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The influence of inequality, institutional quality, and foreign aid on inclusive growth in Africa

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Abstract

Growing inequality in Africa warrants continuing research. This study concentrates on the impact of institutional quality, income inequality, and foreign aid on inclusive growth in 48 countries in Africa spanning 2002 to 2018. By adopting the two-step system generalised method of moments (Sys-GMM), the study conducted the estimations of the model. Income inequality mostly has a negative influence on inclusive growth. All institutional quality indicators except government effectiveness positively influenced inclusive growth. Foreign aid does not help inclusive growth in Africa. On the contrary, foreign aid sometimes retards or stagnates inclusive growth. To attain and sustain a positive inclusive growth in Africa, much effort must be put in the creation of quality jobs. While halting the overreliance on foreign aid, African countries can more strategically emphasise self-centred development.

Keywords: Inclusive growth, Inequality, Foreign aid, Institutional quality, Africa

JEL classification: J63, O15, P48

Article history: Received: 18 August 2020 | Accepted: 3 July 2021

1. Introduction

Africa has battled with inequality, poverty, and underdevelopment over the years. Several studies have looked at Africa's quest to obtain swift economic growth (Appiah et al., 2020; Grundler & Potrafke, 2019; Khan et al., 2020; Kong et al., 2020; Nketia & Kong, 2021). This body of research shows that in some instances, some African economies attain high economic growth; nonetheless, they still experience wide income and wealth discrepancies, persistent poverty, social stratification, and high unemployment rate (Obeng-Odoom, 2020b). Inequalities between the living conditions of the wealthy and the poor are enormous, both within and across countries. These glaring disparities are impossible to overlook because inequality generates instability and insecurity. For these reasons, closing the gap by raising the floors and lowering the ceiling are crucially important (Stilwell, 2016). The unanswered question remains, why growth does not 'trickle down' to the populace, as suggested in neoclassical development economics. A more representative growth needs to be inclusive and sustainable. So, at the very least there is the need for inclusive growth rather than mere economic growth (Ali & Son, 2007; Anand et al., 2013; Mackett, 2020; Ndiaye, 2020). Even this modest change requires a paradigm shift (Mackett, 2020).

If wealth is equitably distributed, recent recurrent riots and uprisings could abate and pressure on African governments to provide employment could be reduced substantially. In recent times, global political-economic events, including the publication of Thomas Piketty's major book, *Capital in the Twenty-First Century* (Piketty, 2014), the COVID-19 Pandemic, and the Black Lives Matter movement, have brought questions about inequality into sharp perspective (Obeng-Odoom, 2020a). Pro-poor was the terminology used in the early 2000s, rather than inclusive growth, which was also regarded as participatory growth (Kakwani et al., 2010). The relevance of inclusive growth today has been established on global, continental, and country levels. An archetypal example is when Nigeria hosted the World Economic Forum in May 2014, on the theme; 'Forging Inclusive Growth, Creating Jobs'. During the forum, the United Kingdom's Department for International Development (DFID) emphasised that inclusive growth is a pivot in its plan of work and strategy. Likewise, the International Monetary Fund (IMF) in November 2013 set inclusive growth as an integral section of their research direction for the year 2014 (Olanrewaju et al., 2020).

In response, many studies have been conducted on inequalities in Africa (Fosu & Gafa, 2020; Ndiaye, 2020; Nyiwul, 2020; Sarkodie & Adams, 2020). Fosu & Gafa (2020), which is one of the most important of such works, analysed the comparative roles of income growth and inequality changes in highlighting Africa's poverty level through a breakdown of poverty changes using ideal income and inequality approximations from the 'identity' model. They found a substantial decline in poverty levels beginning in the 1990s. They attribute this trend they attribute to economic growth, although as the critique of the 'Africa on the rise' trope shows, this growth took place in the context of long-term, institutionalised inequality, unsustainable jobs, and ecological crisis (Obeng-Odoom, 2015, 2020b). Therefore, it is important to build on the existing research on institutions and economic growth (Appiah et al., 2020; Arya et al., 2019; Nketia & Kong, 2021; Williams, 2019), extending this body of work from institutions and inequality to foreign aid. Over the years, African countries have experienced a range of crises, including political instability and economic fragility. To know how far Africa has gone in addressing institutional quality issues, further work is needed on inclusive growth. Figure 1 shows that the institutional quality indicators in Africa are below zero, which is considered the equilibrium point. This means there are weak institutions in Africa. However, there seems to have been a steady improvement in voice and accountability for the last five years of since study but the central focus of institutions may be to offer (i) property rights protection and (ii) reduce information and transaction costs (Arya et al., 2019).

Foreign aid and growth pose a rather different challenge. They tend to have mixed relationships. For example, one study by Maruta et al. (2020) makes the point. The study, focused on Africa, South America, and Asia, shows widely varying relationships. Similar variations have been reported by Pham and Pham (2020). Two questions arise from this state of knowledge. First, does increasing foreign aid inflow to Africa create a reliable source of income? Do quality institutions guarantee improved living standards in Africa? Existing studies have tried to address some, but not all of these questions. For instance, the study of Moyo (2010) on 'Dead Aid', focused more on the problems of aid dependency and poverty, but not on inequalities and institutions. In addition, the analytical techniques utilised by some of these existing studies require refinements.

This article focuses on the influence of inequality, quality of institutions and foreign aid on inclusive growth in Africa. The study attempts to assess the impact of inequality on inclusive growth in Africa. In addition, the paper seeks to address the concerns of how foreign aid and institutions of governance relates to inclusive growth in Africa. By adopting the two-step system generalised method of moments (Sys-GMM), the study conducted the estimations of the model for 48 countries in Africa spanning 2002 to 2018. We find that income inequality mostly has a negative influence on inclusive growth. All institutional quality indicators except government effectiveness positively influenced inclusive growth. Foreign aid does not help inclusive growth in Africa. On the contrary, foreign aid sometimes retards or stagnates inclusive growth. To attain and sustain a positive inclusive growth in

Africa, much effort must be put in the creation of quality jobs. While halting the overreliance on foreign aid, African countries can more strategically emphasise self-centred development.

The rest of the paper is structured into five sections; the next of which is the review of relevant literature. Section three discusses the empirical methodology, while section four describes the data used for the study, followed by empirical findings and discussion of results in section five.

2. Literature Review

Existing research on institutions, growth, aid, and inequality can be divided into four themes: inclusive growth literature, literature on inequality, research on institutional quality, and studies on foreign aid. In addition, the literature on the control variables for these studies could be considered as germane to the existing body of work.

