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THE INFLUENCE OF PUBLIC DEBT ON ECONOMIC GROWTH IN KENYAN GOVERNMENT

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ABSTRACT

Public borrowings is necessary since it aids in bridging the resource gap between receipts and expenditures of Government. It is one method of financing government operations, though not the only method as government can also create money to monetize its debts, thereby removing the need to pay interest. Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable as a prudent public debt management helps economic growth and stability through mobilizing resources with low borrowing cost and limiting financial risk exposure. However, the impact of public debt on economic growth of many nations remains a controversial issue in both academic and policy making systems. In addition, domestic interest payments consume a significant part of government revenue more so if the associated interest rates are higher compared to those on external debt. The current research sough to estimate the influence of public debt on economic growth in Kenyan Government. The study followed a longitudinal research design where secondary data was collected from available record for a period of sixteen years ranging from 2002 – 2017. Time-series analysis was employed in the study. Correlation results indicated that all the variables under study namely economic growth, public debt and inflation were found not to associate to each other significantly. Regression findings showed that the effect of public debt and economic growth was not significant. Even after controlling public debt with inflation, their relationship towards economic growth was still found to be insignificant. The study recommends that policies implemented to promote economic growth should be in tandem with policies to reduce public debt if an increase in economic growth has to be realized and in addition focus on reduction of inflation rate.

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Keyword: Public Debt, Economic Growth, Gross Domestic Product, Inflation.

1. INTRODUCTION

Background

Public debt is one of the main macroeconomic indicators, which forms countries' image in international markets. Public borrowings is necessary since it aids in bridging the resource gap between receipts and expenditures of governments (Irons, 2010). For a government to run well, it needs resources for its expenditure. The main source of these funds comes from taxes, and if not

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enough, borrowings are made to bridge the gap between government receipts and government expenditures (Adofu & Abula, 2010). Public borrowing occurs in either domestic market or external markets or in both. In the present times, there has been much cautionary debate in policymaking circles regarding the dangers to the economy's future health posed by crossing a specific threshold in the ratio between government debt and gross domestic product (AFONSO & ALVES, 2015).

Governments' debt is one method of financing government operations, though not the only method as government can also create money to monetize their debts, thereby removing the need to pay interest. Puente-Ajovín and Sanso-Navarro (2015) indicated that a key factor causing debt to rise is the reliance on external resources to complement capital formation in the domestic economy (Achieng, 2010). The higher the interest payment and the heavier the deficit on the current account, the heavier the debt burden. Debt sourced finance represents funds with fixed contractual obligations which will require pledging future resources of the nation as collateral. In order to cope adequately in the long run, with servicing requirement, a nation's debt service capacity must grow at a rate higher than that of its financial risk exposure (Abbas & Christensen, 2010).

Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable. Economic growth refers only to the quantity of goods and services produced; it says nothing about the way in which they are produced (Westerlund & Prohl, 2010). Economic growth can be either positive or negative where a negative growth can simply imply that the economy is shrinking since it is associated with economic recession and economic depression. Gross Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation, that is, by the percent rate of increase in the gross domestic product (GDP). Economic growth measures growth in monetary terms and looks at no other aspects of development. To compensate for changes in the value of money either inflation or deflation, the GNP or GDP is usually given in "real" or inflation adjusted, terms rather than the actual money figure compiled in a given year, which is called the nominal or current figure (Rabia & Kamran, 2012).

There are many channels through which public debt might affect economic output either positively or negatively. The most frequently cited negative effect is the crowding out of private investments. Excess government sector demand for domestic fund tends to push up domestic interest rates. The higher interest rate may also have an adverse effect on the trade balance which is an important parameter of economic growth. Since the government assets become more attractive to foreign investors, so the demand for local currency will increase which tends to push up the price of domestic currency in terms of other currencies, the imports will rise and the exports tend to decline (it became more expensive), hence large trade deficit will ensue which ultimately hinder the economic growth (Sutherland & Hoeller, 2012). This practice simply reduces government interest costs rather than truly canceling government debt and can result in hyperinflation if used unsparingly. Government debt is created through various instruments including bonds, treasury bills, borrowing from commercial banks and overdraft from the countries' Central Banks (Reinhart & Rogoff, 2011).

