Received: 7 December 2023 | Revised: 15 April 2024 | Accepted: 16 April 2024

DOI: 10.1002/sd.3024

RESEARCH ARTICLE

Sustainable Development | WILEY

Public expenditure and economic sustainability: Does institutional quality matter?

Silas Apealete Kpegba[1] | Lord Kelvin Kofi Atisu[1] | Kelvin Nketiah Sarfo[1] | Clement Oppong[1,2] | Ellis Kofi Akwaa-Sekyi[1]

[1]Department of Accounting and Finance, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

[2]Gordon Institute of Business Science, University of Pretoria, Pretoria, South Africa

Correspondence
Lord Kelvin Kofi Atisu, Department of Accounting and Finance, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
Email: lordkelvin.atisu8@gmail.com

Abstract

This study aims to provide an empirical insight into whether institutional quality moderates the impact of public expenditure on economic sustainability among the Sub-Saharan African (SSA) countries. Using a quantitative and explanatory research design, this study sourced a 20-year longitudinal dataset on 48 SSA countries from the World Development Indicators (WDI) and World Governance Indicators (WGI) databases from 2003 to 2022. Both Pooled OLS and System GMM econometric techniques were employed for analysis. It was found that public expenditure and institutional quality positively and significantly influence economic sustainability. However, institutional quality was found to negatively and significantly moderate this relationship. The practical implication suggests nations may face a trade-off between maintaining institutional quality and ensuring long-term economic sustainability. The moderation effect of institutional quality is novel in nature and adds to the body of existing literature.

KEYWORDS

economic sustainability, institutional quality, public expenditure, Sub-Saharan Africa

1 | INTRODUCTION

The United Nations (UN) 2030 Sustainable Development Goals (SDGs) and Institutional Quality have received growing attention in scholarly discussions over the years with a specific focus on the economic sustainability of developing countries in Africa (Kpegba et al., 2023; Oppong et al., 2023). The United Nations defines economic sustainability as one of the components of sustainability, which aims to keep the capital intact while improving the standard of living and stable levels of economic growth. That is, although abandoning economic growth is not an option, economic sustainability goes beyond just economic growth. The need for governments to institute measures to ensure economic sustainability for both present and future generations is pivotal to certain factors such as institutional quality indicators and public management and expenditure. Nicolò et al. (2024) argue that public sector organizations or institutions play a crucial role in national and global progress toward economic sustainability. The continuous rise in public expenditure in most economies following the global economic crises has revived interest among researchers, economists, and politicians in ascertaining and understanding the relationship between government expenditure and economic sustainability (Akai, 2024). Globally, there has been a continuous discussion regarding the impact of government expenditure on economic sustainability (Akai, 2024; Halásková et al., 2023; Poku et al., 2022; Sabir & Qamar, 2019; Sikayena et al., 2022; Wong, 2020). The debate revolves around whether government spending aligns with the objective of achieving economic sustainability. Proponents of substantial government expenditure argue that

increased investment in public goods is essential for improved productivity. They further assert that increased government expenditure augments the spending capacity of economic agents, that is, households and businesses, thereby necessitating an increase in economic growth (Nyasha & Odhiambo, 2019; Poku et al., 2022).

On the other hand, critics contend that government expenditure is often driven by political motivations, whereas private sector expenditures are purely guided by economic considerations, making them more efficient and competitive (Sampson et al., 2021). Some also posit that the escalation in government expenditure in some countries is a response to increased demand for public goods such as infrastructure, education, and healthcare (Miranda-Lescano et al., 2023) but regrettably, this upward trend in government spending has not translated into substantial growth and development (Sikayena et al., 2022). However, the outcomes of these discussions have been more bewildering than enlightening due to the absence of consensus on the results and conclusions. For instance, Poku et al. (2022), Sampson et al. (2021), and Halásková et al. (2023) assert a positive relationship between government expenditure and economic growth in the short-run but failed to address the issue of economic sustainability. Islam and Mustafa Shindaini (2022) also contends in his study that government expenditure on certain sectors of the economy impacts economic growth in the long run but fails to consider economic sustainability. Similarly, Onifade et al. (2020) also came up with an inconclusive finding on the impact of public expenditure on economic sustainability. Despite the literature on this discussion, there is a notable inadequacy of research delving into the moderating role of institutional quality in the interplay of public expenditure and economic sustainability (see Arvin et al., 2021; Haldar & Sethi, 2021). Although Farooq et al. (2023) argue that institutional quality moderates the relationship between public debt and environmental degradation, the study is skewed to environmental sustainability, however, is economic sustainability not more relevant to public debt?

The extant body of literature not only presents conflicting viewpoints, it also reveals a concerning pattern. Thus, the majority of conclusions regarding the impact of public expenditure on economic sustainability stem either from the experiences of a group of developed nations or from extensive samples comprising a blend of developed and developing countries. However, there is minimal attention given to the SSA region, despite the escalating concern about the influence of public expenditure on economic sustainability within the region. Recognizing this gap, we endeavor to explore how institutional quality influences the dynamics between public expenditure and economic sustainability.

The contribution of this paper is that unlike most of the traditional literature on this issue, this study seeks to look at the impact of public expenditure on economic sustainability within the SSA region, paying critical attention to the moderating role of institutional quality. Generally, it is believed that effective institutions play a crucial role in optimizing a nation's resources and fostering a robust economic environment that builds confidence among individuals. High-quality institutions attract increased capital and talent, enhance productivity, facilitate upward movement in the global value chain, and generate greater economic prosperity for all involved parties. Conversely, poor governance can result in adverse effects such as rent-seeking behavior, moral hazard, inadequate management, and other negative externalities, elevating public expenditure and consequently impeding economic sustainability (Arvin et al., 2021).

Therefore, on the empirical front, this study seeks to provide insight into the intricate role institutional quality plays in the relationship between public expenditure and economic sustainability by focusing on all 48 nations within the SSA region from 2003 to 2022. The unique characteristics of economies within this region will provide novel findings that will substantially enhance our understanding of public expenditure, economic sustainability, and institutional quality. The specific objectives of this study are: To investigate the relationship between public expenditure and economic sustainability; To examine the impact of institutional quality factors on economic sustainability; and to also answer the question of whether institutional quality moderates the relationship between public expenditure and economic sustainability in SSA. From the methodological perspective, a quantitative and explanatory research design was employed using Pooled OLS and System GMM to attain the overall objectives of the study.

The rest of the study is organized as follows: a thorough literature review is presented in the Section 2 whereas the methods and estimation techniques employed by the study are discussed in the Section 3. Section 4 presents results and discussion of empirical findings whereas the Section 5 concludes and provides practical implications of the study.

