

Sources of Public Sector Growth in Kenya

Vivian Dabani¹, Dr. Stephen Njaramba²

1 (Kenyatta University, Kenya)

2 (Kenyatta University, Kenya)

Abstract: *This study sought to determine the sources of public sector growth in Kenya. The study used a correlational research design. The investigation considered Kenya's annual public sector growth data available as provided by the economic surveys, World Bank development indicator and the Government of Kenya public expenditure review reports (2000 to 2019). The objective was responded to through use of the Autoregressive Distributed Lag model. The study found that borrowing variable has a positive and significant long-run effect on public sector growth. Real GDP also has a long-run positive and significant effect on public sector growth in Kenya. The study concluded that the push for public sector growth in Kenya include the displacement factors demonstrated by previous high level attained, the growth in income that indicate revenue availability and borrowing that further demonstrate the availability of resources through borrowing window. The study recommends that the balance budget policy should be considered as part of development policy.*

Keywords: *Public sector, public sector growth, GDP, borrowing, expenditure, Kenya.*

Date of Submission: 27-02-2022

Date of Acceptance: 09-03-2022

I. Introduction

Public sector is a share of the economy and is made up of the entire governmental sectors and the firms controlled by the government. It is the division that delivers a variety of public products and facilities, such as infrastructural development, civic transport, schooling, healthcare amenities and safety as well as security (Kopric, Musa & Dulabic, 2016). Though this division differs amongst nations based on the regulation that is in charge of the firms owned by the state, overall, it concentrates on the provision of facilities that are beneficial to all people. Over the years there has been a rise in the comparative public sectorial size over the world. For instance, in the United States of America (USA), a major change from the nineteenth century to the twentieth century was the growth of government, with public sector expanding from about 7% of the economy to roughly 35%. This was started at the beginning of a novel phase of entrepreneurship which was the beginning of a big division anticipated to function as an underwriter of civic fiscal welfare (Gor, 2012).

According to Wagner (1958), rising growth of public and government undertakings is one of the attempts at placing emphasis on the growth of economy as being the principal factor of public sector development. However, the growth of economy does not always occur from expansion in public sector. This is seen by the fact that public sector growth has always been in continuous increase in most countries, especially developing countries, but the level of economic growth in terms of Gross Domestic Product (GDP) has been fluctuating (Dreger & Reimers, 2016).

The Kenyan public sector is made up of various spending agencies comprising the central government, county government, parastatals and state corporations (Chimwani, Iravo & Tirimba, 2014). The overall trend of Kenya's public sector since independence has been on a steady rise. Generally, the size of public sector when measured using the proportion of total expenditure/spending by the government to GDP has been on the increase, as shown in Figure 1.

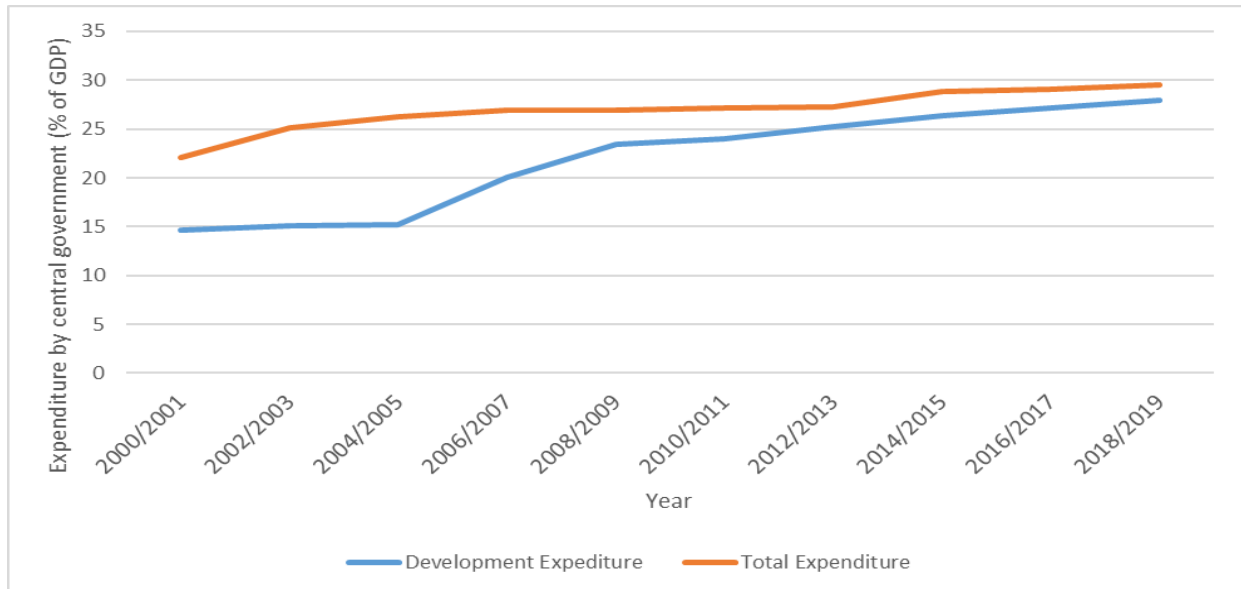


Figure 1: Ratio of Government Expenditure to GDP
Source of Data: World Bank Development Indicator (2019)

