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The impact of Foreign Aid on Economic Growth in Sub-Sahara Africa: The mediating role of institutions

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mediating role of Institutions**

INTRODUCTION

For centuries now, development economics has seen foreign aid as a key player for bridging the savings gap prevalent in poor countries to promote economic growth; such positive results of aid came about under the Marshall plan which recorded a US\$13.2 billion flow of funds from the U.S to Europe from 1948-52. The aid inflow stimulated economic recovery in Europe after the end of the Second World War (Boakye 2008).

The World Development Indicators (WDI) defined foreign aid as resource transfers from development partners in the form of grants and concessional loans to developing countries to embark on holistic development in the recipient countries. Jeffrey Sachs, (2008) concluded in his work that; aid is an active ingredient that could actually boost economic investment and consequently lead to an upward trend in growth and development.

Economic growth, which refers to growth in output in an economy, is used as an indicator to measure the economic health of countries and regions (David Ashworth, 2015). Major economic decisions are made using the growth of a country. For instance, investors use the economic growth of a country as one of the factors considered in making investment and asset allocation decisions.

According to Pettinger (2017), economic growth is so important that economies experiencing economic growth are likely to be reducing their poverty rate, decreasing their debt to GDP ratio, increasing governments' provision of services, and decreasing unemployment.

He explained that economic growth brings about improvement in the living standards of the people as output and income increases. As a result, individuals get more opportunities to afford their necessities and move them from a lower living standard to a higher living standard.

Given the primary aim of aid, that is, serving as resource transfers to developing countries to push them out of poverty and set them on a long term sustainable path, it is tempting to immediately establish a positive relationship between aid and growth. This positive relationship between aid and growth is backed by Sachs (2008), Papanek (1973), Arndt et al (2010, 2011), Crosswell (1998), Tarp (2006), Radelet, et al., (2014) among others.

From these writers' points of view, aid serves as a complement to existing domestic savings and other inflows of resources into the country. They believe aid can be used to build up a country's infrastructure. They believe aid can be used to build up a country's infrastructure, improve on the existing human capital, and import essential goods and machinery, and technology to improve production and the living standards in the recipient countries.

However, another strand of the literature reports a negative association between aid and growth; Griffin and Enos, 1970, Okon 2012, Brautigam and Knack 2014). This group believes that aid available to the recipient countries only reduces the effort of the government in the recipient countries in collecting taxes and also undermines the accountability of these governments thus breeding corruption and being a disincentive to investors.

Gehardt (2010) agreed to the negative link between aid and growth by concluding in his work that the inflow of aid has only left the recipient countries overly reliant on aid and left them in a vicious cycle of poverty.

A third strand in the literature believes that aid can only bring about economic growth when factors like institutional quality, level of corruption, government accountability and governance, and other policy variables have efficiently been considered. Such studies including a report by the World Bank (1998), Burnside and Dollar; 2000, Denkabe (2004), Collier (2006) Whitaker, (2006) hold the stance that aid can promote economic growth in the

recipient countries under good government policies and that aid is not bringing about the intended growth on economies because of the existence of poor governmental variables.

These variables, if not efficiently managed, could undermine the positive impact of aid on economic growth. Corruption for instance can lead to the embezzlement of the received aid and because of the low accountability of these officials to the people, funds are mismanaged.

By highlighting on institutional quality as one of the good policy variables, Ogundipe et al. (2014) concluded in their work that institutional quality significantly contributes to the effectiveness of aid on economic growth. They believed that, by setting institutional quality on the right path, recipient countries can fully realize the positive impact of aid on economic growth.

Also, Robinson et al., (2005), have the view that countries with laid out substantial institutional foundations are believed to be better positioned to foster an environment that supports aid effectiveness in a country. This is true because Institutions sets out the economic and social structures that would spearhead the affairs in the economy.

Given the level of aid inflow into SSA, with its corresponding low growth levels, this study seeks to investigate the role institutional quality play in the aid - growth nexus in SSA. This study differs from earlier studies done on aid-growth nexus as it employs institutional quality as a stand-alone variable in mediating the aid growth nexus. It recognizes the social and economic changes that has happened over the years and so includes these changes by employing most recent data.

Scholars have brought out several aid-growth papers to highlight the impact of aid on various economies and there have been diverging views on the topic; such that the effect of aid on growth has been classified as effective, ineffective, or only effective conditional on some

factors including institutional quality, level of peace, level of corruption, level of accountability etc.

In line with theory, SSA has been injected with sizeable amount of aid with the main objective of eliminating abject poverty, reducing unemployment among the youth and generally increasing the growth level in the respective economies in the region. Despite this significant inflow, growth still remains stagnant.

An OECD Report (2009b) indicated that the inflow of aid has significantly increased in SSA yet the anticipated growth the region hoped to attain has become a mirage. Aid and growth in SSA according to a report by Farah (2009), are inversely related; such that when Official Development Assistance (ODA) reduced to 28 percent (as a percentage to the world's total aid), GDP growth turned out to be positive, from its initial falling level and increased to 1.1 percent: and growth declined when aid increased.

This contrasting outcome means that the effectiveness of aid in SSA is questionable as it conflicts with one of the primary purpose of aid. A report by Ogundipe et al., (2014) has found aid to be ineffective in SSA because of the poor institutional structures in the region. Aid received is mismanaged by authorities and poor accountability to the people or a neutral office makes no official responsible for such crime.

Kenny (2017) in his article "How much of aid is really lost to corruption" also mentioned how the aid being sent to Africa is lost due to the high corruption rate and the fact that aid projects are not tracked to ensure its success in the recipient countries. There are no forms of accountability structures that have been set in place. The few countries that have set these institutional structures are not functioning effectively.

Also, SSA has been characterized with poor leadership. Our leaders are self-centered and care less about the future generation. According to Adeyemi (2017), African leaders lack the strategic plan that will help lead their respective countries to development. He termed the situation as the lack of Leadership Culture in Africa.

Each political party enters the equation with its own plan, totally different from the previous leaders. In other words, there are no laid down structures for the government officials to follow. As such aid is used as per the ruling government's discretion of how best it can be used. It is of no surprise dictatorship and coup d'état were rampant some years back. These acts caused the countries that experienced such traumas with poverty and despair.

Ayodele, et al., (2005), attests to the fact that Africa's economy has desecrated the theory of aid with its poor institutional foundations. This study is thus an attempt to provide evidence on the role of institutions in the aid-growth nexus.

OBJECTIVES OF THE STUDY

The main objective is to examine the role of institutions in the aid-growth nexus SSA. The specific objectives are:

- I. To evaluate the effect of foreign aid on growth in SSA.
- II. To estimate the impact of quality institutions on growth in SSA.
- III. To examine whether the interaction of aid and institutions promote aid effectiveness on economic growth in SSA.

SIGNIFICANCE OF THE STUDY

Several studies have been done to reveal the effectiveness of aid on economic growth at the macro level, yet the results remain ambiguous. Scholarly writer Jeffrey Sachs believes a high

influx of aid into a country is the only way to escape the poverty trap (Sachs 2008). Frimpong (2008), Larsson (2009), Kathavate, and Malik (2012) have entrenched the idea that the impact of aid on economic growth is inversely related.

On the other side of the coin, some prominent empirical writers like Burnside and Dollar (2004), Durberry, et al., (1998) established a positive link between aid and economic growth only conditional on some characteristics like institutional quality, stable macroeconomic variables and good governance.

As such I would like to embark on this empirical work, focusing on the Sub-Saharan region (which receives aid the most) to assess whether institutional quality mediates aid effectiveness in the region and also reveal the aid-growth relationship. This study will serve as a source of reference for further studies and as a guide for policy formulation.

