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Government Expenditure and Economic Growth: Does Corruption and Democracy Matter?

Naftaly Mose [a*]

[a] University of Eldoret, Kenya.

Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

This study investigated the potential role of corruption and democracy in the expenditure-economic growth nexus. Economic literature predicts economic growth-enhancing activities of various core functions of government. However, excess government expenditure, in corrupt and undemocratic countries, may slow down the overall performance of the economy through rent-seeking activities, ineffectiveness and engaging in unproductive projects. The research objective is to analyze the role of democracy and corruption levels in the effects of government expenditure on economic growth in Kenya over the period 1990-2020. The generalized method of moments (GMM) framework was exploited to estimate the regression model. The findings indicate that government expenditure, corruption and democracy have positive and direct effects on economic growth through improvements in the efficiency of government expenditure. Besides, this study finds that corruption and democracy can have indirect negative effects on growth through deterioration of the efficiency of government expenditure. The study results suggest that government policies aimed at promoting democracy and controlling corruption can have direct positive effects on economic growth and indirect negative effects through their influence in the efficiency of government expenditure.

**Corresponding author: E-mail: brilliantcoke@gmail.com;*

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1. INTRODUCTION

Economic literature suggests growth-enhancing activities of various core functions of government in developing countries [1]. However, government expenditure in autocracy and corrupt nations often goes beyond these core purposes, namely into rent-seeking, wastage, excess public goods provision, bribe-taking and non-productive projects (Alfada, [2], Nguyen & Bui, [3]. Specifically, if the country is undemocratic, the government rationally will choose rent over public goods to maintain support, and thus grow the economy [4]. Furthermore, Kato and Sato [5] and Huang (2016) observed that corruption can be useful in "greasing the wheels" in the economy thereby promoting efficiency and effectiveness in the economy, especially for developing countries with weak institutions. Most studies argue that corruption has a direct and negative effect on economic processes while democracy has only an indirect impact on growth. It has been argued that one of democracy's indirect benefits is its ability to mitigate the harmful effect of corruption on economic growth [6]. While corruption may occur in democracies, the electoral system inhibits politicians from engaging in corrupt acts detrimental to economic progress and thereby damaging their political survival (Baum & Lake, [7], Drury et al., [6].

Neoclassical and endogenous theories have amplified the critical role government spending plays in stimulating economic growth. Particularly, government spending allocates the necessary resources that impact long-run growth, infrastructure development, and education and health outcomes (Ochieng et al., [8], Mawejje, [9]. In addition, public expenditure provides public goods, stimulates consumption and encourages private investment by creating effectiveness and removing market failure (D'Agostino et al., [10], Bucci et al., [11]. However, other empirical studies argue if used excessively government spending can harm the economy (Hajamini & Falahi, 2018; Nguyen & Bui, 2022). This suggests although the effect of government expenditure on growth has been reviewed extensively, there are still conflicting views on the expenditure-growth association.

Economic literature argues that democracy may improve the quality of economic institutions (Oslon, 1962). The quality of institutions will improve the effectiveness of government expenditure and thus promote economic growth. The institution quality will vary from democracy to autocracy and also depend on the level of human quality in an economy (Friedman, [12], Oslon, [13], Krieger, [14]. Several measures of democracy (political freedom) exist, binary measures, Vdem polyarchy, continuous and the dichotomous machine learning index, and lexical index of electoral democracy (Gründler & Krieger, 2021, Krieger, 2022). Continuous machine learning indicators as a democracy measure have been used in the study since it produces a less biased index in comparison to dichotomous (Krieger, 2022). Political participation influences how governments spend resources, opportunistic governments will choose the optimal combination of rent and public good instruments to attract political support. If the country is autocratic, the government rationally will choose rent over public goods to maintain support (Oslon, 1965; Oson, 1991; Plümper & Martin, 2003). Democracy, as a consequence, increases efficiency and thus growth. However, if political participation increases further then the government may over-invest in the provision of public goods and this will cause inefficiency, hurt investment and dampen growth [14].

