INDIRECT EFFECT OF GOVERNANCE INDICATORS ON ECONOMIC GROWTH THROUGH GOVERNMENT EXPENDITURE IN SELECTED AFRICAN COUNTRIES.

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Abstract

This study investigated the impact of government expenditure on economic growth in selected African countries between 1996 and 2020. Data were sourced from WDI, IMF and WGI. The dependent variable, economic growth was proxied by the percentage annual growth of RGDP while the explanatory variables of primary interest are total government expenditure to GDP and the six governance indicators. The specific objectives are to examine the effects of total government expenditure and governance indicators on economic growth. Panel Autoregressive Distributive Lag (PARDL) and suitable remedial measures were adopted whenever such tests indicated econometric problems despite the inbuilt mechanism of the PARDL software. Following the above methodology, the findings highlight the fact that the total government expenditure that does not interact has a positive effect on economic growth. In contrast, the effects of its interacted form are found to be clearer only in the case of government effectiveness and control of corruption indicators in the long run. Based on the findings, the study recommends that the regulatory authorities should always take cognizance of promoting a high quality of governance, especially government effectiveness and control of corruption for stimulating the positive effect of total government expenditure.

Keywords: Economic Growth, Government Expenditure, Governance indicators, Governance Institutional Quality

JEL Classification:C22, H50, H83

1. Introduction

The quest to better the lots of citizens through government expenditure has raised questions on the impact of government expenditure on the economic growth of nations. Economies today use public expenditure for income distribution, resource allocation, and improvement in the composition of overall economic growth and development (Alutha et al., 2021). This has led to several researchers having an interest in the role of government spending on the long-term growth of national economies (Nyasha & Odhiambo, 2019). The revival of interest in growth theories has also rejuvenated interest among researchers in verifying and understanding the link between government expenditure and economic growth.

The failure to translate the rising government expenditure into meaningful growth and development in Sub-Saharan African countries has been disheartening over the years. This is evident by a high rate of unemployment, illiteracy rate and number of citizens who continue to live in abject poverty. The positions of economists who analyse developing economies on the role of government expenditure in these economies are still inconclusive. For instance, Barro (1990), by endogenising government spending in a growth model and analysing the relationship between the size of government and rates of growth and saving, concludes that an increase in resources devoted to non-productive government services is associated with lower per capita growth and, therefore, opines that government expenditure which enhances economic growth should be tailored towards productive services. In contrast, Yasin (2000) re-examines government spending on economic growth based on an aggregate production function and comes up with a conclusion that government expenditure from a wider perspective has a positive effect on economic growth. Lin (1994) has pointed out that there is a positive impact of government expenditure on economic growth in developing countries in the short run whereas a negative impact is found to be in the medium term regardless of whether the expenditure is for productive or non-productive services.

In an attempt to explain growth differences across countries, four separate theses have emerged in recent times. These are the geography thesis, cultural and historical thesis, trade thesis and institution and policy thesis. The first argues that Africa is poor because of its geographical disadvantages while the second thesis argues that culture and historical antecedences put Africa at a disadvantage and, hence, Africa cannot grow as fast as other regions. Trade literature argues that Africa is poorer because its trading is lesser internationally. Finally, the fourth thesis argues that weak institutions and wrong policy choices hinder Africa's growth (Bhattacharjee and Halder, 2015). It is against the importance of these institutions and government spending that this study examines the impact of the size and structure of government expenditure on economic growth in Sub-Saharan Africa from 1996 to 2019.

The rest of the paper is structured as follows: Section 2 provides the literature review, and Section 3 presents the methodology and a description of the data employed in the study. The analysis and discussion of results are undertaken in Section 4 while Section 5 concludes the paper.

2.0 Literature Review

This section undertakes a review of the relevant literature on the theories of economic growth, theories on the roles of government finance on the economy as well as relevant empirical literature on the effect of government expenditure on economic growth.

2.1 Theoretical Review

This section reviews theories on economic growth and theories on the roles of government expenditure on economic growth.

2.1.1 Theories of Economic Growth

There exist many theories and models of economic growth in literature. The important ones include the neoclassical growth model and endogenous growth model amongst others.

The failure of the classical growth theory in explaining the role of technology led to the development of a new growth model known as the neoclassical growth model. Neo-classical growth theory was first introduced by Solow (1956) and Swan (1958). The theory posits growth in output to be a function of growth in inputs: capital, labour, and technological progress. Any increase in savings rate leads to only an increase in both the steady-state level of output per capita and capital over time without affecting the growth rate of output. The growth rate of output remains unchanged due to the law of diminishing marginal product of capital because any further capital increase will lead to a fall in output back to the steady state. Also, population growth reduces the steady-state level of capital per head and output per head as it increases over time and it increases the steady-state growth rate of output. Long-run growth of output also depends on improvement in technology and an absence of this will allow output per person to converge to a steady state value, which depends positively on savings rate and negatively on the population growth rate (Dornbusch et al., 2011).

Unlike the neoclassical growth model that attributes long-run growth to technological progress and population growth rate without clarifying the economic determinants of technological progress, the endogenous growth theory argues that physical capital and knowledge capital are the main determinants of economic growth. The model assumes a constant marginal product of capital, unlike the neoclassical or exogenous growth model which assumes a diminishing marginal product of capital. The neoclassical theory assumes conditional convergence whereby countries with different saving rates but similar rates of technological progress and population growth rate will have different income levels but similar growth rates of income. The endogenous growth theory predicts that the higher the saving rate, the higher will be the growth rate of income (Dornbusch et al., 2011)

2.1.2 Theories of the Role of Government Expenditure on Economic Growth

This Sub-section reviews basic theories that have been put forward to explain the role of government expenditure in an economy. The discussions of the effects of public spending on economic growth have their origin in the role of the state in the economy

through fiscal policy. In the late 1930s, Keynesian economists argued that public expenditures constitute an exogenous factor and a policy instrument that promotes economic growth since they stimulate the aggregate demand of the economy. The idea of the Keynesian theory is that the government can boost economic performance by financing various spending programmes. Thus, public investment expenditure devoted to public goods and services such as roads, health, telecommunications, electricity, and education stimulates aggregate demand and boosts economic growth. Hence, high levels of government expenditure increase employment, profitability and investment via multiplier effects on aggregate demand. Public expenditure augments the aggregate demand, which leads to an increased output depending on expenditure multipliers (Patricia &Izuchukwu, 2013).