LITERATURE REVIEW

STYLIZED FACTS

Theory suggests aid can play a major role in developing countries. In fact, it has been described as the solution to some, if not all the problems in the least developed countries (LDCs). However, a number of studies including Kanbur (2000), Easterly (2003, 2005), Rajan and Subramanian (2008) have established the failure of aid in the LDCs particularly SSA.

In Ghana, for example, about half of Ghana's budget depends on aid from benefactors and NGOS yet the intended growth the country had expected to have achieved over the years is

below the expectation (Obu-Cann et al., 2013). For instance, a sizeable percentage of Ghanaians continue to live in abject poverty, barely meeting their daily necessities Brautigam and Knack (2004). The fundamental goal of the development assistance has been to alleviate abject poverty as the inflow of aid promotes investment, create employment opportunities, increase output and ultimately increase savings.

This view has been backed by Jeffrey Sachs' in 'the end of poverty' (2008), where he recommended immense inflow of aid and comprehensive amendments in the social and economic structures to help curb the socioeconomic cankers. He said, "Such jolt in the economic system could end adverse poverty by 2025 for the World's poorest".

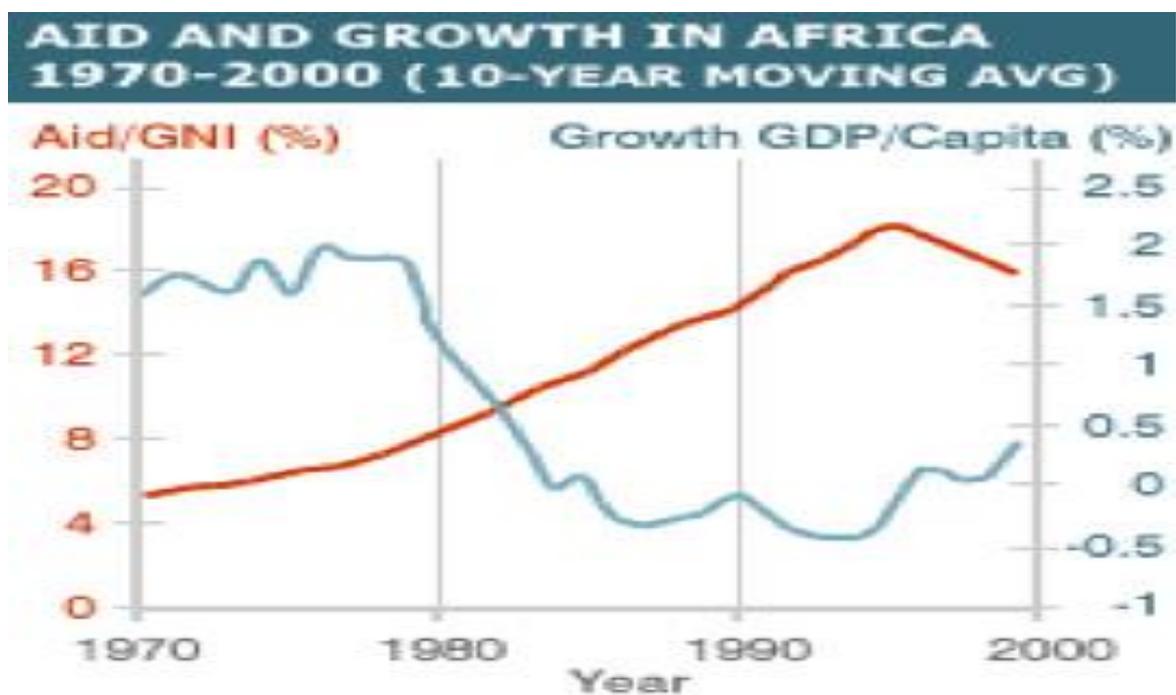
However, this analogy has been a mirage for most African countries especially in the SSA countries as historical evidence of the flow of aid to Sub-Saharan Africa contradicts the assertion. As of 2009, Official Development Assistance (ODA) remained at \$80 billion per annum and was anticipated to reach \$125 billion by 2010. Fifty years of aid inflows received by the governments in the SSA totaled \$1 trillion yet in those periods GDP growth rate registered a declining rate and in some instances even negative (see figure 2.1).

One of the causes of such failure in aid effectiveness in the region has been addressed to be the poor institutional quality in the region. Due to the poor institutional structures aid is effectively mismanaged. In Uganda for example, a report was published to reveal how every sector of the economy had been ruined due to sustained economic mismanagement and poor administration of the country by its leaders (Mbamalu, 2018).

The report also revealed that in Congo, due to poor institutional quality, the country was driven to poverty, and millions of dollars were stolen by the ruling authorities who were not accountable to any higher authority, to the extent of just an individual stashing away over \$6.6 million for his own perusal.

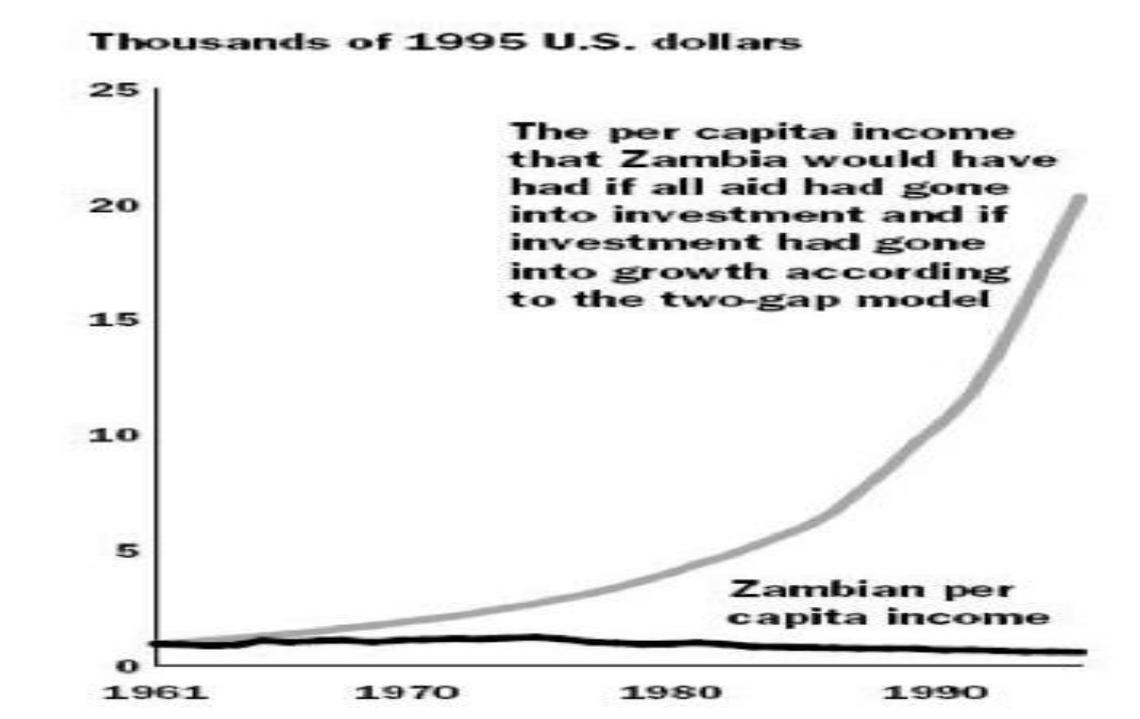
Recent works establishing the aid-growth nexus in SSA have been skewed towards negative results due to some of these unscrupulous actions. A report on World Bank's estimations on aid inflow to Zambia said that "If theoretical models projected correctly, aid injections to Zambia from the 1960s was expected to have increased the per-capita income of the country to over \$20000"; but as at 2009, the per capita income hibernated at \$600 (see figure 2.2). This is evidence of the failure of foreign aid in the SSA region. (World Bank, 1998d).