The relationship between corruption and growth has been inconclusive with some empirical studies arguing that corruption control can improve the efficiency of resource allocation, and grow the private sector and the economy (Al Qudah et al., [15], Iliyasu & Muhammed, [16]. According to Hodge et al. [17], corruption control can stimulate economic growth by improving government spending effectiveness. Furthermore, Kato and Sato [5] and Huang (2016) observe that corruption can be useful in "greasing the wheels" in the economy thereby promoting efficiency in the economy, especially for poor nations with weak institutions. In contrast, other studies argue corruption can reduce the effectiveness of spending and thus dampen growth or "sand the wheel" (Dzhumashev, [18], Nguyen & Bui, 2022). According to Nur-Tegin and Jakee [19] and Mose [20], corruption will make those in authority allocate budget resources in terms of preference and use distorted budgets that favour activities with more scope for corruption and manipulation.

As a result, corruption will exaggerate government expenditure, lead to wastage and reduce domestic investment. In addition, D'Agostino et al. [10] argued that corruption dampens economic growth with the rise in military expenditure.

The Kenyan economy recorded an average growth rate of 4.5 cent in the decade to 2022, higher than the 3.0% average for Sub-Saharan Africa. According to empirical studies, national and county spending has been a source of economic growth in Kenya [21]. In Kenya, on average public expenditure has been on an upward trend, spending in Kenya averaged 267122 KES Million from 1964 until 2022, reaching an all-time high of 1348217 KES Million in 2022 and a record low of 998 KES Million in 1964 [22]. However as observed in Kenya, economic growth has been inconsistent despite the expenditure being on an upward trend, because of corruption, wastage and curtailed public freedom (TI, [23], FH, [24]. According to the democracy index score for 2024, on a scale of 0 (least free) to 100 (most free), Kenya was rated partly free in freedom, (52/100) [24] Nevertheless, Kenya has reached many democratic milestones namely, the adoption of the progressive constitution, decentralized governance with increased capacity in public expenditure management and public participation, and vibrant media and civil society sector [24]. Yet, police brutality and pervasive corruption remain serious problems. Furthermore, in 2023, Kenya was ranked 126th among the 180 countries, where the country ranked last is perceived to have the most dishonest public service sector [23] Still, from empirical studies, it is clear government expenditure, corruption control and democracy promotion are key conditions for any economy that wants to achieve sustainable growth. This research is conducted to determine the role of corruption and democracy in the impact of government expenditure on economic growth in Kenya.

2. REVIEW OF RELATED LITERATURE

The Keynesian growth model treats government spending as exogenous and economic growth as endogenous variables. The Keynesian model argues that an increase in public spending will increase the total demand for goods and services and thus grow domestic investment and finally the economy (Keynes, 1936). However excess spending, high taxes and borrowing will make expenditure to dampen growth. Solow [25] neo-classical growth model indicates that changes in factors of production, labour and capital, will increase human and capital stock accumulation and technology and thus stimulate growth. Growth differentials between countries can be explained by changes in investment level [25]. However, excess public investment, in the market can cause inefficiency, crowd out private investment and thus slow growth [26]. Endogenous growth models assume that factors of growth and policies influence economic growth, government expenditure is one of the fiscal policies that influence resource allocation, private sector regulation and public sector promotion thus growth (Nguyen & Bui, 2022).

Generally, the empirical literature has identified two opposing hypotheses, whether corruption "greases the wheel" or "sands the wheel" Nur-Tegin & Jakee, [19] According to modernization theory, the mechanism of economic democratic and political development in modern societies tends to breed economic inequality, gender differentiation, political instability and corruption. Corruption is seen as a means of using public powers to achieve private goals (Huntington, [27], Kiltgaard [28] propagated a new theory known as the "corruption formula" indicates that corruption will occur when there is a monopoly of power (autocracy), limited accountability and power to make judgments. These three conditions will make corruption thrive in any economy and cause public investment and provision of public goods to be inefficient. Also, Kiltgaard [28] identified three conditions that can cause corruption levels to reduce in growth, increasing competition, enhancing transparency and strengthening accountability mechanisms. Moreover, Rose- Ackerman's theory emphasizes the importance of strong institutions in combating corruption and experiencing growth through allocating resources efficiently [29]. The theory suggests that every country should have strong institutions with effective checks and balances to curb increasing corruption cases [29]. Further, the theory suggests economic progress, legal reforms, and social change can curb corruption behaviour. Finally, other hypotheses argue that corruption can promote efficiency in the economy, especially in poor countries with weak institutions (Kato & Sato, [5], Huang, 2016).