2.1 Inclusive growth

Many studies have focused on inclusive growth, often showing that economic growth is not sufficient for development. To appreciate growth in an economy, there must be substantial evidence is where the populace within the economy can have tangible increment in their sources of income as well as an improvement in their non-income lives for instance social welfare, security, education, and health (Ali & Son, 2007; Oluseye & Gabriel, 2017). To measure inclusive growth, Ali & Son (2007) used the idea of social prospect factors, which hangs on two issues: (1) income making opportunities averagely available to the populace, and (2) the distribution of those opportunities. This function broadly supports the poor, given that avenues created for the poor are vital than those created to benefit the rich. As those opportunities increase, inclusive growth will be achieved. Anand et al. (2013) extended the work of Ali & Son (2007) to propose an inclusive growth measurement by employing a macro social mobility function; this preceded the micro-study on distribution of income. This new proposed measure offers an outline to study both efficiency and equity. In emerging and low-income economies, this measure is also employed to study the determinants and determinants of inclusive growth. The model is on the premise that inclusive growth hinges on growth and distribution of income. Via the theory of consumer, substitution and income effect was broken down into distribution and growth modules. Two conditions must be satisfied in the basic social welfare system, which feeds into inclusive growth; (i) it advances in the argument for growth and (ii) it fulfils the property transfer; thus, any income movement from the poor to the wealthy diminishes the significance of the function.

In addition, productive and sustainable employment also remains critical factors of inclusive economic growth, because employment gives leverage to earn a consistent income. In this regard, Raheem et al. (2018), utilise log of GDP per person employed to represent inclusive growth in their study; this gave their study the chance to reflect on the two factors of available income-making opportunities and how those avenues are distributed in the economies. Their study conducted empirical scrutiny into the link amid inclusive growth, natural resource rents, and human capital development in sub-Saharan Africa (SSA). The study used all the three categories of the static panel model to scrutinise if expediting health and education spending with natural resource rents in SSA have any significance on inclusive growth. The study opined that governments in SSA must spend more on health and education to increase inclusive growth. Oyinlola & Adedeji (2019) advocated that a higher number of human capital (accumulation) is likely to profit from the general growth progress when GDP per capita employed is used to represent inclusive growth. By adopting the estimation technique system GMM, they examined the liaison between inclusive growth, human capital, and financial development from 1999–2014 in 19 SSA economies. The results showed a positive influence of both human capital and financial development on inclusive growth; however, the type of measure for human capital and financial development can affect the extent of influence

on inclusive growth. Pro-poor and Inclusive growth are more prudent to investigate; this awareness would help improve individuals' lives in the economy (Ravallion, 2014).

2.2 *Inequality*

On the global perspective, Chancel and Piketty (2019) studied the trends of Indian income disparity from 1922 to 2015 by combining household surveys, national accounts, and recently published tax data. It was shown that the richest 1% of income held 22% of the wealth. These findings imply that much more may be done in India to achieve inclusive growth. Again, taking France as an example, the study illustrates how the resultant series can be utilized to better evaluate the trajectory and causes of wealth inequality dynamics from 1970 to 2014. Using the combined distribution of wealth and income, the study finds that top wealth holders are virtually all high capital earners, with less and fewer top labor earners; it has been increasingly difficult in recent decades to gain entry to top wealth groups using only one's labor income, thereby increasing income inequality (Garbinti et al., 2021). In addition, Alvaredo et al. (2019) stated that between 1990–2016, the Middle East tends to be the obvious unequal area in the world, with a high quantile in income share as high as 64%, relative to 55% in Brazil, 47% in the United States, and 37% in Western Europe. This is attributable to both tremendous disparity between nations and significant disparity within nations. Increased transparency on income and wealth distribution in the Middle East will help narrow the gap.

Narrowing it down to Africa, in spite of rapid economic growth in terms of GDP, inequality has risen in Africa (Obeng-Odoom, 2015, 2020b). Although inequality decline when equivalence measures are applied, Posel & Casale (2020) reiterate that inequality is significantly high in South Africa, making it one of the world's unequal nations. Besides, high and increasing levels of inequality persist as national, continental, and global challenges (Hvistendahl, 2014; Stilwell, 2016). A more precise inequality measurement is essential to assess the extent and effective policy interventions needed to reduce it (Posel & Casale, 2020). In countries with high inequality, poverty responds less to redistributive policies and income growth; therefore, dealing with inequality would be critical for poverty reduction (Fosu & Gafa, 2020). Policies being implemented in Africa is significantly reducing the income inequality gap and reducing poverty levels; this will usher Africa into the perceived future and realise the MDGs (Pinkovskiy & Sala-i-Martin, 2014). Nyiwul (2020) adopted the fractional regression and data imputation method and opined that there is a statistically negative liaison between climate change policy and social inequality in Africa. Besides, Sarkodie & Adams (2020) studied the impact of income level, control of corruption, and income distribution inequality, on access to electricity spanning 1990 to 2017 in South Africa. They found there is a long-run positive asymmetric effect of income level on electricity access, hence, authenticating the earlier positive symmetric effect. Moreover, the process of growth has not been fairly disseminated with African countries. Out of the ten most unequal income distribution countries in the world, six of them are from Africa, presently, there is no clear visible and practical proof of policy implementation to rectify or address the problem of inequality in income as far as Africa is concerned (Gent, 2017).

2.3 *Institutional quality*

Using 48 African countries, Ntow-Gyamfi et al. (2019) examined the institutional quality and inclusive growth by adopting a 27-year panel data and engaged difference GMM as the dynamic estimations technique. It was revealed that a non-linear link amid finance and inclusive growth exist. Nevertheless, an institutional quality indicator; regulatory quality was not vital to inclusive growth. However, when financial development interacted with institutional quality, it had an affirmative impact on inclusive growth. In addition, existing studies looks at the role of institutional quality even beyond the nation's boundary, checking to find out if proximity to strong institutions has a spillover effect. Literature confirms a positive association among growth and strong institutional proximity. A strong institution in a nation encourages neighbouring countries to benefit from the influence of

their institutions by active immigration or derive lessons from the nations with strong institutions (Ahmad & Hall, 2017; Nketia & Kong, 2021).

Improvements in institutions, according to Fosu (2019), are linked to the rise in economic and developments. Advances in economic and political institutions, likewise, are favorably connected with Africa's growing economic progress. Furthermore, Fosu (2020) stated categorically that factors of institutional instability, as assessed by the recurrence of civil wars and overthrows of democratically elected governments in Africa, have been declining since the early 1990s, with impacts for improved growth and human improvement. Again, some information is shown to promote the idea that African countries that do better in terms of institutional quality throughout periods of growth resurgence also likely to make more progress in poverty reduction.

Economies with weak institutions do not substantially benefit from their rent resources; instead, the rent turn out to be a curse (Antonakakis et al., 2017). The foundation of socio-economic development is strong institutions; with robust institutions, the economy will experience rapid growth (Kong et al., 2020; Ozpolat et al., 2016). Elyas et al. (2019) conducted a study using 14 resource opulent sub-Saharan African countries. The research adopted White-correlated standard error models and traditional OLS standard error; the results were that the resources positively affect growth at a certain structural efficiency level, but a certain threshold has a negative impact on growth, inclusiveness of growth is vital.