The statistics in Figure 1 demonstrate the proportion of expenditure by the government to GDP in Kenya. For the financial years between 2000/2001-2018/2020, the country's economic strategy has remained typically growth-focused. It can be seen that the total government expenditure increased at approximately 23.4% of GDP in the 2007/8 financial year to 2011/12 financial year, and at an approximate of 26.6% from 2013/14 – 2017/18 financial years. This growth has been accompanied by heavy borrowing, as shown in Figure 2.

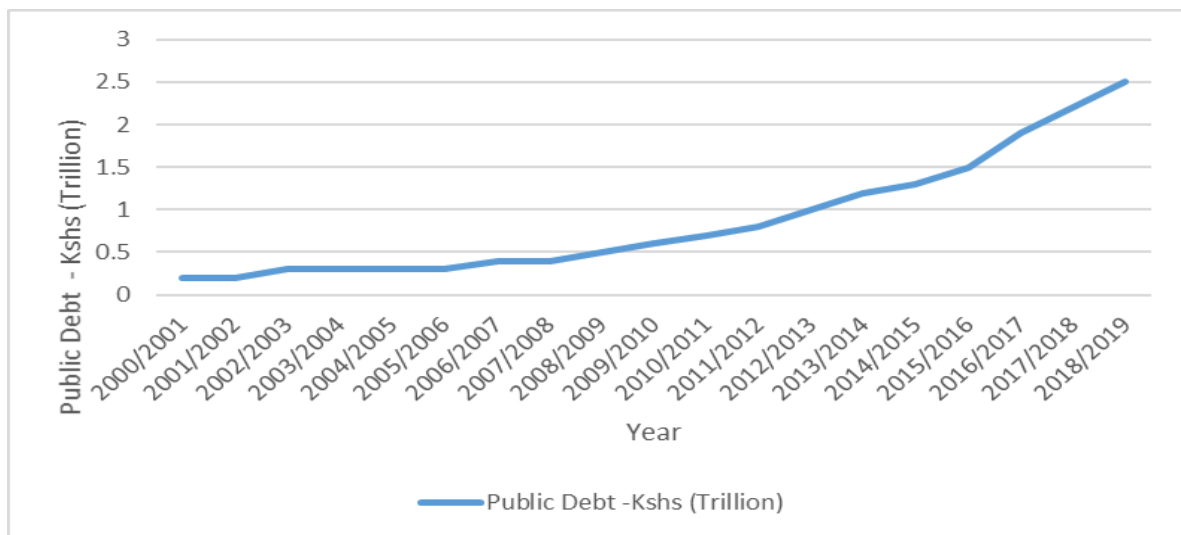


Figure 2: Public Debt Growth in Kenya
Source: World Bank Development Indicator (2019)

As shown in Figure 2, public debt has been increasing tremendously since the year 2000. The increases under domestic debt and external debt have generally been both increasing. Public debt was less than 1 Trillion in the financial years 2000/01-2011/12, and then surpassed the 1 Trillion mark in the financial year 2012/2013. Since then, the increase has been very rapid, surpassing the 2 Trillion mark in the financial year 2017/2018. The increase has still been steady, with the amount of public debt surpassing the 2.5 Trillion mark in the financial year 2018/2019. Despite the growth in public sector, the GDP growth has been unstable, as shown in Figure 3.



Figure 3: GDP Growth in Kenya

Source: World Bank Development Indicator (2019)

The economy increased at an approximate of 5.7% through 2013-2019 financial years (Figure 3). However, the trend is not steady with ups and downs in GDP growth over the years. On average, however, GDP depicts contraction. The public sector in Kenya has been undergoing continuous reforms since the early 1990s. These reforms include decreasing the portion of government recurring expenditure (particularly salaries) as well as improving the development budget, especially those targeting government investment, education, health and core poverty expenditures (Wambugu, Wachira & Mwamba, 2017). It is significant to note that bigger part of total public spending is the recurrent expenditure as compared to the development expenditure, as shown in Figure 4.