Figure 2.1: Aid and Growth in Africa



Source: Erixon, F. (2005b) "Why Aid Doesn't Work." BBC News

Figure 2.2: Zambian Per Capita Income



Source: World Bank, the (1998d). “Assessing aid: what works, what doesn’t, and why.” Oxford: Oxford University Press.

In spite of the inflow of aid into the region, most SSA countries are highly unlikely to fall in aid-effective zones (Alvi et al., 2008). It must be noted that aid ineffectualness suggested by these scholars is definitely not a general issue, as China, whose absolute ODA as a percentage of the world’s ODA to developing nations, was not as high as that of SSA, however, China has encountered a higher growth that has resulted to more structural changes and growth.

For instance as ODA expanded from 0.2% in 1980 to 3% in 1985 economic growth increased from around 6% to 12% in the same time frame inferring that as ODA multiplied economic growth also multiplied, depicting the effectiveness of aid in China. The story of most African countries has not been similar to that of China. Despite receiving the largest inflow of aid as of 2010, Africa had the lowest income per capita growth as compared to the other regions

(Ogudipe et al., 2014). One of the reasons for such poor performance is due to poor institutional quality and governance in Africa (Beign, 2009).

Burnside and Dollar (2004) also gave the reason for this problem by arguing that the absorptive capacity of aid occurs only in a good institutional environment and many scholars have shown the important role strong institutions play in promoting growth in a country. Hall and Jones (1999) affirmed that the distinctions in countries' output per worker, productivity, capital accumulation, and development levels, can conclusively, be credited to the distinctions in "the institutional and government policies that support sound environments for such features to prevail" (social infrastructures).

Similarly, Chandar and Caprio (2007) concluded in their work that Institutions in the different regions of the developing world create environments that either cultivate or restrain economic growth. Iheonu et al (2017) also stated that the economic performance in West Africa would be enhanced in the presence of improved institutions with more focus on the effectiveness of governments.

Given that institutions play a key role in development, it is important for SSA to develop appropriate institutions to aid effectiveness. Some factors have given possible reasons for the poor institutions in SSA. Crawford (1994) for example, attributes the weaknesses found in Africa's institutional quality to the lingering effects of the colonial rule.

Also, Todaro and Smith (2010) attribute the poor institutional quality in Africa to the exploitative nature of institutions that were set up by the colonial masters. Due to this the damage caused in the foundations of SSAs institutions, its citizens do not trust the system.

In thirty-six countries in Africa including the SSA countries, a review led by Bratton and Gyimah-Boadi (2016) indicates that more trust is established in informal institutions, for example, religious and traditional leaders (72% and 61% respectively) than in the formal state

offices (on average 54%). The work also revealed that among the selected countries, the level of trust among religious leaders, local government, and the national assemblies was 72%, 46%, and 48% respectively, indicating the level of trust in institutions in the SSA region.

Clearly, the formally established institutions are least trusted by the people due to the prevalence of high levels of corruption and bribery, bureaucracy, economic mismanagement, no accountability, etc. because of its ineffectiveness.

THEORETICAL REVIEW

Theories in support of foreign aid can be traced as far as 1963 with Rostow’s growth stages theory. In his first phase of development, Rostow said developing countries need capital in order to “kick start” their economy. Also, the basis of the Harrod Domar model is that of a stable linear relationship between economic growth and investment in physical capital.

The model links the growth in output to the total investment level in a simple linear regression. Hence the growth rate in output in this model is a function of capital. Assuming the production function as:

$$Y(t) = f(k(t)) \dots \dots \dots (2.1)$$

Where Y (t) is the total output at time t, and K (t) is the stock of capital at time (t). The production function represents that of the developing countries, characterized by surplus labor, and shortage of capital. The first derivative of equation (1) and dividing the results by Y yields the following results;

$$\frac{\dot{Y}}{Y} = \frac{1}{\frac{\partial K}{\partial Y}} \frac{I}{Y} \dots \dots \dots (2.2)$$

Where $\frac{\dot{Y}}{Y}$ is the output growth rate, $\frac{\partial K}{\partial Y}$ is the incremental capital-output ratio (*ICOR*), $\frac{I}{Y}$ is the investment-output ratio and $\dot{K} = I$.

A significant indication in this model is that like most early growth models it attributes capital accumulation as the key to prosperity. Since aid serves as a means of increasing the capital level in a country when it is invested, then, aid serves as means of increasing the output level in a country.

The Two- Gap model, an extension of the Harrod Dormars model, was introduced by Chenery and Strout in 1966 to include foreign aid as a constraint. Thus the potential effect of aid on growth is observed as the addition of capital available for investment and this can be represented as the identity below;

$$I = S_d + A + OF \dots\dots\dots (2.3)$$

Where S_d is domestic savings, A represents the inflow of aid, and OF represents the other source of capital inflows. By substituting equation (2.3) into (2.2), (with incremental capital-output ratio constant) the rate of growth in output in the Two Gap model will depend on the stock of capital, which also sequentially relies on the injection of aid, domestic savings, and other sources of capital inflows. This is represented in identity 2.4 below as:

$$\frac{\dot{Y}}{Y} = \alpha_0 + \alpha_1 \frac{A}{Y} + \alpha_2 \frac{S_d}{Y} + \alpha_3 \frac{OF}{Y} + \varepsilon \dots\dots\dots (2.4)$$

Where $\frac{\dot{Y}}{Y}$ is the rate of output growth, $\frac{A}{Y}$, $\frac{S_d}{Y}$, $\frac{OF}{Y}$ are aid inflows, domestic savings and other sources of capital inflows as percentages of *GDP* respectively, and ε is an error term.

With these early theories, it implied that, to get a specific level of growth the corresponding amount of capital (aid) has to be calculated to bring about the expected growth level. The

theory espoused that aid would increase savings and investment and consequently growth. Literature shifted focus from the exogenous productivity growth to endogenous productivity by including technological advancement in the early traditional models. Recent empirical studies using these conventional theories concentrated on the extent to which aid increased savings and investment in the aid receiving countries.

Hansen and Tarp (2000) testify that indeed aid increases savings but not as much as the aid inflow. Reasonably this suggests a significant portion of aid is not invested perhaps, mismanaged by corrupt officials. Studies that were done before the 1980s including Griffin and Enos, 1970, massel et al 1972, Grupta 1975 among others, used this simple equation to discover the effectiveness of aid in recipient countries; these works had findings that showed that the rate of inflow of aid did not match up to the expected level of growth.

As such recent models have expanded the aid growth theories to include some nontraditional determinants of growth. Some of them include policy environment, democracy, institutional quality, geographical location etc. With the new developments, these nontraditional factors are believed to promote economic growth through direct and indirect channels.

With the introduction of these new strategies towards growth, most countries have adopted new development plans that are supposed to drive them towards sustainable long- run growth and development. With the deficiencies in the two-gap model, including the Omitted Variable Bias, later works done employed the development model that included some of these non-traditional determinants of growth.

With the introduction of the non-traditional factors that could influence, aid directly and indirectly, the aid-growth regression of the two-gap model was modified to include factors like technological innovations, quality institutions, political environment, etc. all of which affect growth directly and or indirectly. The modified Two-Gap model is structured as:

$$\frac{\dot{Y}}{Y} = \alpha_0 + \alpha_1 \frac{A}{Y} + \alpha_2 \frac{S_d}{Y} + \alpha_3 \frac{OF}{Y} + \alpha_4 Z + \varepsilon \dots\dots\dots (2.5)$$

Where Z forms the control variables vector.