2.4 Foreign Aid

Foreign aid to Africa has been described as 'dead' due to the complexity and façade nature of the aid and its disbursement; in some instances, the allocated money for the aid does not even get to Africa (Moyo, 2010). To begin with, Boateng et al. (2021) investigated if foreign aid volatility influences economic growth in economies that have robust institutions. The study was conducted in 45 countries in Sub-Saharan African from 1980 to 2017. The outcome shows that distinct from the disbursement of foreign aid, commitment to foreign aid increases growth; however, aid volatility has a negative influence on growth. The study further stated that while institutional quality and its sub-divisions promote growth, aid volatility's detrimental impact on growth is not being curtailed. Besides, Gyimah-Brempong et al. (2012) studied the link between growth and foreign aid, the outcome was that foreign aid enhances growth; however, its impact varies for each country, owing to some prevailing conditions. Harb and Hall (2019) also studied the non-linear hypothesis amid economic growth and foreign aid for twenty-five developing economies spanning 1984 to 2008. Using a panel smooth transition regression model, the outcome was that there was a positive impact on growth from aid in upper-middle income countries, however, it came with diminishing returns. Nonetheless, the big push concept was supported by the results for lower-middle and least developed economies. Sethi et al. (2019) engaged data spanning 1960/61 through 2014/15 in India and Sri Lanka to conduct a study, the empirical outcome established a long-run relationship among trade, financial development, growth, inflation, foreign aid and domestic investment.

Studies have shown that if foreign aid is grouped under designated sectors, they have some significant level; for instance, aid in the educational sector has demonstrated increasing school enrolment. In effect, beneficiaries acquire higher knowledge and skills to help secure high paying jobs that transcend into better incomes and lift the living standard (Turnovsky, 2011). There is a positive influence of sectoral aid on growth, however, it has reducing effect, meaning foreign aid stimulates growth to a defined threshold, yonder that threshold, the impact falls (Maruta et al., 2020; Wagner, 2014). Nevertheless, all this literature did not consider aid on inclusive growth but rather on economic growth. In the recipient countries, weak institutions will render aid unbeneficial. Notably, less foreign aid is anticipated under prudent governance; this explains that donor agencies consider aid to support struggling economies, not as a substitute for government expenditure (Asongu & Nwachukwu, 2016). Similarly, Tang & Bundhoo (2017) opined that foreign aid could not significantly

impact growth in the recipient country unless complemented by resilient institutions and structures. For agricultural aid, it may reduce poverty and increase beneficiary countries' wellbeing if implanted successfully; this will consequently raise economic growth (Kaya & Kaya, 2020). In addition, health sector aid includes expanded health care for the prevention and treatment of disease. It also lowers child mortality and encourages improved family hygiene, keeping people safer, increasing productivity, and long-run economic growth (Afridi & Ventelou, 2013). These outcomes show that foreign aid may benefit recipient economies if adequately directed. The focus here is on inclusive growth and not on economic growth per se. Therefore, there it is expedient to study the impact of foreign aid interaction with institutional quality on inclusive growth.

Since inclusive growth is geared towards poverty eradication and aligning income distribution, it is regarded as a better representation of growth; besides, government expenditure is critical in realising inclusive growth objectives (Klasen, 2010; Ngepah, 2017; Nketia & Kong, 2021). Economic growth itself cannot be deciphered through work creation; instead, the production process must be designed to provide people with opportunities (Oyinola & Adedeji, 2019). However, with government expenditure and foreign direct investments, current research focuses on the effect on economic growth and not on inclusive growth. Abubakar et al. (2015) studied the influence of human capital (labour) and financial development on economic growth in West Africa. The outcome was that economic growth is significantly impacted by financial development with labour. Under similar circumstances, Jalles & de Mello (2019) studied 78 countries from 1980 to 2013 and stated that human capital accumulation, participation of labour force, and trade openness relate to inclusive growth positively. Using Panel Vector Autoregressive, Topcu et al. (2020) studied 124 economies between 1980 and 2018 on the influence of gross capital accumulation, natural resources, and energy consumption on economic growth. The outcome was gross capital formation positively impacted growth in highincome countries. The literature did not use inclusive growth; hence, the need to determine the influence of gross capital formation on inclusive growth.

These studies be they on inclusive growth inequality, institutional quality, and foreign aid, or control variables provide helpful background insights on inclusive growth. However, they do not address how inequality influences inclusive growth, in addition the question of how institutional quality affects inclusive growth or job creation has not been explored. The quest to ascertain the interactive effect of foreign aid on inclusive growth is also yet to be done, in addition, does foreign aid really has any impact of inclusive growth in Africa? Against this background, the relevant methodological procedure needs to be employed in resolving the literature gap.

3. Methodology

3.0.1 Model

The AK model by Lucas (1988) was employed as the study's fundamental model. This model is the growth model in per capita terms. Equation (1) is the AK model. Where y represent growth (output), A is growth in value-added (technological factor), K represents capital accumulation, l is the share of labour's total time spent on the work, and h is human capital, finally, a is the parameters between 0 and 1 ($0 < a < 1$).

$$y = AK^\alpha(\ell h)^{1-\alpha} \quad (1)$$

The study further considered a model used by Appiah et al. (2020) which was based on the AK model, with modifications of the growth model that ruminates fixed effect (Barro & Sala-i-Martin, 1995; Romer, 1990). To determine a standard growth dynamic in panel regression in equation (2). The AK model has gone through tremendous modifications to arrive at equation (2).

$$\Delta Y_{it} = a + \delta Y_{i,t-1} + \beta_1 X_{it} + \gamma_i + \varepsilon_t$$

(2)

To amplify equation (2), economic growth is represented by ΔY_{it} , the panel is represented by the subscript 'it' where 'i' is country and 't' is time. Also $\delta Y_{i,t-1}$ is economic growth lagged. X_{it} is the control variables. Earlier studies also adopted the model in its developed state (Adams & Opoku, 2015; Agbloyor et al., 2016; Ibrahim & Alagidede, 2018). Furthermore, for a study in sub-Saharan Africa, Ntow-Gyamfi et al. (2019) used the preceding dynamic panel model in equation (3) in their study of inclusive growth.

$$IG_{it} = \lambda_1 IG_{it-1} + \lambda_2 FD_{it} + \lambda_3 INST_{it} + \lambda_4 FD_{it}^2 + \lambda_2 (FD_{it} * INST_{it}) + \lambda_8 Z_{it} + \varphi_t + \eta_i + \mu_{it} \quad (3)$$