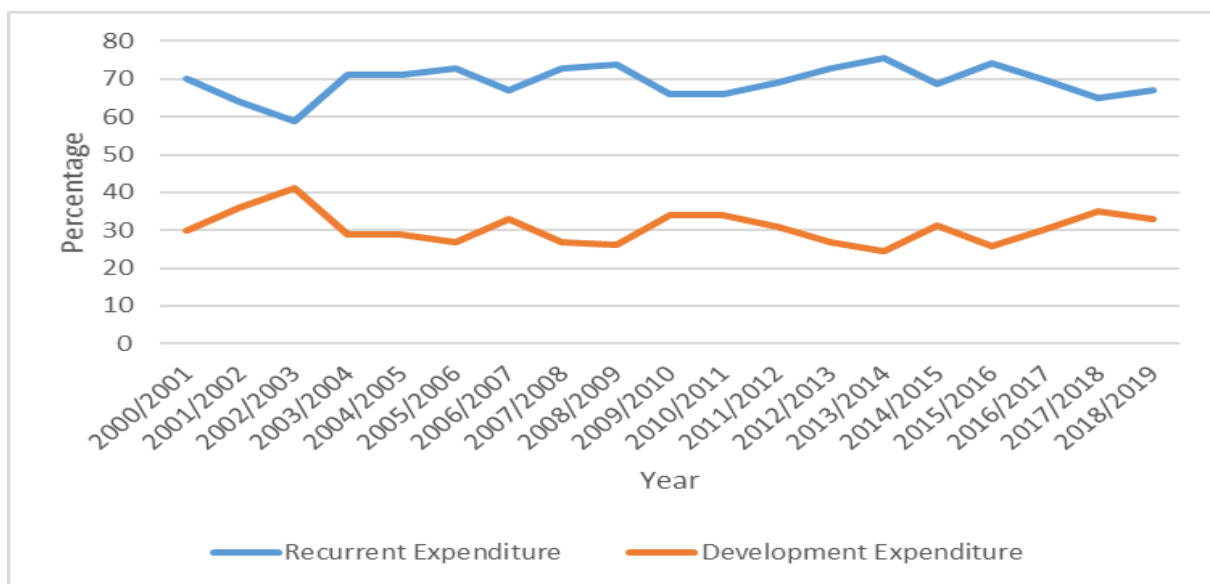


Figure 4: Recurrent and Development Expenditure

Source: World Bank (2019)

Figure 4 shows that the recurrent expenditure as a proportion of total government expenditure has increased over the last decade leaving little funding for development. It accounted for 74.3% of overall expenditure by the government in the 2015/16 fiscal year, an increase from 73 percent in the 2012/13 fiscal year and is estimated to account for 80 percent in the 2020/21 fiscal years. The public sector has been undergoing continuous reforms particularly those targeting government investment, education, health and core poverty expenditures (Wambugu et al., 2017). However, it is not clear whether these factors spur public sector growth in

Kenya. Therefore, there is lack of clarity on the factors that push public sector growth in Kenya, hence the need to determine the sources of public sector growth in Kenya.

II. Purpose of the Study

The purpose of this study was to determine the sources of public sector growth in Kenya.

III. Theoretical Framework

The study used Wagner's theory, which was postulated by Wagner Adolph in 1883. The author was a 19th century era economic researcher who synthesized information on public sector spending for a few Europe nations, Japan and the USA in 1890s. This theory comprises of three underlying assumptions. To begin with, the development of the economic sector brings about expansion in intricacy. The economy development needs consistent presentation of innovative rules as well as the advancement of the law infrastructure. The law suggests proceeding with increments in public sector expenditure (Tanzi & Schuknecht, 2000).

Secondly, the cycle of development and the expanded structures related with it were inherent. The last assumption to Wagner's theory or hypothesis is the utmost social of the 3 and is the area that recognizes it from different clarifications (Bailey, 1995). The theory concludes that the things provided by the public subdivision possess a top level revenue (income) versatility of interest. The case seems sensible, for instance, for educational, instructional and medical services.

Wagner's theory suggests that it is revenue that clarifies spending. Interestingly, there is a lot of related theories for the contention that government spending clarifies the degree of revenue, and this was the basic knowledge of Keynesian economic scholars. Examinations to the recent period have not persuasively settled this subject. In application to the current study, Wagner's theory presents various ways of measuring public sector growth, which are of interest in this study. Based on the theory, the study measured public sector growth using the aspects of real GDP, borrowing and development budget.

IV. Literature Review

Mankiw (1997) used secondary data sources to study the principles of macroeconomics, with an aim of determining the sources of public sector growth. The study argued that public sector growth can be determined by three public expenditure components. First is the current expenditure, which alludes to government securing of products and enterprises for present use. Second, is capital consumption, which alludes to government securing of products and ventures, planned to make future advantages, for example, infrastructural investment or financing of research. Such procurement of merchandise and enterprises is made over own creation by the public authority utilizing government employment, fixed resources, and acquisition of products and ventures from market producers. Thirdly are the exchange instalments where national governments move cash to the overall government and government assistance for the poor just as social security expenses for the old. The study concluded that all these expenditure types lead to growth of the public sector.

