Impact of Public Expenditure on Poverty: Role of Governance
(*Impak Perbelanjaan Awam terhadap Kemiskinan: Peranan Kerajaan*)

Ali Madina Dankumo
Federal University of Kashere

Suryati Is`Hak
Universiti Putra Malaysia

Yusuf Auta
Ahmadu Bello University

Amos Denthe
Federal Polytechnic Kaltungo

ABSTRACT

The paper investigated the role of governance in the impacts of government expenditure on poverty. We used a system-Generalised Methods Moments econometric technique with unbalanced panel data of 46 countries in the Sub-Saharan African region covering the period from 1996 to 2019. Good governance plays a vital role in enhancing growth and development, especially, in reducing poverty. The paper ascertains that the problems of governance (corruption and political instability) and public expenditure aggravate poverty. As shown by the results of the marginal effect, governance – corruption and political instability – at both medium and minimum levels aggravates poverty. However, governance is insignificant at the maximum levels. This result suggests that corruption and political instability have a momentous role in mediating the consequences of government expenditure on poverty in the sample countries. Hence, combating corruption and enhancing political stability are crucial obligations of the government for it to witness not only straight progress in its economic performance but also an indirect impacts via poverty reduction.

Keywords: Poverty; government expenditure; corruption; political instability; governance; Sub-Saharan Africa

ABSTRAK

Kertas kerja ini mengkaji peranan tadbir urus dalam kesan perbelanjaan kerajaan ke atas kemiskinan. Kajian ini menggunakan Kaedah Dinamik Panel Momen Teritlak dengan data panel tidak seimbang bagi 46 negara di Sub Sahara Afrika meliputi tempoh 1996–2019. Tadbir urus yang baik memainkan peranan penting dalam meningkatkan pertumbuhan dan pembangunan, serta dapat mengurangkan kemiskinan. Kertas kerja ini mendapati bahawa interaksi tadbir urus (dengan wujudnya rasuah dan ketidakstabilan politik) dan perbelanjaan awam boleh memburukkan lagi masalah kemiskinan. Seperti yang ditunjukkan oleh keputusan kesan marginal, tadbir urus yang melibatkan rasuah dan ketidakstabilan politik pada peringkat sederhana dan minimum memburukkan lagi kemiskinan, namun, tadbir urus adalah tidak signifikan pada peringkat maksimum. Keputusan ini mencadangkan bahawa rasuah dan ketidakstabilan politik mempunyai peranan penting sebagai pengantara kesan perbelanjaan kerajaan ke atas kemiskinan di Sub-Sahara Afrika. Oleh yang demikian, menghapuskan rasuah dan meningkatkan kestabilan politik adalah satu kewajipan penting kepada kerajaan untuk menyaksikan kemajuan dalam prestasi ekonomi malahan juga kesan tidak langsung menerusi pembasmian kemiskinan.

Kata kunci: Kemiskinan; perbelanjaan awam; rasuah; ketidak stabilan politik; tadbir urus; Sub Sahara Afrika

INTRODUCTION

In all economies, governments are responsible for setting up a framework that guarantees the following: lively institutions, rule of law, transparent legal system, accountability, civil justice, steady political system, and constancy for a conducive investment atmosphere, which will allow the government to use the natural resources in the expedition towards attaining growth and development. Governance is the process of demonstrating this responsibility in an authoritative way and with control. There is unanimity among policymakers, scholars and international donors that the type of governance in practice

has great impacts on achieving sustainable economic growth and development, as evident in the literature (e.g. North 1990; Shleifer & Vishny 1993; Mauro 1995; Easterly & Levine 1997). Whenever governance is good, it improves the growth and development of an economy; but they are retarded when governance is bad. Hence, the economic recital of every nation hinges on the type of its governance that provides an incentive for healthier performance of the economy, explicitly by charting the paths towards growth and development of the economy (e.g. Coccia 2021; Cuong et al. 2021; Wang & Guo 2022).

Programmes and policies formulated by governments tend to achieve developmental goals whenever the governance is good and vice versa. Governance provides not only the political, legal, and institutional framework required for the formulation of policies on poverty reduction, but it also increases the poor's capacity to advance their living conditions. In this study, we used corruption control and political instability as measures of governance from the Worldwide Governance Indicators (WGI) of the World Bank as proposed by Kaufmann et al. (1999). The reason is that political instability and corruption control are the two weightiest facets of governance that have most evidently affected the Sub-Saharan African (SSA) region.

Corruption in SSA has been very high, according to World Bank (2021), which shows a -0.670 average with annual negative values all through the period covered by this paper. Transparency International (2021) reports that the SSA corruption perception index (CPI) was average at 30 in 2020, dropping far after other world regions in terms of corruption with about 75% of countries in SSA scoring less than 50%. The political stability in SSA is also affected, hence, becoming the second most unstable region due to a high rate of deaths, which was attributed to activities of terrorists, bandits, Fulani herders, kidnappers, etc. in Nigeria, Niger, Chad, etc. Furthermore, out of the 10 first highly terrorized countries, 3 are from SSA, i.e. The Democratic Republic of Congo (10th), Somalia (6th) and Nigeria (3rd) (Institute for Economics and Peace 2019).

The poverty rate in the SSA region shows some evidence of a decline from 58% in 1996 to 42% in 2015 and 40.2% in 2019. However, in nominal terms, the number of the poor continued to increase, with about 388.7 million surviving on less than $1.90 per day, which is about 41% of the total population in the region and the highest among other regions of the world (World Bank 2021). This condition was worsened when COVID-19 broke out in 2020, which pushed about 30 million into extreme poverty (living on less than US$1.90 a day). This figure was almost nine times the average for the rest of the world (African Development Bank (ADB) 2021). In its Development Indices report, the United Nations Development Programme exposed SSA as the least HDI of 0.547 and that 27 of 32 nations of the World having Low Human Development Index (HDI), with countries such as South Sudan, Chad and Niger having the lowermost scores of 0.385, 0.395 and 0.400 respectively in the HDI's measurement of nations' achievement in health, education and income. (UNDP 2021). This low HDI in SSA is a pointer to a high poverty level that is widespread in the region. Additionally, Gates (2018) projected that, by 2050, if governments of SSA do not take critical measures, 40% of the world's extremely poor will be in only two countries of SSA: Nigeria and DR Congo. Nonetheless, this does not vindicate others in the region since poverty is still intense in most of the countries.

