GOVERNANCE, GROWTH AND DEVELOPMENT IN SUB-SAHARA AFRICA: A REVISIT OF THE EVIDENCE[1]

By

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Sub-Sahara African (SSA) countries remain underdeveloped despite enormous human, material and natural resources. In the last two decades, the growth rates in most of the countries have fluctuated between 4-6 per cent annually. In some of the countries the celebrated growth rates have been far less than the growth in population. In recent times, unemployment especially among the youths have been quite high averaging about 40 per cent. The provision of social services such as health delivery, education, running water and housing remain a challenge.

Some scholars have argued that Africa is rising pointing to impressive growth rates in some countries but forgetting that growth is not development. Other scholars have attributed the unsatisfactory economic performance to governance challenge. In other words, the leadership and followership style of most SSA countries have not favoured sustained growth and economic development for several reasons, namely poor quality of government intervention in the economy, bad leadership, lack of transparency and accountability as well as corruption, among others.

The quality of leadership, voice and accountability, democratic norms and corruption are investigated vis-a-vis growth and development nexus. The panel regression results suggest improvements in all indicators of governance.

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1. Introduction

Sub-Saharan Africa is richly endowed with human and natural resources, with the potential of leading other regions in the world. Despite her rich potentials, the region remains the poorest region in the world. Countries within her enclaves are riddled with high poverty level, lack of access to basic social and economic facilities, insecurity, stunted growth, unemployment and other economic misfortunes. Through the decades, unfavorable economic conditions continued to ravage countries across the region and thus deepen macroeconomic vulnerabilities.

Several studies have been undertaken to buttress the underlying factors militating against the economic projections in the region (Mauro, 1995; Kaufmann and Kraay, 2002; Kaufmann, Kraay and Mastruzzi; 2003, Kaufmann, Kraay and Mastruzzi, 2009; among others). Through policy formulations proposed by these various studies, the need to address governance pattern has taken a leading position. For instance, most of the studies showed that economic, institutional and political governance hold the key to economic growth and development in the region. Specifically, corruption was found to be a leading cause for underdevelopment. Inadequacy in governance can result in corruption which not only lead to an outrageous increase in public investments which are inefficiently utilized, but also result in a decline in private investments.

There is a clear correlation between good governance and economic growth and development across the countries. Many cross-country studies suggest that the nature of governance, as reflected in broad institutional measures such as protection of property rights, rules of law and absence of corruption matters for long term growth (World Bank, 2017). Good governance plays an important role in the implementation of successful economic policies (Acemoglu, Johnson and Robinson, 2001; Amdt and Oman, 2006; Dixit, 2009, Ahlerup, Baskaran, and Bigsten, 2016).

Given the above scenario, this paper seeks to investigate the impact of governance on economic growth and development in sub-Saharan Africa. Specifically, the study will adopt several governance indicators in establishing the nexus between the variables. Following the introductory section, section 2 provides a springboard to the study by presenting stylized facts about the region; section 3 clarifies certain conceptual issues as related to the study. Section 4 reviews related

literature; section 5 presents the theoretical framework and methodology of the study; section 6 discusses the empirical results while section 7 concludes the paper.

2. Sub-Sahara Africa: Stylized Facts on the Economy:[3]

We provide some facts on selected macroeconomic and social indicators on the economy of Sub-Sahara Africa (SSA) to show the performance of the economy since most of the countries attained political independence in 1960.

The African Development Bank in its 2018 African Economic Outlook stresses that "African economies have been resilient: Real output is up, reflecting generally good macroeconomic policies, progress in structural reforms (especially in infrastructure development), and generally sensible policy frameworks" (AfDB, 2018, p.Xiii). It appears that the AfDB is with those pundits pushing the Africa emerging/rising hypothesis.

It is, therefore, not surprising that the report has not linked the recovery in growth to social outcomes – a measure of meaningful development. Tables 1 – 3 below provide the direction of selected macroeconomic fundamentals in Africa for the period 2009 – 2019 (inclusive of projections). Analysis of previous years, 2004 – 2013 is in (Ekpo, 2016, pp.9-32). For the period, 2009 – 2019, the African economy is expected to grow at 4.6 per annum.

In terms of regions, West Africa would grow by 6.5 per cent, while oil importing economies would grow by 4.3 per cent. These growth rates apart from being single-digit are slightly above the population growth rates; any external negative shock(s) could reduce the projected growth. If the big players such as Nigeria and South Africa are excluded, the growth trajectory would decline. It is also crucial to note that the growth figures are driven by prices for commodity exports.

[3] This section draws from Ekpo, 2019i

For the period, 2014 – 2018, inflation in Africa was single-digit, the pattern is similar for oil-importing countries (Table 2). There is no question that moderate inflation reflects some stability in African economies. It is interesting to note that simple-digit inflation is also projected for 2019. On the other hand, Africa suffers from the challenge of twin deficits (Table 3). Both domestic and external balance are negative for Africa, SSA and oil importing countries. The twin deficits poses a problem for Africa's external sector. Unsustainable current account deficits reflects a poor state of the economy. The scenario discourages investors from holding assess denominated in Africa currencies which by themselves are not convertible. Large current account deficits increases the probability of a currency crisis.