From equation (3), inclusive growth is represented by IG , institutional quality is denoted by $INST$, financial development is expressed as FD , and the control variables are stated as Z . The stochastic terms are denoted as φ_t , η_i , and μ_{it} . The model is further developed into equation (4) as follows;

$$ICG_{it} = \varphi_1 ICG_{it-1} + \varphi_2 IQ_{it} + \varphi_3 AID_{it} + \varphi_4 INEQU_{it} + \varphi_8 Z_{it} + \lambda_t + \eta_i + \mu_{it} \quad (4)$$

Inclusive growth is represented as ICG , institutional quality (this is represented by all the six World Governance Indicators) is denoted by IQ , foreign aid is presented as AID , inequality is denoted as $INEQU$, and control variables (labour participation, foreign direct investment, government expenditure and, gross capital formation) is presented as Z ; thus other macroeconomic elements influencing inclusive growth. By transforming the variables to a natural logarithm, all variables are placed in the same standard measure (Raheem et al., 2018). Hence, the model will become;

$$LNICG_{it} = \varphi_1 LNICG_{it-1} + \varphi_2 IQ_{it} + \varphi_3 LNAID_{it} + \varphi_4 INEQU_{it} + \varphi_8 Z_{it} + \lambda_t + \eta_i + \mu_{it} \quad (5)$$

An interactive effect of foreign aid with institutional quality on inclusive growth is also considered in the study. Therefore, the study further develops the model to include the interactive term. In equation (6), the interaction term is included in the model;

$$LNICG_{it} = \varphi_8 \varphi_1 Z_{it} + \lambda_t + \eta_i + \mu_{it} \varphi_{it-1} + \varphi_2 IQ_{it} + \varphi_3 LNAID_{it} + \varphi_4 INEQU_{it} + \varphi_5 (IQ_{it} * LNAID_{it}) \quad (6)$$

The study also decided to generate a synthetic institutional quality ($IQ-pca$) indicator from the six institutional quality indicators and apply it in a different model to check for the robustness of the study. The model will now become;

$$LNICG_{it} = \varphi_1 LNICG_{it-1} + \varphi_2 IQ-pca_{it} + \varphi_3 LNAID_{it} + \varphi_4 INEQU_{it} + \varphi_8 Z_{it} + \lambda_t + \eta_i + \mu_{it} \quad (7)$$

3.1 Empirical strategy

There are several growth estimating methodologies, however for robust and superior estimation results, the study employs the generalised method of moments (GMM) for dynamic panel model estimation. GMM has gone through several developments; difference, system, first and second stages (Arellano & Bond, 1991; Arellano & Bover, 1995; Blundell & Bond, 1998; Holtz-Eakin et al., 1988). GMM simultaneously takes care of time and country-specific effects, and to cater for endogeneity; it uses lags of the regressors as the instruments (Appiah et al., 2020). The GMM estimator uses two different diagnostic tests. First, to figure out the link with residual, it scans for instrumental validity; that is the purpose for the Hansen J-statistic test. Second, the Arellano-Bond test is used to check for second-order autocorrelation.

The system-GMM and difference-GMM are the two main types of GMM. Studies have shown that difference-GMM has a certain degree of biases; it takes the control variables lagged levels as

regression's instruments in differences, making it inappropriate. This deficit is intensified when the control variables are persistent continuously (Agbloyor et al., 2016). Again, the difference GMM invalidates the effect from country-specific. However, the system GMM rectifies the defects of the difference GMM. In growth estimation, Agbloyor et al. (2016) strongly route for system GMM, arguing that it considers the possibility of current growth influencing future growth. Again, system GMM considers mutually the levels and the first-difference equations; nevertheless, it uses larger instrument sets (Ntow-Gyamfi et al., 2019). Again, the system GMM is much more capable of working on instruments which are weak (Arellano & Bover, 1995; Blundell & Bond, 1998). Precisely, the two-step system GMM transforms the data internally to takes care of any possible endogeneity problem (Ullah et al., 2018). The study adopts the two-step system GMM to deliver the estimates of the dynamic panel model. This will enable the study to determine the impact of inequality, institutional quality and foreign aid, on inclusive growth; the outcomes will be vigorous and dependable.

3.2 Data

The study employs 48 countries in Africa as a panel study; these are listed in the appendices¹. Availability of data informed the choice of the countries (Kebede & Takyi, 2017). The study period is from 2002 to 2018. The data is from diverse sources, as shown in the appendices². The natural logarithm of GDP per person employed represents inclusive growth. The proxy replicates two essential aspects of individual economic empowerment; thus, the average opportunities accessible to the general population and the dispersal of the existing opportunities. This proxy's choice is not new in literature as it has been used in several studies (see; Oluseye & Gabriel, 2017; Oyinola & Adedeji, 2019; Raheem et al., 2018; Tella & Alimi, 2016).

The study used all the six World Governance Indicators³ as the institutional quality indicators; Control of Corruption, Regulatory Quality, Rule of Law, Government effectiveness, Political Stability, and Voice and Accountability (Kaufmann et al., 2011). The indices' choice is not new to literature as they have been adopted in earlier studies (see: Appiah et al., 2020; Elyas et al., 2019; Ntow-Gyamfi et al., 2019). The indices ranges from – 2.5 (worse) to 2.5 (best). For inequality, the study used The Standardised World Income Inequality Database (Solt, 2019). It has been used in a number of studies (see; Berdiev et al., 2020; Camacho & Palmieri, 2019; Chakroun, 2020; Gil-Alana et al., 2019; Juuti, 2020; Wang et al., 2020). Foreign net official development assistance and official aid was adopted as a foreign aid proxy (see; Kaya & Kaya, 2020; Maruta et al., 2020; Sethi et al., 2019). The study used labour participation, government expenditure, and gross capital formation as control variables for the study. Inequality and institutional quality indicators were used as they were because they are indices, all other variables were transformed into natural logarithm so they will all be in a common measurement unit. External instruments were also used in the estimation; the instruments used are inflation, trade openness, and population; these instruments were taken from World Development Indicators⁴.