Burnside and Dollar (1997) for instance pioneered a work on how sound policy management is a useful accessory in promoting growth. They modified the neoclassical growth model to disclose that diverging from the “ideal set of policies” disturb economic growth. As recognized in the neoclassical growth model, the marginal returns on investment for developing countries are comparatively higher than those of the developed countries (Romer, 1966, Chapter 1).

On the contrary, Burnside and Dollar argue that; “With a subsistence consumption constraint and imperfect international capital markets, poor countries will tend to grow slowly despite a high marginal return to investment. In this context, foreign aid can accelerate growth rates in the transition to a steady-state. Furthermore, various institutional and policy distortions can lower the return to capital and reduce transitional growth rates”.

The purpose of aid in this new model, like that of the two-gap model, is to decrease the savings gap, increase investment in the recipients’ countries, etc.; as such, Burnside and Dollar (1977) incorporated foreign aid and other significant elements into the neoclassical model. They believed that aid effectiveness will only occur under a good policy environment and suitable macroeconomic variables.

The aid-savings displacement theory, as explained by Griffin and Enos (1970) points out a very important case to be noted. They argued that continual inflow of aid received by recipient countries would eventually lower the savings and investment level in the country

and eventually not experience any significant growth in the economy. This is so because as most aid received by recipient countries go to support public expenses.

The governments in these recipient countries may reduce their tax collection efforts and thereby promote an unfavorable environment for private and domestic savings as they constantly receive aid. As such, their tax revenue would decrease and consequently, governments may face budget deficits and resort to build up the public sector borrowing requirement (PSBR) or print money to cater to their budget deficits. In the long run, the repercussion of aid on investment may not have the intended positive results and consequently aid may even retard growth in the recipient country.

The importance of quality institutions in fostering economic growth can be traced as far as Adam Smith's era, in his book called "*An Enquiry into the nature and the Causes of Wealth of Nations*" where he highlighted on the significant role institutions play in promoting economic growth. In fact, the hypothesis that institutions foster economic growth is based on the notion that the way people organize themselves in the society will determine how much they will spend, buy, invest or even take risks or even manage their resources.

The taxonomy of institutions, introduced by Rodrick (2005), provides a theoretical framework that establishes the important role institutions play in fostering economic growth. He classified institutions on the grounds of their functions – into institutions that support, sustain and promote economic growth through fostering growth in the market. In other words, he classified institutions into market-creating institutions, market-regulating institutions, market stabilizing institutions, and market-legitimizing institutions.

He further explained the market-creating institutions as institutions that help with economic growth and development by creating an environment that fosters investments, transactions, and maximum output. Such institutions include the enforceability of the rule of law to protect agents from breaching of contracts in order to espouse some form of trust in dealings. In the work of Zak (2002), he agreed to this analogy by stating that properly established property rights go a long way on positively impacting economic growth by reducing transaction cost and uncertainty (Zak, 2002).

O’driscoll and Hoskins (2003) argued that, by establishing well defined property rights, agents bear the full benefits and costs of their actions and as profit maximizing agents, they would always make decisions that would earn more profit but also bearing in mind that there are costs to their actions- thereby leading to efficient decision making.

Market-regulating institutions as explained by Rodrick (2005) are the rules, structures, and arrangements that a society effectively enforces upon itself in response to situations where its markets are known to fail. These institutions set up constraints that may arise as a result of the inefficiencies that come with the market and by catering for them, equilibrium will be established - some of the inefficiencies include; engaging in fraudulence, or anti-competitive behavior, when transaction costs prevent the internalizing of technological and other non-pecuniary externalities, when incomplete information results in moral hazard and adverse selection etc.

In line with Rodrik, Polanyi et al., (1957) regulation theory recognized the destructive nature of the market and suggested the need to necessitate institutional coordination to contain its power. He went on and argued that it was highly important to extend regulatory institutions that are being set up to include the control and interventions of government. In some

instances, government's intervention can eliminate traps and elicit for higher investment opportunities.

Similar to the regulating institutions, the legitimizing institutions promote economic growth by minimizing the potential acts of coordination failure among the different factions within the economy. These set of institutions help in the decision making process when the respective factions face challenges in reaching the socially optimal level in the market. It helps establish dynamism, social stability and cohesion (Rodrik 2005).

Last but not least, the formulation of stabilizing institutions in the economy also has its part to play in promoting growth. Bhattacharyya (2008) in agreement to setting up such institutions urged that these institutions build resilience toward economic shocks and volatility. The setting up of a central bank in targeting inflation, output, setting of interest rates or even governments fiscal policies being made to control shocks in the economy all conform to being part of what Rodrik terms as stabilizing institutions.

These different institutional settings espoused by Rodrik promote economic growth by setting up favorable conditions that attracts other factors that promote economic growth like investment. Linking this framework to aid, if these institutional settings are properly setup, the ambiance of the economy would attract investments and these investments would yield the intended profit and economic growth because not only is there attraction of investments (including aid)but the regulatory, stabilizing and legitimizing institutions would ensure proper coordination yield fruitful results .

In conclusion, aid has been identified as a major contributor to economic growth and is seen directly through the increment of capital accumulation of a country. However, the effectiveness of aid in contributing to economic growth per theory is conditional on some factors including political environment, policy environment, institutional quality level,

democracy, policies of donors and recipients' countries, etc.,. The importance of institutions in promoting economic growth is not left out. Properly set up institutions influences the traditional determinants of growth and improve the effectiveness of a nation's resources (including aid) in promoting economic growth.

2.4 EMPIRICAL REVIEW

Studies done on Aid effectiveness show mixed results. Some results indicate that aid is significantly correlated with economic growth and others show the opposite. The aid growth nexus can be traced as far as 1970 with the work of Griffin and Enos (1970).

Griffin and Enos (1970) sampled 32 Latin American Countries (LACs) between the periods of 1957 to 1964; employing the OLS estimation technique, Griffin and Enos (1970) concluded with the findings that aid and growth are negatively related. Papanek (1973) on the other side obtained a positive impact of aid on growth, using 34 least developed countries (LDCs), and also employing the OLS technique. Other scholarly writers including Stoneman (1975) and Gupta (1975) also show a positive relationship between aid and economic growth. The inconclusive results of the aid-growth relationship started as far as the concept of aid began.

The earlier writers were criticized for having these inconclusive results because of using the OLS technique yet scholars from the 1980s to the 90s, who employed more sophisticated estimation techniques, did not come to a breakthrough with the aid-growth relationship. For instance, Mosley (1980) and Dowling and Hiemenz (1983) had a significant impact of aid on growth; however, Burnside and Dollar (2000) found aid to be effective conditional on some factors.

Burnside and Dollar (1997), introduced the hypothesis that indeed the effectiveness of aid on economic growth is conditional on some factors. For a panel of 56 countries from 1970 to 1973, Burnside and Dollar employed the 2SLS in estimating the aid, policy, and growth equations. They concluded that aid only works in environments with good government policies. They defined good policies as, “price level, a budget surplus and the level of institutional quality; by defining institutional quality as the efficiency of the rule of law, excellent public service, and the low state of corruption”. This argument became influential with the World Bank’s publication in 1998 on the assessment of aid report, which claimed that aid was more effective with countries with sound policies.

Recent trends on aid-growth nexus have not been far different from the earlier empirical works. Reddy and Minoiu (2010), using panel data of aid receiving countries between 1960 and 2000 and using the system GMM estimator, analyzed the causal relationship of aid and growth. They came to the conclusion that aid is effective in spite of any conditional differences; thus, their findings counter the results that aid is inherently ineffective, but rather effective and not conditional on any good policy or institutional variables. Even though Burnside and Dollar (1997) contribution to aid effectiveness on economic growth is regarded as pivotal to the new generation empirical works done, it has received major criticisms like the findings of Hansen and Tarp (2000), Reddy and Minoiu (2010) find aid to be effective.