Contrary to the neoclassical theory, the endogenous growth theory emphasizes the potential effect of public expenditures on economic growth (Barro, 1991; Barro & Sala-i-Martin, 1992). Through the endogenous growth model, Barro (1990) argued that the effect of public spending on economic growth depends on the source of financing used by the government. The expenditure can be financed through tax, government borrowing and debts. If these expenditures are financed by a rise in direct taxation, the net effect on growth may be negative, despite a positive effect on the marginal productivity of private capital. If expenditures are financed by borrowing, then economic agents, who reason over a long period, understand that non-taxation at the current period is a tax deferral in the future. As a result, they save the surplus income due to the current period of non-taxation, to pay future taxes. This tends to reduce demand and the increase in public spending is compensated by the fall in private demand, thus reducing the effect of fiscal policy. This argument illustrates the Ricardian equivalence theory.

2.2 Empirical Review

Many empirical researches have been conducted to investigate the impact of government expenditure on economic growth in various countries. The results however have been mixed, as highlighted in the course of the review. The study commences empirical review from 2015 to focus on relatively recent studies because they have up-to-date methodologies, including the employment of updated data in their analyses.

Ibanichuka et al. (2016) did a study on a time series analysis of the effect of tax revenue on the economic development of Nigeria from 1995 to 2014. The study employs Multiple Regression Analyses. The findings show that revenues collected by the federal government have a positive relationship with the human development index. Likewise, Edame and Okoi (2015) address government finances through fiscal deficits, the study also attempts this but through revenue. However, the study neglects the other major source of financing government expenditure i.e. fiscal deficits. In addition, the study did not consider the influence of governance institutional quality on the effectiveness of financing government expenditure to promote economic growth.

Saezet al. (2017) investigate the relationship between government spending and economic growth in European Union countries using data spanning from 1994 to 2012. Employing the GMM technique, the results of the study reveal that, while the relationship between government spending and economic growth can be positive or negative, depending on the countries included in the sample, the period of estimation and the variables used to proxy the public sector size, government spending has a negative impact on economic growth in European Union countries. The results support the study conducted by Schaltegger and Torgler (2006) and Hasnul (2015). However, the study did not include the influence that institutional quality may have on the effectiveness of government expenditure.

Leshoro (2017) also investigates the relationship between government spending and economic growth in South Africa using annual data covering the period from 1976 to 2015. Government spending was further disaggregated into various components; government investment spending and government consumption spending. Using the autoregressive distributed lag (ARDL) estimation procedure, the results of the study show that government spending has a positive impact on economic growth in the study country, irrespective of the government expenditure component under consideration. These results were found to hold regardless of whether the estimation was in the long run or the short run. However, the study did not consider the influence that institutional quality may have on the effect of government expenditure on economic growth.

Meyer et al. (2018) assess the effect of government expenditure and sectional investment on economic growth in South Africa, using a Vector Autoregressive (VAR) model to analyze the impact of government spending and investment in economic sectors on economic growth, thereafter Vector Error Correction Model (VECM) exhibits that only investment in the financial sector has a significant effect on economic growth and the long-run results show that only investment in the manufacturing sector had a positive effect on economic growth but the effect of government spending on economic growth is found to be insignificant. The study is similar to that conducted by Ohwofasa et al. (2012) by explaining government spending on sectoral growth. However, it fails to consider whether the effects are invariant of institutional governance quality.

Azimi and Shafiq (2020) examined the association between governance variables and Afghan economic growth. Their empirical findings demonstrated a one-way relationship between the rule of law, government effectiveness, and economic growth. Also, In their study, Bala et al. (2021) investigated government expenditure on economic growth using time series data spanning 1981 to 2021, this study employs the Autoregressive distributed lag (ARDL) model for data analysis. The results revealed that public spending indicators are significantly related to economic growth and that government capital expenditure has a positive and significant impact on economic growth both in the short and long run. The study recommended that the government should increase the share of capital expenditure on meaningful projects that directly affect the citizens' welfare.

A study by Coman et al. (2022) examined the effect of government expenditure on economic development in Bulgaria using time series data from 1980 to 2018. The study

uses an Autoregressive Distributed Lag. Unit root and the cointegration evaluation. The findings revealed that capital expenditure has a favourable and substantial impact on economic development both in the short-term and long-term. It was recommended that government must improve the share of the capital expenditure, particularly on significant projects that directly affect the resident's welfare.

Ndashau and Mtui (2022) investigated the effect of government consumption on economic growth in Tanzania for the period 1967 – 2020. Using the Autoregressive Distributed Lag (ARDL) bounds cointegration to test the results revealed that economic growth and government expenditure were cointegrated, given the conditioning factors; and, revealed a small but statistically significant positive long-run effect of government size on economic growth. The pairwise Granger causality test rejected the null hypothesis of no uni-directional or bi-directional causality between the government size and economic growth. The ECM results revealed the short-run effect of government size on economic growth was negative and statistically insignificant; and, the effect of private investment on economic growth was positive and statistically insignificant. This finding reveals the limit to the use of fiscal policy especially recourse to government expenditure to prime or stabilize the economy as maintained in Keynesian macroeconomic theory. The study recommended that more proactive policies and strategies to avail business and macroeconomic environment that would increase private investment should be pursued.

Ajayi and Nwogu (2023) investigated the relationship between government expenditure and economic growth in Nigeria between 1985 and 2020. Using time series data obtained from the Central Bank of Nigeria Statistical Bulletin. Employing Autoregressive Distributed Lag, the study of the Autoregressive Distributed Lag Bounds Cointegration test confirms the existence of a long-run relationship among the variables and shows an insignificant relationship between government capital expenditure and real gross domestic product and an inverse and insignificant relationship between government recurrent expenditure and inflation rate in the long run whereas the short run effect shows that all the variables have positive and insignificant effect on gross domestic product. The study therefore recommended that suitable projects that will fundamentally improve the aggregate production level should be executed by the government to bring about fundamental changes to the economy.