Besides, to appreciate institutions' role in inclusive growth, foreign aid is deemed as essential since institutions and foreign aid work hand-in-hand (Harb & Hall, 2019). Foreign aid happens to be one of the dependent sources of income for some African countries to sustain their economy; the portion of foreign aid in GDP in these countries are among the highest in any developing countries in the world. For instance, more than 10% of the GDP of 13 sub-Saharan African countries were foreign aid they received in 1980, and by 1990, the number of countries that received the same level of foreign aid had increased to 30 countries. Still, by 1998, the economies that received foreign aid at

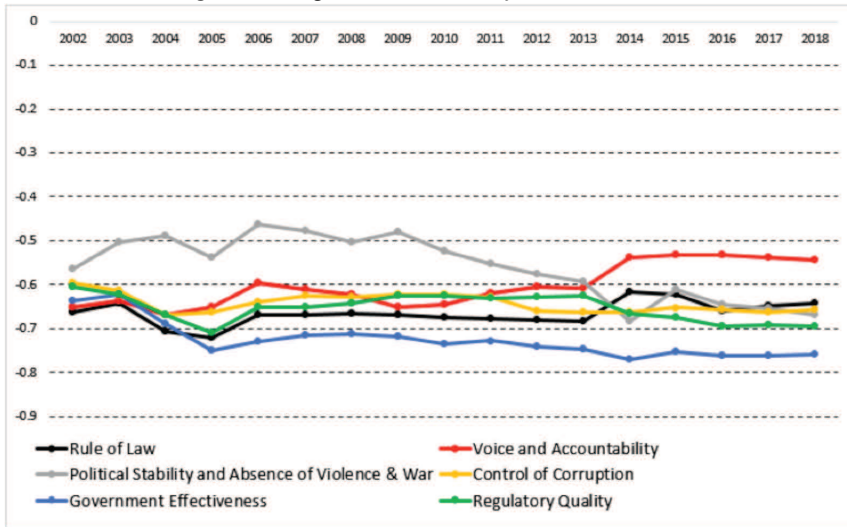
1. Appendix A shows all the countries under the study

2. Appendix B shows the sources of data and variables explanation.

3. The World Governance Indicators are sourced from (World Bank, 2019b).

4. The World Development Indicators are sourced from (World Bank, 2019a).

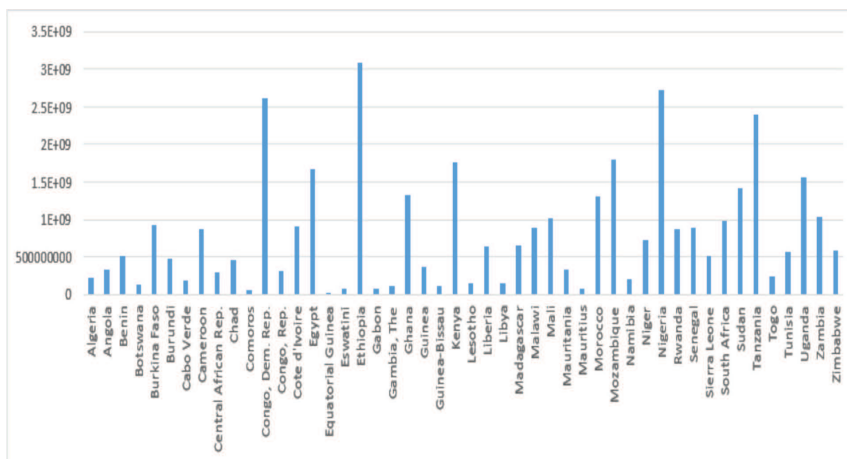
Figure 1: Average Institutional Quality Indicators in Africa



Source: Authors' computation. NB: Averages for Institutional quality indicators for all 48 selected countries in Africa for the period 2002-2018.

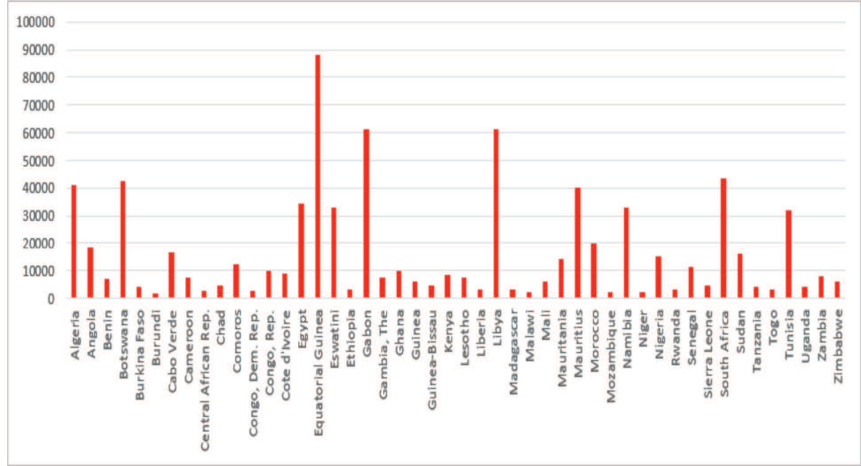
that level were 21. For almost 20 years, countries like Zambia, Malawi, and Ghana, funded more than 40% of government spending through foreign aid (Adams & Opoku, 2015). From the world bank data, foreign aid (Net official development assistance and official aid) to Africa increased to 48.216 billion in 2018 from 14.336 billion in 2000 (World Bank, 2019a).

Figure 2: Average Institutional Quality Indicators in Africa



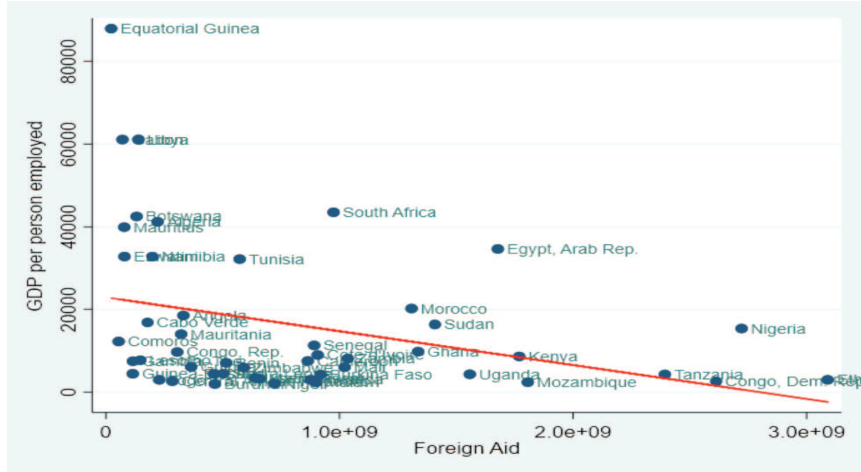
Source: Authors' computation.

Figure 3: GDP per Person Employed Average in Africa, 2002-2018



Source: Authors' computation.

Figure 4: GDP per Person Employed and Foreign Aid in Africa, 2002-2018



Source: Authors' computation.

The correlation between Inclusive growth and foreign aid is still a grey area in literature. An analysis from Figures 2 and 3, shows a particular pattern between the two figures, which is displayed as a scatter diagram in Figure 4; *ceteris paribus* economies with higher average GDP per person employed (inclusive growth indicator) obtain lower foreign aid and vice versa, this is also confirmed by Asongu & Nwachukwu (2016). Meaning, there is a negative liaison between GDP per person employed and foreign aid. This observation indicates how economies with better GDP per capita employment (for instance, Equatorial Guinea and Gabon) attract less foreign aid compared with countries with worse GDP per capita employment (for instance, Democratic Republic of Congo and Tanzania).

4. Results and discussion

Table 1 shows the variables' descriptive statistics. Inequality, government expenditure, and gross capital formation all have observations less than 816, which means there are missing data observations.