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The Keynesian theory (1935) posits that actions that are taken collectively at some microeconomic-level by a large proportion of individuals or firms can lead to inefficient aggregate macroeconomic outcomes, where the economy operates below its potential output and growth rate. This would mean that in some situations, no strong automatic mechanism moves output and employment towards full employment levels. The relevance of the issue can be traced back to the historical indebtedness of developed countries in the wake of the latest global financial crisis. It was established that it raised much concern that the high public debt-to-GDP ratios, which are not expected to decrease significantly in the foreseeable future, will have adverse effects on growth prospects (Reinhart & Rogoff 2013). Moreover, in the recent past, a common argument against fiscal easing in the core countries in the frame of the euro area crisis management was the possible negative effect of public debt on economic growth. Empirical findings on Growth in a Time of Debt (GITD) indicated that the United States has very limited experience with debt levels over 90% as her economy has only exceeded the 90% threshold in six of the 218 years examined in the GITD paper, and these six years are constituted by a single consecutive time-span in the 1940s dominated by the defense buildup and subsequent demobilization around World War II.

Statement Problem

A prudent public debt management helps economic growth and stability through mobilizing resources with low borrowing cost and limiting financial risk exposure. The impact of domestic public debt on economic growth of many nations remains a controversial issue in both academic and policy making systems (Moki, 2012). It seems incontestable that given the structural weakness of most developing economies, their low savings and low investment, the high debt levels and debt servicing would militate against rapid economic growth and development. Ordinarily where local markets are not well developed, external sources may provide the bulk of funding for the resource gap. Domestic debt can therefore come along with severe implications for the economy if not well balanced with the levels of anticipated economic growth. Moreover, in shallow financial markets, as the domestic debt increases, the interest cost also rises due to holding a large amount of debt in short term instruments. Domestic interest payments consume a significant part of government revenue more so if the associated interest rates are higher compared to those on external debt. Reinhart and Rogoff (2011) stated that public borrowing is inevitable and not reprehensible phenomenon of economic growth. It is a way to stimulate economic growth by injecting money from foreign investors (external debt) into it as well as distributing assets (internal debt) among those who have more than they can use at the moment and those who lack assets for developing economic initiative or other needs.

The 1990s witnessed a steady decline in development assistance to Kenya occasioned by a perception of poor governance and mismanagement of public resources and development assistance. The debt problem in Kenyan government was worsened by macroeconomic mismanagement witnessed in the 1990s which fleeced Kenyans billions of shillings leading to a reduction of donor inflows (Matiti, 2013). Additionally government expenditure has consistently been higher than government revenue over the years and this expenditure –revenue gap continue to widen at least in monetary terms. The government has since resorted to occasional debt

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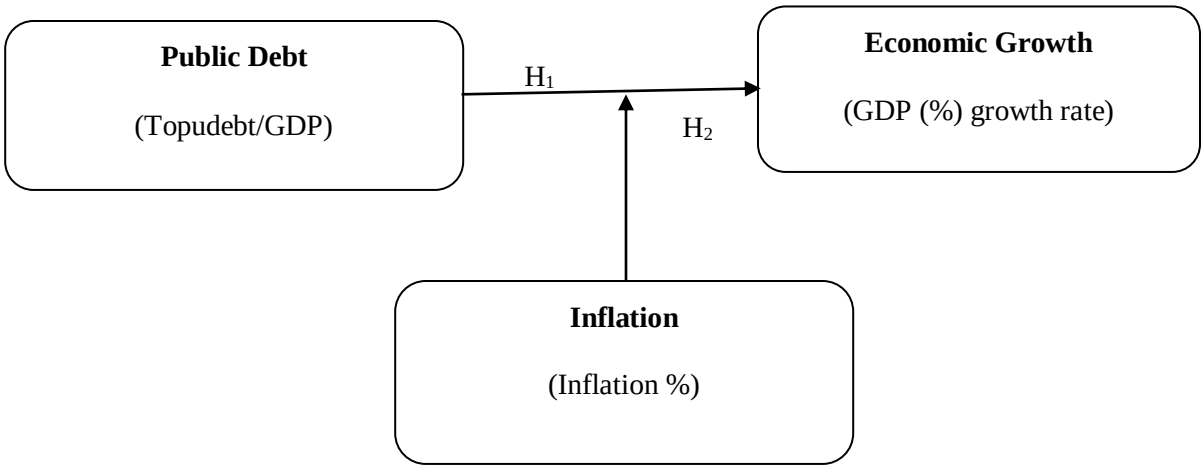
rescheduling and expensive short-term domestic borrowing to finance its expenditures. Debt composition in government securities since 2003 has been tilted in favor of long term borrowing through Treasury bonds. Interest rates within the period were sticky below 13% (Putunoi and Mutuku, 2013). This motivated the study which was to estimate the influence of public debt on economic growth in Kenyan government. The variables under investigation are as displayed in the conceptual framework that follows:

Figure 1: Conceptual Framework



The illustration indicates two assumptions. The first one is that change in public debt as independent variable, can affect growth of any given economy. Another assumption created in the figure 1 is that, economic growth of a country depends on the change in rate of inflation and change in public debt/GDP. These translated to null hypotheses as indicated below:

H_{o1}: Public debt does not influence economic growth in Kenya

H_{02}: Public debt in conjunction with inflation do not affect economic growth in Kenya

Methodology

Longitudinal research design was followed in investigating how public debt and inflation impacted economic growth of a country. Secondary data was collected for a period of sixteen years ranging from 2002 – 2017. Time-series analysis was employed as a statistical methodology found to be appropriate in application of longitudinal research design which involved research objects or units that were measured repeatedly at regular intervals over time. It is argued that time-series analysis has ability of providing an understanding of the underlying naturalistic process and the pattern of change over time, or it can be use in evaluation of the effects of either a planned or unplanned intervention (Salkind, 2012). Descriptive statistics was presented in form of tables and graphs. While test of relationships between variables was done by use of Pearson correlation and regression analysis. The study applied two regression analytical models where

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the first one estimated the effect of public debt on economic growth with the intention of testing the research hypothesis one using the following model:

$$EG_t = \beta_0 + \beta_1 PD_t + \mathcal{E} \quad \ldots\ldots\ldots\

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Table 1: 3. Public Debt and Economic Growth

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Economic growth	0.50	3.00	4.90	5.80	6.40	7.00	1.50	2.60	5.60	4.40	4.50	5.90	5.40	5.70	5.80	6.10
Public debt	*0.57*	*0.53*	*0.54*	*0.48*	*0.44*	*0.39*	*0.36*	*0.39*	*0.42*	*0.35*	*0.36*	*0.37*	*0.41*	*0.42*	*0.45*	*0.51*
Inflation	1.80	9.80	11.60	10.30	14.50	9.80	16.20	10.50	4.10	14.00	9.40	5.70	6.90	6.60	6.30	9.00`

Inflation had a minimum value of 1.80% and a maximum value of 16.20%. The mean of the inflation rate which is the control variable was 9.1563% with a standard deviation of 3.85607%. The skewness of data observations for inflation is to the right implying that the data observations are normally distributed.