Table 1: Real GDP Growth in Africa 2009 – 2019 (%)

Year	West Africa	SSA	Africa	Oil-Importing Countries
2009 – 2019	6.5	4.9	4.6	4.3
2014	6.0	4.9	3.8	3.9
2015	3.2	3.3	3.5	3.6
2016	0.5	1.5	2.2	2.9
2017	2.5	2.8	3.6	3.9
2018*	3.6	3.5	4.1	4.2
2019**	3.8	3.9	4.1	4.5

Source: African Economic Outlook, **African Development Bank**, Abidjan. P. 30
Notes: *Estimates, ** Projections

Table 2: Inflation in Africa 2009 – 2019 (%)

Year	West Africa	SSA	Africa	Oil-Importing Countries
2009 – 2019	9.8	9.8	8.5	6.3
2014	7.3	7.5	7.1	5.4
2015	8.2	7.3	7.4	5.3
2016	12.7	11.2	10.0	6.0
2017	13.3	12.2	13.0	5.7
2018*	11.6	9.8	11.1	5.2
2019**	11.0	8.9	9.0	5.1

Source: See Table 1

Table 3: Fiscal Balance and External Current Account (including Grants) in Africa 2009 – 2019 (% of GDP)

Year	West Africa	SSA	Africa	Oil-Importing Countries
2009 – 2019	-2.9 (1.6)	-2.8 (-1.9)	-3.4 (-1.2)	-4.3 (-5.9)
2014	-2.8 (-1.6)	-3.6 (-4.4)	-5.7 (-4.9)	-4.5 (-7.5)
2015	-3.7 (-4.2)	-4.3 (-6.2)	-7.1 (-6.8)	-4.8 (-6.7)
2016	-5.0 (-1.8)	-4.6 (-4.6)	-7.0 (-5.9)	-4.7 (-6.3)
2017	-4.8 (-1.0)	-4.5 (-3.4)	-5.7 (-4.2)	-4.5 (-5.5)
2018*	-4.4 (-1.4)	-4.1 (-3.6)	-4.7 (-3.5)	-4.3 (-5.7)
2019**	1-4.0 (-1.1)	-3.8 (-3.5)	-4.3 (-3.2)	-3.9 (-5.7)

Source: See Table 1

The domestic fiscal deficits is also a challenge. Africa has a large infrastructure deficit requiring huge financial commitment. Domestic revenue mobilization is low in the continent hence reliance on external finance is inevitable. There is nothing wrong in borrowing to finance the development of hard and soft infrastructure. It has long-run multiple effects for any economy; such expenditures stimulate growth and create employment. Moreover, the magnitude of the deviation of the fiscal imbalance from the threshold is marginal.

The GDP per capita in US dollars which stood at US$1,390.00 in 2007 trended upwards and was US$2,183.00 in 2014 but thereafter indicated declining trend as a result of the impending recession in Africa. There were signs of the economy entering a stagflation phase beginning 2012.

Table 4: Africa Real GDP Growth and GDP per Capita 2007 – 2015

Year	Real GDP Growth (%)	GDP per Capita (USD)
2007	6.1	1,390.00
2008	5.3	1,566.00
2009	3.5	1,794.00
2010	5.8	1,632.00
2011	2.9	1,885.00
2012	6.4	2,025.00
2013	3.9	2,146.00

2014	3.7	2,183.00
2015	3.5	1,932.00

Source: African Statistical Year Book 2016, AfDB

The structure of output in Africa is presented in Table 5 below. Structural transformation involves large, permanent changes in the structure of production. According to the AfDB, "there is little evidence of structural change for the continent as a whole. The structural make-up of GDP remained roughly constant between 2000 and 2016. The shares of extractives in GDP increased between 2000 and 2008, declining in 2009 and then again in 2012 – 2015' (AfDB, 2018, p.7). Nonetheless, the data in Table 5 below portrays a different picture and should be interpreted with caution. If seems that the service sector is now dominant reflecting structural transformation. However, the services sector in Africa is of low quality and rudimentary in nature. The share of manufacturing in GDP remains quite low – about 11.2 per cent in 2014.

Table 5: Africa Structure of Output (As share of GDP %)

	2007	**2014**
Agriculture	16.2	16.3
Total Industry	36.7	30.9
Manufacturing	10.1	11.2
Services	46.1	52.8

Source: See Table

The decomposition of growth in labour productivity in selected African countries is shown in Table 6 below. After persistent decline in the 1990s, labour productivity increased during the period 2000 – 2013. Labour productivity can arise from within-sector gains and from shifts of workers from less productive to more productive sectors. In 2000 – 2013, labour productivity increased by 2.21 per cent a year; within-sector growth accounted for almost 73 per cent of the increase

reflecting very little labour reallocation in the continent. The evidence for selected countries is shown in Table 6. For Nigeria, between sector labour productivity growth for 2000 – 2013 stood at -0.11 per cent reflecting that there was no structural transformation.

Table 6: Decomposition of Annual Growth in Labour Productivity in Selected Countries in Africa

	1975 – 1990			2000 – 2013		
Country	**Average Annual Labour Productivity Growth**	**Within Sector Labour Productivity Growth**	**Between Sector Labour Productivity Growth (Structural Transformation)**	**Average Annual Labour Productivity Growth**	**Within Sector Labour Productivity Labour**	**Between Sector Labour Productivity Growth (Structural Transformation)**
Botswana	3.77	1.34	2.43	2.38	2.23	0.15
Egypt	4.47	3.56	0.91	3.14	2.43	0.70
Ethiopia	-1.63	-1.59	-0.03	2.07	1.63	0.44
Ghana	-1.31	-1.33	-0.03	2.20	1.07	1.14
Kenya	-0.02	-0.44	0.42	0.71	-0.02	0.73
Malawi	-0.55	-0.49	-0.06	0.60	-0.61	1.21
Mauritius	2.80	2.00	0.80	4.94	-4.18	0.76
Nigeria	-1.04	-1.48	0.44	2.88	2.98	-0.11
Senegal	-1.78	-2.31	0.53	0.76	-0.12	0.88
South Africa	0.05	-1.03	1.08	3.72	3.40	0.32
Tanzania	0.03	-0.16	0.19	1.21	0.34	0.87
Zambia	-0.80	0.09	-0.89	1.85	1.76	0.09
Average	0.33	-0.15	0.49	2.21	1.61	0.06