Nevertheless, the study is not invalid with missing observations (Dwumfour & Ntow-Gyamfi, 2018). The institutional quality indicators reported lower standard deviations than the other variables; inequality records 6.81 as the highest standard deviation. Another observation is that the variables are mildly skewed; a majority are positively skewed. In addition, the kurtosis of regulatory quality, foreign aid, control of corruption and inequality are leptokurtic; the outstanding variables shows platykurtic kurtosis.

Table 1. Statistical Analysis

	Obs	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis
LNICG	816	9.134	8.989	11.683	7.373	1.051	0.359	2.091
INEQU	724	45.287	44.000	66.100	32.700	6.815	0.780	3.575
LNAID	816	19.837	20.073	23.160	13.162	1.334	-0.727	3.658
LNGCF	810	21.591	21.585	25.302	17.244	1.666	0.027	2.667
LNEXP	809	21.150	21.118	25.139	17.287	1.546	0.177	2.844
LNLBR	816	15.104	15.353	17.883	11.814	1.408	-0.360	2.375
LAW	816	-0.665	-0.676	1.077	-1.852	0.609	0.390	2.795
VOICE	816	-0.603	-0.688	0.998	-2.000	0.700	0.296	2.302
POLIT	816	-0.560	-0.431	1.200	-2.699	0.860	-0.265	2.407
CURP	816	-0.643	-0.696	1.217	-1.826	0.592	0.735	3.247
GEFF	816	-0.726	-0.731	1.057	-1.892	0.596	0.526	2.940
RQUA	816	-0.654	-0.632	1.127	-2.279	0.580	0.161	3.329

Source: Authors' computation.

The correlation analysis is displayed in Table 2. The variables are not highly correlated with each other from the table, so there is no possible multicollinearity. However, the institutional quality variables will be used separately in each model, so there will not be the need to treat any multicollinearity among the variables.

Table 2. Correlation Analysis

	LNICG	INEQU	LNAID	LNGCF	LNEXP	LNLBR	LAW	VOICE	POLIT	CURP	GEFF	RQUA
LNICG	1.000											
INEQU	0.182	1.000										
LNAID	-0.429	-0.140	1.000									
LNGCF	0.459	-0.083	0.429	1.000								
LNEXP	0.477	-0.004	0.410	0.739	1.000							
LNLBR	-0.301	-0.225	0.801	0.637	0.625	1.000						
LAW	0.340	0.239	-0.051	0.148	0.179	-0.185	1.000					
VOICE	0.084	0.279	0.067	0.004	0.038	-0.138	0.761	1.000				
POLIT	0.330	0.320	-0.361	-0.116	-0.098	-0.486	0.704	0.580	1.000			
CURP	0.271	0.364	-0.079	0.032	0.081	-0.259	0.891	0.727	0.651	1.000		
GEFF	0.366	0.229	0.034	0.278	0.323	-0.026	0.898	0.668	0.589	0.850	1.000	
RQUA	0.282	0.278	0.038	0.211	0.238	-0.060	0.880	0.709	0.596	0.800	0.883	1.000

Authors' computation.

Table 3 presents the regression outcome of the two-step system GMM estimation. All the models show a statistically significant at 1% for the lag of inclusive growth. This renders the lag of inclusive growth to be positive, meaning the preceding year's inclusive growth is affirmative and essential to the current year's inclusive growth. The implication is that the usefulness of inclusive growth goes

yonder its present year. Therefore, once inclusive growth is accomplished in a given year, then it becomes less difficult to achieve it in the next year. From the analysis, if governments in African countries create enabling environments for jobs to be created, there is the tendency that in the following year, more jobs will be opened or the created jobs will expand to take more workers due to the business-friendly system in the various countries. However, if there is no conducive environment for businesses to thrive, then jobs cannot be created, and as the year goes by, the situation worsens, which results in massive unemployment with all its ripple effects in the economy. Therefore, the study shows that once Africa achieves inclusive growth in a particular year, the spillover effect will help attain another inclusive growth in the successive year.

Table 3 vividly displays that inequality is not a significant driver of inclusive growth at any level of significance for all the models. Except for political stability and absence of violence/terrorism, income inequality has a negative relationship with inclusive growth. The elasticity of inclusive growth with respect to income inequality shows that all things being equal, one-point increase in inequality index leads to an increase of 0.26% in inclusive growth for model 3, which measures inclusive growth with political stability as the institutional quality index. Besides, *ceteris paribus*, one point increase in income inequality will cause in inclusive growth to decrease between 0.03% and 0.4% in the short-run for all other models. However, the general IQ indicator (synthetic IQ) model also shows that one -point increase in inequality will cause a decrease of 0.43in inclusive growth. This suggests that, in Africa, as long as there is income inequality, it will be challenging to experience an increase in job acquisition and job sustainability; instead, more jobs will be lost as income inequality/ disparities widen as the years go by. However, with a stable political system, even with income inequality, available jobs will still be secured though it will not necessarily be vital to creating more jobs. This finding is consistent with Gil-Alana et al. (2019), though their study was related to economic growth and not inclusive growth. The study reveals that income inequality widens financial income disparity, making it challenging to achieve inclusive growth in Africa. The fact that there is severe income inequality, attaining inclusive growth will be challenging even in the long run, as shown in Table 4.

According to the institutional quality indicators shown in Table 3, only the rule of law (model 1) is relevant to inclusive growth in Africa. The elasticity of inclusive growth concerning rule of law, *ceteris paribus*, one-point improvement in rule of law is correlated with 0.57% percent rise in inclusive growth in the short-run. However, all the institution quality indicators positively relates to inclusive growth in the short-run except government effectiveness in model in model 5. Rule of law keeps improving in Africa, and therefore, if justice is administered in Africa, businesses can have confidence in the economy and expand, knowing that the law can protect their assets. Hence rule of law is vital and increases job creation in Africa.

According to Table 4, rule of law will not be significant to inclusive growth in the long-run if the implementation of rule of law goes in the current trajectory, however, a rapid improvement in it may render it relevant in the long-run. The synthetic IQ indicator also shows an elastic negative and insignificant relationship with inclusive growth; this may result from averagely weak institutional quality in Africa. The general contribution of institutional quality to inclusive growth in Africa is rather weak or negative in some instances; this may be poorly implemented systems and structures in most African countries, though there are strong written policies. If systems and laid down policies are properly implemented, organisations may expand, sustainable jobs will spring up, and qualified personnel will be engaged in these jobs, contributing to inclusive growth in Africa.