3.0 Methodology

There are two strands of theory underlying this study: one on the role of government expenditure on the economy and the other on the generalized growth theory. These are reviewed sequentially. Concerning the effect of government expenditure on economic growth, the theoretical foundation is premised on the Keynesian theory which posits that an increase in government spending leads to an increase in real domestic product and private consumption. With regards to the second strand of the theory, which is on economic growth the theoretical foundation of growth of GDP (economic growth equation) can be found in the Neoclassical growth model that is based on and also related to the growth accounting framework and which is widely used in empirical

studies. According to Dornbusch et al. (2011), the derivation of the growth accounting equation is as follows.

$$Y = Af(K,\ N) \quad \text{...} \quad (1)$$

where: A Technological progress, K= Capital stock, N= Labour, and Y= Output

Assuming output change as a result of the change in each of the input K, N and A multiplied by their marginal productivity gives Equation 3.3 below

$$\Delta Y = MPN.\Delta N + MPK.\Delta K + F(K,N).\Delta A \quad \text{.................. ...} \quad (2)$$

where MPN and MPK indicate marginal productivities of labour and capital respectively. If Equation 3.2 above is divided by Equation 3.1, then we arrive at:

$$\frac{\Delta Y}{Y} = \frac{MPN}{Y}.\Delta N + \frac{MPK}{Y}.\Delta K + \frac{\Delta A}{A} \quad \text{..............................} \quad (3)$$

Multiplying and dividing the first and second part of the Right Hand Side (RHS) by N and K respectively will give:

$$\frac{\Delta Y}{Y} = \left(\frac{MPN}{Y}N\right)\frac{\Delta N}{N} + \left(\frac{MPK}{Y}K\right)\frac{\Delta K}{K} + \frac{\Delta A}{A}\text{...} \quad \text{.................................}(4)$$

Assuming a perfectly competitive market, so that factors are paid their respective marginal products then, MPN = w and MPK = r, where w and r are the market wage rate and net capital rental rate. and indicate the share of labour and capital from the total income respectively as given in Equation (3.5). Replacing the labour and capital share with and reactively will give us the growth accounting equation below:

$$\frac{\Delta Y}{Y} = (1-\alpha)\frac{\Delta N}{N} + (\alpha)\frac{\Delta K}{K} + \frac{\Delta A}{A}\text{...} \quad (5)$$

The above is the derivation of the growth accounting equation which, in turn, is based on the neoclassical growth framework. It is this growth accounting equation that poses as the basis for the model specification adopted in this study.'

3.2 Model Specification

To determine the effect of government expenditure on economic growth, the neo-classical growth equation adopted in this study is extended through the level of technology (A), which can be construed broadly as embodying productivity and efficiency in all ramifications. This extension is through the identification of possible determinants of productivity growth **($\frac{\Delta A}{A}$)** and specification of total factor productivity growth **($\frac{\Delta A}{A}$)** function.

The determinants of factor productivity growth,**($\frac{\Delta A}{A}$),** include all factors except growth in the explicitly identified factors of production (which are only labour and capital in the above Equation (5) that influence economic growth. In the discussion here, such factors are limited to only the total government expenditure on GDP, literacy level, trade openness, net foreign direct investment inflows and the six governance indicators, viz: Citizens' Voice and Accountability, Government Effectiveness, Political Stability,

Regulatory Quality, Rule of Law and Control of Corruption. The directions of their effects on productivity growth are highlighted as follows:

(a) Total government expenditure in GDP (GEXP): The role of government expenditure on productivity growth and by implication, on economic growth cannot be over emphasised. Specifically, expenditure of government on education and health engenders labour productivity and increases national output growth. Similarly, infrastructural expenditure on power, roads, communication, etc reduces the costs of production, and facilitates the development of the private sector and industrial profitability, thereby fostering the growth of the economy (Nurudeen & Usman, 2009). However, if government expenditure is bedevilled with corruption, rent-seeking, etc, it may as well retard productivity. Given the theoretical and empirical inconclusiveness, government expenditure is expected to have either a positive or a negative effect on productivity growth and, by implication, on economic growth, with the actual direction of its net effect being left open for empirical determination.

(b) Literacy Level (LLEV): A high level of education means that the labour force is efficient which should therefore attract investors and contribute positively to productivity growth. The existence of a qualitative labour force will encourage innovations and inventions. This explanatory variable is expected to have a positive effect on productivity growth.

(c) Trade Openness (OPEN): It is assumed that more openness potentially causes more external shocks and more income. The more a country is exposed to international trade the greater is vulnerable to international economic shocks. It is also, assumed that Public consumption protects the domestic economy when outside economic shocks occur. However, government spending serves to reduce risk in an open economy, and openness to trade is positively related to government size (Kimakova, 2009; Rodrik, 1998). The demand for efficient public service from foreign firms may push a country to improve its allocative efficiency as long as economic development continues to be the utmost concern in Africa. It is expected that trade openness will have a positive effect on productivity growth.

(d) Net Foreign Direct Investment (FDI): This is expected to promote growth in the host country (Fayissa & Nsiah, 2013), not just by providing direct capital financing but also by creating positive externalities and the procurement of new technology from abroad. However, many empirical studies have found that FDI may not necessarily influence growth and sometimes might even retard growth. It is, therefore, expected that FDI will exert a positive effect on productivity growth. (e) **Governance indicators (GOV):** The components of the World Bank's worldwide governance indicators which consist of six indexes are taken for the governance indicators in this study. These are voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. All these indicators give the picture of the governance performance of a country. Since the indicators are available for all countries of the world, it is easy to compare governance across countries. These indicators are posited to have either a positive or negative effect

on productivity growth. while for the interaction, a high-quality governance indicator is expected to strengthen the effectiveness of government expenditure.

Mathematical Format of the Productivity Growth ($\frac{\Delta A}{A}$) Relationship

Following the above discussion, letting the individual governance indicators be represented by (GOV) and assuming a linear productivity growth model, the productivity growth model, in its very simple form, can be mathematically specified as:

$$\frac{\Delta A}{A} = \beta_3 GEXP + \beta_4 LLEV + \beta_5 OPEN + \beta_6 FD\ I + \beta_7 GOV + \beta_8 GEXP*GOV \ldots\ldots (6)$$

whereβ_3, β_4, β_5, β_6, β_7 and β_8 are parameters of their respective explanatory variables and GOV is a representative governance indicator that can be any of the six indicators discussed above. Based on the justifications adduced earlier in this sub-section, the a priori expectations concerning the signs of these slope parameters are as stated mathematically

thus: β_3 andβ_7 < or >0, β_4, β_5, β_6,,β_8 > 0

Effect of Total Government Expenditure on Economic Growth and How the Effects is Dependent on Governance Indicators.