2 | LITERATURE REVIEW

2.1 | Theoretical review

One of the theories that provides insight into the nexus of institutional quality, public expenditure, and economic sustainability is the Public Choice Theory (PCT). Public choice, as an economic theory, makes use of contemporary economic tools and analysis to study problems that have always been linked to administrative or political science. It looks into the behavior of voters, politicians, and public institutions as self-interested agents and their interactions in the social system representative of any form of administration (Reid et al., 2008). PCT has roots in positive analysis but is often used for presumptions to identify a problem or suggest how a system could be improved by changes in its regulations and laws. Previous studies claim that individuals in various public sector institutions are expected to remain egocentric, rational, and maximize their well-being (as individuals could do in economic markets), rather than that of the public (Kumasey et al., 2017). Therefore, the adoption of institutional arrangements is required to reduce their ability to engage in opportunistic activities (such as rent-seeking and corruption), inspiring them to act in the interest of the taxpayers. PCT offers contemporary

suggestions on how to reduce opportunism, including corruption and rent-seeking behavior (Dincă et al., 2021) that will result in exorbitant public expenditure due to weak institutions. One of these measures is holding spending officers accountable for their actions to demonstrate that they have operated according to their responsibilities. The conflict of interest between managers of public institutions and citizens can be solved by reducing the information advantage of the former and allowing other stakeholders to monitor the actions of heads of institutions, which will subsequently resolve adverse economic implications. That is, ensuring institutional quality in the public sector has the propensity of not only preventing unbudgeted public expenditure but also ensuring economic sustainability. The public choice theory therefore serves as a foundation for investigating how institutional quality moderates the relationship between public expenditure and economic sustainability in SSA.

2.2 | Empirical review

Emerging economies within the SSA region have witnessed hikes in public expenditure with a lot of ongoing empirical investigations on the role institutional quality plays in influencing the efficiency of public expenditure (see Kpegba et al., 2023; Oppong et al., 2023; Poku et al., 2022). For instance, Sikayena et al. (2022) in their quantitative study found that factors such as institutional quality, economic growth, government expenditure, and foreign direct investment influence the efficiency of public spending in Africa. Halásková et al. (2023) explore the effect of government expenditures on the economic and institutional dimension of governance among European countries based on selected governance indicators. The study employs fixed effects and longitudinal data analysis techniques on 29 European countries by focusing on a dataset from 2002 to 2021. Consistent with Sikayena et al. (2022), the findings of Halásková et al. (2023) show that countries with lower economic levels are affected significantly by government expenditures on education as a result of controlling corruption whereas governments with higher economic levels exhibited stronger positive effect of public expenditures. A related study by Islam and Mustafa Shindaini (2022) which sought to adopt the Auto-Regressive Distributed Lag (ARDL) approach to investigate the impact of institutional quality and human capital creation on economic growth in Bangladesh found that short-run and long-run relationships exist. Islam and Mustafa Shindaini (2022) show that whereas institutional quality positively influences economic growth both in the short and long run, public expenditure on health and economic growth has only short-run relationships.

Bazie et al. (2023) provide a theoretical and empirical framework to explore the need to consider institutions in human capital development in SSA by laying special emphasis on fighting corruption in developing countries. It was found that corruption reduces the effectiveness of education and the average duration of studies and life expectancy of citizens through its negative effect on public spending in the education and health sector. Also, corruption was found to have a direct and negative impact on the performance of education indicating the significant role institutional quality exhibits. To empirically examine the impact of fiscal policy through public spending in 63 Vietnamese provinces, the study by Viet Hong Anh and Thi Kim Oanh (2023) explores the role institutional quality plays in influencing government expenditure on economic development. The Feasible General Least Squares (FGLS) estimator and the System Generalized Method of Moments (S-GMM) models were adopted where it was revealed that a positive effect of government expenditure on economic growth exists. That is, the role of institutional quality was confirmed to improve the positive impact of government expenditure on regional economic growth. Khan et al. (2020) also investigate the linkage between public health expenditures, logistics performance indices, the adoption of renewable energy, and sustainability within ASEAN economies. The study finds that, the combination of increased public health expenditure and compromised sustainable performance hinders sustainable economic growth of these nations. Sabir and Qamar (2019) explore the impact of fiscal policy and institutional quality on the inclusive growth process of the selected developing Asian countries. Utilizing, System Generalized Method of Moment panel data of 11 Asian developing countries from 1996 to 2017, Sabir and Qamar (2019) find that both fiscal policy and quality institutions have positive effects on inclusive and sustainable growth of developing economies. This study is relevant for developing economies because it affirms that supervision of fiscal policy through quality institutions and government expenditures is needed for the proper allocation and utilization of public resources to improve national growth.

Likewise, Ijaz and Chughtai (2022) explore the relationship between financial, economic, and environmental factors on energy efficiency, intensity, and dependency. The study encompasses 83 countries under the belt and road initiative spanning the years 2000 to 2020. Through a three-way moderation analysis, the study discovers that institutional quality significantly moderates the impact of financial factors and economic factors on both energy efficiency and energy intensity. In other words, institutional quality, financial factors and economic factors reinforce each other over the longer term to achieve sustainable economic growth. Tran et al. (2022), also investigate how foreign direct investment inflows, economic development, national governance, public policies, and carbon risk affect emerging economies. Adopting a panel data of 62 emerging economies spanning from 1990 to 2020, Tran et al. (2022) reveal that fiscal policies – specifically higher taxes and public expenditure – have the potential to mitigate carbon risk. That is, these policies can significantly alleviate the environmental impact associated with FDI inflows in host countries. While the study finds that public expenditure is crucial in reducing environmental harm linked to FDI inflows, it is noteworthy that the research lacks a dimension to capture the effects on the economic sustainability of these nations.

Even though vast literature mentions institutional quality as a key factor for the growth of economies, to the best of our knowledge, its

moderating effect has not been fully explored. Although Farooq et al. (2023) argue that institutional quality moderates the relationship between public debt and environmental degradation; the study is skewed toward environmental sustainability and disregards the relevance of economic sustainability. Additionally, no specific studies have empirically assessed whether institutional quality acts as a conduit for economic sustainability, meanwhile, Sikayena et al. (2022), Halásková et al. (2023), and Islam and Mustafa Shindaini (2022) find that institutional quality has implications on sustainable economic development, which is just one dimension of economic sustainability. To a large extent, aside Kpegba et al. (2023) which looked at public management and economic sustainability, little attention has been given to economic sustainability, particularly within the context of SSA (see Chen et al., 2023; Jahanger et al., 2022). To wit, the sheer dearth of literature on economic sustainability merits empirical investigation. Thus, incorporating an analysis of how these factors interconnect could hold substantial implications for understanding the overall impact on the economic sustainability of these SSA economies. The foregoing discussion, therefore, reveals three thematic areas that guide the hypothesis formulation which are tested later in this study.