The elasticity of inclusive growth with respect to foreign aid in all the models exhibits a negative coefficient. Thus, *ceteris paribus*, 1% increase in foreign aid, will make inclusive growth reduce between -0.013% and 0.04% in the shortrun for all the models. However, for the significance of foreign aid to inclusive growth, Tables 3 and 4 exhibits that the model involving rule of law (model 1) and the model involving control of corruption (model 4) presents foreign aid as vital to inclusive

Table 3. The Outcome of the Two-Step System GMM

Model	1	2	3	4	5	6	7
L.LNICG	0.915*** (0.037)	0.914*** (0.031)	0.913*** (0.027)	0.907*** (0.042)	0.891*** (0.046)	0.909*** (0.036)	0.893*** (0.043)
INEQU	-0.0003 (0.004)	-0.0007 (0.003)	0.0026 (0.002)	-0.0070 (0.004)	-0.0040 (0.003)	-0.0004 (0.003)	-0.0043 (0.003)
LAW	0.0057* (0.303)						
VOICE		0.0413 (0.260)					
POLIT			0.0065 (0.131)				
CURP				0.0306 (0.212)			
GEFF					-0.0093 (0.265)		
RQUA						0.0182 (0.339)	
IQ-pca							-0.0044 (0.142)
AID_LAW	-0.025* (0.015)						
AID_VOICE		-0.016 (0.023)					
AID_POLIT			-0.001 (0.006)				
AID_CURP				-0.011** (0.010)			
AID_GEFF					0.009 (0.014)		
AID_RQUA						-0.004 (0.017)	
AID_IQpca							0.004 (0.007)
LNAID	-0.038* (0.022)	-0.040 (0.026)	-0.019 (-0.015)	-0.032* (0.022)	-0.013 (0.015)	-0.025 (0.016)	-0.020 (0.196)
LNGCF	0.079*** (0.026)	0.095*** (0.030)	0.069** (0.023)	0.078** (0.030)	0.072*** (0.025)	0.077** (0.029)	0.075*** (0.024)
LNEXP	-0.027 (0.025)	-0.035 (0.029)	-0.005 (0.017)	-0.020 (0.029)	-0.011 (0.028)	-0.019 (0.024)	-0.012 (0.027)
LNLBR	-0.026 (0.015)	-0.027* (0.014)	-0.019 (0.016)	-0.033* (0.020)	-0.050** (0.023)	-0.034* (0.018)	-0.046** (0.021)
Number of instruments	45	45	45	45	45	45	45
Number of groups	48	48	48	48	48	48	48
Observations	674	674	674	674	674	674	674
AR(1)_test	-1.16	-1.17	-1.15	-1.16	-1.17	-1.16	-1.17
AR(1) P-value	0.244	0.240	0.249	0.245	0.243	0.246	0.243
AR(2)_test	0.60	0.61	0.66	0.57	0.58	0.54	0.57
AR(2) P-value	0.548	0.543	0.512	0.566	0.563	0.586	0.567
Hansen test	36.79	41.49	44.31	41.61	37.98	39.19	41.02
Hansen P-value	0.432	0.244	0.161	0.240	0.379	0.329	0.260

Source: Authors' computation.

Note: *, **, and *** signifies 10%, 5% and 1% levels of significance.

Corrected standard errors are in brackets.

Table 4. GMM Long-Run Estimates

Model	Variable	Coefficient	p-value
1	LAW	6.831	0.139
1	AID_LAW	-0.304	0.177
1	LNAID	-0.462**	0.022
1	LNGCF	0.940**	0.017
2	LNGCF	1.118**	0.016
2	LNLBR	-0.327**	0.027
3	LNGCF	0.805***	0.000
4	AID_CURP	-0.121	0.381
4	LNAID	-0.348**	0.030
4	LNGCF	0.844**	0.018
4	LNLBR	-0.363**	0.023
5	LNGCF	0.664***	0.008
5	LNLBR	-0.466***	0.002
6	LNGCF	0.854***	0.005
6	LNLBR	-0.380***	0.004
7	LNGCF	-0.818***	0.000
7	LNLBR	-0.939***	0.000

Source: Authors' computation.

Note: *, **, and *** signifies 10%, 5% and 1% levels of significance.
Corrected standard errors are in brackets.

growth in both short-run and long-run. Nonetheless, the remaining models, foreign aid is not significant to inclusive growth. The outcome suggests that in Africa, foreign aid does not support job creation or inclusive growth. This outcome supports the position of Tang & Bundhoo (2017) and Boateng et al. (2021), who studied economic growth and aid also claims that in Africa, foreign aid limits growth in an economy. Owing to these results, most of the aid offered to African countries is not in support of industries that will produce jobs to increase inclusive growth but rather avenues that serve the interest of the donor agencies. Most of these donors engage in the 'aid' for influence, political reasons, financial reasons, and good public relation pretence.

Unfortunately, foreign aid is a cliché by vibrant countries towards developing nations. The study agrees with the assertion that in Africa, 'aid is dead' (Moyo, 2010). Several aid programmes are run in Africa. Some of these organisations have billions and hundreds of millions of dollars in budgets, but larger portions of the funds are spent on administrative expenses and compensations/salaries of top aid officials who are almost always foreigners. Projects that they undertake are overestimated, and they do not necessarily provide jobs for the people. So on record, there may be huge sums of money 'poured' in aid, but the impact on inclusive growth is dead on arrival. From an economic viewpoint, aid does not even help in generating jobs (inclusive growth) let alone sustain it, but it rather decrease inclusive growth.

Inclusive growth responds with mixed outcome from the interactive terms of foreign aid and institutional quality indicators. The elasticity of inclusive growth with respect to the interactive terms shows that ceteris paribus in the short-run, rule of law and foreign aid (*AID_LAW*); and control of corruption and foreign aid (*AID_CURP*) are significant to inclusive growth. However, all the other interactive variables are not significant to inclusive growth. With the exception of the interaction of government effectiveness and foreign aid, and the interaction of the synthetic institutional quality indicator and foreign aid, all the other interactive variables negatively impact inclusive growth. Economically, institutional quality is generally weak in Africa, so even if it interacts

with foreign aid, it hardly serves any useful purpose in creating jobs. Putting this in perspective, weak institutions cannot influence foreign aid to produce jobs in Africa. This is due to how foreign aid in Africa affects inclusive growth negatively; this outcome agrees with the study by Young & Sheehan (2014), in their study, they emphasise that foreign aid can only benefit an economy if controlled by strong institutions, anything short of that will result in negative influence.

The study discovered that both institutional quality and foreign aid are struggling to impact inclusive growth; therefore, even if they interacted with each other, it is still not enough to make a notable contribution to inclusive growth (Asongu & Nwachukwu, 2016). This is not to say aid is bad or institutional quality is not needed in Africa, but rather if aid is channelled into job creation avenues and institutions strengthened, it will certainly contribute better to inclusive growth. African countries have had too many pretences to receive help from aid and caricature of implementing policies to strengthen systems rather than doing it. Strong institutions need a commitment by governments and various stakeholders; better aid impacts require directing aid to serve the actual purpose; then, the interaction will yield better results in terms of inclusive growth measurement.

