The Effect of Political Institution and Human Capital on Economic Growth of Sub-Saharan African Countries

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Abstract: Economic Growth rate in Sub-Saharan Africa has been unimpressive as compared to other developing regions like East Asian. This unstable economic growth exists in Africa compel from deprived political institution and unskilled human capital. To conduct this study panel data from 2005-2017 with Arellano-Bond dynamic panel data two step estimation technique has been used. The study attempted to answer the research questions such as examining the effect of political institution indicators and human capital indicators on economic growth of Sub-Saharan African countries. Results convey that the variables like foreign direct investment, gross fixed capital formation, GDP and per capital, secondary school attainment, political stability & absence of violence and voice & accountability are statistically significant and positively affiliated with GDP growth rate in Sub-Saharan African countries. The result concludes that, human capital and good governance have a positive effect on economic growth. Given the results, governments of Sub-Saharan African countries ought to be;- formulate sound institutions that enable to increase the extent of stability via dispelling violence, anarchy, and related problems which abolished human’s life; should promote degree of respecting the right of a country' citizens to participate in voice of their government, freedom of expression, freedom of association, and a free media, and finally formulating strategies that enable to increase the education level of peoples.

Keywords: Economic Growth, Human Capital, Political Institution, Arellano-Bond Dynamic Panel Model, Sub-Saharan African Countries

1. Introduction

As an ideology, economic growth is a usual economic phenomenon. Infact it has been investigated by myriad of scholars at different times. Overall societies are pivots in the arena of economic growth. Rapid Economic growth is both a marching and goal of policy makers in the discipline of worldwide political economy. Apart from this, it also helps to attain sustainable economic development across countries [1]. According to [2] argues that, trends, rate and path of economic growth in developing countries stumble by institutional, economic and geographical factors. African economic growth is impeded eventually because of distinct factors such as fragile landscape, vulnerability to domestic and external shock, defective political institution and deterioration of term of trade [3].

As [4] claims that different empirical evidence shown in developing countries economic growth is not explained by Solow growth model. Additionally, economic growth in developing countries, especially in Africa is not solely reliant of economic factors but also it contingent on institutional factors.

Recently, the theories of economic growth switch-back the paradigm into institutionalism. It defined as “Institutions are the rules of the game in a society or the humanly devised constraints that reshape human interaction”. Over time, the evolution economics focused on recognizing the role of institutions for furtherance of economy. This recent economic paradigm becomes the key factor throughout the expansion of institutionalism perhaps to its role to realize economic growth and development of Africa [5]. Political instability has been a customary issue in Africa due to different causes like; dissipating public resource, severe conflict, dearth of power decentralization and deprived governance. As a result, economic growth in Africa could not be growing at the expected rate in the last subsequent decades [6].

Human capital measured by the proxy (education
attainment and life expectancy), and effective political institution significantly affects economic growth. Again it explore that an investment in human capital and quality of political institution today should bring a higher yield at some later date. This verifying that the development of effective political institution and change in stock of human capital through dedicated assets provides a salutary outcomes to grooming economic growth in least developed countries [7].

According to [8] if democratic nations can be acting in line with the principles of rule of law, definitely they can develop four types of capitals such as physical, human, social and political capitals. However, political capital is too susceptible to hamper capability of policy makers to embark optimal macroeconomic policies. As well, to revisit solely the effect of political institution measured by the proxy political instability on economic growth of Middle East and central Asian countries, system GMM model has been adopted. Also, [9] examines whether governance matters for economic growth of developing countries by using static panel data estimation procedure through testing dimensions of governance on the growth of 841 own middle-income countries. This indicates Growth has been investigated by different models based on the nexus between variables. Hence, in this study the researcher explored the effect of Human capital and Political institution on economic growth of Sub-Saharan African countries by taken six dimensions of governance indicator as proxy of political institution and applying dynamic panel estimation. The study tried to meet the following underlined objectives such as examining the effects of human capital and political institution indicators on economic growth Sub Saharan African countries.