H1. There is a significant effect of public expenditure on economic sustainability in SSA.

H2. There is a significant influence of institutional quality on economic sustainability in SSA.

H3. Institutional quality moderates the relationship between public expenditure and economic sustainability in SSA.

3 | METHODOLOGY

3.1 | Research design

The study seeks to explain the intricate relationship among public expenditure, institutional quality, and economic sustainability; hence, a quantitative and explanatory research design was adopted for the study. This choice was based on the systematic and structured nature of quantitative research. According to Indu and Vidhukumar (2020), quantitative research designs present a methodical approach to analyzing scientific problems, to create an acceptable framework for the study. The inherent advantages of a quantitative approach lie in its ability to establish and interpret cause-and-effect relationships between dependent and independent variables (Libarkin & Kurdziel, 2002; Saunders et al., 2019). By employing statistical methods and data analysis techniques, the quantitative design allows for the measurement and quantification of variables, enabling researchers to identify patterns, trends, and correlations (Creswell, 2009). This, in turn, facilitates a more detailed understanding of the relationship between the variables under the study.

3.2 | Data and sources

The study assembles country-level longitudinal dataset across all 48 Sub-Saharan Africa (SSA) economies from the World Development Indicators (WDI) and World Bank Governance Indicators (WGI) databases. Unlike studies such as Sikayena et al. (2022) who use only 16 countries, and Wandeda et al. (2021) who consider 35 SSA economies, this study expands the scope by using all 48 nations in SSA. The study was conducted over a period of 20 years (i.e., 2003 to 2022), which represents the most recent 20-year observation for which data is available and satisfies the GMM requirement of $N > T$. Additionally, the global financial crisis and Covid-19 pandemic periods are incorporated within the study duration due to their impact on public expenditure and potential implications on the economic sustainability of these nations. We utilize panel data because it combines both cross-sectional and time series information and allows for the incorporation of a larger number of data points, enhancing the reliability of the analytical models (Hsiao, 2022). Consequently, we employ panel regression models, which yield more accurate parameters and reduced collinearity, thereby providing outcomes with increased degrees of freedom. Additionally, the countries represented in the data for each of the selected years are relatively large to enable us make inference on a broader context. That is, the findings of the study may be applicable to a larger Sub-Saharan Africa (SSA) market setting.

3.3 | Variables description and measurement

3.3.1 | Dependent variable

The primary dependent variable in our study is *Economic Sustainability* (ES), which is proxied with *Genuine Savings* (also known as Adjusted Net Savings). Genuine savings is seen as an effective indicator for measuring economic sustainability (Lin & Hope, 2004; McGrath et al., 2019). Koirala and Pradhan (2020) note that it offers a more holistic evaluation of a country's sustainability by taking into account the lasting effects of economic activities on both human and natural capital. Genuine savings, according to the World Bank, refers to a measure of sustainable development that accounts for the depletion of natural resources and the degradation of environmental quality. Thus, genuine savings extend beyond traditional measures of savings, such as gross and net savings, by incorporating adjustments for investments in human capital, environmental degradation, and the depletion of natural resources (Boos, 2015). We follow by using GS expressed as a percentage of GNI to measure economic sustainability.

3.3.2 | Independent variables

As one of the key independent variables of interest, the study proxies *Public Expenditure* (PE) with general government final consumption expenditure (% of GDP). Arvin et al. (2021) and Chu et al. (2020) have

similarly adopted this metric for their studies. General government final consumption expenditure comprises all current government expenditures on the acquisition of goods and services, including compensation of employees. This category also covers spending on national defense and security, excluding military expenditures that contribute to government capital formation (Azam et al., 2023).

Additionally, we examine the moderating role of institutional quality, which refers to the effectiveness, efficiency, and transparency of institutions within a country (Sheng et al., 2023). The study adopts Rule of Law (ROL), as seen in Abdulahi et al. (2019) and Haini (2020), measures the degree to which individuals possess confidence in and adhere to societal norms and regulations and in particular the quality of contract enforcement, property rights, law enforcement, and the legal system, as well as the likelihood of crime and violence. Control of Corruption (CORR) as used in Epo and Nochi Faha (2020), captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Government Efficiency (GEFF), also seen in Epo and Nochi Faha (2020) and Singh and Pradhan (2022), captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Finally, Political Stability and Absence of Violence/Terrorism (POLS), used in studies like Singh and Pradhan (2022), gauges perceptions regarding the probability of political instability and/or politically motivated violence, including incidents of terrorism. These indicators were selected since they represent the economic dimension of governance (Halásková et al., 2023; Kaufmann & Kraay, 2008). All Institutional quality proxies were measured using a percentile rank, according to the WGI database, where 0 equates to the lowest and 100 to the highest rank respectively.

3.3.3 | Control variables

To control for endogeneity, four instrumental variables have been incorporated into the study, consistent with previous studies by Kpegba et al. (2023), Oppong et al. (2023), and Hayat (2019). Specifically, Trade Openness; Foreign Direct Investment, Inflation, and Economic Growth were employed as instrumental variables in this study. Trade Openness was proxied with the Trade openness index, which was calculated as the ratio of the country's total trade (exports plus imports) to the country's Gross Domestic Product (GDP) where Foreign Direct Investment was measured as FDI inflows as a share of GDP. Economic growth was measured as the natural log of GDP whereas the consumer price index was used to proxy Inflation. Trade openness and economic growth were used as control variables by Kpegba et al. (2023) due to their tendency to influence economic sustainability (Hayat, 2019; Oppong et al., 2023). Additionally, Oppong et al. (2023) use inflation as a control variable to assess the impact of institutional quality on public debt and economic growth. Hayat (2019) also adopts Trade openness and FDI as control variables in evaluating the influence of institutional quality on economic growth. Therefore, consistent with the existing literature, these variables were adopted as instrumental variables to ensure the reliability and validity of our results. Table 1 shows a summary of all variables used in the study.

TABLE 1 Variable description and measurement.