Abiola (2016) used empirical secondary data sources to study widening the tax net in Lagos State, Nigeria. From the existing studies, the study observed that the main factors affecting public sector growth included government collection of tax incomes, providing products and ventures not created by the private subdivision, taking part in business type exercises, making money and in-kind exchanges to families and organizations, and instalment of premium on its obligations. Every one of these exercises necessitate that administrations raise enough income. Governments get income from various foundations to take care of their expansion plans. Though this study did not base its arguments on statistical tests, the study helps explain the sources of public sector growth.

McLure (2017) studied the Italian Fiscal Tradition and Western Australia's Government net debt. The study was based on a discussion within the Italian fiscal tradition, and classified expenditure generally as transfer spending and non-transfer spending. Transfer spending is spending in contradiction of which there are no returns and includes unemployment allowances, interest payments and subsidies. Although the government does not get benefits from this, it improves the welfare of the people resulting in redeployment of money returns inside the social order. Non-transfer payments are expenses, which result in the creation of income and output. This may include development and non-development spending which leads to formation of output in an indirect or direct way. They include economic and social infrastructural developments, internal defense and community management. By experiencing such expenses, the government may make revenue in the method of taxes and duties due to economic growth. Though this study was in a different context as the current study, the study helps explain the sources of public sector growth.

Aybarc (2018) studied public economics and finance using secondary data gathered from empirical studies. The study found that public expenditures are generally met by ordinary public revenues such as tax,

duties, fees, property and enterprise revenues and penalties. Public expenditure is the expenditure that is incurred by the public authorities for the maintenance of the governments as the provision of social goods and services. However, most states are often faced with the public sector deficit due to the inadequacy of these revenues. To overcome this, the states often resort to borrowing. Though this study was not done in developing countries like the current one, this study helps explain the sources of public sector growth.

Mukui, Awiti and Onjala (2019) studied the effect of public spending on economic growth in Kenya. The study used time series data from 1980 to 2014. To achieve the objectives, modified Granger causality and Autoregressive Distributed Lag model (ARDL) were used. It was noted that Kenya has encountered a tenacious expansion in government spending over the past few years, where the public compensation or wage bill has reached the highest point. This negatively affects the development of the economy since it prompts the freezing of getting jobs of people to government occupations, little investment and unproductivity of the economy because of moderate or no development level. Reasonable government spending is a decent formula for the economy to develop and advance, by job creation, advancement of infrastructural frameworks, greater investment and reserve funds, while uncontrollable government spending deteriorates the development of the economy, leading to a decrease in public sector growth.

V. Methodology

The study used a correlational research design. This study used the Wagner public expenditure theory/model. This model has been used by Tanzi and Schuknecht (2000) and Bailey (1995) in similar studies. As postulated in the previous chapter, Wagner simple suggestion is that upsurge in per capita income is supplemented by growth in government expenditure, as articulated in Equation 1

$$G = f(Y) \dots\dots\dots 1$$

with G standing for government expenditure and Y representing per capita income. Wagner's law has been embraced and improved in many practical procedures for the previous years in examining the determinants of growth in expenditure by governments. The law has been modified to include other variables. Based on Bailey (1995) study modification, the following model is derived:

$$LGC_t = \theta_0 + \theta_1 LY_t + e_t \quad \theta_1 > 1 \dots\dots\dots 2$$

where LGC_t is the log of real government expenditure, LY_t is the log of real GDP, θ is delta and e is the error term.

Equation 2 shows that expenditure by governments depend on output level in the country. Bailey (1995) study examined both developed and under-developed countries in order to come up with this model.

For this study, Equation 2 is adopted by including other variables reviewed in literature (real government expenditure, real GDP over time and borrowing) as shown in Equation 3

$$GC_t = \theta_0 + \theta_1 Y_t + B + DB + e_t \dots\dots\dots 3$$

where GC_t is the real government expenditure, Y_t is the real GDP over time, B is borrowing, DB is development budget and e_t is the error term.

The variables above were measured and defined as presented in Table 1.