Source: African Economic Outlook, AfDB, P.9

Figures 1-3 below show the trend of relevant macroeconomic indicators of SSA during the period 1980-2018. Private investment was at its peak in 2008/9 but decline thereafter partly due to the fall in commodity prices as well as the global financial crisis. Interest rate which was at its lowest in 2008 began to rise steadily in 2016. The rising interest rate collaborates the drastic decline in private investment during the period.

During the period 1991 to 2001, the rate of unemployment exceeded the growth of GDP and the trend continued from 2014 to 2018. However, from 2002-2010, the growth in GDP exceeded that of unemployment. The

unemployment problem in SSA remains a major challenge particularly as the rate is growing faster among youths as well as the rate of population growth.

Figure 1.Trends in Interest rate, Private Investment, Public Investment and Unemployment Rate in Sub-Saharan Africa

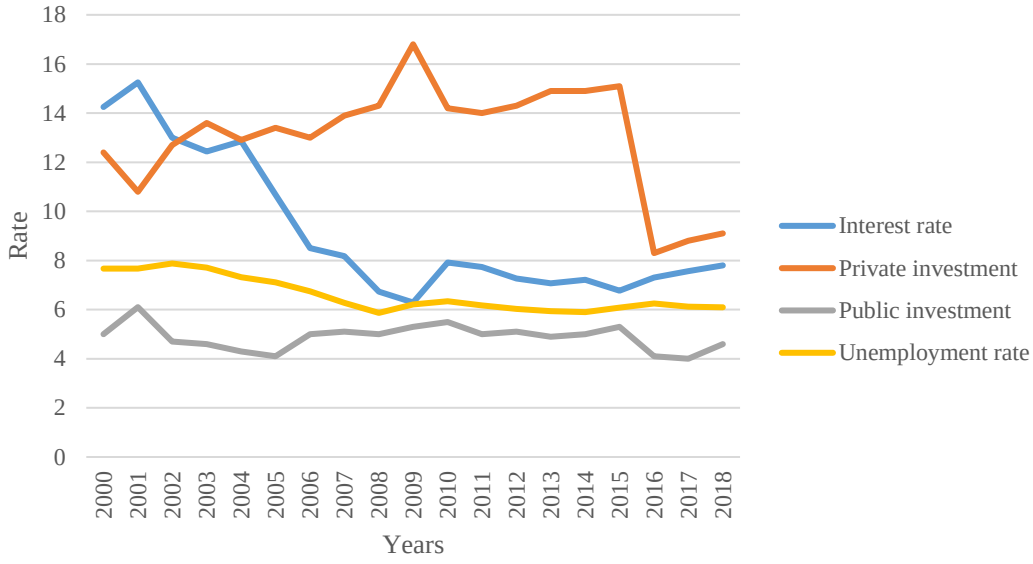


Figure 2.Trends of Inflation, Capital Expenditure and Private Investment in Sub-Saharan Africa

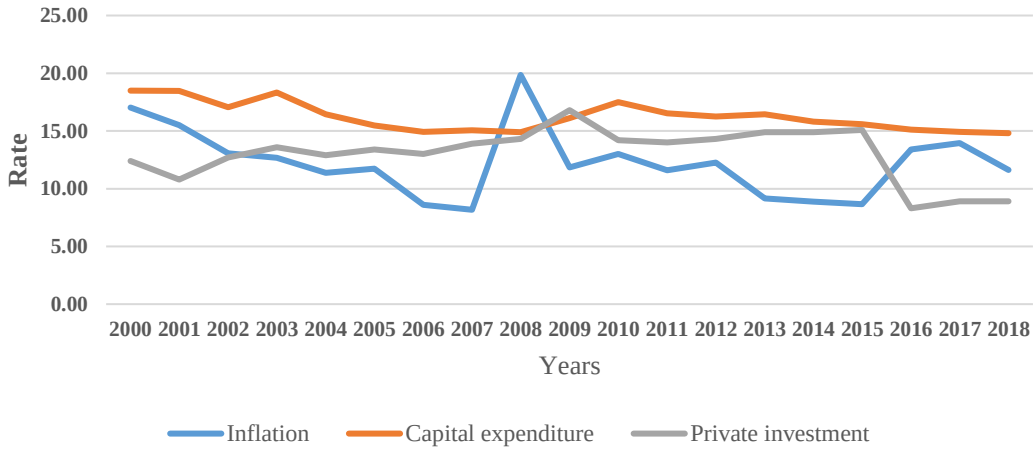


Figure 3.Trends in Unemployment rate and GDP Growth in Sub-Saharan Africa

Table 7: Infrastructure Access data for selected Global Reforms in 2013

Indicator	Africa	Asia	Europe	Latin America
Transport Paved road density (Km of paved road per 100 km^2 of land area	2	25	122	3
Railway lines (Km)	46,380	197,610	85,986	89,002
Information & Communication Technology Fixed broadband subscriptions per 100 population	1 73	6 85	15 119	9 115