Variable	Measurement	Reference	Source
Dependent			
Economic Sustainability (ES)	Genuine savings (% of GNI)	McGrath et al. (2019); Kpegba et al. (2023)	World Development Indicators (WDI) database
Independent			
Public Expenditure (PE)	General government final consumption expenditure (% of GDP).	Arvin et al. (2021); Chu et al. (2020)	World Development Indicators (WDI) database
Institutional Quality	• Rule of Law (ROL) • Control of Corruption (CORR) • Government Effectiveness (GEFF) • Political Stability and Absence of Violence/Terrorism (POLS)	Epo and Nochi Faha (2020); Haini (2020); Singh and Pradhan (2022)	World Governance Indicators (WGI) database
Instrumental Variables			
Foreign Direct Investment (FDI)	FDI inflows as a share of GDP	Hayat (2019)	World Development Indicators (WDI) database
Trade Openness (TO)	Trade openness index	Kpegba et al. (2023); Oppong et al. (2023); Hayat (2019)	World Development Indicators (WDI) database
Inflation (INF)	Consumer Price Index	Oppong et al. (2023); Hayat (2019)	World Development Indicators (WDI) database
Economic Growth (lnGDP)	Log of GDP	Kpegba et al. (2023); Oppong et al. (2023)	World Development Indicators (WDI) database

Source: Authors' table (2023).

3.4 | Estimation technique

The study utilizes both static and dynamic panel regression models for its analysis. This estimation technique is deemed apt and has been employed in numerous related studies (see Chhabra et al., 2023; Nguyen & Bui, 2022; Phuc Canh et al., 2019; Sani et al., 2019). While the independent variables in fixed effects, random effects, and pooled OLS models are assumed to be exogenous, the potential for reciprocal causation and the tendency for effects to endure over time may introduce discrepancies when relying on OLS regression models (Petkovski et al., 2021). OLS estimators are thus prone to endogeneity issues (Abdallah et al., 2015). The study therefore adopts the System Generalized Method of Moments (SGMM) extended by Blundell and Bond (1998) for its estimation. System GMM incorporates both level and difference equations in the analysis and it is preferred over the Difference GMM by Arellano and Bond (1991), which focuses solely on the first difference equation. Arellano and Bover (1995) caution against using Difference GMM, asserting that modeling under this approach could lead to inaccurate inferences, especially in cases where the explanatory variables exhibit persistence. The System GMM, consequently, addresses endogeneity problems, reduces first and second-order autocorrelations, and controls for unobservable heterogeneity among variables by including the lagged dependent variable in the equation. Hence, it is not only superior but more reliable and avoids bias in parameter estimates compared to Difference GMM estimators, the pooled ordinary least squares (OLS) method, or fixed effects. Notably, GMM is optimal for "small T and large N" panels, characteristic of the study's panel structure with fewer years and a larger number of countries (i.e., 20 years <48 countries). The System GMM technique proposed by Arellano and Bover (1995) and Blundell and Bond (1998) is employed in the study of the research variables. To assess the validity of instruments in the regression model, the p-values of the Hansen and Sargan tests were compared with a critical value of 5% to ensure that there are no over-identifying restrictions. Both tests are crucial for ensuring the reliability of instrumental variable estimation in econometric analysis (Phuc Canh et al., 2019; Sani et al., 2019). Also, the AR (1) and AR (2) p-values were compared with 5% significance level under the null hypothesis that there is no autocorrelation. The null hypothesis is rejected if the p-value falls below .05 whereas no problem of autocorrelation is established if the null hypothesis is not rejected ($p > .05$). The Blundell-Bond linear dynamic panel model can be mathematical expressed follows:

$$Y_{it} = \alpha Y_{it-1} + \beta X_{it} + \gamma Z_{i,t} + v_i + \varepsilon_{i,t} \quad (1)$$

Where; Y_{it} = dependent variable of interest, Y_{it-1} = the lagged dependent variable included in the equation, α = coefficient of the lagged dependent variable, X_{it} = the independent variables of interest and β captures their coefficients. $Z_{i,t}$ = control variables adopted by the study and γ are their coefficients. Also, v_i = the panel level effects and $\varepsilon_{i,t}$ = the stochastic error term, with an underlying assumption that v_i and $\varepsilon_{i,t}$ are independent for each i and over all t. The study therefore adopts the following dynamic panel model under the GMM estimator in Equations (2) and (3):

$$\text{Economic Sustainability}_{it} = f\Big(\text{Public Expenditure}_{it}, \text{Institutional Quality}_{it}, \text{Control Variables}_{it}, \varepsilon_{it}\Big) \quad (2)$$

$$\begin{aligned}\text{Economic Sustainability}_{i,t} = {} & \beta_0 + \beta_1 \text{Economic Sustainability}_{i,t-1} \\ & + \beta_2 \text{Public Expenditure}_{i,t} \\ & + \beta_3 \text{ Institutional Quality}_{i,t} \\ & + \beta_4 (\text{Public Expenditure} \\ & * \text{Institutional Quality})_{i,t} \\ & + \beta_5 \text{Foreign Direct Investment}_{i,t} \\ & + \beta_6 \text{Trade Openness}_{i,t} \\ & + \beta_7 \text{Inflation}_{i,t} + \beta_8 \text{Economic Growth}_{i,t} + v_i + \varepsilon_{i,t}\end{aligned} \quad (3)$$

$$\begin{aligned}\text{ES}_{i,t} = {} & \beta_0 + \beta_1 \text{ES}_{i,t-1} + \beta_2 \text{PE}_{i,t} + \beta_3 \text{INSQ}_{i,t} + \beta_4 (\text{PE} * \text{INSQ})_{i,t} \\ & + \beta_5 \text{FDI}_{i,t} + \beta_6 \text{TO}_{i,t} + \beta_7 \text{INF}_{i,t} + \beta_8 \text{lnGDP}_{i,t} + v_i + \varepsilon_{i,t}\end{aligned} \quad (4)$$

Where; ES is the dependent variable, representing Economic Sustainability. PE denotes public expenditure, and INSQ denotes Institutional Quality. ROL, CORR, GEFF, and POLS denote Rule of Law, Control of Corruption, Government Efficiency, and Political Stability respectively, and are used as different proxies of Institutional Quality for the study. The term $(\text{PE} * \text{INSQ})$ expresses the interaction between Public Expenditure and Institutional Quality for countries i across time t. The four control variables FDI, TO, INF, and lnGDP are represented as Foreign Direct Investment; Trade Openness; Inflation, and Economic Growth respectively; $\text{ES}_{i,t-1}$ also represents the lagged dependent variable included in the regression model.

4 | RESULTS AND DISCUSSION

4.1 | Descriptive statistics

The main summary statistics of the data are presented in Table 2. The average Genuine Savings is 1.201%. Even though this is low, it is relatively higher than 1.154% observed among developing countries in Africa (Kpegba et al., 2023), however, the positive sign is a good indicator that the SSA economies are on a sustainable path and are managing their resources in a way that ensures a surplus for future generations. Public expenditure also ranges between 0.952% and 46.601%, this illustrates the large disparity in general government final consumption expenditure by SSA nations. It also shows that the average expenditure was 14.816%, indicating that most countries are closer to the lower spending level. On average, institutional quality also ranges between 25.396% and 32.551%, which indicates low institutional quality ranks for all 48 SSA economies, with the index placing 0 at the lowest and 100 as the highest. Table 3 also displays the pairwise correlation matrix of the variables. From the table, it can be observed that public expenditure and all institutional quality measures load positively on economic sustainability. A further inspection reveals that the correlations between most pairs of independent and control variables are relatively low which is good. However, the correlation of the institutional quality variables pairs is quite high. As such we only

TABLE 2 Summary statistics.