Even though some scholars agree with the hypothesis that aid is effective irrespective of any conditional factors, the recent trend shows more scholarly works that are skewed towards the conditionality factors introduced by Burnside and Dollar. This includes a study by Martinez (2015) on the effectiveness of monetary assistance in LDCs revealed that, in the 104 low-medium developed countries considered, the impact of aid on growth rates of GDP in these

countries, is significantly positive, except for the geography and conflict which can undermine aid effectiveness on economic growth.

Not far from Martinez (2015) findings, Sidiq et al., (2017), researched on the impact of foreign aid on economic growth, using a panel of countries from South and East Asia. They adopted the dynamic panel estimation technique and concluded from their findings that aid has a significant positive impact on economic growth so far as there is good policy variables established.

Turning to the African context, specifically, the SSA region, the inconclusive aid-growth nexus continues; Wako (2011) reviewed the effectiveness of aid on growth and concluded that there was no evidence that aid and growth are significantly correlated. His study applied secondary sources of data from 1980 through to 2007 and employed the system GMM to a panel of 42 countries.

With regard to the effect of aid on growth and the institutional impact on aid effectiveness in the region, Ogundipe et al., (2014), conducted a study titled “is aid really dead? With the focus on SSA countries, from 1960 to 2010, they adopted the system GMM technique and concluded in their findings that aid and growth are not significantly related in SSA but after controlling for a stable macroeconomic environment, the relationship reverses. They further explained that the stock of capital, labor force, institutional quality, and human capital also contributed significantly to growth in the region. In other words, they conclude that the macroeconomic environment enhances the effectiveness of aid in the region.

Balcilar et al., (2018) analyzed the interconnectivity of foreign aid and institutions on growth in SSA. Using the time periods of 1996 to 2017, and employing the system GMM for 39 countries, and controlling for southern Africa and eastern Africa, the study adopted the

system GMM estimation technique and the findings of the study stated that aid and economic growth are significantly and positively correlated.

Also, their findings further established a significant positive relationship between institutions and economic growth. However, aid was found to be inversely related to institutions. Like Chander et al (2004), they revealed the destructive nature of how the net inflow of aid weakens institutions and reduces the positive impact institutions have on economic growth. Brautigam and Knack (2004) points out that this is so because aid is supposed to be a temporary tool for development and that high aid inflow for a long time can be deteriorating rather than promoting growth.

However, institutional impact on growth from reviewed works has been in line with theory unlike the impact of aid (younger 1992; moss et al., 2006; Remmer 2004). There are several works that have established a significant positive impact of quality institutions on economic growth. Many scholars including Acemoglu et al. (2005) established the significant role institutions perform in promoting economic growth and development.

Also, an empirical analysis was done by Nawaz et al., (2014) on the institutional impact institutions have on economic growth, by employing both the dynamic and static system GMM with fixed effects on selected Asian countries from 1996 to the year 2000 indicated that institutions indeed is a long-run determinant of growth.

The Institutional impact on growth analysis was also done by Radzeviča and Bulderberga (2010) by employing a panel of 113 countries from the year 2006 to 2016. The study applied the system GMM and concluded that institutional quality is one of the key players of economic growth; by comparing the results obtained from the selected 113 countries to the institutional quality level and corresponding growth level of Baltic states, the authors

concluded that the Baltic states have to improve upon their institutional quality level as institutional quality has a positive significant effect on economic growth.

The positive significant effect of institutional quality on economic growth has not been different in SSA. Using data from 1970 to 2009, Valeriani et al (2011) carried out research using the different regions of the world, as categorized by the World Bank. The authors, by using the fixed effects estimator, together with pooled regression, institutions were found to influence economic growth positively.

Similarly, Liaqat et al. (2018), investigate the impact of institutional quality on economic growth for 50 developing (including countries in the SSA) and developed countries over 1996-2013, using OLS and 2SLS methods. The study revealed that the state of quality of institutions in the country significantly determines the level of growth. So far, literature and theory have been consistent with the institutional-growth nexus irrespective of geographical or structural differences.

The impact of aid on growth seems simpler in theory than in practice. As empirical studies have indicated that the aid growth nexus has not been a conclusive one; perhaps aids effectiveness is indeed based on geography and some existing characteristics that may exist among countries.

Generally, the influential works reviewed above are centered around the questions of whether aid is significantly correlated to growth or not; and if it does, is the relationship a positive one or negative one; also if it does, is it conditional on some factors or not; if it is not significantly related to growth, could it be as a result of some existing factors as well. Edwards (2014), Bourguignon, and Sundberg (2007) argued that, aid effectiveness may actually be based on country specific features and characteristics and that each country should adapt to ways that suit it best.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 DATASET

The study employed a dataset with a balanced panel of forty-two African countries from 1983 to 2018. The data obtained for the study were from secondary sources. Per capita GDP growth rate, Human capital Index, foreign aid, labor force participation rate, and institutional quality data were obtained from the world development indicators (WDI).

3.3.1 Model specification

Due to the nature of the dataset for this study, panel data is most appropriate hence its adoption for the study. The basic panel model used was represented as:

$$Y_{it} = \alpha + \phi X_{it} + \varepsilon_{it} \dots \dots \dots (3.3)$$

Where Y_{it} represents the dependent variables, α is a constant term, X_{it} is a K-dimensional vector of explanatory variables, and ε_{it} error term which is composed into the following disturbance terms;

$$\varepsilon_{it} = \mu_{it} + v_{it} \dots \dots \dots (3.4)$$

where μ_{it} the unobserved, or heterogeneity effect and V_{it} is the conventional error term in regression models. To move from a general method expressed in equation 3.1 to a more specified model, that is similar to the one employed by Ogundipe et al., (2014). The model of the study was specified as:

$$GDPCG = f(GFCF, LAB, AID, INSQUAL, HUK)$$

$$GDPCG_{it} = \alpha + \beta_0 GDPCG_{it-1} + \beta_1 GFCF_{it} + \beta_2 LAB_{it} + \beta_3 HUK_{it} + \beta_4 AID_{it} + \eta + \mu_t + \varepsilon_{it} \dots \dots \dots (3.5)$$

In order to reveal the institutional quality impact on growth, institutional quality is added to equation 3.5; the equation is specifically written as:

$$GDPCG_{it} = \alpha + \beta_0 GDPCG_{it-1} + \beta_1 GFCF_{it} + \beta_2 LAB_{it} + \beta_3 HUK_{it} + INSQUAL_{it} + \eta + \mu_t + \varepsilon_{it} \dots (3.6)$$

Institutional quality and its interaction with aid are added to (3.6) in order to investigate whether institutions can enhance aid effectiveness. It is given by;

$$GDPCG_{it} = \alpha + \beta_0 GDPCG_{it-1} + \beta_1 GFCF_{it} + \beta_2 LAB_{it} + \beta_3 HUK_{it} + \beta_4 AID_{it} + \beta_5 HUK_{it} + \beta_6 AID * INSQUAL_{it} + \eta + \mu_t + \varepsilon_{it} \dots (3.7)$$

Where GDPCP is the GDP per capita growth, GFCF is the gross fixed capita formation, LAB is labor force, INSQUAL is institutional quality, HUK is the human capital, and (AID * INSQUAL) is the interaction between aid and institutional quality. GFCF measures the expenditure on land improvements, machinery, equipment purchases, etc. GFCF and economic growth are positively associated.

Variable Definitions and Expected Signs

GDP growth rate calculates the percentage growth rate of a country’s GDP from one year to the other. The growth rate of GDP is calculated by subtracting the previous year’s GDP from the current year and dividing the value by one hundred percent. Data on GDP are measured in U.S. dollars.