However, one of the better means of reducing poverty in SSA is through spending public funds because of the link that exists between public spending and poverty, as stressed by Keynes' theory of government involvement in an economy through creating job opportunities and the delivery of private goods that are used by the poor but cannot be paid by them. The trend of government expenditure as a GDP percentage in SSA was 11.76% in 1996, where it increased to 12.23% in 1998. 2001 witnessed an increase to 13.38%, but this figure later fell to 12.92% in 2002. Since then, it fluctuated, until it settled at 14.19% in 2007. From that period on, it remained within the range of 14.1% and 14.7% until 2016 when it fell to 13.74% and 13.38% in 2017 and 2019 respectively (World Bank 2020). On the average, public expenditure as a percentage of GDP has been 14.88% in the region for the period under study. However, despite this trend of expenditures, the people in the region are still poor as seen in deficient health services/facilities, as well as decent education, thereby affecting their ability to look for income-yielding jobs. It is also a known fact that infant and maternal mortality is high in the region, educational attainment is low, life expectancy is very short, and diseases are prevalent, to mention just a few of the numerous problems. Government expenditure is, therefore, paramount to reducing poverty, especially, if it is on pro-poor programmes, such as education and health, which are sometimes referred to as public goods, as allowing market forces to allocate them will leave the poor inconsequential. This spending will tend to move growth and, at the same time, reduce poverty by increasing the income of the poor, providing infrastructures that are pro-poor, and enhancing human abilities (Schwartzman 1998). The significance of government expenditure in the course of human advancement cannot be overemphasised because it helps in improving some of these development indices. In SSA, all the various tiers of government do play significant roles in achieving this objective through their various expenditures, with the expectation that they will impact poverty negatively.

Governance impacts poverty negatively via the public expenditure mechanism. For example, corruption changes its direction from its desired target to unproductive projects that do not have a straight bearing on poverty, through embezzlement, diversion of public funds and, sometimes, project abandonment. Also, political instability, e.g. crises, coups and wars, increases expenditures on security through the acquisition of ammunition and settling internally displaced persons, thereby denying other sectors of the economy allocation from public expenditures due to the scarcity and competitive nature of resources. This will, in turn, manifest in an increased poverty level that is supposed to be abridged by public expenditures.

Hence, this paper examined the impact of governance on the public expenditure-poverty relationship, which differs from previous studies (e.g. Del Monte & Papagni 2007; D'Agostino et al. 2016; Mehmood & Sara 2016; Edeme et al. 2016; Anderson et al. 2018; Hidalgo-Hidalgo & Iturbe-Ormaetxe 2018; Dankumo et al. 2019 etc.) because the link between governance, public expenditure, and poverty has not been investigated using an interaction term for either time-series or cross-sectional studies, which is something that this study fills. The function of public expenditure is to allocate and redistribute resources for macroeconomic stabilization, with poverty as the most considered result when measuring its impact (Musgrave 1956), but when governance interferes, it makes the impact futile. Hence, the use of government expenditure as a medium to investigate the impact of governance on poverty.

Governance in this study is assumed to be a dichotomous variable (good or poor), as suggested by scholars (e.g. Wright 1976; Friedrich 1982; Brambor et al. 2005; Franzese & Kam 2007). The outcome of this research explained whether the governance's nature is responsible for the high rate of poverty in the SSA. Also, to policymakers and researchers, it will be useful to them in terms of refining governance to decrease poverty in the SSA countries.

The paper investigated the role of governance on the impacts of poverty through its interaction with government expenditure in Sub-Saharan Africa. The paper found that the interaction of governance (corruption and political instability) and public expenditure aggravates poverty. As shown by the results of the marginal effect, governance – corruption and political instability – at both medium and minimum levels aggravates poverty in SSA. This result suggests that corruption and political instability have a momentous role in mediating the consequence of government expenditure on poverty in Sub-Saharan Africa. The paper is structured in such a way that section two reviews relevant works of literature, section three explains the methodology, section four discusses results, and section five draws the conclusion and lays out some recommendations.

LITERATURE REVIEW

The role of government in an economy through its fiscal functions is indispensable, especially, for developing countries, as it creates a pathway to boosting growth and development (Ukwueze 2015). This was given little attention until the early 1930s after the Great Depression, as the invisible hands suggested by Classical economists could not salvage the situation. Keynes (1883-1946) opposed the view of Classical economists who emphasized the long-run result, stating that by then "we are all dead". He believed that government intervention in the short-run cures depression and that savings alone could not help but spending because when government increases its spending, individuals' purchasing power will increase. At the same time, producers produce more, thereby, creating additional employment through the multiplying effect that explains the causality between public spending and national income, which ought to translate into an improved living standard, equity and reduction of poverty.

Coccia (2021) argued that good governance has more effect in countries with stable economies than in fragile countries. He further suggested that when institutions are supported by good governance, poverty and income inequality are reduced in the society, hence countries must focus on improving governance effectiveness that can reduce poverty. Wang and Guo (2022) maintained that poverty reduction and politics are interwoven because reducing poverty involves exercising political authority, using political power, mobilizing resources, running institutions and gaining legitimacy politically. Cuong et al. (2021) argued that better performance of governance and public administration improve income distribution and poverty reduction. They argued further that the link between poverty severity and governance quality is larger than that between poverty headcount and governance quality. This means that within a province, good governance is most beneficial to the poorest of the poor.

Mehmood and Sara (2010) found that there was a short-run and a long-run association between expenditure and poverty. This result was the same when Birowo (2011) studied the link between public spending and the poverty rate in Indonesia and found that public expenditure, in total, did not have a negative association with poverty. The findings of Muloka et al. (2012) revealed how growth explained much – though not all – of the poverty growth. Further, the study found that growth was required but not a sufficient condition – mainly when the expected result was an urgent and sustained reduction in poverty. The study recommended concurrent design and pursuance of policies aimed at poverty reduction and economic growth. On this relationship, Edrees et al. (2016) argued that economic growth and public expenditure were significantly and positively related to poverty reduction. Hidalgo-Hidalgo and Iturbe-Ormaetxe (2018) agreed with this finding when they found that spending money on education had a long-run tendency of dropping the frequency of poverty in later life, especially, for children from low-income family backgrounds.

Acharya and Nuriev (2016) found an unfortunate result that public investment was still inadequate to reduce poverty, poverty gap, and equally redistribute income. Jha et al. (2000) analysed the impact of government expenditure (health and education) on poverty in India and found that health and education contributed to reducing poverty. Edeme et al. (2016) argued that public expenditures on agriculture, education, health and water resources had an additional positive bearing on human development. Sasmal and Sasmal (2016) found that the incidence of poverty was low in states that had higher expenditures on infrastructures like power, transport, roads, and irrigation because their income was high, indicating the role of economic growth and infrastructures in poverty reduction. A recent study by Miftari et al. (2021) found that public expenditure had a strong positive correlation to economic growth.

Nevertheless, Gukat and Ogboru (2017) found that public expenditure did not translate into consistent economic growth in Nigeria for the period between 1981 and 2016. Furthermore, Anderson et al. (2018) found a similar result in a meta-regression study on the association that existed between public spending and income poverty that focused mainly on low- and middle-income countries. The study could not find any evidence of public spending impacting the reduction of poverty in both low- and middle-income countries. However, the impact of public expenditures on poverty is not a guarantee, as both governance and institutional factors do serve as disruptions. This link between governance and poverty is on the presumption that efforts to improve governance can stimulate economic growth through effective implementation of policies and programmes, which in turn, benefits both the rich and the poor since the poor are always the hardest hit by the corruption activities of public officers.