Variables	Obs.	Mean	Std. dev.	Minimum	Maximum
Economic sustainability (ES)	597	1.201	13.744	−52.223	32.129
Public expenditure (PE)	806	14.816	7.137	0.952	46.601
Rule of law (ROL)	952	28.528	20.287	0	81.69
Control of corruption (CORR)	953	30.449	22.583	0	94.34
Government effectiveness (GEFF)	952	25.396	20.244	0	84.615
Political stability (POLS)	952	32.551	22.557	0	93.75
Foreign direct investment (FDI)	923	4.502	8.050	−18.918	103.337
Trade (TO)	841	69.910	35.024	2.699	235.82
Inflation (INF)	876	321.603	2023.549	29.515	38796.559
Economic growth (lnGDP)	927	22.969	1.506	18.441	27.076

Source: Authors' results (2023).

TABLE 3 Pairwise correlation.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) ES	1.000									
(2) PE	0.201*	1.000								
(3) ROL	0.506*	0.384*	1.000							
(4) CORR	0.491*	0.498*	0.882*	1.000						
(5) GEFF	0.447*	0.403*	0.918*	0.862*	1.000					
(6) POLS	0.385*	0.425*	0.773*	0.745*	0.712*	1.000				
(7) FDI	0.017	0.118*	0.010	0.073*	0.009	0.097*	1.000			
(8) TO	0.145*	0.481*	0.293*	0.353*	0.346*	0.471*	0.391*	1.000		
(9) INF	0.075	−0.001	−0.122*	−0.125*	−0.120*	−0.126*	−0.028	−0.104*	1.000	
(10) lnGDP	0.200*	−0.254*	0.013	−0.155*	0.089*	−0.251*	−0.196*	−0.250*	0.066	1.000

*Shows significance at $p < .05$.
Source: Authors results, 2023.

utilize one variable per model so as to eliminate any bias or problem of multicollinearity in our models.

4.2 | Baseline regression results

The results from our OLS regression analysis are presented in Table 4. Model (1) provides results for the primary independent variable in the absence of the interaction and control variables. Models (2), (3), (4) and (5), however, presents estimates for various institutional quality variables incorporated into the comprehensive model specified for this study. These institutional quality variables have been appropriately proxied to address the research objectives.

From, Model 1, the degree of impact of Public Expenditure on Economic Sustainability reveals a significance at the 1% significance level. The relationship here is positive and implies that a 1% change in public expenditure leads to a 40.7% positive and significant change in the Economic Sustainability of the countries. Additionally, when the institutional quality proxies are introduced into the equation, there is a noticeable impact on Public Expenditure results. From Model (2) to Model (4), the results show that Public Expenditure has an insignificant positive relationship with Economic Sustainability. This provides novel evidence into the significance of institutional quality as a moderator. However, Rule of Law affirms a significant and positive influence on Economic Sustainability. That is, a 1% increase in Rule of Law will lead to a 37.1% increase in Economic Sustainability. Also, the model reveals that the interaction between Rule of Law and Public Expenditure is negative and statistically significant at the 1% significance level.

From Model (3), we find that Control of Corruption is significantly linked to Economic Sustainability and the relationship is positive. As such, a unit change in Control of Corruption results in a 34.6% change in Economic Sustainability. Also, it can be observed that the interaction between Control of Corruption and Economic Sustainability is negative and statistically significant at the 1% significance level. Model (4) also provides that the coefficient of Government Effectiveness to Economic Sustainability is positive and significant at the 1% significance level. Thus, when Government Effectiveness changes by 1%, Economic Sustainability changes by 32.3%. The results also present a negative and significant relationship for the interaction between Government effectiveness and Economic Sustainability. Finally, Model (5) shows that Political Stability has positive and significant effect on Economic Sustainability and a 1% increase in Political Stability will increase Economic Sustainability by 27%. The interaction coefficient of Political Stability

TABLE 4 Results from pooled OLS regression.

Variables	(1) ES	(2) ES	(3) ES	(4) ES	(5) ES
PE	0.407***	0.0989	−0.00468	0.132	0.276***
	(−0.0821)	(−0.0932)	(−0.0947)	(−0.0984)	(−0.0959)
ROL		0.371***			
		(−0.0304)			
CORR			0.346***		
			(−0.0275)		
GEFF				0.323***	
				(−0.0341)	
POLS					0.270***
					(−0.0294)
ROL*PE		−0.00497***			
		(−0.00128)			
CORR*PE			−0.00452***		
			(−0.0012)		
GEFF*PE				−0.00540***	
				(−0.00144)	
POLS*PE					−0.00267**
					(−0.0013)
TO		0.0226	0.00879	0.0248	−0.0184
		(−0.0211)	(−0.021)	(−0.0223)	(−0.0231)
FDI		−0.00493	−0.00016	0.00449	0.0122
		(−0.101)	(−0.101)	(−0.107)	(−0.107)
INF		0.00736***	0.00714***	0.00782***	0.00639**
		(−0.00242)	(−0.00241)	(−0.00255)	(−0.00254)
lnGDP		2.243***	2.500***	1.820***	3.128***
		(−0.339)	(−0.336)	(−0.366)	(−0.359)
Constant	−4.279***	−64.87***	−67.79***	−53.04***	−83.32***
	(−1.323)	(−8.225)	(−8.191)	(−8.81)	(−8.778)
Observations	585	551	551	551	551
R-squared	(0.0400)	(0.319)	(0.323)	(0.248)	(0.245)

Note: NB: Standard errors in parentheses.
Source: Authors' results (2023).

and Economic Sustainability is also negative here and significant at the 1% significance level in this study.

Additionally, the results from Table 4 show that Inflation and Economic Growth are also positively related with Economic Sustainability and are significant at the 1% significance level. It is however noteworthy that both Trade Openness and Foreign Direct Investment are statistically insignificant in explaining variations in Economic Sustainability in all models.