The theoretical literature on the relationship between democracy, spending and growth has generated competing views. According to Friedman [12], "on Capitalism and freedom

hypothesis," the two freedoms (political and economic) are mutually related and the impact of democracy on economic growth depends on the quality of economic institution [12]. Economic institutions are built, maintained and supported through government consumption. The more democratic a country is, the higher the incentive for the government to implement sound economic institutions and thus cause development [4]. In contrast, Oslon [30] theory of collective actions indicates that democratic governments are likely to divert expenditure from investment to consumption and thus dampen growth. Reduced private investment, via crowding out, will depress economic progress. The theory argues that in democracies the elite and special interest groups are more likely to promote their selfish agendas than for undemocratic governments. Most of these policies will be detrimental to economic growth as they will only promote excess and inefficient allocations [4].

Several empirical studies have been conducted, however, most of the findings have been contradictory and have used diverse sample size and estimation methods. For instance, Nguyen and Bui [3] study in Asian countries using GMM estimation, indicated that expenditure and corruption harm economic growth. In contrast, Iliyasu and Muhammed (2023) and Olufemi and Omorogiuwa (2024) in Nigeria using ARDL estimation, suggested that expenditure promotes growth while corruption hurts growth. In addition, Alfada [2] study concluded that generally, expenditure is not significant. Finally, Plümper and Martin [4] suggested democracy inspired growth in most economies. Table 1 presents an empirical review of the expenditure-growth link.

Table 1. Summary of empirical literature review

Author (s)	Sample (Period)	Methods	Results
Plümper & Martin [4]	Across the globe (1975-1997)	OLS	Expenditure not significant Democracy promotes growth Interaction term is significant
Hodge et al. [17]	Across the globe (1985-2004)	SURE	Expenditure dampen growth Corruption dampen growth Interaction term insignificant
Sakyi & Adams [31]	Ghana (1960-2008)	ARDL	Expenditure promote growth Democracy promotes growth Interaction term is significant
D'Agostino et al. [10]	OECD countries (1996-2010)	GMM	Expenditure dampen growth Corruption dampen growth Interaction term is significant
Alfada [2]	Indonesia (2004-2015)	2SLS	Expenditure not significant Corruption dampen growth Interaction term insignificant
Mose [20]	Kenya (2013-2017)	OLS	Expenditure promote growth Corruption dampen growth
Nan [32]	China (2020)	Descriptive	Expenditure dampen growth Corruption dampen growth Interaction term is significant
Nguyen & Bui [3]	Asian countries (2002-2019)	GMM	Expenditure dampen growth Corruption dampen growth Interaction term is significant
Iliyasu & Muhammed [16]	Nigeria (1990-2020)	ARDL	Expenditure promote growth Corruption dampen growth Interaction term significant
Mohammadi et al[33]	OECD countries (1990-2020)	VAR	Democracy dampen growth Interaction term is significant
Mawejje [9]	African countries (1991-2015)	VAR	Expenditure promote growth Interaction term is significant
Olufemi & Omorogiuwa [1]	Nigeria (2000-2022)	OLS	Expenditure promote growth

Notes: ARDL: Autoregressive Distributed Lag; SURE: Seemingly Unrelated Regression; 2SLS: Two-Stage Least Squares; GMM: Generalized Method of Moments; OLS: Ordinary Least Squares Regression; VAR: Vector Autoregressive

The current study contributes to economic literature that examines the relationship between government expenditure and economic growth. The major difference between past studies and the current study is the use of the most recent data (1990-2020). In addition, the study uses democracy and corruption to investigate their impact on the government expenditure–growth nexus. Finally, the study applies the GMM estimation method, whereas previous studies have used SURE, OLS and 2SLS approaches. GMM performs well with endogeneity and can generate efficient estimates with many limited time dimensions.