Finally, from Table 3 and 4, *ceteris paribus*, in all the models, gross capital formation is positive and substantial to inclusive growth in both the short-run and long-run. Meaning, investments in capital intensive avenues contribute to job creation in Africa; the outcome is consistent with studies by Ntow-Gyamfi et al. (2019) and Nketia & Kong (2021). Interestingly in Africa, labour has a negative influence on inclusive growth. This means that more productive labour is available to the extent that it has a negative relationship with job creation; there is more active labour in Africa than jobs, this outcome is in line with Oyinlola & Adedeji (2019). Also, government expenditure displayed a negative influence on inclusive growth in Africa, the outcome supports the position of Oluseye & Gabriel (2017). Meaning, African governments spend heavily on sectors that do not necessarily generate sustainable jobs, like debt servicing, high infrastructural cost, and high government appointees' remuneration.

5. Conclusion

Despite the fact that African economies have experienced rapid growth in recent years, significant income and wealth disparities, chronic poverty, social stratification, and high unemployment problems persist on the continent. Numerous studies have tried to explain why the fruits of growth are not widely diffused and are rather concentrated in few hands. As noted in this paper, available studies on inequalities in Africa (Fosu & Gafa, 2020; Ndiaye, 2020; Nyiwul, 2020; Posel & Casale, 2020; Sarkodie & Adams, 2020); institutions in Africa (Ahmad & Hall, 2017; Fosu, 2019, 2020; Nketia & Kong, 2021) and foreign aid in Africa (Boateng et al., 2021; Harb & Hall, 2019; Sethi et al., 2019) do not explicitly consider inclusive growth. This literature gap was filled by this study, which has focused on the impact of inequality, foreign aid, and institutional quality on inclusive growth in 48 African nations from 2002 to 2018. After going through the preliminary tests, the estimations method used for the study was the two-step system GMM. Based on current literature, GDP per person employed was selected as a representation of inclusive growth, and the study used all the six governance indexes by Kaufmann et al. (2010). Income inequality was the variable used as a proxy for inequality. Also, foreign net official development assistance and official aid was taken as a representation of foreign aid. Other variables in the study are as follows: labour participation, government expenditure, and gross capital formation; they served as control variables.

We find that inclusive growth attained in specific year, forms a good base for realising inclusive growth in the subsequent year. Income inequality primarily has a negative relationship with inclusive growth, which is understandable; the wider the income gap, the less inclusive growth is achieved. Also, only rule of law is relevant to inclusive growth in Africa in the short-run, but not vital to inclusive growth in the long-run. Foreign aid is seen as a cliché from advanced economies to developing nations, it does not in any way enhance inclusive growth.

For foreign aid to have tangible impact on inclusive growth, it must be directed to job creation avenues. Again, except for the interaction of foreign and with rule of law and control of corruption, all other IQ interaction terms are not significant to inclusive growth. Gross capital formation is vital and contributes positively to inclusive growth in Africa. Labour negatively affects inclusive growth, active labour is abundant and it is more than the available jobs in Africa, the labour force in Africa is in abundant due to the demography of the African population, there are more young people of working age joining the working class yearly than the jobs being created, this makes labour and inclusive growth has negative relationship since fewer jobs are created against more labour being added, this outcome is in line with Oyinlola & Adedeji (2019).

Again, government expenditure negatively influences inclusive growth, thus, African governments spending do not essentially generate and/or sustain jobs, most governments spending are on high government appointments (which are for a few politicians), over blotted government contracts and debt servicing, theses government expenditure do not necessarily create more jobs for the citizens. The study substantiates the ideas of Cline-Cole (2020) stance, as stated in a commentary that weighs critically in on the concerns presented by Nwoke (2020), that in Africa, foreign trade and foreign aid are not antidotes for achieving inclusive and sustainable growth, but rather mechanisms of domination, exploitation, and manipulation.

These findings suggest that it is crucial to rethink development economics (Obeng-Odoom, 2021), in ways that ensure that appropriate concepts are used and policies institutionalise ecologically inclusive self-reliance.

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Acknowledgements

The authors sincerely thank the reviewers and the editor-in-chief who handled this submission. We are grateful to The National Natural Science Foundation (71973054), China, for the support.

Conflicts of interest

The authors declare no conflict of interest. The authors take full responsibility for any opinions and suggestions in this study.

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Appendix A

Table 5. Countries under the Study

Algeria	Comoros	Ghana	Mauritania	South Africa
Angola	Congo, Dem. Rep.	Guinea	Mauritius	Sudan
Benin	Congo, Rep.	Guinea-Bissau	Morocco	Tanzania
Botswana	Côte d'Ivoire	Kenya	Mozambique	Togo
Burkina Faso	Egypt, Arab Rep.	Lesotho	Namibia	Tunisia
Burundi	Equatorial Guinea	Liberia	Niger	Uganda
Cabo Verde	Eswatini	Libya	Nigeria	Zambia
Cameroon	Ethiopia	Madagascar	Rwanda	Zimbabwe
Central African Rep.	Gabon	Malawi	Senegal	
Chad	Gambia, The	Mali	Sierra Leone	

Source: Authors' computation

Appendix B

Variable Description and Source of the Data		
Variable	Description	Source
LNICG	Log of GDP per person employed (constant 2017 PPP \$)	World Development Indicator 2019
INEQU	Income Inequality a proxy for inequality	The Standardised World Income Inequality Database 2019
LNAID	Log of Net official development assistance and official aid received (constant 2015 US\$)	World Development Indicator 2019
LNEXP	Log of General government final consumption expenditure (% of GDP)	World Development Indicator 2019
LNLBR	Log of Labour force participation rate, total (% of total population ages 15-64)	International Labour Organization 2019
LNGCF	Log of Gross capital formation (% of GDP)	World Development Indicator 2019
LAW	Rule of Law	World Governance Indicator 2019
VOICE	Voice and Accountability	World Governance Indicator 2019
POLIT	Political Stability and Absence of Violence & War	World Governance Indicator 2019
CURP	Control of Corruption	World Governance Indicator 2019
GEFF	Government Effectiveness	World Governance Indicator 2019
RQUA	Regulatory Quality	World Governance Indicator 2019
IQ-pca	Synthetic Institutional Quality Indicator calculated by principal component analysis	Authors' calculations
AID_LAW	Rule of Law interact with Log of Foreign aid	Authors' calculations
AID_VOICE	Voice and accountability interact with Log of Foreign aid	Authors' calculations
AID_POLIT	Political Stability and Absence of Violence & War interact with Log of Foreign aid	Authors' calculations
AID_CURP	Control of Corruption interact with Log of Foreign aid	Authors' calculations
AID_GEFF	Government Effectiveness interact with Log of Foreign aid	Authors' calculations
AID_RQUA	Regulatory quality interact with Log of Foreign aid	Authors' calculations

Source: Authors' computation