D'Agostino et al. (2016b) argued that corruption was a severe concern as far as the growth and development of African countries were concerned. Their study took the endogenous growth model and extended it by including different types of public expenditure and also introducing the probability of corruption that was allowed to affect each type of expenditure. Olarewaju (2016) used the Johansen maximum likelihood procedure to ascertain the relationship between public expenditure, corruption, and growth of output in Nigeria using data from 1980 to 2011 and found that corruption tilted government expenditure away from the desired growth-enhancing projects, specifically, towards unproductive ones.

Alesina and Perotti (1996) argued that investment and income inequality were negatively related; i.e., a society with high inequality tends to be more politically unstable, but any society with a wealthy middle class can achieve political stability. In contrast, a stable economy is associated with low poverty as there will be an equitable and efficient distribution and utilization of resources. Aisen and Francisco (2013) found that high political instability lowered the development paces of GDP per capita. The implication is that political instability positively affects poverty via its effect on growth.

However, a good number of studies have examined the association between governance and growth, and poverty and public expenditure, but none of these studies attempted to interact with these variables, especially governance and public expenditure, to ascertain their impacts on poverty. Hence, the interaction of governance with public expenditure to see if there is a significant effect of governance on poverty through public expenditure while addressing the misspecification and endogeneity using the Generalized Method of Moments (GMM). Our conditional hypothesis for the study is that when good governance (low corruption and political stability) interacts with expenditures, it reduces poverty.

METHODOLOGY

Scientifically, the Keynesian model consists of the following composition:

$$Y_{it} = C_{it} + I_{it} + G_{it} + NX_{it} \tag{1}$$

Where Y_{it} is the growth, C_{it} is the consumption, I_{it} is the investment, G_{it} is the government expenditure, and NX_{it} is the net exports (exports-imports).

Building the framework further on the works of (e.g. Dissou & Yakautsava 2012; D'Agostino et al. 2016) that originated from the endogenous growth model of Barro (1990), which assumes that corruption decimates output and growth.

The model assumes that the government has the following budget constraint:

$$G_t = \tau Y_t - \varepsilon_t \tag{2}$$

Where G_t, is the amount government spends on public goods, τY_t is the tax revenue and ε_t are the bribes collected and diverted to unproductive projects. Introducing governance into the model above, where the amount collected or diverted by public officials is linear and proportional to revenues collected, while political instability also affects it:

$$\varepsilon_t = \mu \tau Y_{it}, 0 < \mu_{it} < 1 \tag{3}$$

Where μ_{it} , is the governance intensity, such that if it rises, the level of corruption and political instability is also expected to rise. No matter the expected revenue by the government, the public officers do ensure they diverted some for their enrichment, hence producing a corrupt government budget constraint as thus:

$$G_{it} = (1 - \mu)\tau Y_t \tag{4}$$

Where $(1 - \mu)$ is the portion of revenue expenditure on public goods, while the remaining part is consumed by rent-seekers that are part of the society.

As specified by Barro (1990), aggregate output is given as:

$$Y = AK^\alpha G_Y^\beta \tag{5}$$

Where Y = real output; A = productivity index; K = private capital and G_Y, is government spending. **β** is the elasticity of growth for public investment, while **α** is the elasticity of output for capital. **β**, in this case, is dependent on the level of corruption, which erodes national resources from enhancing growth and development. As seen above, corruption affects growth through public spending. Having this in mind, a more general model is developed to allow the impact of government expenditure-growth function to accommodate governance.

$$G_t(\rho) = G^*_t\, e^{-\gamma\rho} \qquad\qquad (6)$$

Where $0 \leq \rho \leq 1$ and $G^*_t = G_0 e^{gt}$. The ρ represents the governance index; γ is the intensity of the governance index on public spending, while g is the growth of government spending. The effect of governance on poverty is modelled thus:

$$\frac{\partial g}{\partial \rho} \geq 0 \quad \Rightarrow \quad \frac{\partial pov}{\partial g} < 0 \qquad\qquad (7)$$

$$\frac{\partial g}{\partial \rho} < 0 \quad \Rightarrow \quad \frac{\partial pov}{\partial g} > 0 \qquad\qquad (8)$$

Therefore, the study observed from the models that output growth that ought to impact poverty is undermined by the governance index. If governance is not improved, it would severely impact economic growth, thereby aggravating the condition of poverty. Equations (7) and (8) entail that: if governance (corruption and political instability) is good, it increases growth to reduce poverty,

$$\frac{\partial pov_{it}}{\partial pexp_{it}} < 0 \qquad\qquad (9)$$

However, if it is poor, it reduces growth and increases poverty.

$$\frac{\partial pov_{it}}{\partial pexp_{it}} \geq 0 \qquad\qquad (10)$$

Where, ∂pov_{it} is the change in poverty and $\partial pexp_{it}$ is the change in government expenditure. Equations (9) and (10) give the condition in which a change in government expenditure will lead to a decrease or increase in poverty.

<div align="center">MODEL SPECIFICATION</div>

Following D'Agostino et al. (2016; 2016b) with a little modification in the equation, we replaced growth with poverty, used a single government consumption expenditure not disaggregated as used by them, and included an interaction term of political instability and public expenditure. The models take the following forms:

$$POV = f(PEXP, GOV, TR, GDP) \qquad\qquad (11)$$

With interaction terms, equation (11) becomes

$$POV = (PEXP + GOV + [PEXP \times GOV] + TR + GDP) \qquad\qquad (12)$$

Where POV is the poverty, PEXP is public expenditure, GOV is the governance index, [PEXP × GOV] is the interaction term, TR is trading, and GDP is the income. However, control of corruption and political stability is the GOV proxies, and then we went further to disaggregate the model such that the governance proxies can stand independently. This will enable us to ascertain if governance affects the expenditure impact on poverty. Thus:
In the context of this study, we considered the effect of a unit increase of expenditure on poverty conditioned on the governance index as follows:

$$\frac{\partial POV}{\partial PEXP} = \beta_1 + \beta_2 PEXP_{it} + \beta_3 GOV_{it} + \beta_4[PEXP_{it} \times GOV_{it}] \qquad\qquad (13)$$

Where $\frac{\partial POV}{\partial PEXP}$ is the change in poverty that is expected due to a change in public expenditure. PEXP is public expenditure; GOV is governance (corruption and political instability). β_1, is the constant term, β_2 captures the effect of a unit increase in expenditure on poverty and it is constant across countries, β_3 denotes the effects of governance on poverty, while β_4, is

the effect of public expenditure on poverty conditional on governance. In other words, it is the effect of the interaction term of governance and public expenditure on poverty. Since governance is a variable, it then means that this effect is not the same across countries.