Mobile cellular and subscriptions per 100 population				
Power Electricity Production per capital (Kwh)	572	1,930	3,355	2,116
Electricity access (% of total population)	46	88	100	97
Water Supply and Sanitation Improved water (% of total population)	69	90	99	94
Improved sanitation (% of total population)	39	61	93	82

Source: AfDB Statistical Year Book

Table 8: Adult Illiteracy Rate in Selected Africa Countries (%)

County	2001 – 2005	2006 – 2010	2011 – 2015
Angola	32.59	-	29.04
Botswana	18.81	-	12.11
Egypt	28.59	30.79	25.28
Ethiopia	67.14	61.00	50.91
Ghana	-	28.50	23.42
Kenya	-	27.84	22.03
Malawi	-	38.69	34.21
Mauritius	-	-	10.07
Nigeria	45.23	48.92	40.43
Rwanda	-	34.15	30.58
Senegal	60.72	54.21	48.82
South Africa	-	8.50	6.30
Tanzania	30.57	32.20	20.35
Uganda	31.86	27.71	27.97
Africa	41.17	37.03	37.03

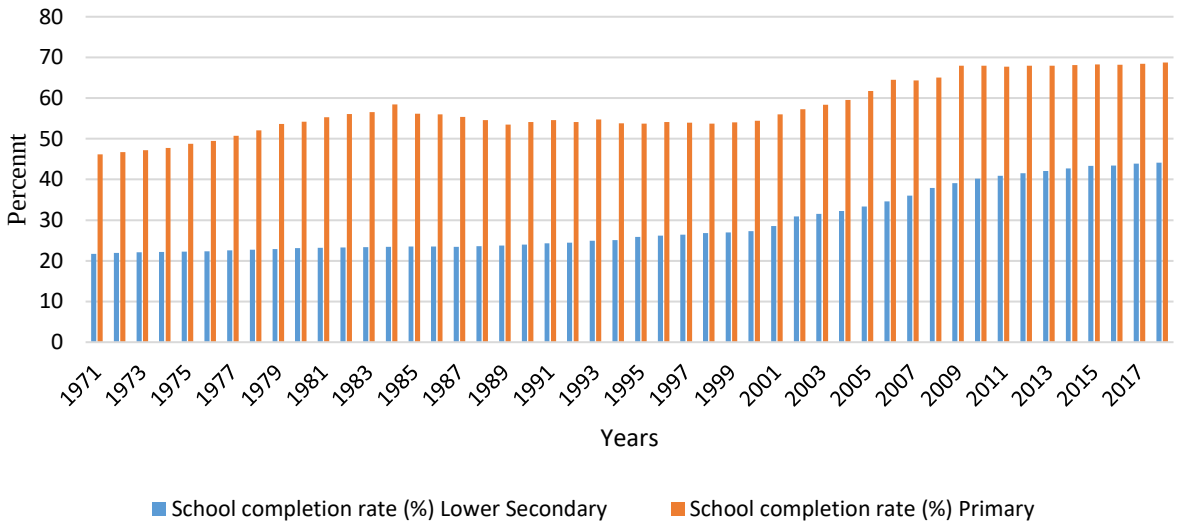
Source: African Statistical Year Book 2016, AfDB

The stylized facts clearly show that Africa is lacking behind as regards basic infrastructure. If Africa is to grow at double-digit, then she must build on a

consistent basis hard and soft infrastructure. What is the performance regarding social indicators?

The educational sector in sub-Saharan Africa has lagged behind in comparison to other regions. There is high decadence in physical educational amenities, thus reducing the effectiveness of the human resource output. Available data showed that improving the learning levels need to be urgently addressed. Data also showed that the region has the highest rate of education exclusion, with over one-fifth of children within the 6-11 age bracket out of school. There is relatively low completion rate in terms of primary and lower secondary education as can be seen in the figure below:

Figure 4:Education Performance in the SSAs



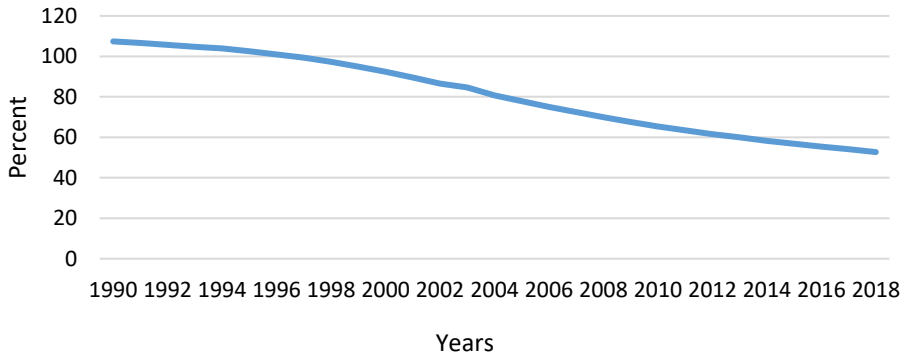
The continuous disparity in educational outcomes between countries in sub-Saharan Africa and other parts of the world has been a recurring problem which has long-term implications.

Sub-Saharan Africa remains one of the regions with modest health outcomes with the region bearing huge disease burden. Some of the resultant consequences of this trend are evidenced by high maternal mortality ratio and under-5 mortality rates (Doctor, Nkhana and Abdulsalam, 2018).

The World Health Organization Report showed that although maternal mortality has been declining steadily through the years (as seen in the figure below), it still remains one of the key health challenges in sub-Saharan Africa (WHO, 2015), with

some estimated 303,000 maternal deaths in 2015 alone (Ross and Von Xylander, 2016).