Table 1: Definition and Measurement of Variables

Variable	Definition	Measurement
Government expenditure (G)	It is the expenditure that is incurred by the public authorities for the maintenance of the governments as the provision of social goods and services	The variable was measured in Kenyan shillings
Gross Domestic Product (GDP)	Financial estimation of every single service and finished good made inside a nation during a particular time.	The variable was measured using both real and nominal GDP (in Kenyan shillings) and calculated as a percentage to measure growth
Borrowing (B)	Money the government must raise to finance its budget deficit	The variable was measured in Kenyan shillings domestic and foreign borrowing
Development budget (DB)	All estimated project costs to support the sponsored project	The variable was measured in Kenyan shillings
Partial adjustment coefficient (α)	A coefficient to minimize the deviations between the expected and observed values of the dependent variable	Adjustment coefficient

Secondary data was used in this study. Secondary data includes the investigation of existing material and data from sources, for example, yearly reports, published research centres and libraries. Secondary data was collected from year 2000 to 2019. The data was gathered from Kenya National Economic Survey (KNES) reports, KNBS's statistical abstracts, and World Bank Development Indicators database.

For time series properties and diagnostic tests;

Unit Root Test was done to test for stationarity by using Augmented Dickey–Fuller (ADF) and Phillips and Perron (PP) Test.

Co-integration test was determined using the Pesaran co-integration test.

Normality of the Data was done using the Jarque-Bera test.

Multicollinearity test was done using the Variance Inflation Factors (VIF).

Heteroscedasticity Test was carried out using the Breusch-Pagan test.

Autocorrelation was conducted using the Breusch-Godfrey serial correlation LM test.

Omitted variables test was done using the Ramsey reset test.

For data analysis, the objective was responded to through use of ARDL model.

VI. Results

Descriptive Statistics

The data presented in Table 2 provide the descriptive statistics for government expenditure, real GDP, debt and development budget (in billions) for the period 2000 to 2019.

Table 2: Summary Descriptive Statistics

	Obs	Mean	Std. Deviation	Minimum	Maximum	Median
Government expenditure (Billions)	20	977.4	761.24589	201	2475	714.5
Real GDP (Billions)	20	2660.35	1500.11955	982	5049	2983.5
Borrowing (Billions)	20	2000.7	1674.85645	562	6049	1292
Development budget (Billions)	20	608.55	324.27498	191	1247	565

The results indicate that the mean government expenditure for the period 2000 to 2019 was 977.4 billion whereas the maximum and minimum values were 2475 and 201 billion respectively and had a standard deviation of 761.24589 billion and median of 714.5, showing that the data points are far from the mean government expenditure. The real GDP on average was 2660.35 billion for the period 2000 to 2019, with maximum value of 5049 billion and a minimum value of 982 billion, showing unstable figures. Debt on average was 2000.7 billion for the period 2000 to 2019, with maximum value of 6049 billion and a minimum value of 562 billion, showing a continuous increase in borrowing in the country. Finally, development budget had a mean value of 608.55 billion for the period 2000 to 2019, with maximum value of 1247 billion and a minimum value of 191 billion and a median of 565, showing an increase in the development budget over the years.

Time Series Property Results

Unit Roots Tests

Before testing for relationships and co-integration, the stationarity tests were done. Stationarity was checked using both Phillips-Perron (PP) and Augmented Dickey-Fuller (ADF), because ADF shows if data have a unit root, while PP rejects the null hypothesis of unit root. The study also sought to test whether there are I(2) and above using unit root tests. The test findings of the unit roots are shown in Table 3.

Table 3: Unit Root Tests-Level and First Differencing

Variable	ADF test	PP test	1% Level	5% Level	10% Level	MacKinnon approximate p for Z(t)	Comment
Government Expenditure	-1.261	-1.846	-4.380	-3.600	-3.240	0.6820	N/Stationary
Real GDP	-1.953	-2.061	-4.380	-3.600	-3.240	0.5677	N/Stationary
Borrowing	-0.839	-0.894	-4.380	-3.600	-3.240	0.9568	N/Stationary
Development Budget	-1.584	-1.679	-4.380	-3.600	-3.240	0.7599	N/Stationary
DGovernment_Expenditure	-4.898	-4.986	-4.380	-3.600	-3.240	0.0002	Stationary
DReal_GDP	-4.114	-4.112	-4.380	-3.600	-3.240	0.0060	Stationary
DBorrowing	-3.973	-3.969	-4.380	-3.600	-3.240	0.0097	Stationary
DDvelopment_Budget	-3.275	-3.247	-4.380	-3.600	-3.240	0.0174	Stationary

The results indicate that Government Expenditure, Borrowing, Real GDP and Development Budget were not stationary at levels. The results also show that the variables became stationary on first difference. Therefore, from the unit root tests, the study concludes that the variables are integrated at order I(1). Consequently, co-integration tests were conducted.

Cointegration Analysis

Co-integration was determined using the bounds test. The study used the bounds test of Pesaran *et al.* (2001) critical values F statistic tests to test for co-integration among the variables. The test was used since the ARDL bounds test is applicable when variables are I(0) and I(1). The findings are shown in Table 4.