Model one: Government expenditure interacted with corruption

$$lnPOV_{it} = \beta_0 + \beta_1 lnPOV_{it-1} + \beta_2 lnPEXP_{it} + \beta_3 lnCORR_{it} + \beta_4[lnPEXP \times lnCORR]_{it} + \beta_5 lnTR_{it} + \beta_6 lnGDP_{it} + u_{it} \qquad (14)$$

Model two: Public expenditure interacted with political instability
$$lnPOV_{it} = \gamma_0 + \gamma_1 lnPOV_{it-1} + \gamma_2 lnPEXP_{it} + \gamma_3 lnPiS_{it} + \gamma_4[lnPEXP \times lnPiS_{it}] + \gamma_5 lnTR_{it} + \gamma_6 lnGDP_{it} + u_{it} \qquad (15)$$

lnPOV is the poverty headcount ratio; $lnPOV_{it-1}$, is the poverty lagged by one period to describe its dynamism which explains how poverty in the previous year impacts poverty in the current year. β_0 and γ_0 are the constant terms, while other β_s and γ_s are the coefficients of explanatory variables. [lnPEXP × lnCORR] is expenditure interacted with corruption, and [lnPEXP × lnPiS] is expenditure interacted with political instability. A significant negative value of the coefficients β4 and γ_4 in both models 14 and 15 would indicate that the effect of public expenditure on poverty is a reductive one due to good governance, which can be considered a negative role of governance on poverty. lnTR is trade, and lnGDP is the gross domestic product. ε_t= Error term. *i* denotes a country (*i* = 1,…,46) while *t* denotes the period of time (t =1…,7).

All the variables were logged as extracted, except for CORR and PiS which were rescaled (adding 3.5 to all the values) before logging, because the values were negative for SSA. All the variables were obtained from the World Development Indicators (WDI) and Worldwide Governance Indicators (WGI), all from the World Bank Group database from 1996- 2019 (World Bank 2021a). Estimations of all the two models were on a 3-year average data without overlapping from 1996 to 2019, with the essence of reducing the sample period (T) to less than 10 in line with the GMM time dimension. Law (2018), suggests that if N > 60 and T ≥ 45 observations, the sample period can be reduced by averaging the data over five years, but if the sample is about 28 observations, then three or four years is used to average the data. The variable series has eight (8) observations for every country included in the sample (i.e. 1996-1998; 1999-2001; 2002-2004; 2005-2007; 2008-2010; 2011-2013, 2014-2016 and 2017-2019) for an unbalanced panel of 46 countries of SSA.

The expected signs for Governance estimates are negative. Such that if the coefficients assume a negative and statistically significant value, then the study can conclude that corruption and political instability reduce poverty in the case of SSA. The signs expected for the coefficients of expenditure, trade and GDP are negative so that as they increase, poverty should decrease. For the interaction terms, if the coefficients of log (gov x pexp) are positive and significant, it then means that the interaction terms increase poverty, but if they are negative and significant, it implies that the interaction terms reduce poverty in SSA. The estimation of the dynamic panel data in equations (14 and 15) exhibits Nickell (1981) biasedness that can only disappear as T move towards infinity, hence the use of the Sys-General Method of Moments (GMM).

The interpretation of the interaction terms would be based on the marginal effects of the newly computed standard errors, according to Brambor et al. (2005). We started by computing the marginal effects of governance as follows:

$$Marginal\ effect = \frac{\partial pov}{\partial pexp}(gov_i) \qquad (16)$$

After the computation of the ME, then a new standard error is computed to assess the significance of the marginal effects of governance as follows:

$$Standard\ Error = \sqrt{\sigma^2 \frac{\partial pov}{\partial pexp}} = \sqrt{var(\beta_2) + 2pexp\ var(\beta_3) + pexp\ cov(\beta_2\beta_3)} \qquad (17)$$

In evaluating the significance of the marginal effect, we used the minimum, mean and maximum values of these variables to compute the t-statistic.

$$t - stat = \frac{coefficient}{standard\ error} \qquad (18)$$

Equation (18) produces the standard error of the marginal effect of public expenditure on poverty conditional on the nature of governance. From these equations, governance indicators (control of corruption and political stability) will significantly have effects on poverty if the marginal effects in equation (16) are significant. Interpretation of marginal effect is

according to minimum, average and maximum of governance. This indicates that when governance is at a minimum, it depicts that of a country with very low governance. At the average level of governance, it reflects that of the region in its entirety, and when it is at maximum, it shows that of a country with high governance hence, making appropriate recommendations.

TABLE 1. Description of variables and their sources

Variable	Description	Measurement	Source of Data	Expected Signs
pov_{it}	the percentage of the population living below \$1.90 per day	1 to 100%	WDI, World Bank	-
$corr_{it}$	perceptions of the extent of exercising public power for private gain	-2.5 to 2.5 but was upscaled by adding 3.5, i.e. (3.5+ ccorr)	WGI, World Bank	Negative
pis_{it}	political stability and absence of violence or terrorism	-2.5 to 2.5, but was upscaled by adding 3.5, i.e. (3.5+ ccorr)	WGI, World Bank	Negative
$pexp_{it}$	it includes all current government expenditures for purchases of goods and services, national defence and security	percentage of GDP)	WDI, World Bank	Negative
tr_{it}	It is the sum of the export and import of goods and services divided by the GDP	percentage of GDP	WDI, World Bank	Negative
gdp_{it}	it is a gross domestic product that measures the value added by all domestic producers plus tax but minus subsidies	Constant 2010 US Dollar	WDI, World Bank	Negative

Source: Authors' extraction, (2023)

Note: having upscale the governance variables, the measurement ranges from 0.5 to 6, i.e. 0.5 indicating the most corrupt or poor governance and 6 as the least corrupt or good governance.

RESULTS AND DISCUSSION

DESCRIPTIVE STATISTICS

The result presented in Table 2 shows an average poverty rate of 44.02%, with a standard deviation of 23.28% in the region of SSA. The lowest poverty rate was recorded as 0.20 for Mauritius for the period from 2017 to 2019; while the highest poverty was 96.42, which was recorded in Congo DR for the period from 2002 until 2004. The average public expenditure was 14.88% in the region, with a standard deviation of 7.05%. Eritrea was the country with the highest expenditure of 55.66% between 1999 and 2001, while Nigeria recorded the lowest expenditure of 1.07% between 1996 and 1998. As for corruption, it averaged 2.91, with a substantial standard deviation of 0.609. The maximum value (least corrupt) was exhibited by Botswana at an estimate of 4.545 from 2005 to 2007, while the minimum value (most corrupt) was 1.815 recorded by Equatorial Guinea in the period from 2014 to 2016.

Political instability was average at 2.974, with a standard deviation of 0.898 in the region. The maximum value (most stable) of political stability was 4.784 experienced in Seychelles from 1999 through to 2001, while the minimum value (most unstable) of 1.009 was seen in Congo DR for the period from 1999 to 2001, which was associated with the crises that plagued the country. For trade, the region had an average flow of trade of 74.45%, with a standard deviation of 38.13%. GDP was average at USD 26900 million, with a standard deviation of USD 67700 million.