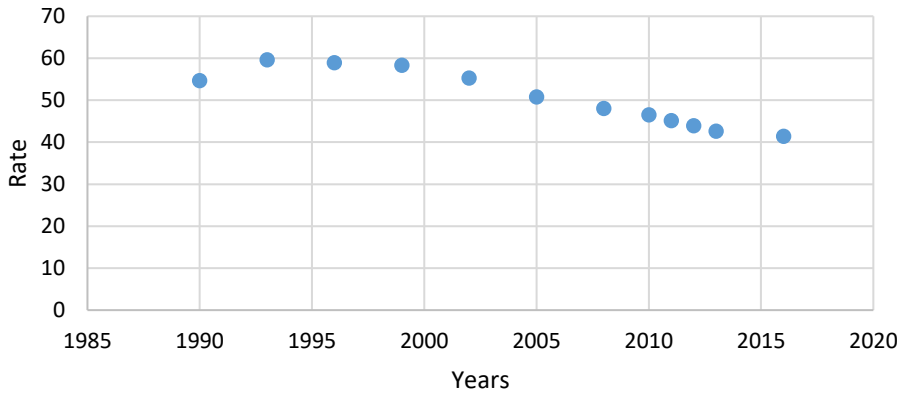
Figure 5: Infant Mortality Rate in SSAs



The situation above is complicated with increase in the doctor-to-patient ratio, which is mainly caused by massive migration in the health labour force to advanced countries.

Sub-Saharan Africa is a region saddled with **extreme poverty** in many quarters. The region accommodates some of the poorest people in the globe. It is interesting to note that Nigeria, usually recognized as the economic giant in region was reported called the "*poverty capital of the world*", with some 86.9 million persons living in extreme poverty in the country. The figure below showed the level of poverty in the region in terms of headcount ratio.

Figure 6: Poverty (Headcount ratio) in SSAs



Although poverty statistics are scanty in the region, evidence abound that sub-Saharan Africa is home to the highest percentage of the world's "*poorest of the poor*". If the governments in the region are unable to change the current trajectory, sub-Saharan Africa will be home to some 110 million people living in extreme poverty by the year 2030.

In addition, according to the World Data Lab's Global Poverty Ranking, if the trend continues unabated, by the end of 2030, nine of the 10 countries with the poorest people will be in sub-Saharan Africa, with Nigeria and Democratic Republic of Congo (DRC) taking the first and second position respectively.

Water and sanitation pose another serious challenge for SSA. Reports showed that in terms of accessibility to portable water and decent sanitation facilities, sub-Saharan Africa has fared relatively low. Despite the various governments' efforts in establishing and sustaining various water, sanitation and hygiene (WASH) systems and services, health issues emanating from inaccessibility of clean water and sanitation facilities still ravage the region.

For instance, in various parts of the region, recurrent outbreaks of water borne diseases such as cholera has continued to afflict the populace, since an insignificant minority is able to access portable and clean water especially in rural communities, while a huge proportion of the population lack access to basic sanitation facilities (UNDP, 2007).

According to UNDESA Report (2012)

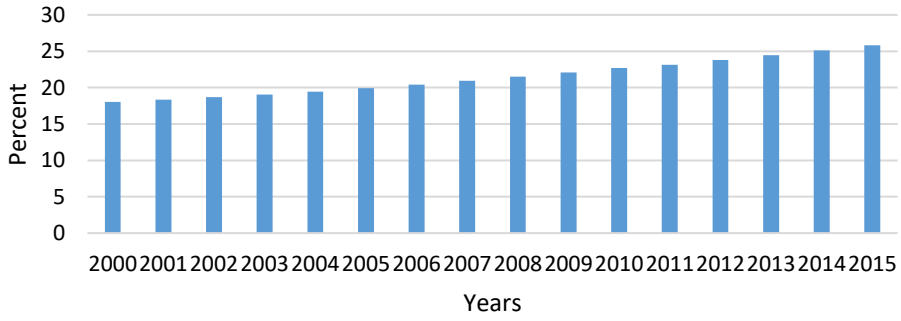
"*Sub-Saharan Africa experiences a contrasting case with 40% of the 783 million people without access to an improved source of drinking water from the region. Sub-Saharan Africa is off track from meeting the MDG on water with just 61% water coverage and with the current pace cannot reach the 75% target set for the region"* (page 1).

The Report also presented a bleak scenario in terms of access to sanitation facilities. According to the Report:

"*Sub-Saharan Africa has a startling 30% coverage with only a 4% increase from 1990. This is a serious concern because of the associated massive health burden as many people who lack basic sanitation engage in unsanitary activities like open defecation, solid waste disposal and wastewater disposal. The practice of open defecation is the primary cause of faecal oral transmission of disease with children being the most vulnerable*" (page 1).

The figure below showed the trend in the accessibility to quality water in the region. Though the figure depicts a steady rise, the growth in the accessibility rate is relatively low. As at 2015, it was barely above 25 percent.

Figure 7: Accessibility to Quality Water in SSAs



3. Conceptual/Theoretical Issues

We examine the notion of economic growth, development and governance. Economic growth may be defined as increase in GDP per capita sustained over the long run. On the other hand, economic development connotes economic growth plus structural transformation which includes governance. Theoretically, development is not possible without growth, but an economy can grow even at

double digit without experiencing development. In recent times, the notion of inclusive growth has found its way into the literature of development.