$$\left(\frac{\Delta y}{y}\right)_{it} = \delta_0 + \delta_1 \left(\frac{\Delta y}{y}\right)_{it-i} + \delta_1 \frac{\Delta L}{L}_{it-i} + \delta_2 \frac{\Delta K}{K}_{it-i} + \delta_3 GEXP_{it-i} + \delta_4 LLEV_{it-i} +$$
$$\delta_5 OPEN_{it-i} + \delta_6 FDI_{it-i} + \delta_7 GOV_{it-i} + \delta_8 GEXP * GOV_{it-i} +$$
$$\sum_{t=1}^{a} \gamma_i \left(\frac{\Delta y}{y}\right)_{it-i} + \sum_{t=0}^{b} \psi_i \frac{\Delta L}{L}_{it-i} + \sum_{t=0}^{c} \lambda_i \frac{\Delta K}{K}_{it-i} +$$
$$\sum_{t=0}^{d} \sigma_i GEXP_{it-i} + \sum_{t=0}^{e} \vartheta_i LLEV_{it-i} + \sum_{t=0}^{g} \psi_i \delta_6 OPEN_{it-i} + \sum_{t=0}^{h} \lambda_i URBAN_{t-i} + U_t \ldots\ldots (7)$$

where,$\left(\frac{\Delta y}{y}\right)_{it}$ = growth in real gross domestic product (economic growth); = growth of labour force

= growth rate of capital stock; GEXP = total government expenditure in GDP, LLEV = literacy level; OPEN = trade openness; FDI = foreign direct investment; GOV = a representative governance indicator that can be any of the six indicators; δ_0 = intercept term;δ_2,δ_3, δ_4, δ_5, δ_6, δ_7 and $\delta_8$are the slope parameters to be estimated; U = stochastic error term; i and t = country and time subscripts

The a priori expectations of the signs of $\delta_1$and δ_2 are positive based on the above mathematical exposition while the a priori expectations of the signs of other slope parameters are the same as earlier discussed in connection with the productivity growth Equation (6). Another variant of the above Equation 3 is specified by replacing GOV with individual governance indicators to have six separate models.

3.3 Data Nature, Coverage and Sources

The data used in this study are panel data spanning from 1996 to 2020 across 43 African countries. The dependent variable is the growth of real GDP, while the independent

variables of primary interest are the total government expenditure, government capital expenditure, government recurrent expenditure, government revenue and six governance indicators. the other variables included as control variables are the growth of capital stock, growth of labour force, trade openness, net foreign direct investment inflows and literacy rate.

3.4 Measurement of Variables

The definition, sources and how the variables are measured are described below:
Concerning Economic growth, it is the percentage annual rate of change of the real GDP which, in turn, gives the total value of services and products produced by the economy over a particular period. Labour force growth: the annual percentage change in the size of the labour force. The growth rate of private capital stock: is the annual percentage change in private capital stock (constructed based on private investment flows) in constant 2015 international dollars and data are obtained from the International Monetary Fund (2021). Total Government Expenditure in GDP (GEXP): is the total government expenditure expressed as a percentage of GDP. Literacy Level (LLEV): This is a proxy for human capital and it is measured as a percentage of people aged 15 and above who can read and write a simple sentence. Trade Openness (OPEN): this is the sum of the export and import of goods and services, expressed as a percentage of the GDP. Net Foreign Direct Investment Inflow (FDI): refers to direct equity investment net inflows into an economy, expressed as a percentage of GDP. Governance indicators (GOV): According to the data source, a key feature with the governance indicators, i.e., voice and accountability (CVA), political stability (POST), government effectiveness (GEFF), regulatory quality, rule of law (RLAW) and control of corruption (COR) is that they are measured in relative units since they have been scaled to have a mean of zero in each period and standard deviation of one across countries. Therefore, it is normalised to lie between -2.5 and +2.5, with higher values corresponding to the stronger institutions, indicating better governance outcomes and -2.5 being the lowest possible score corresponding to the weakest institutions. The data for these indexes are obtained from the World Bank's Worldwide Governance Indicators (WGI, 2021).

3.5 Estimation Techniques

The study first employed descriptive and correlation analyses in addition to uniting root and counteraction. panel ARDL Estimation method was employed and premised on Hausman test results, the pooled Mean Group (PMG) was used in estimating all the models

4.0 Results Analysis and Discussions

4.1. Descriptive Statistics

This section presents the descriptive statistics for each of the variables employed in the study. The descriptive analysis offers an overview and summary of the salient characteristics of the variables. These are summarised in Table1, which presents the

mean, minimum value, maximum value, standard deviation and coefficient of variation for each of the variables.

Table 1: The Descriptive Statistics

Variables	Description	Obs.	Mean	Std Dev	Coeff.Var	Min	Max
$\frac{\Delta Y}{Y}$	Economic Growth - Annual GDP growth, %	**1075**	**4.166**	**3.415**	**0.82**	**-2.851**	**10.785**
$\frac{\Delta K}{K}$	Growth of Private Capital Stock – Annual %	1073	19.041	6.943	0.36	-0.942	39.425
$\frac{\Delta L}{L}$	Labour force Growth - Annual %	1046	2.558	1.176	1.18	-1.496	8.623
OPEN	Trade Openness – Export plus Import as % of GDP	1054	60.522	21.382	21.38	9.955	97.986
FDI	Net Foreign Direct Investment Inflows - % of GDP	1047	3.743	4.779	4.78	-4.846	46.275
LLEV	Literacy Level - % of people aged 15 and above	1070	56.865	16.683	16.68	12.848	78.733
GEXP	Government Total Government Expenditure - % of GDP	1072	35.183	7.573	0.215	22.144	50.614
CVA	Citizens Voice and Accountability – in units scaled between -2.5 to +2.5	946	-0.480	0.708	0.71	-1.990	1.102
POST	Political Stability - in units scaled between -2.5 to +2.5	946	-0.524	0.925	0.93	-2.424	1.282
GEFF	Government Effectiveness - in units scaled between -2.5 to +2.5	946	-0.744	0.628	0.63	-2.475	1.057
REGQ	Regulatory Quality - in units scaled between -2.5 to +2.5	946	-0.648	0.581	0.58	-2.298	1.127
RLAW	Rule of Law - in units scaled between -2.5 to 2.5	946	-0.668	0.653	0.65	-2.479	1.077
COR	Control of Corruption - in units scaled between -2.5 to +2.5	946	-0.623	0.619	0.62	-1.905	1.230

Source: Author's computation, (2023)

Explanatory Notes: Std Dev = standard deviation, Coeff of var = coefficient of variation, Min = minimum, max = maximum. Variables formed through the interaction of

governance indicators with government expenditure are excluded since they have appeared in their forms that do not interact and also for brevity.