TABLE 2. Descriptive statistics for governance and poverty

Names of variables	Obs	Mean	Std. Dev	Min	Max
pov	315	44.019	23.281	0.20	96.424
pexp	336	14.888	7.047	1.066	55.663
corr	368	2.91	0.608	1.815	4.545
pis	368	2.974	0.898	1.009	4.785
tr	353	74.449	38.133	20.305	271.515
gdp	363	2.69e+10	6.77e+10	1.22e+08	4.67e+11

Note: pov=poverty headcount ratio, pexp=government expenditure corr= corruption, pis= political instability, tr=trade, gdp= income. Obs= observations, Std. Dev = standard deviation, Min=minimum and Max= maximum values of the variables.

Table 3 results indicated a correlation between all of the variables in the study with poverty, which was negatively significant at 1% level. The implication of this is that these explanatory variables moved in the opposite direction with poverty. Most importantly, governance (corruption control and political stability) is positively correlated with poverty, since an increase in corruption control and political stability signifies a perceived fall in corruption and political instability. However, the strength of the association between poverty and other variables is relatively stable for the region.

TABLE 3. Correlation matrix for governance and poverty

	pov	pexp	ccorr	psv	tr	gdpci
pov	1.0000					
pexp	-0.249***	1.0000				
ccorr	0.381***	-0.530***	1,0000			
psv	0.386***	-0.412***	0.716***	1.0000		
tr	-0.395***	0.519***	0.376***	0.408***	1,0000	
gdp	-0.098***	0.105***	0.002***	0.175***	0.186***	1.0000

Note pov=poverty headcount ratio, gcexp=government consumption expenditure, ccorr= control of corruption, psv= political stability, trade and gdpci= income. Where *** indicates a 1% significance level of the correlation.

REGRESSION RESULTS FOR GOVERNANCE-POVERTY RELATIONSHIP THROUGH PUBLIC EXPENDITURE

In our estimation, the maximum number of instruments for the three models was 32, which was not more than the number of groups (43) in the panel. The results are presented in Table 4. The first row has the lagged dependent variable, together with its probability value. It shows that the lagged dependent variable included in all the models as instruments are significant (p-value < 0.001), which means that last year's poverty will affect the poverty level of the current year positively. In other words, it worsens it. The impact of trade and GDP, both show evidence of negatively impacting poverty at different magnitudes in the two models.

For instance, trade reduces poverty in all of the models, at a magnitude of 0.059, and 0.110 at 5 and 1% significance levels, respectively, which indicates that trade is sacrosanct for reducing poverty in SSA, considering its abundant resources. This outcome is in tandem with the a priori information that trade reduces poverty, just as found by previous studies (Kelbore 2015; Shuaibu 2017; Khobai et al. 2017; Dankumo et al. 2020). Trade reduces poverty through employment creation and real wage increments that are upshot from investment and capital transfer into a domestic country. Similarly, GDP is evident to reduce poverty at the magnitude of 0.187 and 0.215 at 1% level of significance in all of the models. Growth reduces poverty through its slight impact on income inequality. Since a relatively stable income distribution over time is associated with a positive impact of growth on incomes for all members of society. More so, economic growth has been proven to be a powerful weapon for the fight against poverty across the globe since the beginning of the year 2000, hence a valuable lesson for SSA that is expected to have the concentration of global poverty in 2030. This result conforms with previous studies (e.g. Khan 2009; Kelbore 2015). These results show that GDP impacts more than trade, as shown by the magnitude of their coefficients.

The last three columns presented the results for the validity of the Arellano and Bover (1995) and Blundell and Bond (2000) system-GMM estimated results and that of the instruments used in the model. A Sargan test revealed a probability value of 0.624 and 0.288 for the two models respectively, and it does not reject the over-identifying restrictions, meaning that all the regressors used in the model are valid and are uncorrelated with the error term; while the excluded instruments were rightly excluded from the estimated model. Additionally, we did not find a serial correlation in the residuals. Arellano and Bond (1991) AR(1) and AR(2), which tested for autocorrelation in all of the models, did not show any evidence of autocorrelation, as AR(1) were significant at 5%. (Blundell & Bond 2000), whereas AR (2) was not significant in the models.

In Model I, all the independent variables are separated to examine their direct impact on poverty. The results indicate that public expenditure negatively impacted poverty by a magnitude of 0.087 at a 1% significance level when it did not interact with governance. This result signifies that *ceteris paribus*, government expenditure reduces poverty by 8.7% if not interacted with governance. This finding is in line with several studies (such as Mehmood & Sara 2010; Celikay & Sengur 2016; Edrees et al. 2016; Anderson et al. 2018; Omodero 2019 e.t.c.). Corruption does not show any evidence of a direct impact on poverty because it is insignificant, hence further investigation through interaction with expenditures. The coefficient of political instability has a positive significant impact on poverty, having a coefficient of 0.193 at the significance level of 1%, *ceteris paribus*. The results suggest that political instability increased poverty in SSA. In other words, 1 unit increase in instability worsened the poverty condition by 19.3%. This finding is in accord with all the literature on the political instability-poverty nexus, which argues that a positive association exists between political instability and poverty (such as Alesina & Perotti 1996; Aisen & Francisco 2013; Ibrahim & Cheri 2013; Omoteso & Mobolaji 2014; Tsegaw 2020)

The Model II of Table 3 reports the estimation results of an interaction term of government expenditure and corruption on poverty. Government expenditure showed evidence of impact on poverty 0.149 negatively and was significant at 1% level. This means that a public expenditure increase of 1% is associated with 14.9% decrease in the poverty rate in SSA. This result also affirms our a priori information and is in line with some previous studies (such as Mehmood & Sara 2010; Celikay & Sengur 2016; Edrees et al. 2016; Anderson et al. 2018; Omodero 2019). In this model, corruption has a significant positive impact on poverty at a 1% significance level, with a magnitude of 0.257, *ceteres paribus*. This means that as corruption increases by 1 unit, poverty will follow suit in the same direction, rising by 25.7%. Further, poverty decreases by 25.7% when corruption decreases by 1 unit. This outcome conforms to the few studies on this relationship (e.g. Wei 2001; Chetwynd et al. 2003; Cooray 2009; Rothstein & Holberg 2011; Dankumo et al. 2021).

TABLE 4. Twostep Sys-GMM Regression results.