Because growth in recent times has not resulted in development, the concept known as "inclusive growth" has been conceptualized by some scholars. Inclusive growth is defined as rapid, sustained growth that is inclusive of a large portion of a country's labour force. It stresses productive employment rather than income redistribution. (Ianchovichina and Galbe, 2012).

We have argued elsewhere that the conventional definition of economic growth is not different from that of inclusive growth. "The fundamental difference lies in how the growth is distributed, the extent of the role of the state in the economy as well as that of the market. Therefore, the notion of inclusive growth is to ignore how the 'cake' should be distributed and reject the multidisciplinary approach to development; growth has always been inclusive – as the production possibility frontier shifts based on innovations, ideas, knowledge and technology, an economy moves to a higher growth trajectory. "(Ekpo, 2013; 2015).

A responsible Government/state would then address the questions: What is happening to unemployment? What is happening to education? What is happening to health? What is happening to the provision of food, shelter, clothing and water? What is happening to poverty reduction? These burning issues have been left to the market according to the inclusive growth approach, thus drastically reducing the role of the state in the growth-development nexus. But the market alone cannot address these issues concretely. There are instances where the state creates the market.

There cannot be development without growth but there can be growth (even if it is inclusive) without development. Countries such as India, China, Singapore, Malaysia and Indonesia that grew double digits in 40 years had strong public sector participation in economic activities.

Various definitions have been suggested for the concept of governance. For instance, UNDP (1997) defines governance as "the exercise of economic and administrative authority to manage a country's affairs at all levels. It comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences" (p. 21).

In the same vein, the Department for International Development (DFID, 2001) asserted that “governance has to do with how the institutions, rules and systems of the state - the executive, legislature, judiciary and military – operate at central and local level and how the state relates to individual citizens, civil society and the private sector” (p. 11).

The United States Agency for International Development (USAID, 2005) reveals that “governance relates to the ability of government to develop an efficient, effective and accountable public management process that is open to citizen participation and that strengthens rather than weakens a democratic system of government” (p. 1). This definition was an improvement over that of the United States Agency for International Development (USAID, 2002) is of the opinion that good governance is a complex system of interaction among structures, traditions, functions, and processes characterized by values of accountability, transparency, and participation.

The definition offered by UNDP (2002) showed that good governance is striving for rule of law, transparency, equity, effectiveness /efficiency, accountability, and strategic vision in the exercise of political, economic, and administrative authority.

According to de Ferranti, Jacinto, Ody and Ramshaw (2009), governance describes the overall manner in which public officials and institutions acquire and exercise their authority to shape public policy goods and services. Governance includes the functioning of political institutions, the checks and balances of the political system of a society, the capacity of the State to provide public goods and services, to implement effectively and efficiently policies and reforms, and to regulate economic activity (Rapanos and Kaplanoglou, 2014. Ang (2017).

The United Nations has also introduced characteristics of good governance practices as being participatory, consensus-oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. These features are a global standard to be adopted by governments that receive their aid (UNESCAP, 2009).

On the other hand, bad governance features bureaucracies dominated by patronage ties and non-experts, dispersed, uncoordinated policy implementation, non-transparent, risky schemes of public financing, corruption, looting and piracy.

4. Review of Related Literature

The literature on the subject is vast but a brief review would be undertaken. For instance, Iyoha, Arodoye and Erediauwa (2019) investigated the relationship between fiscal policy, good governance indicators, and economic performance in ECOWAS countries for sixteen years, 2000 – 2015 and found that good governance factors have significant effect on both policy and the economic performance of ECOWAS countries. Thus, the study recommended that governments of ECOWAS countries should improve governance and give more attention to the improvement of institutional quality.

Adzima and Baita (2019) examined the impact of governance on economic growth in Sub-Saharan Africa. The study found that governance was positively influenced economic growth in Sub-Saharan Africa. However, the study suggested that effective governance and the rule of law should be strengthened to improve on the performance of governance on economic growth.

Ezebuillo, Ogbonna, Nwodo and Urama (2019) employed data ranging from 2001 to 2017 for 49 SSA countries in a panel framework. In the study, it was found that corruption was negatively and statistically significant to economic growth in SSA countries. On the other hand, Afolabi (2019) examined the impact of governance on sustainable development in West Africa from 2002 to 2016.

Employing six governance indicators (voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption) and the system GMM approach, empirical results showed that voice and accountability, political stability, government effectiveness and rule of law are positively related to development, in the short-run. While all the governance indicators are directly related to development in the long run.

Salawu, Yusuff, Salman, Ogunniyi and Rufai (2018) adopted a panel data analysis in examining the impact of governance on economic growth of Sub-Saharan Africa. The study employed data of three countries (Nigeria, South Africa and Ghana) in the region, over a period of 1996 to 2016. Empirical results obtained

revealed that South Africa and Ghana enjoyed better governance than Nigeria, with governance in South Africa and Ghana positively affecting economic growth. In the case of Nigeria, a negative impact was obtained. The study thus suggested that political stability and control of corruption be enhanced for effective governance and economic growth in the region.

The study of Jeleta and Takyii (2017) analyzed the causal relationship between institutional quality and economic growth in Sub-Saharan Africa. Employing a panel of 27 countries for the period spanning 1996 to 2014, the study found that there is a long-run relationship between institutional quality and economic growth. In order to achieve desired level economic growth in the region, the study recommended that institutional quality should be enhanced.

De Kadt and Wittels (2016) investigated the impact of democratization on economic output in sub-Saharan Africa. Employing data ranging from 1975 to 2008 in a synthetic control method, the study found that in some countries, democratization adversely affected economic output while in others it exerted an analogous positive effect.