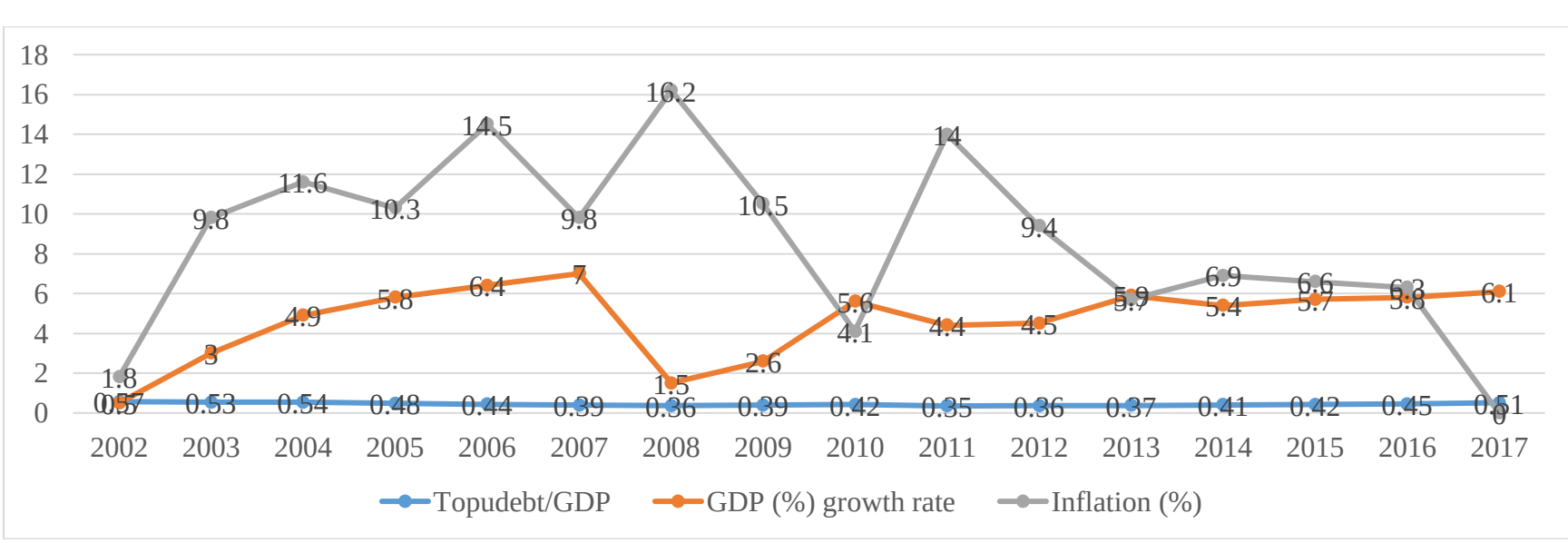

Figure 2: Public Debt and Economic Growth

Total public debt to GDP fluctuated during the study period of 2002 to 2017. The ratio was below 0.60 and remained relatively stable. The GDP growth rate which in this case measured economic growth fluctuated during the study period while inflation fluctuated significantly during the period 2002 to 2017.

Inferential Statistics

Inferential statistics in terms of correlations indicate that all the variables were not associated to each other significantly. Based on the confidence interval of 95%, it can be deduced that economic growth related to public debt insignificantly given a correlation coefficient value of -0.195 and a weak p ¬– value of 0.470. Similarly, relationship between inflation rate and economic growth reported a weak relationship where the coefficient value was found to be -0.009 (p = 0.974).

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Test of Association (Correlations)

		GDP (%) growth rate	Topudebt/GDP	Inflation (%)
Economic Growth	Pearson Correlation	1	-.195	-.009
	Sig. (2-tailed)		.470	.974
	N	16	16	16
Public Debt	Pearson Correlation	-.195	1	-.321
	Sig. (2-tailed)	.470		.225
	N	16	16	16
Inflation	Pearson Correlation	-.009	-.321	1
	Sig. (2-tailed)	.974	.225	
	N	16	16	16

The Relationship Between Public Debt and Economic Growth

The study sought to test the first hypothesis which stated that "Public debt does not influence economic growth in Kenya." This was tested by use of a regression model whose results are as indicated below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.195[a]	0.038	-0.031	1.88402

a. Predictors: (Constant), Public debt

The model summary shows that there is a positive relationship between public debt and economic growth as denoted by the value of R of 19.5%. The regression model developed, shows a relatively low fitness of regression model with an indication that public debt was able to explained only 3.8% of economic growth of Kenyan government given an *R* Square of 0.038.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.956	1	1.956	0.551	0.470[b]
	Residual	49.693	14	3.550		
	Total	51.649	15			

a. Dependent Variable: Economic growth
b. Predictors: (Constant), Public debt

The output of ANOVA provided an *F* – value of 0.551 and a *p* – value of 0.470. This shows that public debt was not significant in determining economic growth. Therefore the implication is that the study should reject the null hypothesis that public debt does not influence economic growth in Kenya.