4.3 | Robustness check

Under the Systems GMM estimator, our initial reporting focuses on key validity parameters such as AR (1), AR (2), along with the Sargan and Hansen tests. Given the outcomes from Table 5 we find that all the *p*-values for the AR (1) and AR (2) are insignificant at the 5% significance level. We therefore fail to reject the null hypothesis of no autocorrelation with the error term at the first order level and second order level respectively. Additionally, the *p*-values for the Sargan and Hansen tests for all the models are insignificant at the 5% significance level. This shows that the model does not suffer over-identifying restrictions and the results are valid and reliable for interpretation. Our baseline regression model is re-estimated using a dynamic panel model technique with the inclusion of the lagged dependent variable into the model. From Table 5, the coefficients of the 1-year lag of Economic Sustainability are statistically significant at the 1% level for all Models. Also, the institutional quality coefficients are positive and statistically significant across board at the 1% significance level. Additionally, Inflation and Economic Growth results are similar to those in Table 4 with the exception of Model (8) which reveals and

TABLE 5 Results from system GMM estimator.

	(6)	(7)	(8)	(9)
Variables	**ES**	**ES**	**ES**	**ES**
Lag(ES)	0.228***	0.238***	0.235***	0.231***
	(0.0538)	(0.0520)	(0.0543)	(0.0575)
PE	−0.0119	0.00435	0.134	0.310
	(0.334)	(0.336)	(0.357)	(0.333)
ROL	0.411***			
	(0.110)			
CORR		0.363***		
		(0.0986)		
GEFF			0.362***	
			(0.119)	
POLS				0.312***
				(0.0991)
ROL*PE	−0.00729**			
	(0.00367)			
CORR*PE		−0.00560*		
		(0.00295)		
GEFF*PE			−0.00760*	
			(0.00391)	
POLS*PE				−0.00433*
				(0.00261)
TO	0.0277	0.00295	0.0246	−0.0370
	(0.0815)	(0.0780)	(0.0912)	(0.0892)
FDI	−0.00968	−0.0744	−0.0914	−0.0362
	(0.202)	(0.192)	(0.222)	(0.299)
INF	0.0129***	0.0125***	0.0144***	0.0117***
	(0.00266)	(0.00365)	(0.00399)	(0.00372)
lnGDP	2.105*	2.413**	1.687	3.097**
	(1.117)	(1.215)	(1.233)	(1.318)
				(0.00261)
Constant	−61.45**	−66.28**	−51.07*	−83.45**
	(26.82)	(29.39)	(30.02)	(32.40)
Observations	513	513	513	513
AR (1)	0.765	0.843	0.807	0.988
AR (2)	0.452	0.266	0.188	0.200
Hansen	0.394	0.195	0.301	0.368
Sargan	0.191	0.052	0.131	0.168

Note: NB: Standard errors in parentheses.
***$p < .01$; **$p < .05$; *$p < .1$.
Source: Authors' results (2023).

insignificant relationship. Nonetheless, our findings largely corroborate those presented in Table 4.

4.4 | Summary of findings

The study explores the nexus of public expenditure, economic sustainability, and institutional quality in Sub-Saharan Africa (SSA). First, we investigate the relationship between public expenditure and economic sustainability. The results of the study reveal that in the absence of any other variable, there is a positive and significant impact of public expenditure on economic sustainability in SSA. This finding is novel in nature and supports our first hypothesis of a significant relationship between public expenditure and economic sustainability. This new insight shows that when public expenditure is

strategically allocated, SSA economies can improve their economic sustainability. The study also examines the impact of institutional quality factors on the economic sustainability of Sub-Saharan African economies. The findings from our study suggest that rule of law, control of corruption, government effectiveness and political stability all have a statistically significant positive impact on economic sustainability. This implies that when SSA economies focus on improving rule of law, enhancing government effectiveness, ensuring control of corruption and maintaining political stability, they positively stimulate economic sustainability. Our second hypothesis of a significant influence of institutional quality on economic sustainability in SSA, is therefore proven to be supported.

Finally, we answer also the question of whether institutional quality moderates the relationship between public expenditure and economic sustainability in SSA. The results reveal that when the coefficients of institutional quality interact with those of public expenditure, we experience a change in the impact on economic sustainability. That is, the interaction between rule of law, control of corruption, government effectiveness, political stability and economic sustainability, becomes negative and statistically significant. This implies that when institutional quality moderates the relationship, an increase in the interaction will create a decrease in economic sustainability for all institutional quality variables. Thus, even though rule of law, control of corruption, government effectiveness, and political stability and absence of terrorism are seen to boost economic sustainability, our study proves that the moderating effect is negative with respect to SSA economies. The underlying economic rationale is that, for Sub-Saharan African (SSA) economies to actively strengthen institutional quality—for instance; improving the rule of law, enhancing government effectiveness and transparency, ensuring political stability, and fighting corruption, which is pervasive in Africa—the associated efforts necessitate significant costs. These expenses, which are often very large, contribute to a substantial increase in public expenditure, and as such potentially exert strain on economic sustainability. The challenge, therefore, lies in striking a balance between fortifying institutions for long-term economic health and the need to manage public expenditure judiciously to ensure economic sustainability. Overall, our study provides concrete evidence that institutional quality truly matters in the relationship between public expenditure and economic sustainability.

5 | CONCLUSION AND IMPLICATIONS

The study investigates whether institutional quality matters in the relationship between public expenditure and economic sustainability in Sub-Saharan Africa (SSA). Employing both OLS regression and System Generalized Method of Moments (GMM) estimators, the study examines the effects across 48 Sub-Saharan African Economies from 2003 to 2022 representing 20 years. The study assembles a panel dataset from the World Development Indicators (WDI) and Worldwide Governance Indicators (WGI) databases for its estimation. Also, the study controls for the potential effects of foreign direct investment, trade openness, inflation and economic growth on economic sustainability in SSA economies.

The findings of the study reveal that public expenditure positively impacts the economic sustainability of SSA economies. It further shows that all institutional quality factors – rule of law, control of corruption, government effectiveness, and political stability, and absence of terrorism –are significant and positively linked with the sustainability of these economies. The study further finds that inflation and economic growth have a significant effect on economic sustainability; however, the effects of foreign direct investment and trade openness are found to be insignificant for SSA economies. In assessing the moderating effect of institutional quality, we provide an interesting insight. We find that the interaction between public expenditure and all four institutional quality variables is negative and significant. This shows that governments in SSA economies, in attempting to build strong institutions and fight corruption, may inadvertently have detrimental impact on the economic sustainability of their nations. To wit, strong institutions really matter to the public expenditure and economic sustainability nexus in SSA.