The results from Table 4.1 reveal that the mean and standard deviation of economic growth, as proxied by GDP growth ($\frac{\Delta Y}{Y}$), is 4.17 and 3.42 per cent respectively, with a minimum value of -2.85 per cent which occurred in Burundi in 1996, while the maximum value is 10.78 per cent for Botswana in 2013. In the case of labour force growth ($\frac{\Delta L}{L}$), the mean and standard deviation are 2.56 and 1.18 per cent respectively, with a minimum value of -1.50 per cent, which occurred in Liberia in 2020, while the maximum value is 8.62 per cent, which occurred in Botswana in 2010. Also, the mean and standard deviation for the growth of capital stock ($\frac{\Delta k}{k}$), are 19.04 and 6.94 per cent respectively, with a minimum value of -0.94 per cent which occurred in Sierria-leone in 2012, while the maximum value is 39.43 per cent, which occurred in Mauritania in 1998.

Concerning human capital development which is proxied by literacy rate or percentage of people aged 15 and above that are literate (LLEV), the mean and standard deviation are 56.87 and 16.68 per cent respectively, with a minimum value of -12.85 per cent, which occurred in Burkina Faso in 2002, while the maximum value is 78.73 per cent, which occurred in Kenya in 2017. In the case of net foreign direct investment inflow as a percentage of GDP (FDI), the mean and standard deviation are 3.74 and 4.78 per cent of GDP respectively, with a minimum value of -4.85 per cent, which occurred in Chad in 2014, the maximum value is 46.28 per cent, which occurred in Chad in 2002. As for trade openness or the sum of exports and imports as a percentage of GDP (OPEN), the mean and standard deviation are 60.52 and 21.38 per cent respectively, with a minimum value of 9.96 per cent, which occurred in Sudan in 2020, the maximum value is 97.99 per cent, which occurred in Mauritius in 2016.

Concerning the total government expenditure on GDP (GEXP), the mean and standard deviation are 35.18 and 7.57 per cent respectively, with a minimum value of 22.14 per cent, which occurred in Malawi in 2002, while the maximum value is 50.61 per cent, which occurred in Seychelles in 2002.

It is to be noted that the challenge with using standard deviation as a means of comparing the variability of variables is that, as the value depends on the unit of measurement, the comparison of volatility or variability across different variables that do not have a common unit of measurement is not applicable. Such a comparison is possible only by resorting to the coefficient of variation (which is the ratio of standard deviation to the mean and, hence, is not affected by the unit of measurement). The coefficient of variation is the only statistic in Table 1 that is invariant with the unit of measurement. This guarantees the validity of comparing the values across the variables. Therefore, to compare the variability across the variables in above Table 4.1, the study resorts to the coefficients of variation. The coefficients of variation in the table show that the political stability indicator (POST) as a governance indicator has the lowest degree of

variability, followed by the citizens' voice and accountability indicator (CVA), with coefficients of variation of -1.77 and -1.48 respectively.

4.2 Correlation Analysis

Table 2 presents the results of the correlation analysis. This was carried out to ascertain both the magnitude and the direction (i.e., whether positive or negative) of the association between every pair of variables employed in the study. It is also key as a screening test for the likely existence of multicollinearity when restricted to the correlation between explanatory variables only. A correlation between a pair of variables is interpreted to exist in this study if the p-value of the correlation coefficients does not exceed 5%, which is the cut-off significance level chosen in the study, while no correlation is adjudged to exist if the p-value exceeds the chosen 5% critical value. Variables formed through the interactions of each governance indicator with each of the government budgetary variables are excluded from the correlation matrix for brevity and also for the fact that each of those variables that interact is already covered in its form that does not interact in the correlation matrix.

Table 2: Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13
	Variables	$\frac{\Delta Y}{Y}$	$\frac{\Delta K}{K}$	$\frac{\Delta L}{L}$	OPEN	FDI	LLEV	GEXP	CVA	POST	GEFF	REGQ	RLAW	COR
1	$\frac{\Delta Y}{Y}$	1.00												
2	$\frac{\Delta K}{K}$	0.11 (0.00)	1.00											
3	$\frac{\Delta L}{L}$	0.15 (0.00)	0.09 (0.01)	1.000										
4	OPEN	-0.034 (0.21)	0.19 (0.00)	-0.15 (0.00)	1.000									
5	FDI	0.08 (0.02)	0.11 (0.00)	-0.04 (0.16)	0.35 (0.00)	1.000								
6	LLEV	-0.09 (0.01)	0.09 (0.01)	-0.04 (0.25)	0.12 (0.00)	0.05 (0.10)	1.000							
7	GEXP	-0.05 (0.13)	0.09 (0.00)	-0.13 (0.00)	0.24 (0.00)	0.10 (0.00)	0.10 (0.00)	1.000						
8	CVA	0.07 (0.05)	-0.06 (0.05)	-0.08 (0.01)	0.12 (0.00)	0.14 (0.00)	-0.19 (0.00)	0.17 (0.00)	1.000					

9	POST	0.09 (0.00)	0.01 (0.78)	0.06 (0.06)	0.16 (0.00)	0.16 (0.00)	-0.20 (0.00)	0.05 (0.10)	0.71 (0.00)	1.000				
10	GEFF	0.13 (0.00)	0.03 (0.36)	0.02 (0.49)	0.08 (0.01)	0.23 (0.00)	-0.19 (0.00)	0.14 (0.00)	0.75 (0.00)	0.67 (0.00)	1.000			
11	REGQ	0.12 (0.00)	0.02 (0.61)	-0.02 (0.56)	0.10 (0.00)	0.20 (0.00)	-0.23 (0.00)	0.18 (0.00)	0.75 (0.00)	0.65 (0.00)	0.85 (0.00)	1.000		
12	RLAW	0.13 (0.00)	0.04 (0.28)	0.06 (0.08)	0.12 (0.00)	0.22 (0.00)	-0.21 (0.00)	0.12 (0.00)	0.78 (0.00)	0.77 (0.00)	0.87 (0.00)	0.83 (0.00)	1.000	
13	COR	0.10 (0.00)	-0.02 (0.46)	0.00 (0.91)	0.16 (0.00)	0.17 (0.00)	-0.23 (0.00)	0.16 (0.00)	0.80 (0.00)	0.73 (0.00)	0.83 (0.00)	0.76 (0.00)	0.86 (0.00)	1.000

Source: Author's Computation 2023

Starting from the first column and first row and based on the statistical significance of correlation coefficients at the 5% level, it is shown that (is positively correlated with FDI, CVA, POST, GEFF, REGQ, and RLAW and COR; negatively correlated with OPEN, LLEV and GEXP and uncorrelated with any other variables employed in the study.

The correlation or lack of correlation between each pair of other variables can similarly be inferred from Table 2 correlation matrix. Meanwhile, it is to be noted that most of the explanatory variables have low values of pairwise correlation coefficients except among the governance indicators and since no two governance indicators appeared in a single equation it is deemed that there is no likely threat of multicollinearity in the models.