Table 4: ARDL bounds test

	10%		5 %		1%	
	I (0)	I (1)	I (0)	I (1)	I (0)	I (1)
F statistic = 103.2221	7.043	7.044	9.124	9.127	14.438	14.444
K (4): no of independent variables – Government Expenditure, Real GDP, Borrowing & Development Budget						

The findings show that the critical value bounds are more than the Pesaran *et al.* (2001) upper critical values I (1) and lower critical I (0) values at 1 percent, 5 percent and 10 percent significant levels. This therefore means that there is co-integration among the variables for the ARDL model.

Findings and Discussion

The objective of the study was to determine the sources of public sector growth in Kenya. The objective was responded to through use of ARDL model given in equation 3. Table 5 below shows the Log Run (LR) and Short Run (SR) results for the government expenditure.

Table 5: ARDL Regression Model

ARDL (4, 1, 1, 1) regression						
Sample: 2000 - 2019						
Number of obs = 20						
R-squared = 0.9678						
Adj R-squared = 0.9498						
Root MSE = 0.0062						
Log likelihood = 75.373411						
Dependent Variable: Government_Expenditure						
Government_Expenditure	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
ADJ						
Government_Expenditure						
LI.	0.127	0.007934	4.94	0.0747	-1.84895	4.197519
LR						
Real_GDP	0.965	0.040256	4.06	0.002221	-0.50928	0.513727
Borrowing	0.087	0.006287	7.25	0.625156	-0.47122	1.721534
Development_Budget	0.122	0.003361	5.69	0.485247	-0.31456	2.285056
SR						
Government_Expenditure						
LD.	0.075	0.009185	8.4	0.005819	-4.41614	0.899757
L2D.	0.13	0.003226	4.82	0.97867	-3.5609	1.603561
L2D.	0.5	0.019917	7.4	0.019931	-0.23314	0.273001
L3D.	0.617	0.014085	4.69	0.009661	-0.1693	0.188624
Real_GDP						
D1.	0.511	0.040947	5.97	0.039564	-0.48072	0.559845

Borrowing						
D1.	0.138	0.056835	4.55	0.058564	-0.4636	0.980724
Development_Budget						
D1.	0.185	0.000137	7.42	0.18531	-0.47528	0.104648
_cons	0.224	0.023219	8.72	0.00224	-0.35828	0.231771

The R square value of the model was 0.9678 which showed that there was overall goodness of fit for the model. This also infers that 96.78% of the variability in government expenditure can be attributed to the real GDP over time, borrowing and development budget. Real GDP was positive and significantly related to government expenditure, and so was borrowing and development budget.

A number of tests were conducted including normality of the data, multicollinearity test, heteroscedasticity test, autocorrelation and the test for omitted variables were conducted to establish the models statistical appropriateness for ARDL. Before carrying out the diagnostics tests for ARDL model, Equation (3.8) was estimated. This was for purpose of selecting the appropriate model to be subjected to diagnostics for subsequent use in the ARDL analysis. The study first conducted the diagnostic test of normality. The results in Table 6 presents the test for normality of the variables used in the study.

Table 6: Normality Tests for ARDL Model

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Jarque-Bera	Probability
Government Expenditure	19	0.9699	0.0169	5.47	0.0649
Real GDP	19	0.0867	0.6331	3.57	0.1674
Borrowing	19	0.2719	0.1935	3.30	0.1925
Development_Budget	19	0.5351	0.1146	3.27	0.1951

The probability value (p -value) for all the variables was more than the critical 5 percent and thereby rejecting the null hypothesis implying that the variables have normal distribution. Multicollinearity test was also done, using the VIF values. These findings are shown in Table 7.

Table 7: Multicollinearity Tests for ARDL Model

Variable	VIF	1/VIF
Real GDP	1.25	0.797724
Borrowing	1.19	0.842916
Development Budget	1.06	0.939201

The VIF values obtained in the study indicate that all VIF values were within the 1 and 5 range, hence no multicollinearity issues in the study. Heteroscedasticity test was also done using the Breusch-Pagan test. The findings are shown in Table 8.

Table 8: Breusch-Pagan Heteroscedasticity Test for ARDL Model

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity	
Ho: Constant variance	
chi2(1)	2.47
Prob > chi2	0.1163

Since the study findings indicate that the p -value was 0.1163, which is more than 0.05, then the observations have constant variance and heteroscedasticity is not present in the study. Autocorrelation test was further done using the Breusch-Godfrey serial correlation LM test. These results are presented in Table 9.

Table 9: Test for Serial Correlation for ARDL Model

Breusch-Godfrey LM test for autocorrelation			
lags(p)	chi2	df	Prob > chi2
1	1.978	1	0.1596
H ₀ : no serial correlation			

The null hypothesis is that there is no first order serial auto correlation existence. The p value of 0.1596 indicates that the null hypothesis is not rejected, hence, serial correlation is absent in the study. Finally, the omitted variables test was conducted using the Ramsey reset test. The results are presented in Table 10.