3. METHODOLOGY

As used by Olufemi & Omorogiuwa [1], an explanatory (Ex-post facto) research design was used to study the role of corruption and democracy on the expenditure-growth nexus with limited data for Kenya, from 1990-2020. The study was limited to the period 1990-2020 due to the availability of data namely for corruption and democracy variables. However, the study used the GMM technique which performs well with limited time dimensions. To better estimate the study model, the property of time series data namely stationarity was analyzed. Unit root test is important to make sure variables are of the same order before regression analysis and this can reduce misleading inferences. Most time series data are always characterized by stochastic trends, which can be removed by differencing [34]. The expected integration order is I(0) or I(1). The standard unit root tests for time series data are the Augmented-Dickey Fuller (ADF) and the Phillips-Perron (PP) tests. This study adopted the Phillips-Perron (PP) approach to check for stationarity, the alternative to the ADF test. The main strength of PP over other tests is that it is a non-parametric test. Thus, it is not necessary to specify the model and lagged parameter in the test regression [35]. The PP unit root test is specified as shown in Equation 1:

$$\Delta X_t = \alpha_i + \beta_i X_{t-1} + \sum_{j=1}^{k} \gamma_{i,j}\, \Delta X_{t-j} + \varepsilon_t \qquad (1)$$

Where Δ is the first difference operator, X_t is the dependent variable, ε_t is the stochastic term.

In line with the empirical work of Nguyen and Bui [3] and Iliyasu and Muhammed [16], the study modified the neoclassical growth model and generated growth equation 2 to analyze the effect of government expenditure on economic growth in Kenya.

$$GDP_t = \alpha + \beta EXP_t + \gamma X_t + \varepsilon_t \qquad (2)$$

Where:

ε is the error in the model and subscript t is the time dimension

The independent variable is economic growth (GDP), measured as GDP per capita growth as postulated by Ghose and Das [36] and Mawejje [9]. The independent variables included government expenditure (EXP) measured by final government consumption, public spending influences infrastructure and social outcomes. Corruption level was proxied by the corruption control index to measure the effectiveness of state to control the vice, the index ranges from -2.5(weak) to 2.5 (strong). To probe the role of political freedom, democracy (DEM) was added to the model and was measured using the machine learning index, which varies between 0 (very autocratic) and 1 (very democratic). According to Alfada [2] and Nguyen and Bui [3] corruption and democracy level can act as explanatory variables as well as control variables in the estimation model. Also, government expenditure can be influenced by changes in democracy and corruption [37].

The study followed the empirical works of Cieslik and Goczek [37], Nguyen and Bui [3] and Iliyasu and Muhammed (2023) to employ a linear interaction model by forming the term of interaction between expenditure and democracy (EXP*DEM), and expenditure and corruption (EXP*COR) on growth equation. Finally, inflation (INF) measured by price change and domestic investment (INV) proxied by gross capital formation were included as control variables (X) during regression analysis. Table 2 shows the sources of data and definition of study variables.

Equation 3 was used to investigate the role of corruption and democracy on government expenditure. Thus letting expenditure be the dependent variable and corruption and democracy be the independent variables. Then the study model will be.

$$\beta = \delta_1 + \delta_2 COR_t + \delta_3 DEM_t + \varepsilon_t \qquad (3)$$

Accordingly, the regression model of the effect of government expenditure on economic growth has the following equation:

$$GDP_t = \alpha + \delta_1 EXP_t + \delta_2 EXP_t * COR_t + \delta_3 EXP_t * DEM_t + \delta_4 COR_t + \delta_5 DEM_t + \gamma X_t + \varepsilon_t \quad (4)$$

Table 2. Variables and definitions

Variable	Abbreviation	Definition	Data Source	Expected sign
Economic growth	GDP	GDP per capita growth (%)	WDI	Not predicted Mawejje [9]
Government Expenditure	EXP	General government final consumption expenditure (% of GDP)	WDI	Positive Ghose & Das, [36].
Corruption	COR	Corruption Control Index estimates (range -2.5 to 2.5)	WDI	Negative (Nguyen & Bui, [3]
Democracy	DEM	Machines democracy index (range 1 to 0)	ML democracy Indexes	Positive (Krieger, 2022)
Interactive term for corruption	EXP*COR	Interaction between expenditure and corruption	Constructed	Negative (Iliyasu & Muhammed [16]
Interactive term for democracy	EXP*DEM	Interaction between expenditure and democracy	Constructed	Positive (Krieger, [14]
Private investment	INV	Gross capital formation (% of GDP)	WDI	Positive (Alfada, [2]
Inflation	INF	Consumer prices (%)	WDI	Negative (Nguyen & Bui, [3]