Our study offers very noteworthy implications for theory and practice. First, the study fills the much-needed gap in the literature on economic sustainability in Africa by exploring its relation with public expenditure and institutional quality using both static and dynamic panel models. The research contributes novel insights to the discourse on public expenditure, underscoring the importance of considering institutional quality when formulating policies for sustainable development. It emphasizes that economic sustainability policies should not be devised in isolation; rather, there must be carefully incorporated institutional considerations to enhance their effectiveness. As such, governments may compromise their economic sustainability if such policies are implemented without the underpinning of strong institutions. For instance, in the case of pervasive weak institutions in SSA nations, the study suggests that a lack of institutional integrity may divert a significant portion of public expenditure toward addressing corruption issues, diminishing the resources available for other developmental endeavors. Policymakers must therefore prioritize institutional quality factors alongside targeted public spending for a more impactful and enduring sustainable development trajectory in SSA.

Given the nature of our study, there are some limitations. Although, we provide new insights on economic sustainability, future studies could assess all three sustainability indicators – economic, environmental and social sustainability. Isolating a singular component for the study holds the potential to undermine the comprehensiveness of the findings concerning overall sustainability. Second, the study focused on only the SSA region, where the findings may not be representative of all other African regions, as such further studies should consider a wider scope. Moreover, there is room for additional research to delve into the evaluation of institutional quality thresholds, offering a different perspective into the specific levels needed to bring about a meaningful impact on the sustainability of nations. Notwithstanding, the efficacy of the outcomes derived from the study are not diluted in any way.

ORCID

Silas Apealete Kpegba https://orcid.org/0009-0003-5603-9430

Lord Kelvin Kofi Atisu https://orcid.org/0009-0007-9119-5390

Clement Oppong https://orcid.org/0000-0002-6114-1339

Ellis Kofi Akwaa-Sekyi https://orcid.org/0000-0002-9497-568X

REFERENCES

Abdallah, W., Goergen, M., & O'Sullivan, N. (2015). Endogeneity: How failure to correct for it can cause wrong inferences and some remedies. *British Journal of Management*, *26*(4), 791–804. https://doi.org/10.1111/1467-8551.12113

Abdulahi, M. E., Shu, Y., & Khan, M. A. (2019). Resource rents, economic growth, and the role of institutional quality: A panel threshold analysis. *Resources Policy*, *61*, 293–303. https://doi.org/10.1016/j.resourpol.2019.02.011

Akai, N. (2024). Evidence-based policy making in Japan's public expenditure: Compatibility of fiscal health and investing for the future. *Asia Pacific Business Review*, *1-14*, 514–527. https://doi.org/10.1080/13602381.2024.2320543

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.

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

Arvin, M. B., Pradhan, R. P., & Nair, M. S. (2021). Are there links between institutional quality, government expenditure, tax revenue and economic growth? Evidence from low-income and lower middle-income countries. *Economic Analysis and Policy*, *70*, 468–489. https://doi.org/10.1016/j.eap.2021.03.011

Azam, W., Khan, I., & Ali, S. A. (2023). Alternative energy and natural resources in determining environmental sustainability: A look at the role of government final consumption expenditures in France. *Environmental Science and Pollution Research*, *30*(1), 1949–1965. https://doi.org/10.1007/s11356-022-22334-z

Bazie, P., Thiombiano, N., & Maiga, E. W. H. (2023). Fighting corruption in developing countries to meet the challenge of human capital development: Evidence from Sub-Saharan African countries. *Journal of the Knowledge Economy*. https://doi.org/10.1007/s13132-023-01330-9

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143.

Boos, A. (2015). Genuine savings as an indicator for "weak" sustainability: Critical survey and possible ways forward in practical measuring. *Sustainability*, *7*(4), 4146–4182. https://doi.org/10.3390/su7044146

Chen, G. S., Manu, E. K., & Asante, D. (2023). Achieving environmental sustainability in Africa: The role of financial institutions development on carbon emissions. *Sustainable Development*, *31*(5), 3272–3290.

Chhabra, M., Giri, A. K., & Kumar, A. (2023). What shapes economic growth in BRICS? Exploring the role of institutional quality and trade openness. *Economic Papers: A Journal of Applied Economics and Policy*, *42*(4), 347–365. https://doi.org/10.1111/1759-3441.12378

Chu, T. T., Hölscher, J., & McCarthy, D. (2020). The impact of productive and non-productive government expenditure on economic growth: An empirical analysis in high-income versus low- to middle-income economies. *Empirical Economics*, *58*(5), 2403–2430. https://doi.org/10.1007/s00181-018-1616-3

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage Publications, Inc.

Dincă, G., Dincă, M. S., Negri, C., & Bărbuță, M. (2021). The impact of corruption and rent-seeking behavior upon economic wealth in the European Union from a public choice approach. *Sustainability*, *13*(12), 6870.

Epo, B. N., & Nochi Faha, D. R. (2020). Natural resources, institutional quality, and economic growth: An African tale. *The European Journal of Development Research*, *32*(1), 99–128. https://doi.org/10.1057/s41287-019-00222-6

Farooq, F., Zaib, A., Faheem, M., & Gardezi, M. A. (2023). Public debt and environment degradation in OIC countries: The moderating role of institutional quality. *Environmental Science and Pollution Research*, *30*(19), 55354–55371.

Haini, H. (2020). Examining the relationship between finance, institutions and economic growth: Evidence from the ASEAN economies. *Economic Change and Restructuring*, *53*(4), 519–542. https://doi.org/10.1007/s10644-019-09257-5

Halásková, R., Halásková, M., & Pomp, M. (2023). The effect of government expenditures on the economic and institutional dimension of governance in European countries. *Scientific Papers of the University of Pardubice. Series D, Faculty of Economics and Administration*, *31*(1), 1690–1705. https://doi.org/10.46585/sp31011690

Haldar, A., & Sethi, N. (2021). Effect of institutional quality and renewable energy consumption on CO_2 emissions– an empirical investigation for developing countries. *Environmental Science and Pollution Research*, *28*(12), 15485–15503.

Hayat, A. (2019). Foreign direct investments, institutional quality, and economic growth. *The Journal of International Trade and Economic Development*, *28*(5), 561–579. https://doi.org/10.1080/09638199.2018.1564064

Hsiao, C. (2022). *Analysis of panel data (Issue 64)*. Cambridge university press.

Ijaz, S. T., & Chughtai, S. (2022). The impact of financial, economic and environmental factors on energy efficiency, intensity, and dependence: The moderating role of governance and institutional quality. *International Journal of Energy Economics and Policy*, *12*(4), 15–31.

Indu, P. V., & Vidhukumar, K. (2020). Research designs – An overview. *Kerala Journal of Psychiatry*, *32*(1), 64–67. https://doi.org/10.30834/KJP.32.1.2019.179

Islam, M. S., & Mustafa Shindaini, A. J. (2022). Impact of institutional quality and human capital creation on economic growth in Bangladesh: Evidence from an ARDL approach. *International Journal of Social Economics*, *49*(12), 1787–1802.