Table 10: Test for Omitted Variables for ARDL Model

Ramsey Reset test	
Ho: model has no omitted variables	
F-statistic	0.29
Prob > F	0.8342

The p value of 0.8342 indicates that it is more than 0.05, and therefore the model has no omitted variables. The short-run model was done in two phases; the first phase was to estimate the cointegrating ARDL equation and then the residuals from estimation lagged once (ECT-1) and used in the second stage to estimate the ARDL model. The long run coefficients were used to show how public sector growth responded to permanent changes in the independent variables. The results were achieved through estimation of equilibrium ARDL model. Table 11 shows the results for the real government expenditure (LGCt) sources both in the short run and long run.

Table 11: ARDL Short-run and Long-run Form

Dependent Variable: GOVERNMENT_EXPENDITURE				
Included observations: 20				
Sample: 2000 2019				
Selected Model: ARDL (4, 1, 1, 1)				
Short-run Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GOVERNMENT_EXPENDITURE (-1)	0.456711	0.140394	3.253065	0.0174
GOVERNMENT_EXPENDITURE (-2)	1.112287	0.233602	4.761454	0.0031
GOVERNMENT_EXPENDITURE (-3)	0.288600	0.247539	1.165875	0.2879
GOVERNMENT_EXPENDITURE (-4)	1.476108	0.180683	8.169603	0.0002
REAL_GDP	0.009319	0.006643	1.402902	0.2102
REAL_GDP (-1)	0.009366	0.006295	1.487857	0.1874
BORROWING	0.142569	0.024875	5.731496	0.0012
BORROWING (-1)	0.375975	0.039818	9.442337	0.0001
DEVELOPMENT_BUDGET	0.198580	0.052350	-3.793289	0.0090
DEVELOPMENT_BUDGET (-1)	0.221465	0.062334	3.552886	0.0120
ECT(-1)	-0.144956	0.069613	-4.518811	0.0007
ECT = GOVERNMENT_EXPENDITURE + (0.0106*REAL_GDP + 0.2952*BORROWING + 0.0130*DEVELOPMENT_BUDGET - 39.2978)				
Long-run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
REAL_GDP	0.010637	0.002742	3.879048	0.0082
BORROWING	0.295214	0.003354	88.00895	0.0000
DEVELOPMENT_BUDGET	0.013028	0.025507	-0.510726	0.6278
C	-39.29783	4.778481	-8.223918	0.0002

From the table 11, the coefficients of the first, second, third and fourth lags of government expenditure coefficients are positive and statistically significant at 5 percent significant level save for the third year which is insignificant and can be attributed to the electioneering period at that year. This shows that past changes in government expenditure have positive effects up to four years after. The results indicate that the previous year's government expenditure is a driver to an increase in the current year's government expenditure. The magnitude of the effect is higher in the long-run than in the short-run. This is because an increase in the current years' government expenditure is mainly fuelled by borrowing. Such requires increased debt servicing in consecutive

years. This conforms to displacement theory by Kindleberger, that economic ‘displacements’ consist of a sudden large change, which leaves the economy in profound disequilibrium and produces periods of abundant ‘quasirents’ (Morck & Yeung, 2004).

The short-run results also reveal a positive but insignificant effects of GDP on government expenditure at 5 percent level of significance implying that the growth in the GDP in the Kenyan economy has not contributed in explaining the expansion of government expenditure in the short run. This persists even with a one-year lag implying that the performance of the economy in the previous year does not influence the current real GDP in Kenya, as the relationship is negative. This finding implies that Wagner’s law-that the level of growth and development determines to a large extent the amount of money to be spend in the economy does not hold for Kenya- in the short run. This could be attributed to the fact that GDP has largely been unstable in the country, with numerous ups and downs in GDP changes in the country (World Bank Development Indicator, 2019).

The short-run results also show that the co-efficient for borrowing is positive and statistically significant at 5 percent level of significance. This implies that public debt in Kenya explains the growth of government expenditure. An increase in public debt leads to an increase in debt servicing, hence increasing the public expenditure, in accordance with the findings of Musyoka (2017).

The short run results also show that the development budget coefficient has a positive and significant effect on government expenditure. This implies that increase in development budget will increase public expenditure. This could be attributed to the fact that the availability of a big budget act as an incentive that motivates the government to increase its expenditure.

The coefficient of the Error Correction Term (ECT) signifies the speed of adjustment of the model to the equilibrium in the event of shocks. ECT is negative and statistically significant at 5 percent level of significance. This is a support to presence of long-run association between the government expenditure and the variables used in the study. The coefficient is -0.14 which is less than 1 in absolute terms. It shows that 14% of the errors are corrected annually.