2. Literature Review

In the late 1980's, the term sustainable development has been taken place as a major emphasis in the mind of economist. It has been defined as ability of society to meet their basic need without harmed next generation. In economic literature harmonious notions have been explored about economic growth. In general, the underlining factors in economic growth investigating by three basic theories such as classical and neoclassical, institutional and geographical. Basically, this study focuses on classical, neoclassical and institutional economic growth theories. According to classical economist, economic growth highly associated with factors of production such as physical capital and human capital. The geographical growth theory postulated that determinant of economic growth in various countries are climate change and geographical features. This signifies that unfavorable and plugged geographic allocation, unfavorable climate condition, and erratic rain fall are strongly distressing economic growth. While the third and most recent is institutional growth theory. Institutional Change and Economic Performance "suggests that a clear institutional framework which is develop on proper set of property right play vital role to increase long and short-term economic growth and hence it help to realized sustainable economic development.

The term Human capital is defined as the stock of skills that labor forces possesses. Moreover, Human capital is defined in Oxford English Dictionary as "skills and talent that labor force possesses and it is regarded as are source or asset. "But the concept of human capital goes back at least to Adam Smith. In his fourth definition of capital noted that" The acquisition of talents during education and study [10].

The flow of skills can be continuous when the return of human capital investment exceeds its explicit and implicit cost. Stock of human capital can be acquired through acquisition of skill, talents, knowledge and invention from human capital investment and by enhancing productivity of labor. Eventually, it helps to increase the productive capacity of other complementary factors. Institution considerably evolved in the process of human capital investment through formal education, training, and health to spring role of Human capital on economic growth [11].

According to [12] stated that political institution is another essential aspect of institutions thereby it needs a deep analysis. Political institution is a wide concept in which it consists of rule, governance, political régime and political system. Traditionally, political scientists were exploring political institutions deductively. Political institutions are one of rule of the game which is setups that create, enforce and apply laws. Also, political institution is rules of the game which helps the ordinary society enables to decide and administers obeying in the context of rule of law. Analyzing how political institutions affect the law, economy, culture, and society as a whole were the deep task of scholars in last subsequent decades. Political institution has a direct effect on sovereign of countries. Because when political institutions are straight forward and directly evolve for the favor of societal well-being and it helps to spring society’s free political participation, Political institution could bring to increasing competitiveness of societies in different concerned issues [13].

The impact of political regimes and instability on growth: empirical evidence from Western Europe by adopting multiple measures of government performance with panel data analysis. The findings stated that political regimes and political instability are affected economic growth through increasing uncertainty and aggravated government’s distrust about formulation and application of economic policies [14].

According to [15] investigated on How Does Political Instability Affect Economic Growth? The study was applying system GMM model. Their findings show that, political instability has a negative effect on economic growth of Africa. They redirect that an existence of effective political institutions plays a crucial role to achieve sustainable economic growth rate in Africa. Also, [16] has been examined on Political Institutions, Technology and Growth by adopting dynamic panel approach over 69 countries in the globe. Findings stated that, changes of political institutions towards higher levels of democracy, political rights and civil liberties can promote economic growth of technologically developed countries, but it retards economic growth of technologically less developed countries.
3. Methodology

To investigate the effect of political institution and human capital on the economic growth of Sub-Saharan African countries in 2019 the researcher has been employed panel data type over 39 Sub-Saharan African countries. To conduct this study researcher would have incorporated the data from 2005-2017. The data that the researcher used for analysis obtained from World development indicator (WDI, 2017) and world governance indicator (WGI, 2017). To analyze this study both descriptive summary statistics and Econometrics method of data analysis have been used.

Examining empirical verification of growth by adopting Pooled OLS, fixed effect, and Random effect analysis might not be free from drawbacks because growth has a dynamic nature. Therefore, the researcher used a dynamic panel model specifically System GMM. Because this model helps to solve problems associated with model specification, omitted variable bias, heterogeneity and problem of endogeneity. Also, GMM brings and helps to ensure consistency in the presence of arbitrary heteroskedasticity, but at a cost of possibly poor finite sample performance. If heteroskedasticity is in fact not present, then standard IV may be preferable [17]. Given that Dynamic model can be specified as follows

\[ Y_{it} = B0 + a_i + B1y_{it-1} - 1 + B2x_{it} + uit \]  

(1)