The study of Orayo (2016) explored the relationship between good governance and economic growth among the East Africa Community (EAC) countries. Employing the major governance indicators (Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption) for the period 1999-2013 in a panel data framework, the study showed that political stability and quality regulatory were negatively related to economic growth rate. Thus, there is urgent need to enhance more effective regulation on both public and private institutions.

Using a political economy approach, (Ndulu and O'Connell, 1999, p.63) argue that: "Africa's growth record reflects a groping towards satisfactory modes of national governance under objectively difficult circumstances. Following these circumstances, we emphasize particularly the shock of political independence. In most countries, neither the state, operating at a national scale, nor productive domestic capital…. existed in a meaningful sense at the time of independence."

The conflicting results from the above study suggest the need to revisit the evidence.

5.Theoretical Framework and Methodology

Arising from the extended neoclassical model of economic growth, the model identifies physical capital, labour, knowledge and output as the explanatory variables of economic growth in any economy. Population growth, savings rate and technological progress are exogenously determined.

Thus, the production function is given as:

$$Y_t = f[K_t, A_t L_t]$$

$$Y_t = K_t{}^{\alpha}, (A_t L_t)^{1-\alpha} \qquad 0 < \alpha < 1 \qquad (1)$$

Where, Y = output, K = level of physical capital, L = labour, A = total productivity.

Following Barro (1991), the public sector can be incorporated into equation (1) as seen below:

$$Y_t = f[K_t, G_t, A_t L_t]$$

$$Y_t = K_t{}^{\alpha}, G_t{}^{\gamma}(A_t L_t)^{1-\alpha-\gamma} \qquad (\alpha + \gamma) < 1 \qquad (2)$$

Where G represents the public sector and other variables remains as identified.

Mankiew, Romer and Weil (1992) extended the Solow model by including a human capital variable and this resulted in the form below:

$$Y_t = f[K_t, H_t, G_t, A_t L_t]$$

$$Y_t = K_t{}^{\alpha}, H_t{}^{\beta}, G_t{}^{\gamma}(A_t L_t)^{1-\alpha-\beta-\gamma} \qquad (\alpha + \beta + \gamma) < 1 \qquad (3)$$

Where, H = human capital

The model developed so far partly explains our understanding of economic growth. There are several other factors, which can have, both level and growth effect on economic growth of a country. For example, North (1990) argued that institutions in a country determine the country's long-run economic performance. In this scenario, institutions capture political stability, quality of government, independent judicial system, political rights, property rights and other institutional quality variables. Therefore, equations (1) – (3) can be manipulated

to capture elements of institutions. To allow for this specification, let us assume that:

$$A_t(\theta) = \mathrm{A}_t \mathrm{e}^{-\eta\theta} \qquad (4)$$

Where,

$$0 \leq \theta \leq 1, \;\; A_t = A_t e^{\overline{w}t}, \overline{w} = \frac{\dot{A}}{A}$$

The parameter θ is the index for governance. It is assumed that

$$\frac{dA_t}{d\theta} < 0 \; and \; \frac{d^2A_t}{d\theta^2} > 0$$

We can thus have the intensive form of production function written as:

$$ln\frac{Y_t}{L_t} = lnA_0 + \overline{w}t - \left[\left\{\frac{(\alpha+\beta+\gamma)}{(1-\alpha-\beta-\gamma)}\right\}\ln(n+\overline{w}+\delta)\right] + \left\{\frac{\alpha}{(1-\alpha-\beta-\gamma)}\right\} lnS_k + \left\{\frac{\beta}{(1-\alpha-\beta-\gamma)}\right\} lnS_h + \left\{\frac{\gamma}{(1-\alpha-\beta-\gamma)}\right\} lnS_g - \eta\theta \qquad (5)$$

Where;

S_k = share of income invested in physical capital

S_h = share of income invested in human capital

S_g = share of income invested in government

δ = depreciation rate

n = work force

5.1 Model Specification

Following the above theoretical framework, the study adopts the following model to establish the impact of governance on economic performance.

$$\ln Y_{i,t} = \beta_0 + \beta_1 VA_{i,t} + \beta_2 PS_{i,t} + \beta_3 GE_{i,t} + \beta_4 RQ_{i,t} + \beta_5 RL_{i,t} + \beta_6 CC_{i,t} + \beta_7 GS_{i,t} + \beta_8 INF_{i,t} + \beta_9 OP_{i,t} + \pi_i + v_{i,t} \quad (6)$$

Where;

VA = voice & accountability; PS = political stability; GE = government effectiveness; RQ = regulatory quality; RL = rule of law; CC = control of corruption; GS = government size; INF = inflation; and OP = openness.

ì = represents individual countries, t is time, *ln* is natural log, π_i captures the individual country's fixed effect. β_1 through β_9 are elasticities to be estimated.

The data was from 47 Sub-Sahara African countries between 1996 and 2018. All data were taken in the natural logs (see appendix for definition of data and its measurement).

6. Empirical Results and Analysis[4]

The empirical results from the estimated model derived from the theoretical framework are presented in Tables 9-11 below. From Table 9, unemployment, democracy and corruption have negative relationship to growth (GDPg); corruption is also statistically significant and has the expected sign. Inflation also has the expected sign and is statistically significant. It is surprising that capital expenditures does not have the expected positive relationship with growth. On the other hand, private investment is positively related to growth as expected and it is statistically significant.