From the long run ARDL results in table 11 results show a positive and significant relationship between GDP and the government expenditure. This implies that an increase in GDP increases government expenditure. GDP growth affects the growth of public expenditure positively both in short-run and in the long-run. However, the magnitude of the effect is higher in the short-run than in the long-run. This confirms that Wagner’s law of ever-increasing public expenditure with income growth holds. The result indicates that with an increase in economic growth, the country appears to expand its public expenditure plausibly, in line with the findings of Mankiw (1997).

Furthermore, the co-efficient for borrowing shows a positive and significant relationship with the size of government expenditure in the long run. This shows that debt availability helps in explaining the growth of government expenditure in Kenya. This finding affirms theoretical postulation that public debt influences the expansion of public expenditure. Therefore, debt availability could be pushing up the public expenditure in Kenya.

The co-efficient of the development budget in the long-run shows a positive but insignificant relationship to public expenditure. This implies that the development expenditure does not push up the public expenditure in the long-run. Therefore, development budget has only a transitory and not a permanent effect on the public expenditure. The claim that capital expenditure is the reason for expansive public sector size in Kenya is not therefore supported by data.

VII. Conclusions and Recommendations

The study concludes that the push for public sector growth in Kenya include the displacement factors demonstrated by previous high level attained, the growth in income that indicate revenue availability and borrowing that further demonstrate the availability of resources through borrowing window. Development expenditure however does not have significant effect on the growth of public sector. This demonstrates that public sector growth is driven by some factors including growth of government expenditure which is facilitated by the availability of debt. This means that infinite monumental growth in the public sector has negative effects.

The study recommends that feasible measures should be taken to limit the disadvantages on private investors. In addition, borrowing should be controlled to avoid reaching uncontrollable numbers.

References

- [1]. Abiola, J. O. (2016). Widening the tax net: lessons from Lagos State, Nigeria. *International Journal of Development and Management Review*, 11(1), 198-207.
- [2]. Aybarc, S. (2018). *Public Economics and Finance*. Chicago, USA: Olympia Publishers.
- [3]. Bailey, S. J. (1995). *Public sector economics: theory, policy and practice*. Macmillan International Higher Education.

- [4]. Chimwani, B. I., Iravo, M. A., & Tirimba, O. I. (2014). Factors influencing procurement performance in the Kenyan public sector: case study of the state law office. *International Journal of Innovation and Applied Studies*, 9(4), 16-26.
- [5]. Dreger, C., & Reimers, H. E. (2016). Does public investment stimulate private investment? Evidence for the euro area. *Economic Modelling*, 58(1), 154-158.
- [6]. Gor, S. O. (2012). Economic Growth and Public Sector Size: Examples from Kenya's Vision 2030. *OIDA International Journal of Sustainable Development*, 5(2), 47-58.
- [7]. Kopric, I., Musa, A., & Dulabic, V. (2016). Local government and local public services in Croatia. In *Public and social services in Europe* (pp. 201-215). Palgrave Macmillan, London.
- [8]. Mankiw, N. G. (1997). *Principles of Macroeconomics*. Cambridge, UK: Pegasus Publications.
- [9]. McLure, M. (2017). Ricardian Equivalence, the Italian Fiscal Tradition and Western Australia's Government Net Debt. *Agenda: A Journal of Policy Analysis and Reform*, 24(1), 5-20.
- [10]. Morck, R., & Yeung, B. (2004). Japanese economic success and the curious characteristics of Japanese stock prices. In *Designing Financial Systems for East Asia and Japan* (pp. 100-127). Routledge.
- [11]. Mukui, G., Awiti, J., & Onjala, J. (2019). Effect of Public Spending on Economic Growth in Kenya. *Journal of Economics, Management and Trade*, 3(1), 1-11.
- [12]. Musyoka, G. (2017). *The effect of public debt on economic growth in Kenya*. MBA Project, University of Nairobi.
- [13]. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, 16(3), 289-326.
- [14]. Tanzi, V., & Schuknecht, L. (2000). *Public spending in the 20th century: A global perspective*. Cambridge University Press.
- [15]. Wagner, A. (1958). Three extracts on public finance. In *Classics in the theory of public finance* (pp. 1-15). Palgrave Macmillan, London.
- [16]. Wambugu, D., Wachira, M., & Mwamba, M. D. (2017). The effect of innovation on service delivery in the public sector in Kenya. *International Journal of Business Strategies*, 1(2), 1-21.
- [17]. World Bank (2019). The World Bank human capital index: a guide. *The World Bank Research Observer*, 34(1), 1-33.

Vivian Dabani, et. al. "Sources of Public Sector Growth in Kenya." *IOSR Journal of Economics and Finance (IOSR-JEF)*, 13(02), 2022, pp. 01-11.