In this equation the following points are taken as informative assumption, where \( a_i \) is individual difference run observed effect. When we run the analysis by using linear or static model, confidently the following limitations are exist such as:-The explanatory variables in \( x_{it} \) are assumed to been endogenous and it may be correlated with the error term, The fixed effects are contained in the error term in equation (1) which consists of the unobserved country-specific effects \( "vi" \) and the observation specific errors "\( eit \)". meaning that,

\[ uit = vi + eit \]  

(2)

The presence of lag dependent variable \( yit-1 \) gives rise to autocorrelation, and Panel data set has a short time dimension and a larger country dimension, brings to a random walk. Dynamic panel data methods are appropriate enough for panels arrangement attributed with a small \( T \) and large \( N \), otherwise another model may be preferable [18]. Moreover, No specific estimation method for dynamic panel data models is required, and the tests have an appealing "nuisance parameter free" property that parameter estimation uncertainty has no impact on the asymptotic distribution of the test statistics. Here the researcher employed system GMM estimation over difference GMM because of that: if the dependant variable close to one bring random walk or the instrument close to unity difference GMM is inefficient and bias estimator, When number of “\( T \)’’ less than \( N \) random walk and it will be bias in this case system GMM is more efficient than difference GM.

Mathematically the model can be written as:-

\[ y = f(PI,HI,CONVA) \]

Where; \( y \)=GDP growth rate, \( PI \)=political institution indicator variables (government effectiveness, control of corruption, rule of law, voice and accountability, regulatory quality and Political Stability & Absence of Violence), \( HI \)=human capital proxy variables (education and health), \( CONVA= \)other control variables such as physical capital formation, foreign remittance, and foreign direct investment.

Econometrics estimation of dynamic panel System GMM model can be estimating as follows.

\[ Y_{it} = b0 + b1y_{it-1} - 1 + b2x_{it} + uit \]  

(3)

Where,’ \( i \)” denotes that observation in which number of country and “\( t \)” denotes time dimension=GDP growth rate .\( y_{it-1} \)=lag of GDP growth rate, \( x_{it} \)=vector of explanatory variables, \( b1 \) ............... \( bn \) estimators and \( uit \), error term.

The most diagnostic tests in dynamic model are validity of instrumental variables, panel unit root test and the AR test for autocorrelation of the residual [19]. To check it validity Levin, Lin and Chu test, saran over identification test, and the Arellano–Bond tests for first-and second-order autocorrelation have been used.

<table>
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<th>Variables</th>
<th>Observation</th>
<th>Mean</th>
<th>Std. Dev.</th>
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<th>Max</th>
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</table>

Source: computed Own from World Bank data base, 2005-2017

“Note:-precisely, standard deviation measure the average distance between the values of the data in the set and the mean. So allow standard deviation indicates that the data points tend to be very close to the mean; a high standard deviation indicates that the data points are spread out over a large range of values.”
4. Result and Discussion

4.1. Descriptive Analysis of the Study

On average GDP growth rate in sub-Saharan African countries was growing by 4.7 percent in the last 13 subsequent years approximately with minimum value-36.6% and maximum value 10.7%, respectively. In this summary statistic Gross Capital Formation (GCF) was growing at the rate of 22.9 percent in sub-Saharan African countries over the past 13 consecutive years with a minimum value of 0 percent and maximum value of 73.8 percent, approximately. In this study, human capital represented by proxies such as life expectancy and per capita secondary school attainment. Health peroxide by life expectancy (LEXP) in sub-Saharan African countries is averagely live 58.6 year. The minimum and maximum life expectancy of sub-Saharan African countries was 43.624 and 74.39 years for the last 13 successive years, respectively. Also, life expectancy across countries deviated from the mean by 5.96 years. The average degree of controlling corruption, government effectiveness, regularity quality and voice & accountability were accounted by 31.28%, 27.55%, 30%, and 34% in sub-Saharan African countries, respectively.
4.2. Econometrics Analysis of the Study

Results of diagnostic test of dynamic two step estimation panel model such as validity of instrumental variable, and autocorrelation shows the validity of instrument and confirms absence of autocorrelation. From the result of Arellano–Bond dynamic panel two-step estimation, out of twelve explanatory variables admitted in the model including the lagged value of dependent variable, total of six independent variables are statistically significant.