Variables	Model I	Model II	Model III
l.lnpov	0.953***	1.025***	0.913***
	(0.028)	(0.028)	(0.028)
lnpexp	-0.087***	-0.149***	-0.109***
	(0.036)	(0.051)	(0.010)
lncorr	-0.114	0.257***	
	(0.129)	(0.079)	
lnpis	0.193***		0.192***
	(0.073)		(0.022)
lntr	-0.051*	-0.059**	-0.110***
	(0.029)	(0.029)	(0.019)
lngdp	-0.197***	-0.187***	-0.215***
	(0.025)	(0.024)	(0.024)
pcorr		0.093***	
		(0.031)	
ppis			0.065***
			(0.068)
cons	5.417***	1.329	2.798***
	(0.551)	(1.464)	(0.610)
N	210	210	210
Group/Instruments	43/32	43/32	43/32
Sargan Test	0.314	0.624	0.288
AR1	0.051	0.054	0.052
AR2	0.283	0.259	0.273

Marginal Effects (ME) of Governance on Poverty

Measurement of Governance	Marginal Effects when Governance is at Minimum	Marginal Effects when Governance is at Average	Marginal Effects when Governance is at Maximum
Corruption	1.184***	0.901***	0.482
	(0.549)	(0.441)	(0.279)
Political Instability	1.041***	0.664***	0.317
	(0.477)	(0.326)	(0.184)

Note: All the models were estimated using the Arellano and Bond, (1991) dynamic panel Sys-GMM estimation (in STATA xtdpdsys command). D.V: Poverty I.V: (lnpexp x lncorr) and (lnpexp x lnpis). The variables are defined as: pov=poverty; pexp= public expenditure; corr=corruption; pis=political instability; tr=trade; gdp= economic growth, pcorr= pexp*corr, ppis=pexp*pis and cons=constant. Standard errors in ( ). *, **, and *** denote 10%, 5% and 1% levels of significance, respectively.

Model III provides the regression result of the impact of the interaction term of public expenditure and political instability on poverty. On the one hand, public expenditure with 0.109 magnitudes also impacts negatively at 1% significant level on poverty in the absence of political stability, just like in Model I. An increase in expenditure reduces poverty by 10.9%. Political instability impacts poverty positively, with a magnitude of 0.092 at 1% significant level, even when expenditure is zero, indicating that a stable polity helps to bring nine people out of poverty in the region, without any public expenditure. In other words, instability pushes nine people into poverty since most of the people in the region rely on politically stable occupations, such as mining, farming, and fishing, amongst others.

MARGINAL EFFECTS OF INTERACTION TERMS OF GOVERNANCE AND PUBLIC EXPENDITURE ON POVERTY

The empirical results in the lower panel of Table 4 suggest that in the 'high' and 'medium' corruption groups of countries in SSA, public expenditure has a positive effect on poverty, the coefficients are statistically significant at 1% significance level; while in the group of countries with low corruption, public expenditure positively relates to poverty, even though the coefficients are not statistically significant. So, this result suggests that even the lowest level of corruption in SSA is inadequate to allow for the impact of public expenditure on poverty. Hence, the conclusion is that, in SSA, a drastic reduction in corruption is fundamental to poverty reduction.

Similarly, in the interaction term of political instability and public expenditure in the group of countries with 'high' and 'medium' instability in SSA, public expenditure has a positive effect on poverty, and the coefficients are statistically significant. Whereas, in a relatively stable group of countries (low instability), public expenditure is not statistically significant. Hence, there is the need for SSA countries to improve the stability of their polity because the majority of the people in the region are employed in politically stable related jobs- farming, fishing, mining- and even successful implementation of pro-poor policies and programmes.

What this result implies is that even if expenditure rises while there is an increase in corruption, the impact on poverty will also be positive. But, on the other hand, if expenditure increases while corruption decreases, it will negatively impact poverty. The high rate of corruption and political instability poses a considerable threat to achieving the policy targets of increasing the poor's income via job creation and execution of projects aimed at reducing poverty, thereby worsening the situation of the poor. Therefore, it is not surprising that the region continues to have a high poverty rate

because corrupt officials divert the resources meant for reducing it. Consequently, curtailing corruption is very much beneficial to SSA countries that are suffering from poverty.

ROBUSTNESS CHECK

The model was re-estimated in Table 5 using the poverty gap and poverty gap squared as the dependent variables separately. The poverty gap measures the intensity to which the living standard of the already impoverished people is below the poverty line, while the poverty gap squared measures the severity of poverty derived from squaring the poverty gap ratio, which further emphasizes how poor people experience income falls under the poverty line. The essence is to verify if the interaction terms of governance and public expenditure would have a significant negative impact on the intensity and severity of poverty in the SSA region.

The result shows that all the interaction terms of governance (corruption and political instability) and expenditure were significant at 1 and 5% levels in increasing the poverty gap, signifying that a unit increase in the interaction term increases the poverty gap by 12% and 59% in the SSA region, respectively. However, the interaction term of expenditure and political instability seems to have more impact than that of corruption. This is attributed to the fact that the SSA populace is mostly into occupations that have a connection with instability such as farming, fishing, hunting and trading. Similarly, on the poverty gap squared, the interaction terms are also significant, but at 5% significant level. These results signify that when governance interacts with public expenditure, it influences all the poverty dimensions – poverty, poverty gap and poverty gap squared in the SSA region, as earlier found by Cuong et al. (2021), hence the need to improve its governance.

TABLE 5. Robustness Check.D.V: Poverty gap and poverty gap squared

	Poverty gap (povg)		Poverty gap squared (povg2)	
	Model I	Model II	Model I	Model II
l.lnpov	0.953***	0.952***	-0.311***	-0.075***
	(0.048)	(0.043)	(0.045)	(0.011)
lnpexp	-0.259***	-0.957***	-0.545***	-0.462***
	(0.126)	(0.269)	(0.199)	(0.181)
corr	0.371**		0.954***	
	(0.216)		(0.746)	
pis		1.385**		-0.909**
		(0.596)		(0.474)
lntr	0.229**	-0.109**	-0.755***	-0.788***
	(0.116)	(0.069)	(0.181)	(0.243)
lngdp	-0.482***	-0.107***	-0.093***	-1.832***
	(0.123)	(0.106)	(0.019)	(0.301)
pcorr	0.128***		0.496**	
	(0.068)		(0.145)	
ppis		0.590***		0.265**
		(0.196)		(0.106)
cons	2.033***	5.117***	21.475***	23.496***
	(0.943)	(1.066)	(2.496)	(2.602)
N	208	208	208	208
Group/ Instruments	43/32	43/32	43/32	43/32
Sargan Test	0.336	0.318	0.172	0.184
AR1	0.001	0.003	0.047	0.0524
AR2	0.525	0.617	0.509	0.6213

Note: D.V: poverty gap and poverty squared I.V: (lnpexp x lncorr) and (lnpexp x lnpis). The variables are defined as: povg=poverty gap; povg2=poverty gap squared; pexp= public expenditure; corr= corruption; pis=political instability; tr=trade; gdp= gross domestic product, pcorr= pexp*corr, ppis=pexp*pis and cons=constant. Standard errors in ( ), *, **, and *** denotes 1%, 5% and 10% level of significance respectively.

CONCLUSIONS

Whenever governance is bad, it inflicts negative consequences on the populace in terms of low government expenditure, unemployment, poor infrastructure, low trade, low growth of the economy, increased poverty, and vice versa when it is good. The study discovered that governance - corruption and political instability- was responsible for increasing poverty in SSA countries. The study also found that public expenditure predicts the level of poverty, though this, too, is not enough, which is still conditioned on the nature of governance. Also, trade and GDP were found to reduce poverty in SSA countries.