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Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	6.941	3.063		2.266	.040	.371	13.511
	Public debt	-5.143	6.928	-.195	-.742	.470	-20.003	9.717

a. Dependent Variable: Economic growth

The research further estimated the effect of the two variables and found out that public debt was not significantly affecting economic growth in Kenya since the predictor variable provided a regression coefficient value of -0.195 (t – value = 0.742) plus a weak p – value of >0.05. The model's coefficient results also indicate that holding other variables constant economic growth will still be realized significantly to an extent of 6.941(t = 2.266) p = 0.040.

The Control Effect of Inflation on the Relationship Between Public Debt and Economic Growth in Kenya

In achievement of hypothesis two which stated that "Public debt in conjunction with inflation do not affect economic growth of a country", the results of the study are as given in model that follows.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.209[a]	.044	-.104	1.94937

a. Predictors: (Constant), Inflation, public debt

The model gave an R value of 0.209 which shows the relationship that public debt and inflation have on economic growth of a country. The model's R squared also improved from 0.038 to 0.044. This could therefore indicate that public debt co-joined with inflation can only explain 4.4% of variations in economic growth. The implication is that there exist other variables other than those used by study of which introduced can improve the model of the study significantly.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.249	2	1.124	0.296	0.749[b]
	Residual	49.401	13	3.800		
	Total	51.649	15			

a. Dependent Variable: Economic growth
b. Predictors: (Constant), Inflation, Public debt

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The analysis of variance gave an F – value of 0.296 and the p – value of 0.749 which reveals that the relationship between total public debt and inflation is not significant. This has implication that the research should fail to reject the null hypothesis that public debt together with inflation rate do not affect economic growth of a country since the error we make by doing so is >0.05.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	7.586	3.930		1.930	0.076	-0.905	16.077
	Public debt	-5.818	7.570	-0.220	-.769	0.456	-22.171	10.535
	Inflation	-.038	.138	-0.079	-.278	0.786	-0.336	0.260

a. Dependent Variable: Economic growth

The regression model showing the relationship between total public debt controlled by inflation indicated that even in the absence of public debt and inflation rate, economic growth will not be realized significantly as the coefficient model gave a constant value of 7.586 accompanied with a weak p – value of >0.05. Likewise, public debt affected economic growth insignificantly since the variable provided a coefficient value of -5.818 (t = 0.769) and a weak p – value of 0.456. Moreover, the study's second model indicated that inflation did not a significant effect economic growth as evidenced by a coefficient value of -.038 (t = 0.278) and a weak p – value of 0.786. The relationship of total public debt and economic growth when controlled by inflation is therefore not significant.

3. CONCLUSIONS AND RECOMMENDATIONS

The study results shows that there is a relationship between total public debt and economic growth in Kenya. The relationship is however not significant when tested at the 95% confidence level. Domestic borrowing consumed a significant proportion of government revenue which poses a risk to fiscal sustainability. Domestic debt is characterized by higher interest rates compared with those on external debt, which is contracted mainly on concessional terms, and it is therefore expensive to maintain. Domestic debt reduction could be achieved using proceeds from the privatization programmes within public sector, or the use of externally borrowed resources which are mainly on concessional terms to retire more expensive domestic debt.

It can be recommended that policies implemented to promote economic growth should be in tandem with policies to reduce public debt if an increase in economic growth has to be realized. From this study an increase in inflation reduces economic growth, therefore policies implemented to increase economic growth should be accompanied by policies to reduce inflation. The Government of Kenya need to put measures in place to curtail inflation and reduce public debt for economic growth to increase. Additionally, debt incurred by the public sector should be utilized in financing projects and expenditures that lead to economic growth. There is therefore urgent need for the government to formulate and implement debt reduction schemes for domestic debt.

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