4.3 Results of Unit Root Test Results

To avoid the consequence of having spurious regressions, the panel data unit root test conducted in this study is carried out to examine the stationary nature of each of the variables used in the models. The study employs Im, Pesaran and Shin, (IPS) unit root test. The significance level adopted in evaluating the results is 5 per cent while the decision rule is to reject the null hypothesis that a variable has a unit root (i.e., the variable is a non-stationary series) if the p-value is less than 5 per cent significance level and accept the null hypothesis if otherwise.

Table 3:Unit Root Test Results

	ImPeseran and Shin Test					
Variables	Stationary	Z-statistics	p-value	Order of Integration		Stationarity
$\frac{\Delta Y}{Y}$	At level	**-10.34**	**0.000**	**I(0)**		Stationary
$\frac{\Delta K}{K}$	At level	**-4.039**	**0.000**	**I(0)**		Stationary
$\frac{\Delta L}{L}$	At level	**-2.158**	**0.016**	**I(0)**		Stationary
OPEN	At level	**-0.112**	**0.456**	**-**		Unit Root
	At First Diff.	**-15.767**	**0.000**	**I(1)**		
FDI	At level	**-8.311**	**0.000**	**I(0)**		Stationary
LLEV	At level	**-0.933**	**0.176**	**-**		Unit Root
	At First Diff.	**-16.792**	**0.000**	**I(1)**		
GEXP	At level	**-3.104**	**0.001**	**I(0)**		Stationary
CVA	At level	**-1.929**	**0.027**	**I(0)**		Stationary

POST	At level	**-3.94**	**0.000**		**I(0)**	Stationary
GEFF	At level	**-4.244**	**0.000**		**I(0)**	Stationary
REGQ	At level	**-3.014**	**0.001**		**I(0)**	Stationary
RLAW	At level	**-2.9624**	**0.002**		**I(0)**	Stationary
COR	At level	**-1.125**	**0.130**		**-**	Unit Root
	At First Diff.	**-13.215**	**0.000**		**I(1)**	

Source: Author's Computation 2023

The results of Table 4.3 reveal that 10 out of the 13 variables (viz:$\frac{\Delta Y}{Y}$, $\frac{\Delta L}{L}$, $\frac{\Delta K}{K}$, FDI, GEXP, CVA, POST, GEFF, REGQ and RLAW) are stationary only at level while others (viz: OPEN, LLEV and COR) are stationary at first difference. It is also observed that all variables that are not stationary at level now become stationary after first differencing. These conclusions are based on the p-values of their z-statistics which are all less than 5 percent. Specifically, as economic growth (is stationary while OPEN has a unit root and because both feature in each equation as the dependent variable and an explanatory variable respectively, it follows that each of the models has a combination of I(0) and I(1) variables. This suggests that using the OLS approach as an estimation technique is prone to produce spurious regression results and also that a follow-up cointegration test, is of necessity. However, since the study is not aware of the panel equivalent ARDL Bounds cointegration test that is meant for testing the cointegration of series that are a mix of I(0) and I(1), the Kao Residual version of the panel ARDL test for cointegration test is employed. A 5 per cent significance level of the test statistic is adopted in evaluating the results. The decision rule is that, if the p-value of the test statistic is greater than the chosen critical 5 per cent significance level, then, the null hypothesis is

accepted so that it is concluded that there is no cointegration and, if otherwise, the null hypothesis is rejected.

Table 4: Result of Kao Panel Cointegration Test

Equation	t-Statistics	p-value	Conclusion on H_0
Model 1, with Total Government Expenditure, GEXP, as well as its interaction with Citizens' Voice and Accountability, CVA, as explanatory variables of primary interest which is a variant of Equation 3.10 of Chapter 3	-5.113	0.000	Rejected
Model 2, with Total Government Expenditure, GEXP, as well as its interaction with Political Stability, POST, as explanatory variables of primary interest which is a variant of Equation 3.10 of Chapter 3	-4.386	0.000	Rejected
Model 3, with Total Government Expenditure, GEXP, as well as its interaction with Government Effectiveness, GEFF, as explanatory variables of primary interest which is a variant of Equation 3.10 of Chapter 3	-4.832	0.000	Rejected
Model 4, with Total Government Expenditure, GEXP, as well as its interaction with Regulatory Quality, REGQ, as explanatory variables of primary interest which is a variant of Equation 3.10 of Chapter 3	-4.931	0.000	Rejected
Model 5, with Total Government Expenditure, GEXP, as well as its interaction with the Rule of Law, RLAW, as explanatory variables of primary interest which is a variant of Equation 3.10 of Chapter 3	-4.634	0.000	Rejected
Model 6, with Total Government Expenditure, GEXP, as well as its interaction with Control of Corruption, COR, as explanatory variables of primary interest which is a variant of Equation 3.10 of Chapter 3	-5.237	0.000	Rejected

Source: Author's Computation, 2023

From Table 4, it can be observed that the t-statistic is statistically significant in each of the 6 models. This is evident from the p-values that are all less than 5%. Following the decision rule earlier stated, the null hypothesis is to be rejected and, hence, it is concluded that a long-run relationship exists among the series featured in each model. This suggests that the panel ARDL estimation technique can be employed to derive not only the short-run but also the long-run estimates of the parameters of the models. As a robustness check the suitability of the ARDL estimation approach is further examined by noting whether there is evidence of statistically significant negative coefficients (that are each less than unity) of the error-correction term which would then provide additional support for this long-run relationship.

4.4 Regression Analysis Results

Choice of the Panel ARDL Methods

Table 5 presents the results of the tests. The table is organized into five columns with the first column indicating the models' serial numbering while the second, third and fourth columns (or, rather, groups of columns) show the comparisons between MG and PMG; MG and DFE; and PMG and DFE respectively for the determination of the superiority within each pair of the methods. The fifth column indicates the overall conclusion regarding the most suitable out of the trio of MG; PMG and DFE based on which of the three variants is supported as being the superior in not less than twice out of the three comparisons made between MG and PMG; MG and DFE; and PMG and DFE.