Foreign aid: it consists of concessional loans, grants, and loans with the feature of at least 25% as grants. It is defined as the transfer of concessional loans and grants from developed nations or international organizations to the least developing countries in order to improve the standard of living in their countries. Foreign aid values in the data are measured in U.S. dollars. Aid is expected to positively influence economic growth.

Institutional quality: Institutional quality is a concept that is used to measure the efficiency of governments and the public sector in using public funds for development. Institutional quality also enables people to hold government officials accountable for the use of state resources and funds. Institutional quality is measured using the indicators; transparency, accountability, and corruption. Institutional quality is expected to positively influence growth and also help with the absorptive capacity of aid.

Gross fixed capital formation (annual percentage growth): gross fixed capital formation includes improvements in the land (including, ditches, drains, etc. plants and machinery, and equipment purchases; also the construction of railways, schools, hospitals, and commercial and industrial buildings. It is measured in U. S. dollars. Hence the annual percentage growth of Gross fixed capital formation measures the percentage growth recorded by a country in terms of its land, machinery, roads, schools, and other infrastructural development. The Gross fixed capital formation is expected to increase growth in the region.

Total Labor Force Participation rate: total labor force participation rate is a proportion of the population between the ages of 15-64 who offer labor for the production of goods and services in the country. The dataset has been measured as a percentage of the total population of the given age limit. Total labor force participation is expected to positively influence growth in the region.

Human capital Index: human capital index measures the educational and health state of the labor force to their productivity in the economy. It is measured from a scale of 0 to 1; with 1 being the highest and 0, the lowest.

ESTIMATION TECHNIQUE

The system Generalized Method of Moments was the estimator used in the study. In the past years, the pooled OLS method of estimation was very useful but it has been criticized in recent times in several studies over the problem of endogeneity associated with it. Since the study used dynamic model, the endogeneity problem arose from the use of lagged terms of the dependent variable, as such the use of system GMM as the estimation technique helped resolve the problem.

The GMM estimation techniques were introduced by Arellano and Bond (1991), and they are classified into two: difference GMM and the system GMM. The difference GMM has been criticized to be biased in cases where there the explanatory variables have lagged values. Also, the difference GMM estimator is known to remove the country-specific effect (Agbloyor et al., 2018). As such the system GMM is a more efficient method of estimation for the study.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESULTS

. DESCRIPTIVE ANALYSIS

The descriptive statistics of a balanced panel of the forty-two African countries from 1983 to 2018, which comprises of the mean, the minimum values, maximum values, and the standard deviation. These are summarized in the table below:

Table 4.2a: Summary Statistics of the Variables

Variable	Obs	Mean	Std. Dev	Min	Max
GDP per Capita	1467	3.67	5.15	0.002	121.78
Growth (%)					
AID(\$US)	1460	57.59	73.20	0.001	1143.20
Human Capita (scale 0-1)	1512	19.68	219.69	0.0	0.365
Gross Fixed Capital Formation (%)	1105	16.86	74.86	0.0	2357.68
Labour(%)	1218	67.47	12.24	44.81	90.81
Institutional Quality	1152	2.84	1.59	7.5	14.5

Table 4.2b: Summary Statistics of institutional Quality performance in the region.

Institutional Quality (Transparency, Accountability, And Corruption)						
Category	Low Quality	Institutional Quality	Moderate		High Quality	Institutional
Range	(1- 1	2	3	4	5	6
Frequency	5	8	21	8	0	0
Percentage	11.90%	19.04%	50%	19.04%	0.00%	0.00%

Source: Author's construction

In the descriptive statistics reported in Table (4.2a), the average GDP per capita growth over the entire sample is 3.674 percent, a standard deviation of 5.148 percent indicating the spread from the average value. The minimum and maximum values of GDP per capita growth are 0.002 percent and 121.779 percent, respectively. The official development assistance (AID) is recorded in billions. It has a mean value of \$ 57598 and a standard deviation of \$73.20

meaning that the disbursement flows in Africa do not vary significantly across the countries. It has maximum and minimum values are \$0.001 and \$1143.196 respectively.

Human capital scores range from zero to one and measure productivity as a future worker of a child born today relative to the benchmark of full health and complete education. The annual percentage growth of Gross fixed capital formation has a mean value of 16.867 percent and a standard deviation of 74.859. The maximum and minimum values for the variable are 2357.678 and 0 respectively. The mean of Labor force participation rate is 67.471 percent and with maximum and minimum values of 90.805 and 44.808 percent respectively.

Institutional quality describes the transparency, accountability, and corruption rate in the public sector. In table 4.2b, Countries which fall between the ranges of 1 and 2 are described as having poor institutional quality; countries which fall between the ranges of 3 and 4 have moderate institutional quality; whilst Countries which fall between 5 and 6 have high institutional quality. Out of the total selected countries used, 30.94 % fell under the poor institutional quality range, 69.04% fell under the moderate institutional quality range, and no country was marked with high institutional quality. With the countries that fell under the poor institutional quality category, 11.90% were under range 1 and 19.04% were under range 2. Out of the 69.04% countries marked under the moderate institutional quality, 50% fell under range 3 and only 19.04% fell under range 4. It must be noted that Zimbabwe had the lowest institutional quality score of 1.

In testing for the presence of multicollinearity amongst the variables, the study performs the correlation test which is indicated in the matrix in Table (4.3); the test suggests no significant correlation among the variables.

Table 4.3: Correlation coefficients of the effectiveness of aid on growth in SSA.

	GDPCG	AID	HUK	GFCF	LAB	INSQUAL
GDPCG	1.0000					
AID	-0.1235	1.0000				
HUK	-0.0011	-0.1541	1.0000			
GFCF	0.1048	-0.1867	-0.2013	1.0000		
LAB	0.0618	0.0817	0.0934	-0.1044	1.0000	
INSQUAL	0.0983	0.0750	-0.0655	-0.0340	0.1391	1.0000

Source: Author's construction

EMPIRICAL RESULTS

The dynamic panel model results of the three models shows that AR(2) is equal to 0.620, 0.799, and 0.766 , which shows that the estimated models do not suffer from second-order autocorrelation. Three models were estimated; the first does not include institutional quality, in the second model, institutional quality is introduced as a variable. The third model incorporates the interaction term between AID and institutional quality to test the hypothesis of the mediating role of institutions.

The results from model one indicate that aid positively affect GDP per capita growth in the region; with a coefficient of 0.0032 and a 5% significance level. The sign and magnitude of the coefficient imply that a dollar increase in aid will cause an increase in GDP per capita growth by 0.0032 percent. Besides, Gross Fixed Capita Formation positively affects GDP per capita growth.

The coefficient is 0.0085 and it is significant at 1%. More specifically, one-dollar increase in Gross Fixed Capita Formation will increase GDP per capita growth by 0.0085 percent.

Labour force and GDP per capita growth were revealed to be inversely related at a 5% significance level. An increase in the human capital index will decrease the growth of GDP per capita by 0.0009 percent. The coefficient of the human capital index is significant at 1 %.

Table 4.4: Estimated results of the impact of foreign aid on growth in SSA

Variable	Model 1	Model 2	Model 3
GDP Per Capita Growth (L1)	0.1083*** (0.0159)	0.5319*** (0.0409)	0.5561*** (0.0374)
Gross Fixed Capita Formation	0.0085*** (0.0002)	0.0676*** (0.0042)	0.0690*** (0.0052)
Labour Force	-0.0545** (0.0226)	-0.0041* (0.0022)	0.0000 (0.0044)
Human Capital	-0.0009 *** (0.0002)	-0.3990 (0.7021)	0.0336 (1.0904)
Official Development Assistance (AID)	0.0032** (0.0010)	0.0020* (0.0011)	0.0144 (0.0092)
Institutional quality		0.1864 (0.1374)	0.6674* (0.3518)
Aid*Institutional Quality			-0.0044 (0.0033)
Constant	5.015618** (1.6092)	0.0775 (0.3151)	-1.7828 (1.2563)
F-statistic (p- value)	0.000***	0.000	0.000
Number of observation	903	352	352
Number of groups	39	30	30
Hansen test (p-value)	0.999	0.313	0.279
Arellano-bond test:			
AR(1) p value	0.004	0.005	0.004

AR(2) p-value	0.620	0.799	0.766
Difference-in-Hansen	0.332	0.271	0.278
(P-value)			

Notes: P-values in parenthesis below estimates. *, ** and *** indicate significant at 10%, 5%, and 1% respectively. F-Statistic is for the joint significance of the coefficients of the explanatory variables. AR(1) and AR(2) are tests for first and second-order autocorrelation in the first-differenced residuals, respectively.