Neatly, it is informative to scrutinize results acquired from Arellano–Bond dynamic panel two-step estimation, therefore the first variable included in the model is lag of GDP growth rate. This variable is significant at 5% level of significance and it interprets as, when the past growth rate increase by one percent the current GDP growth rate increased by 0.214 percent. Hence, foreign direct investment in Sub Saharan African countries positively allied with it's current GDP growth rate or it implies that, the existing growth rate in Sub Saharan African countries. The result interpreted as, when the net inflow of foreign direct investment in the percentage of GDP increase by one percent GDP growth rate increase by 0.0292 percent. Hence, foreign direct investment in Sub Saharan Afri...
African countries has a considerable outcome on GDP growth rate through creating employment opportunities, emitting anew mode of production and diffusion of knowledge from well off countries.

Another variable added under this investigation is physical capital formation. With regard to the effect of physical capital formation on GDP growth rate different scholars have been examined. For instance, [21, 12] explored the determinants of economic growth in sub-Saharan African countries by using a vector error correction model. According to this result, formation of physical capital such as road, school, hospital and related investments in Sub-Saharan African countries has a due role to boost economic growth and it helps to alters growth in to higher economic growth paths.

Therefore, in line with [21] in this study the results insight that there is a direct and statistically significant alliance between GDP growth rate and gross fixed capital formation in Sub-Saharan African countries. It is statistically significant at 10% level of significance. This interpreted as, when gross fixed capital formation in the percentage of GDP increase by one percent GDP growth rate increase by 0.0767 percent. The result shows that, an increase in physical capital formation tends to a dramatic increase in GDP growth rate across Sub-Saharan African countries. Because an increase in physical capital formation explicitly and implicitly affects different micro and macro variables which could enlarge GDP growth rate such as create employment opportunity, facilitate trade and transportation service, developing smooth societal interaction and expanding privat and public reinvestments. Moreover, the need of infrastructure for dramatic economic growth is now relatively well recognized and widely understood among practitioners and policy makers. But the matter here is that, how to reconsider about better quality of infrastructure and its considerable effect on productivity and growth.

Also, in this study the researcher investigate on how remittance affect GDP growth rate in SSA countries. About this [22] have been exploring on Review of Essay on Aid Dependency and State Building in Sub-Saharan Africa.

In this study the result direct that Aid dependency also adversely affects the performance of the government’s tax revenue, as well it limits institutional qualities in the development process of countries.

According to [23] reviewed that remittances has its own effect on poverty & inequality, health & education, investment and savings, labour supply & participation and economic growth both in developing and developed countries. In general, International remittances have a positive impact on poverty and health but it has a negative effect on labour supply, education and economic growth in LDCs. This would be happened as a result of it discouraging motivation of peoples to work and decreasing diseases associated with lack of nutrition. The result of Arellano–Bound dynamic panel system two-step estimation insight that, growth rate of remittance has positive relation with GDP growth rate in Sub-Saharan African countries, but it is statistically insignificant at all significance levels. This might be due to the reason that developing countries used assistance for consumption rather than investment.

According to [24] have been investigated on the role of human capital, human capital development has a positive significant impact on economic growth. Moreover, [25] examined the effect of flow and stock human capital (education and health) on the economic growth of the African continent by using dynamic GMM panel data estimation techniques. Health which is measured by life expectancy has a positive and statistically significant effect on the economic growth of low-income countries while education has insignificant effect on economic growth of Africa. From Arellano-Bound dynamic panel model results Life expectancy (LEXP) and average year per capita secondary school attainment (PCPSEdu) are positively allied with GDP growth rate. Nevertheless, at opposite of (21) result, life expectancy is statistically insignificant at all level of significance, but it is positively related with GDP growth in Sub-Saharan African countries. Because an increase average life expectancy of individuals across Sub-Saharan African countries has a probability of mounting the number of productive labor force and their participation rate in different sector of the economy. Consequently, it helps to increase GDP growth rate over time. While average year per capita secondary school attainment is positively and statistically significant at 10% level of significance. This interpreted as when average year per capita secondary school attainment increase by one year GDP growth rate increase by 0.0000787 percent. According to this result, an increase in average year of secondary school education per total population, the rear circumstances that GDP growth rate in Sub-Saharan African countries reshapes and speeding its movement along to the optimum path of economic growth.