Most importantly, the empirical results showed that the interaction terms of governance and public expenditure increased poverty. Whereas the results of the marginal effect for corruption showed that it increased poverty at both the minimum and average levels, it is insignificant at the maximum level (low corruption). This subsequently means that, even at the lowermost level of corruption in the region, it still did not reduce poverty. This suggests that public expenditure is adequate to impact poverty, as shown in the two models, but is conditioned on the level of corruption. As such, in SSA, reducing corruption is fundamental to reducing poverty for it enhances public expenditure efficacy. Similarly, the marginal

effect of the interaction term of political instability and public expenditure increases poverty at both the minimum and average level, while, at the maximum value, it reduces it. This means that political instability has a significant role in moderating the effect of public expenditure on poverty – that the changes in the level of poverty resulting from a change in expenditure in the region of SSA are contingent on the country's level of political instability. As such, it can be concluded that if the average political stability of SSA (-0.526) is improved –let us say that of Seychelles' (1.28), which is the minimum level of political instability – the poverty in the region will be reduced by 0.258% when it interacts with the significant government expenditure, as seen in the results of the marginal effect. Overall, these results demonstrate that public expenditure does exacerbate poverty in SSA when moderated by governance variables.

This study contributes to scanty studies on the effects of governance on poverty by interacting it with public expenditure, as well as focusing on SSA, a region that is facing high corruption and political instability. Our results generally confirm that "underlying the litany of Africa's development problems is a crisis of governance" (Lateef 2016), which is glaring in its poor quality of institutions and very high level of instability and corruption, hence the high rate of poverty. However, the outcome of this study does not allow us to conclude on other world regions because the data is only for the SSA region. Therefore, further studies need to be conducted in other regions of the world that have a relatively better governance index than that of the SSA region to see whether they will produce similar or different results. Moreover, this study cannot conclude on cause and effect; instead, we only assume that poverty, public expenditure, and trade are not only affected by governance, but other variables too.

Governments in SSA must vigorously deal with corruption through the strengthening of anti-graft agencies while reforming the judiciaries and ensuring oversight functions of the legislative arm of government to punish the defaulters. Also, they should implement institutional reforms that would generate jobs to increase people's incomes for poverty reduction by overhauling and reforming structures of governance to create a conducive environment. Furthermore, policymakers should prioritize policies and programmes that enhance governance quality, such as accountability, transparency, public spending, and fiscal responsibility. This is because a fall in corruption will enhance public expenditure efficiency on poverty reduction through proper channelling of expenditure to the desired sectors without being embezzled by corrupt government officials in charge of implementation, thereby improving income distribution through pro-poor services provision.

Additionally, SSA countries should pursue political stability through resilient and inclusive governance that accommodates various individualities and realities of its citizens. Lastly, the governments of SSA should ensure free and fair politics that will increase people's confidence in the government and lessen all kinds of crises and demonstrations. Should the average political stability of SSA (-0.489) be improved to that of Seychelles' 1.185, the poverty in the region will be reduced by 25.8% when it interacts with the insignificant government consumption expenditure, as confirmed by the results of the marginal effect. This would enable the effective implementation of policies and programmes financed by public expenditure to reduce poverty to the barest level.

<h1 style="text-align:center">REFERENCES</h1>

African Development Bank, 2021. From debt resolution to growth: the road ahead of Africa. African Economic Outlook. https://www.afdb.org/en/documents/african-economic-outlook-2021

Acharya, S. & Nuriev, S. 2016. Role of public investment in growth and poverty reduction in transition economies. *Journal of Reviews on Global Economics* 5: 310–326.

Aiken, L.S. & West, S.G. 1991. *Multiple Regression: Testing and Interpreting Interactions*. London: Sage.

Aisen, A. & Francisco, J.V. 2013. How does political instability affect economic growth? *European Journal of Political Economy* 29: 151–167.

Alesina, A. & Perotti, R. 1996. Income distribution, political instability, and investment. *European Economic Review-Elsevier Science* 40: 1203–1228

Anderson, E., d' Orey, M.A.J., Duvendack, M. & Esposito, L. 2018. Does government spending affect income poverty ? A Meta-regression Analysis. *World Development* 103(C): 60–71.

Arellano, M. & Bover, O. 1995. Another look at the instrumental variable estimation of error components models. *Journal of Econometrics* 68(1): 29–51.

Arellano, M. & Bond, S. 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies* 58(2): 277–297.

Birowo, T. 2011. *The Relationship Between Government Expenditure and Poverty Rate in Indonesia*. Graduate School of Asia Pacific studies Ritsumeikan, Asia Pacific University, Japan.

Blundell, R. & Bond, S. 2000. GMM estimation with persistent panel data: An application to production functions. *Econometric Reviews* 19(3): 321–340.

Brambor, T., Clark, W.R. & Golder, M. 2005. Understanding interaction models: Improving empirical analyses. *Political Analysis* 14: 63–82.

Celikay, F. & Sengur, M. 2016. Education expenditures and income distribution: An empirical analysis on European countries. *Humanomics* 32(3): 248–257.

Chetwynd, E., Chetwynd, F. & Spector, B. 2003. *Corruption and Poverty : A review of Recent Literature*. Management

Systems International, Washington, DC.

Coccia, M. 2021. How a good governance of institutions can reduce poverty and inequality in society? In *Faghih, N., Samadi, A.H. (eds) Legal-Economic Institutions, Entrepreneurship, and Management. Contributions to Management Science.* Springer, Cham

Cooray, A.V. 2009. Government expenditure, governance and economic growth. *Comparative Economic Studies* 51(3): 401–418.

Cuong V.N., Long, T.G., Anh N.T. & Huyen, T.D. 2021. Do good governance.and public administration improve economic growth and poverty reduction? The case of Vietnam. *International Public Management Journal* 24(1)*:* 131-161.

D'Agostino, G., Dunne, J.P. & Pieroni, L. 2016a. Corruption and growth in Africa. *European Journal of Political Economy* 43: 71–88.

D'Agostino, G., Dunne, J.P. & Pieroni, L. 2016b. Government spending, corruption and economic growth. *World Development Elsevier* 84(C): 190–205.

Dankumo, A.M., Ishak, S., Bani, Y. & Hamza, H.Z. 2019. The relationship between public expenditure, corruption and poverty in Nigeria. *Jurnal Ekonomi Studi dan Penbengunan* 10(4): 76–89.

Dankumo, A.M., Ishak, S., Bani, Y. & Hamza, H.Z. 2021. Governance, public expenditure, trade and poverty reduction in sub-saharan african countries. *Jurnal Ekonomi dan Studi Pembangunan* 13(1): 16–35.

Dankumo, A.M., Ishak, S., Bani, Y. & Hamzah, H. Z. 2020. Relationship between governance and trade: Evidence from Sub-Saharan African countries. *Research in World Economy* 11(6): 139-154.