EXPLANATIONS OF THE SIGN, SIGNIFICANCE, AND MAGNITUDE OF COEFFICIENTS. (MODEL 1)

Model one indicated that the lag of GDP growth per capita persists in SSA since the coefficient of the lagged value was positive and significant at 1%. The results also revealed that aid positively affects GDP per capita growth in the region; with a coefficient of 0.0032 and a 5% significance level. The sign and magnitude of the coefficient imply that a dollar increase in aid will cause an increase in GDP per capita growth by 0.0032 percent. Similarly, one dollar decrease in AID will decrease GDP per capita growth by 0.0032 percent. From the two-step system GMM, Gross Fixed Capita Formation positively affects GDP per capita growth.

The coefficient is 0.0085 and it is significant at 1%. More specifically, one dollar increase in Gross Fixed Capita Formation will increase GDP per capita growth by 0.0085 percent. Similarly, GDP per capita growth will decrease by 0.0085 when there is a dollar fall in GFCF, *ceteris paribus*.

Labour force and GDP per capita growth were revealed to be inversely related at a 5% significance level. The results from Table (4.4) imply an economically active individual

between the age of 15-64 participation decreases GDP per capita growth by 0.0545 percent and vice versa. An increase in the human capital index will decrease the growth of GDP per capita by 0.0009 percent. The coefficient of the human capital index is significant at 1 %.

The results from model two, where we introduce institutional quality suggest that Institutional quality, which is the main variable of interest, does not affect GDP per capita growth, even though the coefficient is positive.

Impact of institutional quality on Economic growth (Model 2)

Official Development Assistance (AID) positively affects per capita growth of GDP at a 5% level of significance. This implies that GDP per capita growth increases by 0.0020 percent when there is a one dollar increase in AID. Similar to model one, GFCF is identified to be positively related to GDP per capita growth. More specifically, a (\$) dollar increase in Gross Fixed Capita Formation increase the growth of GDP per capita by 0.0676, ceteris paribus. The Coefficient of the variable is 0.0676 and it is significant at 1%. Labour force participation on the other hand is negatively related to GDP per capita growth and is significant at a 10% significant level. The results showed that an increase in the human capital index will lead to a fall in the growth level by 0.3990 percent.

The results from model three also suggest that Institutional quality affects GDP per capita growth, even though the impact was low. This implies that institutions are positively correlated with economic growth and that if measures are taken to enhance the institutional quality in the region, institutions will eventually increase growth, however, when institutional quality interacted with official development assistance, it was found to be insignificant suggesting that the mediating role of institutions in the Aid-Growth nexus is not found in this study.

Official Development Assistance (AID) positively affects GDP per capita growth. The sign and magnitude of the coefficient of the official development assistance (0.0144) imply that increasing Official Development Assistance by a dollar will lead to an increase in GDP per capita growth by 0.0144 percent. Gross Fixed Capita Formation also positively affects the growth of GDP per capita. More specifically, a (\$) dollar increase in Gross Fixed Capita Formation increases GDP per capita growth by 0.0690 percent.

Labour force participation rate positively affect GDP per capita growth, though the coefficient was insignificant.

DISCUSSION OF RESULTS

The findings in Table 4.4 show a positive influence of AID on economic growth in SSA regardless of the policy and institutional environment. This conclusion seems to align with Hansen and Tarp (2000) and Reddy and Minoiu (2010) who asserted that aid is effective in spite of any conditional differences. This finding implies the influx of aid into the region serves as an investment (whether human or physical) or a form of an increase in the capital accumulation in the region and thus boosts the production level in the region; hence the positive impact on GDP.

The results in table 4.4 also reported that GFCF positively influences GDP per capita growth in SSA. Similar to Pettinger (2016) there is a positive relation between gross fixed capital formation and growth of GDP in the region. An increase in GFCF breeds an increase in investment and quality resources that would be available for developmental activities; hence the increase in GDP per capita growth.

Table 4.4 also reported a negative relationship between economic growth and the human capital index in the region. Saif (2018) reported in his work that the development of human

capital improves the level of growth in developing countries and that developed nations are where they are now because of the richness of their human capital. This may be due to the inadequate investment in human capital investment. In this regard, there have been massive global campaigns for governments in the region to invest in the growing population (including the free SHS in Ghana) as they will eventually enter the labour force and make a significant impact on the continent's economy.

Table 4.4 indicates that institutions and labour force participation have positive effects on economic growth in SSA, though insignificant. It is important to address the fact that with the introduction of institutions, the impact of aid aids on economic growth reduced. This finding conforms to Burnside and Dollar (2004) study which stated that aid was only effective in a good institutional environment. They explained that a poor institutional environment erodes the effectiveness of aid as it creates a higher level of corruption and exploitation and since there are no structural reforms laid down to use the resources and no public official is accountable for it.

On the other hand, even though the negative relationship between labour force participation and economic growth still persists in the presence of institutional quality, the negative impact exerted by the labour force participation in SSA on economic growth reduced. With the comparatively poor state of institutions found in the region, the impact of the labour force participating in economic activities improved economic growth. This implies that when institutional quality is improved upon in the region, the impact of labour force participation rate on economic growth would be a positive one.

The introduction of institutional quality as shown in Table 4.4 further eroded the impact of human development on economic growth. With the poor quality of institutions in place, resources that should have been used for developing the growing populations and the existing

labour force are embezzled and not used for its intended purposes. In order for the impact of human capital development to positively influence growth in the region; the poor state of institutions has to be dealt with.

SUMMARY, POLICY IMPLICATIONS, RECOMMENDATIONS, LIMITATIONS, AND CONCLUSION

SUMMARY OF EMPIRICAL FINDINGS

The idea that aid is a means to an end, especially for poor countries did not start in recent times. With reference to existing literature, this study investigates the relationship between foreign aid and economic growth in the region, and it also reveals the mediating role institutions can play in making aid effective in the region.

The study estimated the dynamic system generalized method of moments (system-GMM) which addresses the problem of endogeneity. In order to address this primary objective, the study set out the following specific objectives; (i) To evaluate the effect of aid on economic growth in SSA (ii) To estimate the impact of quality institutions on growth in SSA. (iii) To examine whether the interaction of aid and institutions promote aid effectiveness on economic growth in SSA.

The study used GDP per capita growth as the dependent variable and the regressors include; gross fixed capital formation (GFCF), labor force participation rate, human capital development, official development assistance (aid), institutional quality, and the interacted variable of aid and institutional quality.

The results indicated that a rise in Official Development Assistance (AID), Gross Fixed Capita Formation, and Institutional quality positively affects GDP per capita growth. However, an increase in labour force participation and human capital negatively affects GDP per capita growth in SSA. Furthermore, the effect of the interaction of institutional quality

and aid on GDP per capita growth in SSA indicated that institutions alone do not mediate the effectiveness of aid.