Table 5: Results of Hausman Test Guiding the Choice among the PMG, MG and DFE Variants of Panel ARDL Estimation Method

Model	MG & PMG			MG & DFE			PMG & DFE			Conclusion
	t-stat	p-value	Decision	t-stat	p-value	Decision	t-stat	p-value	Decision	
Model 1, corresponding to Equation 3.10 of Chapter 3 features both GEXP and CVA	0.190	0.662	PMG	2.460	0.117	MG	0.070	0.792	PMG	PMG
Model 2, corresponding to Equation 3.10 of Chapter 3 features both GEXP and POST	0.000	0.918	PMG	0.000	0.966	MG	0.000	0.977	PMG	PMG
Model 3, corresponding to Equation 3.10 of Chapter 3 features GEXP*GEFF	0.470	0.492	PMG	0.210	1.000	MG	0.560	0.454	PMG	PMG
Model 4, corresponding to Equation 3.10 of Chapter 3 features both GEXP and REGQ	1.450	0.229	PMG	2.250	0.134	MG	0.860	0.353	PMG	PMG
Model 5, corresponding to Equation 3.10 of Chapter 3 features both GEXP and RLAW	0.420	0.518	PMG	3.160	0.075	MG	0.090	0.765	PMG	PMG

Model 6, corresponding to Equation 3.10 of Chapter 3 features both GEXP and COR	0.400	0.526	PMG	0.330	0.567	MG	0.370	0.543	PMG	PMG

Source: Author's Computation 2023

In Models 1 to 6 of Table 5, the p-values of the Hausman test statistics are all greater than 0.05 significance level in the comparison of superiority between MG and PMG estimation methods. This indicates that the PMG estimation method is superior to the MG estimation method. Similarly, when comparing the superiority between MG and DFE, the p-values of the Hausman test statistics are greater than 0.05 in all seven models, implying that the MG estimation method is superior. Furthermore, in determining the superiority between the PMG and DFE estimation methods, the p-values of the Hausman test statistics in all 7 models are greater than 0.05, indicating that the PMG estimation method is superior to the DFE estimation method. Finally, concerning the decision regarding which of the three estimation methods is the most suitable and, hence, to adopt, it is concluded that the PMG estimation method is the most suitable for each of the 7 models because it is selected as superior not less than twice out of the three times in each of these 7 models.

4.5 Presentation of the Regression Equation

Following the above procedure and the models specified in Sub-section 3.2., the results of the estimates are presented in Table 6. The estimates of those seven equations for determining the economic growth effects of government expenditure and whether or not the effects are invariant with each of the seven governance indicators are labelled Models 1 to 6, which are all variants of Equation (3.10) of Sub-sub-section 3.2. it should be noted that only the long-run estimates of all the equations are reported.

Table 6: Estimates of the Effects of Total Government Expenditure on Economic Growth and how the Effects are dependent on the seven Governance Indicators

Governance indicators

Variables	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	coeff	Z-Stat	P-Value	Coeff	Z-Stat	P-Value	coeff	Z-Stat	P-Value	coeff	Z-Stat	P-Value	coeff	Z-Stat	P-Value	coeff	Z-Stat	P-Value
$\frac{\Delta K}{K}$ / $\frac{\Delta L}{L}$	0.051	1.960	0.050	-0.118	-0.640	0.519	0.211	5.390	0.000	-0.677	-4.200	0.000	0.082	3.110	0.002	-0.037	-2.080	0.038
	0.335	3.000	0.003	0.824	6.650	0.000	0.271	1.590	0.111	0.659	5.810	0.000	0.286	2.300	0.002	0.779	6.540	0.000
OPEN	-0.002	-0.140	0.89	0.125	0.960	0.336	-0.034	-2.540	0.011	-0.006	-0.430	0.668	-0.035	-2.900	0.000	-0.011	-0.870	0.382
FDI	0.257	5.340	0.000	0.832	1.610	0.107	-0.013	-0.260	0.793	0.212	4.250	0.000	0.026	-0.610	0.540	0.040	0.820	0.411
LLEV	-0.119	-6.810	0.000	0.002	-0.020	0.985	-0.091	-4.590	0.000	0.113	0.840	0.000	-0.101	-5.560	0.000	0.011	0.940	0.346
GEXP	0.098	4.050	0.000	0.862	4.880	0.000	0.097	3.530	0.000	0.049	2.590	0.010	0.102	4.010	0.000	0.049	2.590	0.000
CVA	2.839	5.380	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CVA*GEXP	0.028	3.240	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
POST	-	-	-	0.563	2.530	0.010	-	-	-	-	-	-	-	-	-	-	-	-
POST*GEXP	-	-	-	0.002	0.300	0.765	-	-	-	-	-	-	-	-	-	-	-	-
GEFF	-	-	-	-	-	-	-3.913	-4.600	0.000	-	-	-	-	-	-	-	-	-
GEFF*GEXP	-	-	-	-	-	-	0.034	2.850	0.000	-	-	-	-	-	-	-	-	-
REGQ	-	-	-	-	-	-	-	-	-	0.804	1.830	0.067	-	-	-	-	-	-
REGQ*GEXP	-	-	-	-	-	-	-	-	-	0.004	0.350	0.727	-	-	-	-	-	-
RLAW	-	-	-	-	-	-	-	-	-	-	-	-	3.105	5.370	0.000	-	-	-
RLAW*GEXP	-	-	-	-	-	-	-	-	-	-	-	-	0.004	-0.340	0.736	-	-	-
COR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.690	3.620	0.000
COR*GEXP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.018	1.730	0.084
Obs	900			900			900			900			900			900		
$?^2$	38.79	-	0.000	35.590	-	0.000	36.410	-	0.000	35.782	-	0.000	33.040	-	0.00	39.894	-	0.000
ECT_{it-1}	-0.732	-	(0.00)	-0.522	-	(0.00)	-0.760	-	(0.00)	-0.669	-	(0.00)	-0.723	-	(0.00)	-0.786	-	(0.00)
Multicollinearity via VIF Test			5.57			4.59			5.66			4.950			5.290			5.950
Autocorrelation via Woodridge Test	82.47	-	0.000	68.66	-	0.000	67.41	-	0.000	59.066	-	0.000	65.120	-	0.000	67.954	-	0.000
Heteroscedasticity via Modified Wald Test	3.405	-	0.000	4.273	-	0.000	2.846	-	0.000	1.757	-	0.000	2.621	-	0.000	0.138	-	0.000
Normality via Test for Normality of the Residuals	31.841	-	0.000	35.852	-	0.000	11.404	-	0.000	18.322	-	0.000	6.161	-	0.000	31.843	-	0.652
Cross-sectional Dependence via Peseran CD Test	3.411	-	0.000	4.442	-	0.000	5.412	-	0.000	6.432	-	0.000	-1.110	-	0.000	-0.134	-	0.000