The study adopted the Generalized Method of Moments (GMM) approach proposed by Arellano and Bond (1991) to estimate the effect of expenditure on economic growth via equation 4. Most empirical studies such as Cieslik and Goczek [37], Hajamini and Falahi [38] and Nguyen and Bui [3] have all employed GMM to estimate the expenditure-growth nexus. The main advantage of the GMM approach, it allows for the control of endogeneity problems in regression models. Other strengths of GMM include its controls for heteroscedasticity, it does not require normality assumption and can estimate models that cannot be estimated from first-order conditions [39]. The GMM analysis was conducted through the use of a matrix of instrumental variables that are correlated with endogenous variables, but not correlated with the model errors (Arellano & Bond, [40], Hajamini & Falahi, [38], Nguyen & Bui, [3]. The GMM model was subjected to residual diagnostic tests, namely the Hansen or J-test and normality test, to avoid misleading inferences and to check for the validity and robustness of the findings (Hansen & West,[41], Roodman, [42]. Jarque-Bera test was applied to make sure whether the data fit the normal distribution or not. Finally, the Granger causality test was conducted to define the causal link between expenditure, democracy, corruption and growth (Granger, 1988).

4. FINDINGS

This chapter presents the results of a number of econometrics strategies adopted to meet study objectives.

4.1 Test of Stationarity

Time series data properties of the sample series were investigated using the Phillips -Perron (PP) unit root test. The stationarity test results of the series are demonstrated in Table 3.

Based on the Table 3 result, all variables have a unit root except democracy and the interaction term for democracy at a 1 % level of significance. However, the six variables were converted into stationarity after first differencing, meaning the series was mixed, I(0) and I(1). Considering the period (T) of the study is large, the unit root test was important to make sure all variables were stationary before GMM estimation.

Table 3. Unit root test result

Variables	Level		Order	First difference		Order
	Adjusted t	Prob.		Adjusted t	Prob.	
GDP	0.745298	0.9912	I(1)	-7.777614	0.0000	I(0)
EXP	-1.976253	0.2951	I(1)	-4.872863	0.0005	I(0)
COR	-2.168749	0.2211	I(1)	-5.375012	0.0001	I(0)
DEM	-4.801685	0.0006	I(0)	-	-	
$EXP * COR$	-2.389854	0.1529	I(1)	-5.292053	0.0002	I(0)
$EXP * DEM$	-6.727581	0.0000	I(0)	-	-	
INF	-2.797582	0.0706	I(1)	-12.14548	0.0000	I(0)
INV	-2.976865	0.0486	I(1)	-6.593310	0.0000	I(0)

*Note *** Signifies significance at a 1% level of significance; Null Hypothesis: The variable has a unit root*

Before GMM estimation a number of robustness check were conducted. Durbin Watson value of 2.014 has confirmed that the error term is free of serial correlation. Implying autocorrelation is not an issue in the model. J-tests or Hansen tests were conducted to check for instrument validity. From Table 4 result, Hansen J statistics, with a p-value of J-Hansen greater than 0.05, suggesting that the study cannot reject the null hypothesis that the instruments are correctly excluded or jointly valid, indicating that instrument variables are jointly valid and thus the GMM approach can be used. Jarque Bera test was conducted and the result confirmed that the study variables are normally distributed, errors are normally distributed. The study passed all diagnostic checks.

4.2 Regression Analysis

The study conducted a Generalized Method of Moments (GMM) regression analysis to define the relationship between economic growth and explanatory variables. Table 4 shows regression results using the GMM approach.

Regression results indicate that government expenditure has a positive and significant effect on economic growth. Particularly, a 1 per cent increase in government expenditure leads to about 0.196 per cent increase in economic growth in Kenya. The findings support the Keynesian view and endogenous theories that fiscal policy tools like expenditure are growth-enhancing through influencing resource allocation, supporting government functions and complementing the private sector [21]. Furthermore, an increase in government expenditure on social outcomes (health and education) and infrastructure development raises labour productivity and increases economic output. Findings agree with previous research by Ghose and Das [36] in emerging countries, Iliyasu and Muhammed [16] and Olufemi and Omorogiuwa [1] both in Nigeria. In contrast, Hajamini and Falahi [38] and Nguyen and Bui [3] indicated a negative relationship between the two variables exists, suggesting that inefficient use of government spending may hurt the economy. Furthermore, some studies argue that excess government expenditure may slow growth through increases in taxes and borrowing [26].

Table 4. GMM regression result

Variable	Coefficient	Standard error	t-Statistics	p-Value
EXP	0.196	0.006	29.995***	0.0000
COR	0.828	0.284	2.915***	0.0076
DEM	5.405	0.376	14.350***	0.0000
$EXP * COR$	-0.053	0.019	-2.809***	0.0097
$EXP * DEM$	-0.331	0.029	-11.230***	0.0000
INV	-0.010	0.005	-1.892*	0.0705
INF	0.001	0.001	1.042	0.3074
	Durbin Watson test = 2.014		Adjusted R2 = 0. 653	
	Hansen test = 2.116323		P- value = 0.145736	
	Jarque Bera test = 1.199762		p-value = 0.548897	

*Note: * p < 0.1, ** p < 0.05, *** p < 0.01 are significance levels, in which the null hypothesis is rejected. Dependent variable: GDP*

Corruption has a positive effect on economic growth in Kenya at a 1 per cent level of significance. Specifically, an increase in corruption level by 1 per cent will lead to a rise in growth by 0.828 per cent. Findings imply that corruption can accelerate the efficiency of resource allocation and break long bureaucratic chains in government administration thus encouraging private investment and growing the economy [32]. The plausible explanation is that certain elements of corruption help overcome inefficiency resulting from weak institutions and bureaucratic bottlenecks [20]. However, Nguyen and Bui [3] noted corruption can stimulate growth only if it's complemented by improved effectiveness of government management. Furthermore, Kato and Sato [5], Huang (2016) and Mose [20] argue that corruption can be useful in the economy by promoting efficiency in the economy, especially for poor countries with weak institutions. The finding disagrees with the result of Iliyasu and Muhammed (2023) in Nigeria, who noted corruption is the sand in the wheels. D'Agostino et al. [10] argued that corruption dampens growth by promoting military expenditure. Furthermore, corruption leads to inefficient allocation of resources, the presence of a shadow economy and low quality of human capital development (Huang, 2016).

Based on the result democracy is positively significant to economic growth. Specifically, it means if democracy increases by 1 per cent economic growth will rise by approximately 5.405 percent. Studies by Oslon (1962), Baum and Lake (2003), Sakyi and Adams [31], and Mohammadi et al. (2023) suggested democracy leads to economic growth via political stability and freedom. Baum and Lake (2003) indicate that democracy has a positive effect on growth via the positive impact of political stability and freedom, health and education expenditure and life expectancy. As a consequence of democracy, an increase in political freedom tends to increase efficiency and raise prospects of economic growth. Economic literature argues that democracy may improve the quality of economic institutions (Oslon, 1962; Drury et al., [6]. The quality of institutions will improve the efficiency of government expenditure and thus improve economic performance. Sakyi and Adams [31] study in Ghana observed that democracy leads to economic growth through productive spending and other complementing reforms such as macroeconomic stability and the rule of law. In contrast, Mohammadi et al. [33] observe that democracy is negative to economic growth for developing countries, poor countries have not created an environment for democracy.

The interactive term for corruption is negative and statistically significant at 1 per cent. The finding implies a simultaneous increase in government expenditure and corruption level by 1 per cent will dampen economic growth by about 0.053 per cent. This means the interaction of expenditure and corruption leads to inefficiency in resource allocation and hurt growth [3]. Furthermore, other studies argue corruption can reduce the efficiency of government expenditure and thus harm the economy (Dzhumashev, [8], Nur-Tegin & Jakee, [19]. Implies, excess corruption may push government spending to be inefficient, hurt private investment and slow growth (Friedman, 1962; Plümper & Martin, [4]. Findings agree with the conclusion of D'Agostino et al. (2016) in OECD countries, Iliyasu and Muhammed [33] in Nigeria and Nguyen and Bui [3] in Asia that expenditure can harm growth via corruption. Nguyen and Bui [3] reported a negative relationship, arguing that corruption inhibits resource allocation and thus hurts economic growth. In contrast, other studies argue that interaction between government expenditure and corruption can enhance economic growth, implying that corruption makes expenditure efficient by removing bureaucratic bottlenecks (Kato & Sato, [5], Huang, 2016).

Findings from the interactive term for democracy, indicate that indirectly democracy can harm growth by making expenditure to be inefficient and thus slow growth. Particularly, a simultaneous increase in democracy and expenditure by 1 per cent will cause growth to decline by 0.331. This can imply interaction of expenditure and democracy leads to inefficiency in resource allocation and slow growth. As democracy and political rights increase further, the government may over-invest in the provision of public goods and this will cause inefficiency, crowd private investment and slow growth (Krieger, [14], Mohammadi et al., [33]. The study supports Mohammadi et al. [33], who observes that democracy alone has not triggered economic growth for developing countries. Oslon (1965) theory of collective actions indicates that democratic governments are likely to divert expenditure from investment to consumption, consumption expenditure causes retarded growth and crowd out private sector. In contrast, several studies indicate that democracy has an indirect positive effect on economic performance,

due to the positive influence of such things as education and health spending, life expectancy and political stability (Baum & Lake, [7], Dury et al., [6], Sakyi and Adams, [31]. It has been argued that one of democracy's indirect benefits is its ability to mitigate the harmful effect of corruption on economic growth [6], indicate that democracy has a positive and indirect effect on growth via human capital and institutional development. Sakyi and Adams [31] conducted a study in Ghana and concluded that democracy and spending go hand in hand to have a positive impact on economic growth.

Private investment is negative and significant at 10 per cent to economic growth. Specifically, a rise in private investment by 1 per cent will lead economic growth to decline by 0.010. This suggests domestic investment may slow economic growth in Kenya. This has been attributed to the high debt ratio, public investment crowding out effect, high interest rate, high taxes, weakened local currency and inflationary uncertainty in Kenya that has slowed private sector growth and thus economic progress [16]. Excess government expenditure implies high taxes and borrowing that hinder private-sector borrowing, promoting inefficiency and dampening growth. Findings are similar to Iliyasu and Muhammed (2023) who reported negative relationships in Nigeria. In contrast, Ghose and Das [36] and Nguyen and Bui [3] found a positive relationship, private investment complements the public sector and stimulates growth.

Inflation is positive for economic growth in Kenya, although the variable was not significant. This implies at the study period inflation did not influence economic growth. Inflation uncertainty affects the tradeoff between inflation and growth by depressing private sector confidence and financial stability and thus slowing growth. The findings are similar to Nguyen and Bui [3] who reported an insignificant relationship in Asia. In contrast, Iliyasu and Muhammed [16] reported a positive relationship in Nigeria via an increase in production and thus output.

The coefficient of determination R-squared indicates that 65 per cent of the variation in the dependent variable has been explained by independent variables, thus showing that data fits the model well. The study passed all diagnostic tests namely Durbin Watson (auto correlation test), J-tests or Hansen (instrument validity test) and Jarque Bera (normality test).

4.3 Causality Test

The Granger causality test was conducted to define the directions of the relationship between independent and dependent variables. Table 5 presents the Granger causality results between economic growth and explanatory variables.

Table 5. Causality test result

Null hypothesis	Observations	F-statistics	Probability
Government expenditure does not Granger cause economic growth	30	3.18465*	0.0856
Economic growth does not Granger cause government expenditure		4.73956**	0.0384
Corruption does not Granger cause economic growth	30	2.52670	0.1236
Economic growth does not Granger cause corruption		0.06745	0.7971
Democracy does not Granger cause economic growth	30	7.76834***	0.0096
Economic growth does not Granger cause democracy		0.87062	0.3591
An interaction term for corruption does not Granger cause economic growth	30	2.47515	0.1273
Economic growth does not Granger cause interaction term for corruption		0.22022	0.6426
An interaction term for democracy does not Granger cause economic growth	30	6.26404**	0.0187
Economic growth does not Granger cause interaction term for democracy		0.53398	0.4712

*Note: * p < 0.1, ** p < 0.05, *** p < 0.01 are significance levels, in which the null hypothesis is rejected; Null hypothesis: No Causality*

The study findings suggest a bi-directional causality running from government expenditure to growth and vice versa, confirming the feedback effect. This implies an increase in government functions can stimulate growth and at the same time increase in output will provide necessary resources to the government to conduct its activities. The findings agree with previous studies of Ghose and Das [36] in emerging economies and Iliyasu and Muhammed [16] in Nigeria. The study has also identified a unidirectional relationship running from democracy to growth. Implying democracy will increase public participation and efficiency in resource allocation and thus growth (Oslon, 1962). Finally, based on the association result, the study has identified unidirectional causality running from interaction term for democracy to growth. Implying simultaneous increases in government expenditure and democracy will lead to growth. Political freedom promotes political stability, public participation and efficiency in expenditure allocation thus triggering economic growth [43].