Dissou, Y. & Yakautsava, T. 2012. Corruption, growth and taxation. *Theoretical Economic Letters* 2012: 62–66.

Easterly, W. & Levine, R. 1997. Africa's growth tragedy: Policies and ethnic divisions. *Quarterly Journal of Economics* 112(4): 1203–1250.

Edeme, R.K., Nkalu, C.N. & Ifelunini, I.A. 2017. Distributional impact of public expenditure on human development in Nigeria. *International Journal of Social Economics* 44(2): 1683–1693.

Edrees, A., Azali, M., Azman, H. & Nor, N.M. 2016. The impact of government spending, trade, foreign aid and foreign direct investment on poverty reduction in Africa. *International Journal of Economics and Management Sciences* 5(1): 1–6.

Franzese, R.J. & Kam, C.D. 2007. *Modelling and Interpreting Interactive Hypotheses in Regression Analysis*. Michigan: University of Michigan University Press.

Friedrich, R. 1982. In defense of multiplicative terms in multiple regression equations. *American Journal of Political Science* 26(4): 797–833.

Gate, B. & Gate, M. 2018. *The Stories Behind the Data 2017*. Goalkeepers: Belinda and Gates Foundation.

Gukat, B.T & Ogboru, I. 2017. An Empirical Analysis of Government Expenditure and economic growth in Nigeria. *Journal of Economics and Development Studies* 5(4): 122–130.

Hidalgo-Hidalgo, M. & Iturbe-Ormaetxe, I. 2018. Long-run effects of public expenditure on poverty. *Journal of Economic Inequality* 16(1): 1–22.

Jha, R., Biswal, U.D. & Biswal, B.P. 2000. An empirical analysis of the impact of public expenditure on education and health on poverty in Indian states. *SSRN Electronic Journal*.

Kaufmann, D., Kraay, A. & Zoido- Lobaton, P. 1999. *Governance Matters. World Bank Policy Research* (No. 2196). Washington DC.

Kelbore, Z.G. 2015. Trade openness, structural transformation, and poverty reduction: Empirical evidence from Africa, (65537), 1–21.

Khan, M.H. 2009. *Governance, Growth and Poverty Reduction* (Economic & Social Affairs No. 75 ST/ESA/2009/DWP/75 J75). New York.

Khobai, H., Kolisi, N. & Khobai, H. 2017. *The Relationship Between Trade Openness And Economic Growth: The Case Of Ghana And Nigeria, (10679)*.

Law, S.H. 2018. *Applied Panel Data Analysis: Short Panels* (First). Serdang, Malaysia: Universiti Putra Malaysia Press.

Lateef, K.S. 2016. *Governance and the Law: Evolution of The World Bank's Thinking on Governance*. Washington DC.

Mansi, E., Hysa, E., Panait, M. & Voica, M.C. 2020. Poverty-A challenge for economic development? Evidence from Western Balkan countries and the European Union. *Sustainability* 12(18): 1–24.

Mauro, P. 1995. Corruption and growth. *The Quarterly Journal of Economics* 110(3): 681–712.

Mehmood, R. & Sara, S. 2010. The relationship between government expenditure and poverty: A cointegration analysis. *Romanian Journal of Fiscal Policy* 1(1): 29–37.

Miftari, F., Kida, N. & Shala, N. 2021. The effect of public expenditures on the economic growth of Kosovo: An econometric analysis. *Economics, Management And Sustainability* 6(1): 61–69.

Muloka, D., Kogida, M., Asida, R. & Lilya, J. 2012. Is economic growth sufficient for poverty alleviation? Empirical evidence from Malaysia. *Cuadernos de Economía* 35(97): 1–54.

Musgrave, R.A. 1956. *The Theory of Public Finance: A Study in Public Economy.* Tokyo: Mc Graw –Hill.

Nickell, S. 1981. Biases in dynamic models with fixed effects. *Econometrica* 49: 1417–1426.

North, D.C. 1990. *Institutions, Institutional change and economic performance.* Cambridge University Press.

Olarewaju, F.O. 2016. Government spending, corruption and output growth in Nigeria. *European Scientific Journal* 12(16): 291–312.

Omodero, C.O. 2019. Government sectoral expenditure and poverty alleviation in Nigeria. *Research in World Economy*, 10(1): 80–90.

Rothstein, B. & Holberg, S. 2011. *Correlates of Corruption: The Quality of Government Institute (QoG)* (12). Gothenborg.

Sasmal, R. & Sasmal, J. 2016. Public expenditure, economic growth and poverty alleviation. *International Journal of Social Economics* 43(6): 604–618.

Shleifer, A. & Vishny, R.W. 1993. Corruption. *Quarterly Journal of Economics* 108(3): 599–617.

Shuaibu, M. 2017. The effect of trade liberalisation on poverty in Nigeria: A Micro-Macro framework. *International Economic Journal* 31(1): 68–93.

Schwartzman, S. 1998. The Statistical Measurement of Poverty. Retrieved January 24, 2019, from https://unstats.un.org/unsd/statcom/doc99/rio.pd

Transparency International. 2021. *Corruption Perception Index*.

Ukwueze, E.R. 2015. Determinants of the Size of Public Expenditure in Nigeria. *SAGE Open* 5(4): 1-8.

UNDP. 2021. *Human Development Indices and Indicators 2018 Statistical Update*. Washington DC.

Wang, Z. & Guo, S. 2022. Politics of poverty governance: An introduction. *Journal of Chinese and Political Science* 27: 205–219.

Wei, S. 2001. Corruption in economic transition and development: "Grease or Sand." In *the Spring Seminar*. Geneva.

World Bank. 2021a. *World Development Indicators*. Washington D.C.

World Bank. 2021b. *Worldwide Governance Indicators*. Washington, D.C.

Wright, G. 1976. Linear models for evaluating conditional relationships. *American Journal of Political Science* 2: 349–373

Ali Madina Dankumo*
Department of Economics and Development Studies
Federal University of Kashere
PMB 0182, Gombe, NIGERIA.
E-mail: kumotito@yahoo.co.nz

Suryati Ishak
School of Business and Economics
Universiti Putra Malaysia
43400 UPM Serdang, Selangor, MALAYSIA.
E-mail: suryatiis@upm.edu.my

Yusuf Auta
Department of Local Government and Development
Ahmadu Bello University
PMB 810211, Zaria, NIGERIA.
E-mail: autayusufz@yahoo.com

Haruna Amos Denthe
School of General Studies
Federal Polytechnic Kaltungo
PMB 770117 Gombe State, NIGERIA.
E-mail: Speak2denthefpk@gmail.com

* Corresponding author

APPENDIX

List of 46 Countries:

Angola, Benin, Botswana, Burkina Fasso, Burundi, Cape Verde, Cameroon, Central Africa Republic, Chad, Comoros, Congo DR, Congo Brazzaville, Cote d'Ivoire, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe.