INTERNATIONAL JOURNAL OF SOCIAL Sciences and Information Technology
ISSN 2412-0294 www.ijssit.com

http://www.ijssit.com

INSTITUTIONAL QUALITY, GOVERNMENT CONSUMPTION EXPENDITURE AND ECONOMIC GROWTH IN KENYA

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***Abstract**: This paper explores the growth of public size in Kenya proxied by government consumption expenditure while controlling for institutional quality factors. Both expenditure data and data on the institutional factors were obtained from World Bank databases for the years 1996-2018. Basing on the public choice theorem and the maximum social welfare function, government consumption expenditure was modeled as a function of gross domestic product and vector of control variables such as institutional quality. The data for the variables were subjected to stationarity tests and the results ADF test revealed that some variables were stationary at levels I(0) while others at the first difference I(1). This allowed the use of ARDL estimation techniques. Since some variables exhibited the presence of unit root and upon testing for cointegration, the results of the Bounds Test showed a long-run relationship of the variables in the model. The speed of adjustment towards the long-run equilibrium was very high. The error correction term was significant with a coefficient of ($\beta = -1.52$) and a corresponding probability value of ($\rho = 0.004$) showing that previous were corrected in the long-run at an adjustment speed of 152%. conducting of that is, upon first differencing. The results also reveal that the first lags of voice and accountability, government effectiveness, and regulatory quality were significant in the containment of government consumption expenditure in Kenya. The study recommends that the government should enhance the accountability of leaders to the citizens in the management of public resources and also instill and uphold the principles of public administration to ensure proper effectiveness of the government towards the containment of government consumption expenditure and stimulating economic growth.*

***Keywords**: Institutional Quality, Government Consumption Size, Economic Growth, ARDL*

1. Introduction

Across the world over, the biggest concern for policymakers is how to generate enough output which is needed to cater for the increasing demand for quality public utilities as well as increasing and maximizing the welfare of the citizens. Researchers have suggested, particularly for emerging economies like Kenya, that they need to explore pertinent approaches of increasing productivity of their economies, not forgetting to contain the fiscal tendencies that growth retard economic growth such as overstating recurrent expenditure characterized by low institutional quality. Better institutional quality translates to lower government size in terms of expenditures and increases government tax revenue growth rates (Canh et al., 2017). Proponents of building good quality institutions argue that countries with better institutional quality conduct their fiscal policies more deliberately to support better economic growth and that, ultimately, puts less pressure on government budget resulting in governments reduced tax revenue demands towards an economic stimulus. IMF (2003) has also maintained that to realize an upturn in economic growth, the streaks of institutions must be made vigorous, attestable, and

workable in the long-run. (Sobhee, n.d.) agrees that the dual concept of low institutional quality and bloated government budget often leads to very low growth performance and massive public sector shortfalls, that are additionally exacerbated by extremely high levels of indebtedness. Because of this and since regaining a growth target of double digits has remained a Kenyan dream for over five decades now after having peaked a growth level of about 14 % in the year 1960s, (the Republic of Kenya, 1965; 2002), it then becomes imperative to explore possibilities of reinvigorating this growth through institutional arrangements via government consumption expenditure. Since then, the rate of economic growth in Kenya has been dwindling and the closest fiscal policy agents have tried to seal the growth gaps was in the early years preceding 2002 general elections when the government of Kenya had begun placing more priorities to development expenditures during the National Rainbow Coalition(NARC) regime. Alongside this staggering economic performance, Kenya has not only been performing poorly in terms of quality of its existing institutions which currently averages at a low rating of about -0.57 based on an estimate scale of the Worldwide Governance Indices (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance) and ranked lowly in various aspects quality (World Bank, 2019).

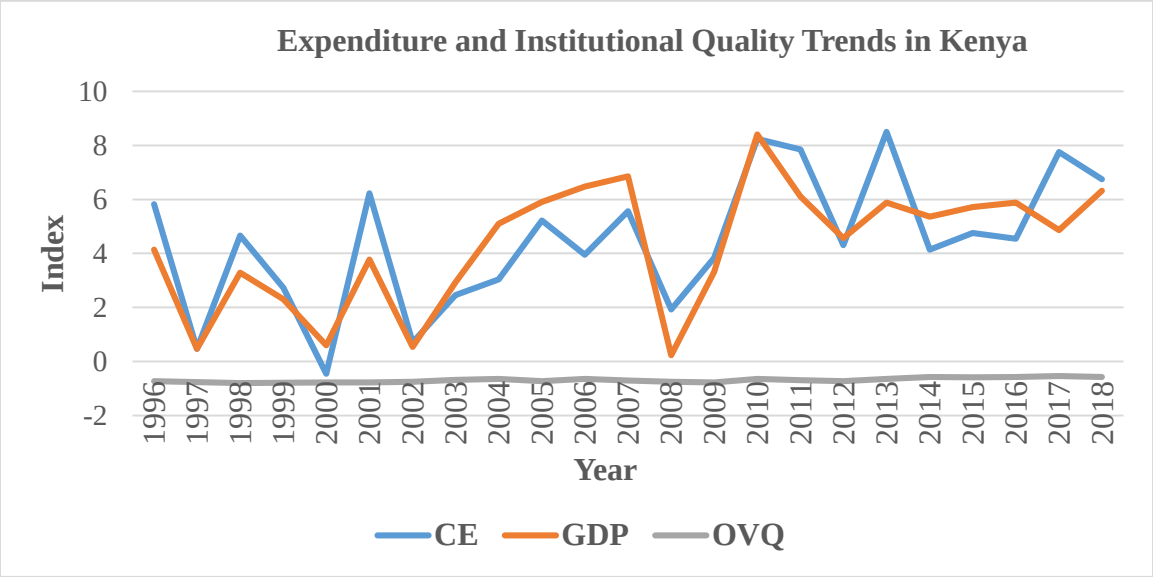

Figure 1: Plots for Expenditure Variables and Overall Institutional Quality

Source: Source: World Bank Worldwide Governance Indicators (WGI), 2019

Where: CE is the percentage growth in government consumption expenditure; GDP is the percentage gross growth in the domestic product, and OVQ is the overall environment of institutional quality.

Kenya is currently at position 43 in terms of observance of rule of law and the best ranking so for Kenya. In other aspects such as government effectiveness, political stability, regulatory quality, voice accountability, and corruption, Kenya is ranked 38th, 12th, 28th, 34th and 19th respectively in the world percentile ranking of countries (World Bank, 2019). But Kenya is also experiencing an ever-increasing level of government consumption expenditure occasioned by increased financial mismanagement and embezzlement (Majoge, P.O. 2018). Of all the aspects of institutional quality, political stability has been trailing on a low a scale. In 2018, the index for political stability was as low as -1.16 followed by control of corruption at -0.85 in the Worldwide Governance Indicators ranking for institutional quality. This is also the reason why Kenya is ranked lowly, 19th position, among countries with poor control for corruption.

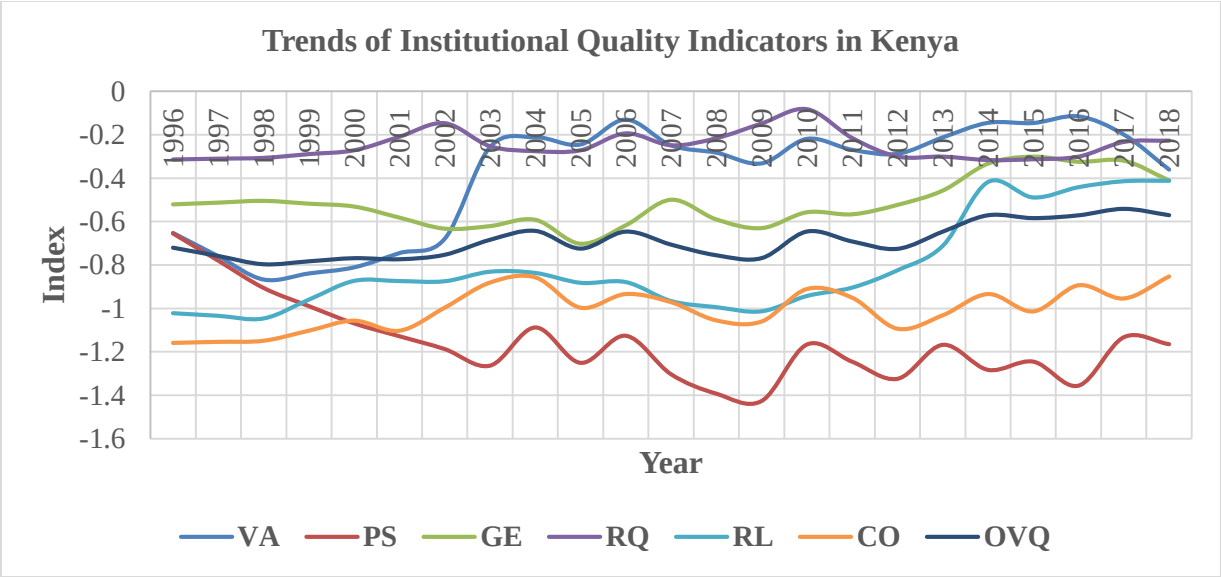

Figure 2: Plots for Institutional Quality Variables

Source: World Bank World Governance Indicators (WGI), 2019

Where: CO is corruption index; GE is government effectiveness index; PS is the index for political stability and absence of violence; RL is rule of law; VA is the index for voice and accountability; RQ is the index for regulatory quality and OVQ is the overall environment for institutional quality.

2. Statement of the Problem

According to (Acemoglu and Robinson, 2010) better institutional quality is viewed as a mechanism of advancing transparency, accountability, and responsibility of policy decision making. This is further reiterated by (Canh et al., 2017) that better institutions associated with lessened information asymmetry make fiscal policy conduct more transparent, deliberate, and hence, less wasteful. Kenya is among the Sub-Saharan African Countries embattled by huge debt repayment burdens which the world bank and other bilateral financial agencies have indicated is beyond sustainability. But this comes about because Kenya has not been generating enough output as is expected to be able to effectively finance its development projects and has recently relied so much on the funding of key infrastructure projects in the Big Four Development Agenda from the Chinese government's bilateral financial arrangements. According to (KNBS, 2019), Kenya realized Ksh, 123.5 billion shortfalls in revenue collection with income tax revenue alone accounting for Ksh, 56.8 billion shortfalls in the 2018/2019 financial year. Problems of economic growth in Kenya are partly related to the budgetary components where there has been an unnecessary exaggeration of government consumption components and government institutions are to blame for such disparities in the budgetary components which have been empirically confirmed to be growth retarding (Maingi, 2017). Agreeably, (Sobhee, n.d.) also notes that there has been a deterioration of government organizations which disastrously adds to the market price of assets, goods and the burden of doing business in Sub-Sahara African countries. Therefore, this study seeks to establish an interactive influence between different dimensions of institutional quality and government consumption expenditure on economic growth in Kenya.

3. Empirical Literature

Institutions quality has been identified as a key growth driver in most emerging world economies and North and Thomas (1973) and North (1990) have been greatly credited for championing economic discourses on the impacts of institutional quality on areas such as fiscal policy and economic growth, not forgetting the notable contributions of Knack and Keefer (1995), Perotti (1996) and Acemoglu et al., (2001) who have contributed immensely to the stock of knowledge in this area by revealing the channels through which the impact of institutional quality spills into the economy. This paper contributes to the body of knowledge by examining the impacts of the different aspects of institutional quality on economic growth in Kenya through government consumption expenditure.

It has been argued that better institutional quality improves transparency, accountability, and responsibility of policy decision making and enforces deliberate conduct of fiscal policy based on increased tax revenue on one hand, and reduced government expenditure on the other hand. In such economies with better institutional quality, researchers have argued, institutions tend to support economic growth by making the economies less reliant on economic stimulating expenditure from the government, and instead, the government reduces the tax to support economic growth (Butkiewicz and Yanikkaya, 2006; Easterly and Rebelo, 1993; Engen and Skinner, 1992; Acemoglu and Robinson, 2010; and the IMF 2003), particularly on Africa, affirmed the underlying principles behind establishing a good quality of institutions is to make and reconstruct more robust economies and added that through renewed perceptions and reduction of the average burden of doing business, better institutional quality makes it less difficult to stimulate massive inflows of foreign direct investments (FDIs), enhance the capacity of market mechanism, foster increased accountability of the elected leaders to citizens, smoothen the path for better uses and requests of foreign financial assistance. According to (Canh et al., 2017), better institutional quality encourages economic growth and governments are subsequently supposed to support it through tax reduction and shifting to non-tax income from providing services to the public because it is assumed that, as a consequent, government tax revenue falls and the final result is reduced tax revenue growth rate. Their hypothesis was also reflected in the views of (Araujo and Arvate, 2016) who also argued that better economic performance releases the pressure on government expenditure for economic stimulation, and instead, governments who encourage economic development by reducing business uncertainty tend to shift to non-preferential taxation regime to sustain economic growth.

While investigating the roles of institutional quality on fiscal policy conduct using 2002-2013 panel data for Asia Pacific countries and applying the fixed effects estimation techniques, (Canh et al., 2017) found that better institutional quality tends to slow down the growth rates of tax revenue and government expenditure and complemented that those countries with better institutional quality are less dependent on public spending to stimulate the economies. They further proposed that policymakers and more particularly international financial organizations such as the International Monetary Fund and World Bank should impose institutional quality improvement as conditions for their funding decisions to ensure sound fiscal policy conduct. Mauro (1998) observed that politicians tend to allocate resources in areas where it would be quite easy for them to get large bribes and still keep them secret and reiterated that democracy improves efficiency in the allocation of resources since politicians can only increase their chances of re-election when they become accountable to the electorates for the expenses that they incurred.

Dalen and Swank (1995) carried out a study in the Netherlands and discovered that elections are significant in providing explanations for infrastructural expenditure. Nadler and Hong (2011) carried out a study on how political and institutional factors impacted significantly on the U.S. budgetary items, using standard multiple

regression techniques, the results of their study revealed that a greater public-sector union membership, effective collective bargaining rights and unyielding democratic orientation of the law-making organ of the state are linked with increased yields, implying higher risks of non-compliance. They also showed that all other things held constant, governments with weaker coalitions, weaker collective bargaining powers, and fewer left-leaning government lawmakers pay less in borrowing costs at the same levels of debt and similar levels of unplanned budget deficits than did governments with stronger coalitions and more left-leaning lawmakers. Hong and Nadler (2015) conducted a study to examine whether political and institutional factors are crucial in explaining how the U.S. budgetary variables are impacted. Among their findings was the fact that a strong democratic environment and focus in the government law-making organs was significantly related to increases in the perceived risk of the government. The findings, besides, revealed that, controlling for a range of economic factors, greater proportion of public sector coalition membership, lack of guaranteed rights to labour laws, and effective collective bargaining powers were strongly related to rise in the perceived risk of the government and that the right to strike did not have any significant influence on public bond yields. They examined the effect of budgetary rules on the U.S. budgetary outcome and whether the effects were related to political and economic factors and found that balanced budget rule was a critical environment for a fiscal policy outcome. He further advanced that the effect of budget rules depended significantly on political factors, particularly on the party identity of the head of the executive, that budgetary rules were much more binding when the governor is a Republican, but the identity of the party controlling the government lawmaking organs did not have a significant effect. He further explained that the effect of budget rules also depended on whether the state was divided. He concluded by asserting that budgetary rules are less binding in the undivided state, in which one party controls the executive, and another controls the legislature, while the effects of the rules are greatly unaffected under divided lawmakers, in which different parties control each legislative chamber. (Shonchoy, 2010) used a random effect model to investigate the causes of state consumption expenditure among 111l developing countries and found that political and institutional qualities and leadership regimes, strongly influenced state consumption spending. He found that authoritarian governments were more accommodative towards consumption expenditure. However, he found corruption, size of the GDP, and ethnicity to have a strong negative correlation with public spending. Political and institutional variables such as political ruling, political power in the parliament as well as governance variables such as corruption and government effectiveness were found to have a significant statistical association with government expenditure. Also, the study found evidence that public expenditure significantly shrank under military dictatorship compared with other forms of governance.

Tanzi (2005) categorically highlighted the diverse ways in which a state should either pull back or pick a more active part to play and advance the role of government effectiveness for development and prosperity of the economy citing that bad governance may lead to huge burdens that would simply hinder markets from operating effectively and efficiently. He proposed that governments should just perform their mandate of being an overseer, as they had been in many Scandinavian countries and some developing economies such as Singapore and Mauritius even though it gets more difficult and complicated when there is high ethnic divisions of the population which is common with most countries of the African continent. (Nordhaus, 1975) asserts that the more competent that a government is, the less revenue it needs to provide a given level of government services and that the level, scale, and the height of competency stress more the administrative abilities of the policymaker. (Sibert, 2012) had the observation that, on natural grounds and other things kept constant, voters prefer more competent governments and that the government obtains information about its serially-correlated competency more quickly than voters can. However, he noted that at the beginning of each period voters receive a signal and learn the level at which the government is going to set income or poll taxes.

Recent empirical analyses have uncovered that political economy models are more concerned with unusual behaviours of government agencies which significantly affect the quality of institutions and state propensity to spend. In his study about the establishment of property rights, (Shleifer, 1995) observed that, by reinstituting law and order, which remains a big development issue in many sub-Saharan economies, it is no doubt to imagine that such deliberate attempts would be a strong rejunation to business activities and initiate the emergence of well-organized markets which might have long been squashed and further that, the institution and creation of property rights, minimize uncertainities associated with dispossession, and advancement in public sector effectiveness are all that countries need to promote confidence and assurance in the merchandise world and commercialization of products. He went ahead to explain that in a such an environment international business collaborators may feel more protected to execute their investments and that public expenditure outlays are bound to exhibit less pro-cyclicality with the ultimate goal of expanding the tax base and the need to restructure public expenditure as a consequence of an expanded private domestic economic activity. Given the unfolding (Garayeva, Aygun and Tahirova, 2016) also emphasize that low institutional quality is a deterring factor to the effectiveness of government expenditures by making them more pro-cyclical (and thus, volatile) and which consequently retard economic growth. They suggested that higher quality institutional arrangements and more flexible fiscal rules and not just de-jure the existence of certain rules, but rather a de-facto level of compliance with the rules which is required to reduce pro-cyclicality even though sometimes such rules are hard to determine. further, the improvement in institutions which results in better rules of the game and lower asymmetric information problem is arguably able to reduce risk, cut down transaction cost, enforce property rights, and enhance economic allocation efficiency. It has been hypothesized that an economic set up that is characterized by limited degrees of constitutional rights for all would not only bring forth political gifts favoring lobbies but also divides voters and in consequence to that, it is the illiterate, underprivileged, or the needy chunks of the population that would in the end have to shoulder all the brunt (Cohen et al.,1983; Ho and Michaely, 1988; Williamson, 1981).

As documented in (Easterly and Levine, 1997), ethnically polarized societies may breed more political lobbies and rent-seeking behaviours and habits among political parties and as such may, on one hand, hinder the effectiveness of government and increase the size and growth of public spending on the other. Weak and ineffective public administration arguably promotes the rise of unwarranted public sector flaws and dead-weight losses thereby aggravating the problems which are related to public deficits and the cost of doing business remains high for such countries with plagued with corruption among civil servants. Niskanen (1971) as well Brennan and Buchanan (1980) have documented possible channels through which the public sector would thrive and increase in size due to red tapes in civil service, corruption, principal-agent-sponsor strategies, and lobbies. (Sobhee, n.d.) also observes that in ethnically polarized countries, poor political stability and poor representation of all segments of the population may in some unfortunate situations create and enhance the considerable purview for rent and vote-seeking through lobbies, corruption, and poor accountability of fiscal actions. corruption is a great impediment to growth because it results in loss of confidence and it unnecessarily humiliates both domestic and external private investors and this why corruption is perceived to harm economic growth by creating artificially high transaction costs.

4. Theoretical Framework

Abstracting from the concept of social welfare function, the main goal of the government as an economic agent is to optimize the social welfare function based on some set objectives which representing the society's preferences and whose ultimate result is a loss or disutility to the society when government's provision of services does not match preferences of the people. Thus, the government's economic will minimize a quadratic

loss function concerning the objectives set and attainable level of social welfare (W). The public choice theorem is premised on the optimal value of government expenditure; $G\epsilon X_j$. where G is a quadratic loss function to be minimized and treated as a policy variable which comes exclusively under the control of the government's policymaker while X_j represents the society's preferences such as increasing per capita income, making the economy more open or achieving greater urbanization in addition to improved institutional quality which the policymaker aims to maximize. The optimization problem is therefore set as:

$$\left\{\text{MinL}(X_j) = \text{Min}\left[\sum_{j=1}^{n} a_j(X_j - X_j^*)^2\right] / W(X_j) \geq W^*\right\} \quad (1)$$

First-order conditions of the above function in equation (1) would yield the optimal value of G as; $G = f(X_j')$. Besides, this indicates that the optimal path of G is governed by factors that influence the objective function as laid down in the social preferences. Now X_j' would consist of both macroeconomic variables and institutional quality control variables. Therefore, a specific relationship that determines the size of government and government consumption expenditure, G, for that matter is;

$$G = f(Y, D, U, N, Z, V) \quad (2)$$

Where: Y refers to the per capita income in real terms, D represents the dependency ratio, U represents the ratio of urban to the total population, basically tracking fiscal decentralization initiatives and needs, N constitutes the overall population of the country, Z captures the impact of openness on public expenditure particularly tracking the impact of globalization on government size, while V is a vector of control variables for the quality of institutions. The control variables for institutional quality are believed to have a significant effect on government consumption expenditure with some transmission effect on productivity Y. According to Kaufman et al. (2005), V comprises of the following indicators; VA represents Voice and Accountability, PS is a proxy for Political Stability and absence of Violence, GE is Government Effectiveness, RQ represents Regulatory Quality, RL represents Rule of Law and CO stands for Control of Corruption.

5. Model Specification

Following Frankel et al. (2013) methodologies, the study estimated the following equation:

$$GC = \beta_0 + \beta_1 GDP + \beta_2 VA + \beta_3 VA*GC + \beta_4 PS + \beta_5 PS*GC + \beta_6 GE + \beta_7 GE*GC + \beta_8 RQ + \beta_9 RQ*GC + \beta_{10} RL + \beta_{11} RL*GC + \beta_{12} CC + \beta_{13} CC*GC + u_i$$

Where: GC growth in government consumption expenditure, VA captured aspects of voice and accountability, PS represented political stability and absence of violence, GE was a proxy variable for effective governance, RQ captured the regulatory quality, RL represented the rule of law while CC stood for control of corruption cases in Kenya. VA*GC, PS*GC, GE*GC, RQ*GC, RL*GC, and CC*GC were the interaction terms between government consumption expenditure and the institutional quality aspects: voice and accountability, political stability and absence of violence, effective governance, regulatory quality, rule of law and control of corruption respectively. Regression parameters were represented by β_0, β_1, β_2, β_3, β_4, β_5, β_6, β_7, β_8, β_9, β_{10}, β_{11}, β_{12} and β_{13} while u_i captured the idiosyncratic error term in the regression. The interaction terms were included to capture the possible influence of the various aspects of institutional quality on economic growth via government consumption expenditure and their coefficients interpreted about the institutional quality aspect in question and both government consumption expenditure and economic growth. A negative coefficient estimate for the interaction term, VA*GC, for example, indicates that an increase in voice and accountability of the government to the people is associated with reduced levels of government consumption expenditure with a corresponding increase in the rate of economic growth. Thus, as noted by (Garayeva, Aygun

and Tahirova, 2016), coefficient estimates on interaction terms need to be negative and significant for any of the institutional quality aspects to lead to containment of government consumption spending that subsequently induces growth. For the latter, we apply a definition provided by Kaufmann et al. (2005) who emphasized six dimensions of institutional quality namely; Voice and Accountability, Political Instability and Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. These indicators assume values over the range -2.5 (as the weakest quality) to 2.5 (as the strongest quality). These indicators are indeed considered to be robust and reliable enough to reflect the problems that would, by and large, characterize such economies, their government sector, and correspondingly policymaking.

6. Estimation Techniques

To empirically assess the influence of institutional quality aspects on economic growth in Kenya through government consumption spending, annual time series for Kenya for the period 1996 – 2018 was used. The data used comprised of two sets, expenditure data, and the data on governance indicators, all of which were extracted from the World Bank database, country data portal (2019).

6.1 Stationarity Test

Based on the results the null hypothesis under Augmented Dickey-Fuller test that the time series had unit-roots was rejected for all the variables except for the variables; corruption, government effectiveness, voice and accountability, and the interaction terms between government consumption expenditure and political stability and regulatory quality. However, upon first differencing of the variables which were initially not stationary resulted in all of them becoming stationary at first difference. This implied that all the variables entered in the model were either integrated of order I(0) or I(1) and as such it permitted the use of autoregressive distributed lag methodologies. In addition to producing unbiased long-run estimates, an ARDL model is also suitable in cases of small and finite sample data sizes.

6.2 Cointegration Test

Since the stationarity test established a mixed order of integration of I(0)and I(1), it further implied that the variable could exhibit long-run association among them. To test for this long-run relationship, Bounds Test was performed on the ARDL estimates and the results were as shown in the table below:

Table 1: Cointegration Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	1616.438	10%	1.83	2.94
k	12	5%	2.06	3.24
		2.5%	2.28	3.5
		1%	2.54	3.86
Actual Sample Size	22		Finite Sample: n=35	
		10%	-1	-1
		5%	-1	-1
		1%	-1	-1
			Finite Sample: n=30	
		10%	-1	-1
		5%	-1	-1
		1%	-1	-1

t-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
t-statistic	-67.08981	10%	-2.57	-4.69
		5%	-2.86	-5.03
		2.5%	-3.13	-5.34
		1%	-3.43	-5.68

Source: Researcher, 2020

6.3 Optimal Lag Selection

Before estimating cointegrated systems equations there always to select a suitable lag length that may not compromise the degrees of freedom in a specified model and also due to the fact that adoption of different lag criteria probably for each variable causes asymmetry in the specifications. The results of lag length selection criteria are displayed in the table below:

Table 1: Lag Length Selection Criterion

VAR Lag Order Selection Criteria
Endogenous variables: CE
Exogenous variables: C VA VA_CE PS PS_CE GE GE_CE RQ RQ_CE RL RL_CE CO...
Date: 06/10/20 Time: 17:27
Sample: 1996 2018
Included observations: 21

Lag	LogL	LR	FPE	AIC	SC	HQ
0	31.60706	NA*	0.012263	-1.772101	-1.125492	-1.631770
1	36.25472	3.098443	0.009267*	-2.119497*	-1.423149*	-1.968372*
2	36.97233	0.410064	0.010386	-2.092603	-1.346516	-1.930683

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Researcher, 2020

In deciding on a uniform lag length, a value corresponding to the least statistics in the criteria is chosen. However, the AIC lag selection criterion is normally preferred (Pesaran and Shin, 1995; 1999). Thus, as suggested by the majority of the lag selection criteria, lag 1 remained the most suitable lag to be used in the ARDL estimation.

6.4 Diagnostic Tests

A series of robust checks were conducted on the coefficients to examine their suitability in the model. One of such robust checks was the parsimony of the specified model. Eight coefficients out of the fifteen coefficients appeared insignificant as suggested by their probability values which were above the 5% significant threshold and it was imperative to justify their inclusion or exclusion in the model because an over-parameterized model often leads to misleading insignificant estimates due to multicollinearity. The table below shows the result of Wald-Test parsimonious specification.

Table 2: Wald-Test Parsimonious Specification

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	3.696687	(8, 6)	0.0642
Chi-square	29.57349	8	0.0003

Null Hypothesis: C(1)=C(2)=C(5)=C(6)=C(7)=C(9)=C(13)=C(14)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	0.188798	0.483745
C(2)	1.517026	6.374160
C(5)	1.008361	0.786677
C(6)	-0.222343	7.290742
C(7)	0.267776	1.053854
C(9)	4.677912	2.959434
C(13)	11.33293	22.25922
C(14)	-4.921899	4.893585

Restrictions are linear in coefficients.

Source: Researcher, 2020

The null hypothesis usually taken for the Wald-Test is that the coefficients of the said estimates have no effect in the model and are equal zero. The results of the Wald-Test indicate a probability value of 0.06 and which implied a rejection of the null hypothesis at the 5% significant that the coefficients were indeed equal to zero. Therefore, the coefficients continued to be included in the model for the subsequent analyses.

Serial correlation is always an issue in times series analyses since errors in the current period may be carried over into succeeding periods which subsequently affect the efficiency of the estimates. (Williams, 2015) aptly observed that in such cases, particularly in first-order serial correlation, there would be a tendency to reject the null hypothesis when it should not be rejected and therefore there was a need to check its existence in the model and correct it if it exists. Table 3 below shows the results Breusch-Godfrey Test for serial correlation.

Table 3: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 1 lag

F-statistic	0.034472	Prob. F(1,5)	0.8600
Obs*R-squared	0.143792	Prob. Chi-Square(1)	0.7045

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 06/10/20 Time: 18:19
Sample: 1998 2018
Included observations: 21
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.032628	0.556571	-0.058624	0.9555
D(CE(-1))	0.641934	7.770198	0.082615	0.9374
D(GDP(-1))	0.053581	0.578960	0.092547	0.9299
D(VA(-1))	0.101577	5.414667	0.018760	0.9858
D(VA_CE(-1))	0.016289	0.863276	0.018869	0.9857
D(PS(-1))	-0.776632	8.991441	-0.086375	0.9345
D(PS_CE(-1))	0.110858	1.296189	0.085526	0.9352
D(GE(-1))	-1.680710	20.91064	-0.080376	0.9391
D(GE_CE(-1))	0.067058	3.250904	0.020628	0.9843
D(RQ(-1))	-0.529471	16.63548	-0.031828	0.9758
D(RQ_CE(-1))	0.026035	2.905393	0.008961	0.9932
D(RL_CE(-1))	0.132574	1.491106	0.088910	0.9326
D(CO(-1))	-1.862769	26.28981	-0.070855	0.9463
D(CO_CE(-1))	0.357640	5.678930	0.062977	0.9522
ECM(-1)	-0.063506	0.505817	-0.125551	0.9050
RESID(-1)	0.175124	0.943212	0.185667	0.8600

R-squared	0.006847	Mean dependent var	5.92E-16
Adjusted R-squared	-2.972611	S.D. dependent var	0.717705
S.E. of regression	1.430488	Akaike info criterion	3.642633
Sum squared resid	10.23147	Schwarz criterion	4.438459
Log likelihood	-22.24764	Hannan-Quinn criter.	3.815347
F-statistic	0.002298	Durbin-Watson stat	1.918840
Prob(F-statistic)	1.000000		

Source: Researcher, 2020

The null hypothesis of no serial correlation could not be rejected since the probability value of the F-statistics of the Breusch-Godfrey Serial correlation LM Test of 0.86 was well above the 5 % significance boundary. It was therefore concluded that the specified model did not suffer from problems of serial correlation and was fit for analysis.

The last diagnosis of the model was about stability checks, which generally trace the possibility of structural shocks that would likely affect the model. Regression estimates are never BLUE in the presence of structural shocks in a model. Figure 3 below shows the results of CUSUM and CUSUM of Squares test for the existence of structural breaks.

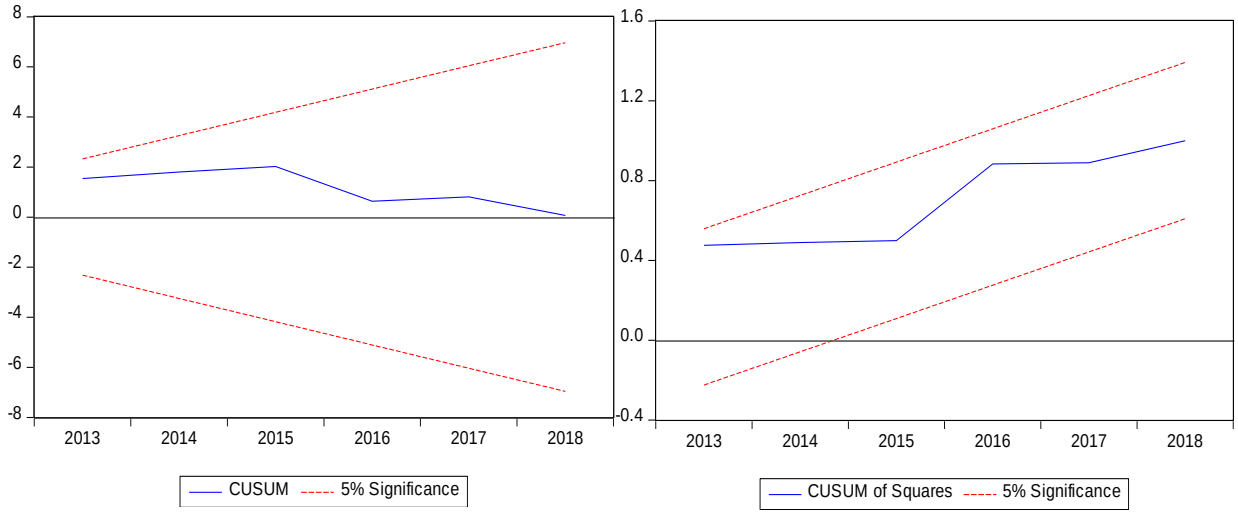

Figure 3: Stability Test

Source: Researcher, 2020

The results from both CUSUM and CUSUM of Squares indicated that the model was pretty good, looked very stable and there was no impact of structural breaks in the model since it lies neatly within the 5% boundary.

7. Results

Bounds Test result established the existence of a long-run relationship among the variables in the specified model and because of that, both short-long and long-run relationships of the variables in the model were examined. ARDL and error correction methodologies were employed to address the problem of the study. The regression output indicated an adjusted R-square value of 0.84 implying that 84% of the variances that occurred in government consumption expenditure were explained by the regressors in the model and only 16% of the variances were exogenously accounted for in the model. The value of F-statistics of 8.4 was significant with a corresponding probability value of ($\rho = 0.007$) which shows that the model was well fitted. Further, the value of Durbin-Watson statistics of 1.8582 was clearly above the value of the adjusted R-square value of 0.84. This means that there were no misspecification errors in the model. Table 4 below shows the regression results.

Table 4: Regression Results

Dependent Variable: D(CE)
Method: Least Squares
Date: 06/10/20 Time: 17:49
Sample (adjusted): 1998 2018
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.188798	0.483745	0.390283	0.7098
D(CE(-1))	1.517026	6.374160	0.237996	0.8198
D(GDP(-1))	1.385611	0.459755	3.013800	0.0236
D(VA(-1))	-11.76276	4.934520	-2.383770	0.0545
D(VA_CE(-1))	1.008361	0.786677	1.281798	0.2472
D(PS(-1))	-0.222343	7.290742	-0.030497	0.9767
D(PS_CE(-1))	0.267776	1.053854	0.254092	0.8079
D(GE(-1))	-43.80942	17.26656	-2.537240	0.0442
D(GE_CE(-1))	4.677912	2.959434	1.580678	0.1650
D(RQ(-1))	-50.29107	15.01274	-3.349894	0.0154
D(RQ_CE(-1))	9.221856	2.658274	3.469114	0.0133
D(RL_CE(-1))	2.453160	1.199083	2.045863	0.0867
D(CO(-1))	11.33293	22.25922	0.509134	0.6288
D(CO_CE(-1))	-4.921899	4.893585	-1.005786	0.3533
ECM(-1)	-1.517691	0.341341	-4.446261	0.0043

R-squared	0.951912	Mean dependent var	0.298427
Adjusted R-squared	0.839707	S.D. dependent var	3.272863
S.E. of regression	1.310344	Akaike info criterion	3.554265
Sum squared resid	10.30201	Schwarz criterion	4.300353
Log likelihood	-22.31979	Hannan-Quinn criter.	3.716185
F-statistic	8.483665	Durbin-Watson stat	1.858245
Prob(F-statistic)	0.007504		

Source: Researcher, 2020

As indicated in the regression output, vector error correction model was estimated. The error correction term was significant with a coefficient value of ($\beta = -1.52$) and a corresponding probability value of ($\rho = 0.004$). The coefficient was high and reflects the speed of adjustment towards the long-run equilibrium. Past errors occurring on the values of government consumption expenditure are corrected at an adjustment speed of 152% in the long-run, ceteris paribus.

The regression result for the GDP was consistent with the Wagnerian hypothesis. The coefficient of the first lag of GDP was positive ($\beta = 1.386$) and significant with a corresponding probability value of ($\rho = 0.02$). The implication here is that a percentage increase in GDP in the previous year leads to more than unity in the size of government consumption expenditure in the current year in Kenya. This conforms to the theoretical construct that when an economy grows then government size would also increase because the government can raise more tax revenue and subsequently spend more. The first lag of voice and accountability was also significant but its interaction term was, however, insignificant. An increase in voice and accountability would enhance the capacity of a country's citizens to select leaders who they think are transparent and accountable to them inasmuch as public expenditures are concerned. Accountability would minimize the chances of misappropriation in expenditure and this helps to reduce the government outlays especially government consumption expenditure which is often prone to upward adjustments. The coefficient for government effectiveness shows that the effectiveness of the government in the previous year significantly affects government consumption expenditure in the current year in Kenya. The effect was negative ($\beta = -43.81$) with a probability value of ($\rho = 0.04$) indicating an inverse relationship with government consumption expenditure in Kenya. An effective government promotes the quality of both public services and civil service making them more objective and independent from political pressures. In such an environment, the process of policy formulation and implementation becomes more credible, and it would be discernible that it would lead

to prudent management of fiscal policies especially government consumption expenditure in Kenya. The effect of regulatory quality on consumption expenditure was also negative with a suspected positive transmission effect on economic growth. Increased regulatory quality expected to intensify the implementation of sound policies and regulations that permit and promote private sector development. Likewise, abiding by the rule of law would strengthen the quality of contract enforcement and property rights which are instrumental in creating a friendly environment for private sector development. RL*CE and RQ*CE, representing interactive effects from rule of law and regulatory quality respectively, were the only significant interaction terms in the model. The coefficients were, however, both positive with a corresponding effect of increasing government consumption expenditure which consequently might have a reverse effect on economic progress. The aforesaid findings manifestly show that voice and accountability, government effectiveness and regulatory quality, being control variables, are key in containing government consumption expenditure in Kenya.

8. Recommendations

The findings of the study reprimand implications of illustrious magnitude to the process of economic growth and development in Kenya especially in areas of fiscal policy management. The study recommends that enhanced accountability to the citizens by leaders whom they bestowed upon public and financial responsibility and the citizens should be given the landscape and freedom to raise issues affecting them as pertains to public expenditure and responsibility. Principles of public administration should be upheld and stiffened to ensure proper effectiveness of the government towards the containment of government consumption expenditure in an effort to foster economic recovery.

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