In this study political institution is denoted by proxies such as control of corruption, government effectiveness, political stability & absence of violence, regularity quality, rule of law and voice & accountability. However, under this investigation among six proxies of political institution were incorporated, merely two variables are statistically and positively linked with GDP growth rates such that political stability & absence of violence (PS) and voice & accountability (V&C) while the proxies of Political institution are statistically insignificant. About this, [9] finding stated that political stability and government effectiveness are significantly and positively correlated with economic performance.

With a slight contradiction from result of [9] in this study political stability & absence of violence (PS) and voice & accountability (V&C) are positively and statistically significance at 5% level of significance while the remaining proxies of political institution are statistically insignificant at any significance level. For instance, control of corruption and rule of law are negatively linked with GDP growth rate while government effectiveness and regularity quality are positively allied with GDP growth rate in SSA countries. Regarding to the effect of corruption on economic growth
and production efficiency some scholar was instigated. For example [26] stated Corruption raise efficiency in production and GDP for countries in which their governances systemized effective and corruption decrease productivity & GDP when countries political institution is too much effective. In line with the result of [26] in this study corruption has a positive effect on GDP growth rate in SSA countries, but it is statistically insignificant.

Also, [14] investigated on How Does Political Instability Affect Economic Growth? Their findings stated that political regimes and political instability are affected economic growth depressingly by escalating uncertainty and decrease societal government’s trust on economic policies. This concludes that political instability has indirect effect on GDP growth of Africa. They redirect that, to be sustainable economic growth rate of Africa; an existence of effective political institutions is plays a crucial roles.

In line with these result, findings in this investigation shows political stability and absence of violence positively (PS) and significantly affiliated with GDP growth rate in Sub Saharan African countries. Political stability and absence of violence (PS) measures perceptions of the likelihood (fact of being likely) that the government will be destabilized and remove forcibly from power by unconstitutional or violent means, including politically-motivated violence and terrorism. This certainly aggravated decrease in GDP growth rate over time. It is fact, when political institution is manifested with instability, else body never being guaranteed in different economic activities and policy options designed by the government. This led to devastating and discouraging productivity of factors of production in different sector of economy as long as societies are not secured enough and distrust about stability of the government.

Therefore, coefficient of political stability and absence of violence interpreted as, when the degree of (extents in which) governments remove from power without strong complain of people and terrorism increase by one percent, GDP growth rate increase by 0.0709 percent. This tells us if governments respecting, voice of people and leave from their power peacefully as well as they are free from murdering and terrorism, the stability of politics could be improved and ensured overtime, in turns, it results to a persistence growth in GDP over Sub Saharan African countries. Persistence economic growth can be realized when political stability and absence of violence ensured, in turns, as political stability and absence of violence remarkably stabilized else body not become reluctant to layout their entire asset and effort on different investments which able to enhance growth and development.

Also, voice and accountability (V&C) depicted that, constitute state of being aware of the extent to which a country's citizens are able to participate in vote of their government, as well as freedom of expression, freedom of association, and a free media. Its coefficient interpreted as when the degree of ability societies to choose their leader and freedom of expression increase by one percent, GDP growth rate increase by 0.180 percent. This indicated that a degree in which society's freedom to express their voice towards government and selecting their government increase, peoples become much willing to devote their time solely on work instead of worried about liberty, freedom and bureaucracy. What matters is that how to increase income instead of political freedom.

5. Conclusion

Theories of economic growth early focused on natural resource endowment and geographical factors. Recently the ideologies on theory of economic growth shift into institutionalism. To make clear, an institution is simply “rule of the game. In the descriptive analysis of this study, GDP growth rate on average increase by 4.7 percent in sub-Saharan African countries. Among 39 Sub-Saharan African countries included in the analysis, averagely Ethiopia accounted the fastest growth rate which accounted for 10.1 percent and the lowest GDP growth rate prevailing in central Africa which is accounted for 0.4% in the last thirteen subsequent years. Given the results the following pieces of recommendations stated as follows:-To realize rapid economic growth in sub Saharan African countries governments should; strive to attain political stability, formulate institutions which are able to ensure the right of country’s citizens to participate to vote their government, as well as freedom of expression, freedom of association, and free media, and finally should formulating strategies that enables to increase the education level of peoples and expanding physical capital investments like road, hospital, school and soon.

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