Jahanger, A., Usman, M., & Balsalobre-Lorente, D. (2022). Linking institutional quality to environmental sustainability. *Sustainable Development*, *30*(6), 1749–1765.

Khan, M., Raza, S., & Vo, X. V. (2020). Government spending and economic growth relationship: Can a better institutional quality fix the outcomes? *The Singapore Economic Review*, *66*(3), 1–23.

Kaufmann, D., & Kraay, A. (2008). Governance indicators: where are we, where should we be going?. *The World Bank Research Observer*, *23*(1), 1–30.

Koirala, B. S., & Pradhan, G. (2020). Determinants of sustainable development: Evidence from 12 Asian countries. *Sustainable Development*, *28*(1), 39–45.

Kpegba, S. A., Oppong, C., & Atchulo, A. S. (2023). Urban entrepreneurship, public management and sustainability nexus: Evidence from developing countries. *Sustainable Development*, *32*(1), 520–528.

Kumasey, A. S., Bawole, J. N., & Hossain, F. (2017). Organizational commitment of public service employees in Ghana: Do codes of ethics matter? *International Review of Administrative Sciences*, *83*(1_suppl), 59–77.

Libarkin, J. C., & Kurdziel, J. P. (2002). Research methodologies in science education: The qualitative-quantitative debate. *Journal of Geoscience Education*, *50*(1), 78–86.

Lin, G. T. R., & Hope, C. (2004). Genuine savings measurement and its application to the United Kingdom and Taiwan. *The Developing Economies*, *42*(1), 3–41.

McGrath, L., Hynes, S., & McHale, J. (2019). Augmenting the World Bank's estimates: Ireland's genuine savings through boom and bust. *Ecological*

Economics, *165*, 106364. https://doi.org/10.1016/j.ecolecon.2019.106364

Miranda-Lescano, R., Muinelo-Gallo, L., & Roca-Sagalés, O. (2023). Human development and decentralization: The importance of public health expenditure. *Annals of Public and Cooperative Economics*, *94*(1), 191–219.

Nguyen, M.-L. T., & Bui, N. T. (2022). Government expenditure and economic growth: Does the role of corruption control matter? *Heliyon*, *8*(10), e10822.

Nicolò, G., L'Abate, V., Raimo, N., & Vitolla, F. (2024). Exploring the antecedents of local governments' sustainability disclosure: The role of the mayor. *Journal of Public Affairs*, *24*(1), e2908. https://doi.org/10.1002/pa.2908

Nyasha, S., & Odhiambo, N. M. (2019). The impact of public expenditure on economic growth: A review of international literature. *Folia Oeconomica Stetinensia*, *19*(2), 81–101.

Onifade, S. T., Çevik, S., Erdoğan, S., Asongu, S., & Bekun, F. V. (2020). An empirical retrospect of the impacts of government expenditures on economic growth: New evidence from the Nigerian economy. *Journal of Economic Structures*, *9*(1), 1–13.

Oppong, C., Salifu Atchulo, A., & Fatia Oman, S. (2023). Public debt and economic growth nexus in Sub-Saharan Africa: Does institutional quality matter? *International Review of Applied Economics*, *37*(3), 311–323. https://doi.org/10.1080/02692171.2023.2205107

Petkovski, M., Kjosevski, J., & Jovanovski, K. (2021). Macro and bank specific determinants of non-performing loans in Polish commercial banks. *Argumenta Oeconomica*. https://doi.org/10.15611/aoe.2021.2.06

Phuc Canh, N., Schinckus, C., & Thanh, S. D. (2019). Do economic openness and institutional quality influence patents? Evidence from GMM systems estimates. *International Economics*, *157*, 134–169. https://doi.org/10.1016/j.inteco.2018.10.002

Poku, K., Opoku, E., & Agyeiwaa Ennin, P. (2022). The influence of government expenditure on economic growth in Ghana: An Ardl approach. *Cogent Economics and Finance*, *10*(1), 2160036.

Reid, G., Tierean, O. M., & Bratucu, G. (2008). What is public choice? *Bulletin of the Transilvania University of Brasov*, *1*(50), 87–92.

Sabir, S., & Qamar, M. (2019). Fiscal policy, institutions and inclusive growth: Evidence from the developing Asian countries. *International Journal of Social Economics*, *46*(6), 822–837.

Sampson, I. O., Akujuobi, A., Akujuobi, L., & Elizabeth, N. C. (2021). Public expenditure and economic development in Sub-Saharan Africa: Evidence from Nigeria and Ghana. *African Journal of Business and Economic Development*, *1*(12), 103–128.

Sani, A., Said, R., Ismail, N. W., & Mazlan, N. S. (2019). Public debt, institutional quality and economic growth in Sub-Saharan Africa. *Institutions and Economies*, *11*(3), 39–64.

Saunders, N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education Limited.

Sheng, W., Meng, F., & Akbar, M. W. (2023). How institutional quality, and energy production sources, affect the environmental sustainability of bri countries: A comparison of different income groups. *PLoS One*, *18*(9), e0291144.

Sikayena, I., Bentum-Ennin, I., Andoh, F. K., & Asravor, R. (2022). Efficiency of public spending on human capital in Africa. *Cogent Economics and Finance*, *10*(1), 2140905.

Singh, B. P., & Pradhan, K. C. (2022). Institutional quality and economic performance in South Asia. *Journal of Public Affairs*, *22*(1), e2401. https://doi.org/10.1002/pa.2401

Tran, Q. T., Huynh, N., & Huynh, N. A. (2022). Trading-off between being contaminated or stimulated: Are emerging countries doing good jobs in hosting foreign resources? *Journal of Cleaner Production*, *379*, 134649. https://doi.org/10.1016/j.jclepro.2022.134649

Viet Hong Anh, N., & Thi Kim Oanh, T. (2023). Role of institution quality in the impact of government expenditure on economic development: A case study in Vietnamese provinces. *Macroeconomics and Finance in Emerging Market Economies*, *16*(3), 409–427.

Wandeda, D. O., Masai, W., & Nyandemo, S. M. (2021). Institutional quality and economic growth: evidence from Sub-Saharan Africa countries. *African Journal of Economic Review*, *9*(4), 106–125.

Wong, S. Y. (2020). Assessment of public expenditure efficiency: A review. *Journal of Economics and Sustainability*, *2*(2), 12.

How to cite this article: Kpegba, S. A., Atisu, L. K. K., Nketiah Sarfo, K., Oppong, C., & Akwaa-Sekyi, E. K. (2024). Public expenditure and economic sustainability: Does institutional quality matter? *Sustainable Development*, 1–12. https://doi.org/10.1002/sd.3024