(0.108)	(0.308)
Gcf	0.0559***	0.0527*	0.0459**	0.0570**
	(0.0183)	(0.0317)	(0.0209)	(0.0287)
Lnlf	1.656**	1.590**	1.545**	1.631**
	(0.702)	(0.710)	(0.697)	(0.730)
Va	0.513	2.216	0.851	1.083
	(1.201)	(1.698)	(1.052)	(1.760)
Ps	2.445**	2.612**	2.170*	2.724**
	(1.169)	(1.109)	(1.201)	(1.375)
Ge	2.304	2.839	2.345	3.107
	(2.002)	(2.329)	(2.165)	(2.100)
Rq	-6.076	-4.489	-5.802	-7.015
	(4.277)	(6.186)	(4.836)	(6.704)
Rof	1.355	-0.776	1.624	1.234
	(2.627)	(3.437)	(2.755)	(4.234)
Coc	-1.016	-2.042*	-1.464	-2.039*

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	(1.063)	(1.169)	(0.964)	(1.122)
Constant	-24.38**	-22.92**	-22.37**	-24.51**
	(10.89)	(11.67)	(11.05)	(12.05)
Observations	202	202	202	202
Number of crossed	15	15	15	15
firm effect	YES	YES	YES	YES
year effect	NO	NO	NO	NO
Hansen_test	4.010	2.801	6.461	4.463
Hansen Prob	1	0.592	1	0.485
Sargan_test	84.71	1.542	69.48	4.320
Sargan Prob	0.208	0.819	0.213	0.504
AR(1)_test	-2.427	-1.095	-2.625	-1.443
AR(1)_P-value	0.0152	0.273	0.00868	0.149
AR(2)_test	-0.236	-0.436	-0.250	-0.0108
AR(2)_P-value	0.813	0.663	0.803	0.991
No. of Instruments	85	14	71	15

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

SGMM1 denotes One-Step GMM. collapse the instrument matrix. a b c & d denote lag(1 6)

Lag (2 5), lag(2 6), & lag(3 7) respectively.

Just like MODEL 1, lag (1 6), (2 5), (2 6) and (3 7), were used to estimate the model, and the model with lag (1 6) meet all criteria for a valid model using GMM. Therefore, the model with lag (1 6) (SGMMIa) will be considered.

From model SGMMIa, the autoregressive parameter meets the dynamic stability condition of less than absolute 1 and it is statistically significant. The result validates Solow's assertion of the importance of labour and capital in the economic development of a Nation. It shows that a 1% improvement in capital formation would accelerate growth by 0.06%, and statistically significant at 1%. Also, a 1 percent increase in labour force would facilitate development by 1.66%, and statistically significant at 5%. On governance, the result shows that, voice and accountability, political stability, government effectiveness and rule of law contribute positively to development, but it is political stability that exerts the most influence on development with a statistically significant positive coefficient of 2.45. However, regulatory quality and control of corruption are found to have an insignificantly negative effect on development in West Africa. The result confirms that the instruments are valid, and there is no higher other autocorrelation.

Table 1. Long-run coefficients $\left(\frac{\beta}{1-\delta}\right)$ from SGMM1a

variables	with capital and labour	without capital and labour
gcf	0.062527964	-
lnlf	1.754051478	-
va	-0.782012195	2.324942792
ps	5.020533881	0.585
ge	-1.594463668	2.414
rg	4.659509202	2.59496124
rof	0.191492369	2.655421687
coc	2.861971831	1.876237624

Source: Author's computation

The results above show that with labour and capital in the model, all variables other than voice and accountability and government effectiveness contribute positively to growth. That is, in the long-run, with a given level of labour and capital, voice and accountability, as well as government effectiveness contribute negatively to development. Conversely, the model that factors in only governance shows that in the long-run, all governance indicators contributes positively to growth in West Africa.

5. Conclusion and Recommendation

Having empirically investigated the role of governance in the economic development of West Africa Sub-Region between the periods of 2002 and 2016, it was found that governance is an important determinant of growth in the region with or without capital and labour. Particularly, governance was found to contribute more to development in the long-run than in the short-run. These findings are consistent with the findings of Tarek and Ahmed (2013) on developing countries, Alomaisi et al (2016) on Yemen, Habtumu (2008). Therefore, the poor economic performance of West African countries can be partly attributed to poor governance in the Sub-region.

It is therefore recommended that West African countries should encourage continuity of government to facilitate political stability, allow for true democracy by providing mechanisms that allow the voice of the citizens to be held and put in place strong institutions that promote accountability, limit corruption and facilitate operation of the rule of law.

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