5. CONCLUSION

This research investigated the interactive effect of corruption and democracy on the government expenditure-growth relationship in Kenya over the period 1990-2020. The study aimed to examine how corruption and democracy influence the relationship between government expenditure and economic growth. Using annual time series data for Kenya, analysis was carried out using the Generalized Method of Moments (GMM) estimation approach. Several diagnostic tests conducted namely serial correlation, instrument validity and normality test were satisfactory. The regression results indicate that government expenditure, corruption and democracy have a positive direct effect on economic growth in Kenya. Moreover, this study finds that the effect of government expenditure on growth is largely indirect through democracy and corruption. The results also show that the interaction of both democracy and corruption on government expenditure dampens economic growth. Specifically, the study has established the direct effect of variables as follows: First, Government expenditure is growth enhancing through physical and human capital development that raises labour productivity. Second, corruption stimulates economic growth by overcoming inefficient allocation of resources resulting from weak institutions and bureaucratic bottlenecks. Finally, democracy is an enabler of growth through increasing efficiency, political participation and improving the quality of institutions. The indirect effect of government expenditure through corruption and democracy has also been reported as follows: Simultaneous increase in government expenditure, corruption and democracy will lead to inefficiency in resource allocation and thus dampen economic growth. This implies that an increase in corruption and democracy will lead to inefficient use of government spending and may hurt the economy. Based on our result, indirectly, government expenditure, democracy and corruption can slow economic performance, implying that corruption and democracy make expenditure inefficient. The study considered control variables during analysis and based on the result private investment hurt growth attributed to uncertainty in inflation and crowding out effect while inflation was not significant in Kenya.

The study has demonstrated the key role of democracy, corruption and sustained expenditure on economic growth. Based on the result certain amount of corruption and democracy can lead to economic growth and can help overcome inefficiency resulting from bureaucratic bottlenecks and weak institutions. For this to be possible the study recommends the need to have improved effectiveness in government management of resources. The study has revealed rapid drive towards democracy and corruption control without productive expenditure and improving on macroeconomic conditions will not lead to growth. Furthermore, democracy and corruption alone are not the necessary prerequisite for growth, growth depends on other variables like control of inflation, human capital development, physical infrastructure development and private investment promotion. The study suggests the need to promote general institutional development namely rule of law, economic liberalization, and encourage private property rights and regulatory reforms to complement political freedom. Furthermore putting in place policies to attract foreign investment, human capital development and promoting a free market will make expenditure, corruption and democracy simultaneously lead to efficient allocation and growth. The anti-corruption bodies need to put in place regulation and monitoring mechanisms, enhance transparency and strengthen accountability mechanisms to reduce deep-rooted corruption. National and sub-national governments should have strong institutions with

effective checks and balances to curb increasing corruption cases. Further, the bodies need to sensitize the public on the vice of corruption and this will make resources to be allocated efficiently and thus grow the private sector and the economy. Government expenditure allocation needs to be transparent and fairly allocated to the social sector and infrastructure to promote growth and reduce wastage and corruption. The national and county governments need to publicize the project being funded and the process of awarding tenders furthermore public participation inclusion during budget making will grow the economy by making expenditure efficient. Based on control variables the government may need to remove inflation uncertainty, high interest rates, political instability, and corruption to grow the private sector. The government need to reallocate the budget towards activities that are valuable to the private sector, the government need to initiate policies and reforms in areas that promote private investment and curb the crowd-out effect. Government need to manage inflation by taking a combination of monetary, fiscal and supply-side measures.

This result suggests that attaining sustained growth is possible by raising government expenditure, promoting democracy and allowing certain elements of corruption. The regression result has noted corruption or democracy can stimulate growth, however, when government expenditure variables interact with corruption or democracy, the result turns negative. This raises the question of the best level of corruption control or democracy promotion. The study suggests future studies to conduct the estimation of threshold or optimal corruption and democracy value.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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