POLICY IMPLICATIONS AND RECOMMENDATIONS

From a policy perspective, the outcomes of this study provide important implication for policymakers to not only efficiently set up strong and effective institutional structures that would channel aid and all other financial inflows to meet the appropriate agenda but also put in place good policy variables such as good governance structures, strong macro macroeconomic variables among others.

Explained further, in improving aid effectiveness in promoting economic growth, policy makers should employ good and stable macro-economic variables such as suitable fiscal, monetary, and trade policies together with good institutional quality. Adopting these policies in the region, can go a long way in making aid injections in the region effective and consequently reduce poverty and incite holistic growth in the region.

Also, in instances where these variables are weak, policymakers should endeavor to use the aid received to build up strong institutions, governance and take measures to strengthen the macroeconomic fundamentals before embarking on infrastructural developmental projects. This is because without these policy variables in place, aid received may be mismanaged with poor accountability to the people by the responsible officials and the infrastructures that would be set up would lack sense of purpose since they have no strong institutions set in place and eventually would be useless.

CONCLUSIONS

Based on the empirical evidence the study concludes that Official Development Assistance (AID) has a positive effect on GDP per capita growth in SSA. The result indicated that in spite of strict donor conditions attached to grants and concessional loans, foreign aid contributes to the GDP per capita growth in the region.

The study also concludes a country's institutions are its mechanism that directs the motives of the economic agents. Thus Countries with solid economic institutions – strong rule of law, business-friendly environment, and well-established property rights are better positioned to attract investment and an environment that supports growth in a country.

However, quality institutions alone do not mediate the effectiveness of aid in the region. Aid effectiveness in promoting growth requires a strong institutional setting with good policies, such as trade policies, fiscal, monetary and good governance structures among others, set in place.

LIMITATIONS OF THE STUDY AND AREAS FOR FURTHER RESEARCH

The limitation encountered in the events of the study was the limited availability of data some of some variables from the respective domestic sources. Therefore, the study resorted to using the data from foreign source. Aid can come with some restrictions and ties, thus, conditional aid and some aid have no ties or restrictions attached to it, thus unconditional aid.

For the purpose of this study, the form of aid was not considered and as such, by controlling for the policy variables like institutional quality, macro-economic variables, good governance, etc., research can be conducted to investigate the form of aid that is more effective in the SSA for effective policymaking. Thus the impact of conditional aid on economic growth in SSA is proposed for further studies.

The appendix

Summary statistics

```
. summarize GDPCG GFCF LAB AID INSQUALi HUKi
```

Variable	Obs	Mean	Std. Dev.	Min	Max
GDPCG	1467	3.674407	5.148278	.002055	121.7795
GFCF	1105	16.86724	74.85981	0	2357.678
LAB	1218	67.47169	12.24496	44.808	90.805
AID	1460	57.59834	73.20732	.001	1143.196
INSQUALi	1152	2.846354	1.586023	-7.5	14.5
HUKi	1512	19.68139	219.6855	0	3652

Estimated Results Effect of Foreign Aid on Growth in SSA

Dynamic panel-data estimation, two-step system GMM

```

Group variable: country_dum      Number of obs   =    903
Time variable : year           Number of groups =    39
Number of instruments = 62      Obs per group: min =    4
F(5, 38) = 771.09              avg = 23.15
Prob > F = 0.000               max = 28
  
```

GDPCG	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
GDPCG						
L1.	.1083967	.0159199	6.81	0.000	.0761686	.1406248
GFCF	.0085999	.0002542	33.83	0.000	.0080853	.0091144
LAB	-.0545155	.0226746	-2.40	0.021	-.1004178	-.0086132
HUKi	-.0009878	.0002612	-3.78	0.001	-.0015167	-.000459
AID	.0032519	.0010081	3.23	0.003	.0012112	.0052926
_cons	5.015618	1.609261	3.12	0.003	1.75784	8.273396

Warning: Uncorrected two-step standard errors are unreliable.

Instruments for first differences equation

Standard

D.(GFCF LAB HUKi AID)

GMM-type (missing=0, separate instruments for each period unless collapsed)

L2.L.GDPCG

Instruments for levels equation

Standard

GFCF LAB HUKi AID

_cons

GMM-type (missing=0, separate instruments for each period unless collapsed)

DL.L.GDPCG

Arellano-Bond test for AR(1) in first differences: z = -2.85 Pr > z = 0.004

Arellano-Bond test for AR(2) in first differences: z = 0.50 Pr > z = 0.620

Sargan test of overid. restrictions: chi2(56) = 91.83 Prob > chi2 = 0.002

(Not robust, but not weakened by many instruments.)

Hansen test of overid. restrictions: chi2(56) = 28.31 Prob > chi2 = 0.999

(Robust, but weakened by many instruments.)

Difference-in-Hansen tests of exogeneity of instrument subsets:

GMM instruments for levels

Hansen test excluding group: chi2(27) = 29.60 Prob > chi2 = 0.332

Difference (null H = exogenous): chi2(29) = -1.29 Prob > chi2 = 1.000

iv(GFCF LAB HUKi AID)

Hansen test excluding group: chi2(52) = 33.68 Prob > chi2 = 0.977

Difference (null H = exogenous): chi2(4) = -5.37 Prob > chi2 = 1.000

The effect of institutional quality on growth

The relationship between foreign aid and institutional quality in SSA

Dynamic panel-data estimation, two-step system GMM

```

Group variable: country_dum      Number of obs   =      352
Time variable : year            Number of groups =      30
Number of instruments = 32      Obs per group: min =      4
F(7, 29) = 302.17              avg =      11.73
Prob > F = 0.000               max =      13
    
```

GDPCG	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
GDPCG						
L1.	.5561349	.0374472	14.85	0.000	.4795468	.632723
GFCF	.0690668	.0052374	13.19	0.000	.0583551	.0797784
LAB	.0000478	.0044673	0.01	0.992	-.0090888	.0091844
HUKi	.0336905	1.090405	0.03	0.976	-2.196439	2.26382
AID	.0144668	.0092445	1.56	0.128	-.0044403	.0333738
INSQUAL	.6674738	.3518893	1.90	0.068	-.0522206	1.387168
AIDINSQUAL	-.0044147	.0033381	-1.32	0.196	-.0112418	.0024124
_cons	-1.782876	1.256335	-1.42	0.167	-4.352369	.7866171

Warning: Uncorrected two-step standard errors are unreliable.

Instruments for first differences equation

Standard

D.(GFCF LAB HUKi AID INSQUAL AIDINSQUAL)

GMM-type (missing=0, separate instruments for each period unless collapsed)

L2.L.GDPCG

Instruments for levels equation

Standard

GFCF LAB HUKi AID INSQUAL AIDINSQUAL

_cons

GMM-type (missing=0, separate instruments for each period unless collapsed)

DL.L.GDPCG

Arellano-Bond test for AR(1) in first differences: z = -2.91 Pr > z = 0.004

Arellano-Bond test for AR(2) in first differences: z = 0.30 Pr > z = 0.766

Sargan test of overid. restrictions: chi2(24) = 29.40 Prob > chi2 = 0.205

(Not robust, but not weakened by many instruments.)

Hansen test of overid. restrictions: chi2(24) = 27.57 Prob > chi2 = 0.279

(Robust, but weakened by many instruments.)

Difference-in-Hansen tests of exogeneity of instrument subsets:

GMM instruments for levels

Hansen test excluding group: chi2(11) = 13.24 Prob > chi2 = 0.278

Difference (null H = exogenous): chi2(13) = 14.33 Prob > chi2 = 0.351

iv(GFCF LAB HUKi AID INSQUAL AIDINSQUAL)

Hansen test excluding group: chi2(18) = 20.38 Prob > chi2 = 0.312

Difference (null H = exogenous): chi2(6) = 7.19 Prob > chi2 = 0.303

end of do-file