[4] Based on panel regression for 47 countries. In some cases, 38 countries were used based on data availability. Hausman test results justified preference for fixed effects method. There were 707 observations.

Table 9: Fixed Panel Regression Results

GDPg	Coefficient	t-score
Unemp	-0.1670	1.28
Dem	-1.8718	1.60
Corrup	-0.6762	2.55**
Privinv	3.8364	2.33**
Capex	-6.223	0.77
Inflation	-0.0841	4.36**
Openness	-2.429	0.36
Cons	13.696	0.91

R2 = 0.36; F(14, 38) = 1.23; **significant at 5%.

Next we present results highlighting indicators of governance such as voice and accountability (VA), political stability (PS), government effectiveness (Ge), regulatory quality (rq), rule of law (rl), and corruption (Cor) as they relate to growth and income per capita (proxy for economic development).

Rule of law, regulatory quality and government effectiveness are negatively related to growth with government effectiveness being statistically significant. On the other hand, political stability, voice and accountability have a positive relation with growth and are both statistically significant. The results appear reasonable with 51 per cent of the variance explained by the independent variables. The puzzling result is that of corruption whose sign is not as expected. The size of government marginally relates positively to growth but not statistically significant.

Table 10: Fixed Regression Results with Governance Indicators

GDPg	Coefficient	t-score
Govsize	.0052	0.30
Inflation	-0.162	2.72**
Openness	0.011	1.19
VA	4.1002	3.74**
Ps	0.736	2.29
Ge	-2.681	2.02**
rq	-0.5187	0.81
rl	-1.4707	1.01
Cor	2.079	1.51
Cons	4.492	2.11**

R2 = 0.51; F(9, 655) = 3.91; **significance at 5%; *significance at 1%

When it comes to income per capita (Table 11), regulatory quality, size of government, political stability and government effectiveness are positively related to income per capita implying that an increase in any or all would raise income per capita. It is interesting to note that improvement in the rule of law, voice and accountability would reduce income per capita – results are counter to expectations. The results need to be interpreted with caution though the R2 seems reasonable. Furthermore, corruption and inflation are properly signed. The results based on random effects are presented in the appendix.

Table 11: Fixed Panel Results with Governance Indicators and Income Per Capita (Y/p) as Dependent Variable.

Y/p	Coefficient	t-score
Cor	-.0702	0.77
rl	-.2006	1.64*
rq	0.521	0.43
Govsize	0.115	0.97
Ps	0.113	1.36*
VA	-0.377	2.74**
Openness	-0.526	3.95**
Inflation	-0.167	3.07**
Ge	1.560	4.28**
Cons	3.257	1.89*

R2 = .75; F(9, 655) = 13.93; *significance at 1%; **significance at 5%

7. Conclusion

We have examined governance, growth and economic development in SSA. The stylized facts indicate that SSA Africa despite average growth trajectory, economic performance was unsatisfactory as macroeconomic fundamentals such as inflation, lending rates, unemployment, among others moved in the wrong direction during the period 1980-2018.

The panel regression results indicate that governance indicators such as the rule of law, voice and accountability, regulatory quality, government effectiveness, the size of government and democracy have causal relationship to growth and income per capita during the period 1980-2018. The results suggest the need for improvements in most of the elements of governance in SSA.

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Appendix

A1

Data interpretation and Measurements

Macroeconomic Variables:

- **GDP Growth (GDPG):** This index capture the rate of growth in a country.
- **Inflation (INF):** This variable is measured as the annual percentage of the consumer price index (CPI). It serves as a macroeconomic stability indicator.
- **Openness (OP):** It is measured as a percentage of total trade to GDP. It is derived by the formula (IMPORT + EXPORT)/GDP. It captures the level of openness of an economy to external shocks.
- **Government Size (GS):** This is measured as Gross National Expenditure as a percentage of GDP. It is an indicator of macroeconomic stability in an economy.

Governance Indicators

- **Voice & Accountability (VA):** It captures how responsive a government is to its people, and it reflects the extent of democratic participation. This index ranges from 1 to 6.
- **Political Stability (PS):** This index comprises of the sub-indicators and measures of government, internal and external conflicts, as well as ethnic tension.
- **Government Effectiveness (GE):** It measures the perceptions of the quality of public services, the quality of civil services, the degree of public and civil services from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

- **Regulatory Quality (RQ):** This index measures the perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
- **Rule of Law (RL):** This index measures the adherence of law, and captures the importance of government's capacity to enforce relevant fiscal policies.
- **Control of Corruption (CC):** This index assesses the level of corruption in the government systems. The index ranges the 0.5 to 6.

Table A2: Panel Regression Results with Random Effect with Private Investment as Dependent Variable.

Prinvest	Coefficient	t-score
Public investment	0.1230	2.96**
Interest rate	-0.083	1.45*
Cor	-1.641	2.14**
y-1	.006	1.34*
Govsize	-2.724	1.50*
Cons	7.731	5.04**

R2 = 0.49; F(5, 276) = 2.90; **significance at 5%; *significance at 10%

Table A3: Panel Regression Results with Random Effect with Income per Capita as Dependent Variable

Y/p	Coefficient	t-score
Govsize	-0.0302	0.19
Inflation	-0.0022	4.62**
Openness	-0.0011	2.09**
VA	0.186	2.22**
Ps	-0.109	2.42**
Ge	-0.713	6.82**
rq	0.230	2.35**
rl	0.699	6.05**
Cor	0.044	0.42
Cons	7.365	9.424**

R2 = 0.17; *significance at 10%; **significance at 5%