Source: Author's computation, 2023.
Explanatory Notes: The following are the meanings of the acronyms: Obs = No. of observations, ΔY/Y = economic growth, ΔK/K= growth of private capital stock, ΔL/L = growth of labour force, GEXP = total government expenditure, FDI = foreign direct investment net inflows, LLEV = literacy level, OPEN = trade openness, CVA = citizens voice and accountability, POST = political stability, GEFF = government effectiveness, REGQ = regulatory quality, RLAW = rule of law, COR = control of corruption, GEXP*CVA = government expenditure interacted with citizens voice and accountability, GEXP*POST = government expenditure interacted with political stability, GEXP*GEFF = government expenditure interacted with government effectiveness, GEXP*REGQ = government expenditure interacted with regulatory quality, GEXP*RLAW = government expenditure interacted with rule of law and GEXP*COR = government expenditure interacted with control of corruption and ECTit-1 = 1-period lag of the error correction term. A coefficient is significant only if its p-value is less than or equal to 5% critical value while the decision rule regarding the z-statistic for each coefficient is to deem each explanatory variable as affecting economic growth only if the p-value of its coefficient is equal to or less than 0.05 significance level. The $\chi 2$ statistic signifies the overall significance of the explanatory power of the models and the decision rule here is to reject the null hypothesis that the model is not statistically significant if the p-value of the $\chi 2$-statistic is less than or equal to 5% and to accept it if otherwise. The Pooled Mean Group Estimation Method is employed in estimating all seven models.

4.6 Discussion of Results

Based on the Wald Chi-squared values for Models 1 to 6 that range between the highest value of 92.923 and lowest value of 13.110, with a p-value of 0.000 in each case. Thus, it is concluded that all the seven models have good fits.

Concerning the presence or absence of multicollinearity, the VIF test was conducted and the results of the centred VIF show values that are less than 10 in all seven models. Therefore, since there is no VIF value for any of the models that are up or even close to 10, it can be concluded that the models are free from a severe multicollinearity problem. Concerning the serial correlation problem, heteroscedasticity, non-normality in the distribution of residuals and cross-sectional dependence, it can be viewed that the automatic correction mechanism embedded in the PARDL method adopted can be relied upon to undertake these corrections so the study needs not bother about the existence of such problems.

Performances of the Explanatory Variables

The evaluation in this Sub-sub-section is based solely on the estimates of the seven models reported in Table 6, from where it can be observed that the coefficients of the total government expenditure, GEXP, are positive and statistically significant at 0.05 significance level in all the seven equations. This means that the size of government expenditure has a positive effect on economic growth. This evidence is in line with what is postulated in Section 3, where the possibility of positive, negative and even nil effects are allowed for, on an *apriori* basis, depending on which channel of the effects of this factor on economic growth predominates. Based on the finding that is now shown empirically, it can thus be concluded that the economic growth-promoting channels outweigh the others that are economic growth retarding.

Concerning how this observed positive effect of the size of government expenditure is dependent on or influenced by each of the seven governance indicators, it can be seen from Table 6 that the coefficients of interaction of total government expenditure with each of the composite governance indicators Voice and Accountability (CVA*GEXP), Political Stability (POST*GEXP) and Rule of Law (RLAW*GEXP), while positive, are not statistically significant. The coefficient of the Government Expenditure (GEXP) interaction with each of Government Effectiveness (GEFF*GEXP) and Control of

Corruption (COR*GEXP) is positive but it is statistically significant for only GEFF*GEXP and just marginally significant (at only 8% level) for the COR*GEXP. Thus, on the whole, while there is some evidence that the quality of governance strengthens the already positive effect of the size of government expenditure on economic growth, the evidence is not very convincingly consistent and it also depends on the variant of governance indicators under consideration, with the evidence being clearer in the case of Government Effectiveness indicator, followed by the Control of Corruption indicator. As compared with the strengthening influence of every governance indicator on the economic growth-promoting effect of a given size of government expenditure that was postulated in Section 3.2, this postulation is strongly supported in the case of Government Effectiveness and somewhat supported in the case of Control on Corruption. As there is no singular instance of the positive effect of government expenditure on economic growth being hindered or neutralized by the quality of governance and instances are recorded of the positive effects being strengthened, it can thus be concluded that, broadly, high-quality governance serves to strengthen the positive effect of a given size of government expenditure on economic growth. In conclusion, it is to be pointed out here that this study, being a pioneer in examining the present subject matter when compared with the existing studies that the present study has come across, is not aware of any previous study that has investigated how the quality of governance shapes the economic growth effects of a given size of government expenditure and hence, it is inapplicable here to compare this finding with that of any previous study.

5.0 Conclusion and Recommendations

The relationship between government expenditure and economic growth has attracted widespread attention over the years. The outcome of myriad empirical findings has been more confusing than it has been helpful, because of the lack of consensus on the results and conclusions reached. Some studies have found the impact to be positive (Yasin, 2000; Kimaro et al., 2017) while others have found a negative impact (Saezet al., 2017). Some studies conclude that government expenditure has no impact on economic growth (Schaltegger & Torgler, 2006; Hansel, 2015). Also, several conflicting propositions have been made regarding the impact of government expenditure on economic growth. Partly due to the policy importance of shedding light on these issues, several empirical efforts have been made to confirm or refute the propositions but the empirical evidence is as conflicting as the theoretical propositions that are to be shed light upon, besides several methodological gaps and pitfalls that bedevil many of such empirical studies. Thus, there is the need to contribute further to the existing empirical studies, particularly by addressing many of the gaps and pitfalls in them, thereby prompting the present study that seeks to examine the impact of government expenditure on economic growth in Sub-Saharan African countries. Models 1 to 6 examined the effects of total government expenditure on economic growth and how the effects are dependent on the seven governance

Based on findings that the size of government expenditure has a positive effect on economic growth and that its economic growth promoting channels outweigh the others that are economic growth retarding. It is recommended that policymakers should pursue policies that would strengthen the economic growth-promoting channel of the size of government expenditure for stimulating economic growth.

Given the evidence that there is no singular instance of the positive effect of government expenditure on economic growth being hindered or neutralized by the quality of governance. It is recommended that policymakers should encourage a high quality of governance.

Based on the finding that the already positive effect of the size of government expenditure on economic growth depends on the variant of governance indicators, it is recommended that government effectiveness and control of corruption indicators be promoted to strengthen the positive effect of the size of government expenditure on economic growth.

Based on the evidence that the growth rate labour force, growth rate of capital stock and foreign direct investment net inflow have positive effects on economic growth, it is recommended that each of these variables should be strengthened to enhance economic growth.

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