



The Impact of External Debt Servicing on Capital Formation and Gross Domestic Product in Kenya

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Abstract

This study examined the effect of foreign debt service on GDP in Kenya through savings and capital formation transmission channel. The specific objectives of the study were; to determine the effect of external debt servicing on capital formation in Kenya, and establish the effect of external debt servicing on economic growth in Kenya. Longitudinal research design was adopted where time series data on external debt, capital formation was analyzed. Time series properties of the data was checked in terms of stationary tests, and the standard diagnostic tests of regression such normality, autocorrelation, multicollinearity and specification. Regression of capital formation on lagged debt service was carried out which indicated negative relationship between the two variables. Regression of gross domestic product on labour and predicted capital was done, the results obtained was that, debt service affect gross domestic product negatively through its effect on capital formation. It was recommended among others that policies of the government should therefore be guided towards reducing debt stock. It is important for policy makers to be cautious on implementation of projects that raise public debt and there should be controlled measures on debt management profiles especially in government expenditure by evaluating funded projects to gauge the utilization of funds. Also, reducing the rate of borrowing by sourcing alternative means of financing projects was recommended.

Keywords: *External Debt Servicing, Capital Formation, Gross Domestic Product*

1.0 Introduction

1.1 Background of the Study

One of the main sources used to finance capital formation in economies is external debt. It is generally expected that most developing countries Kenya included, which are faced with capital scarcity are expected to obtain external debt to supplement domestics saving (Ihoya, 1999; Pattillo, 2002). The borrowing rate of nations abroad will depend on the links counties have among foreign and domestic saving, investment, and gross domestic product. There is a suggestion in Economic

theory that when developing countries reasonably apply good levels of borrowing this will lead to enhanced economic growth. When a country's economic growth is enhanced, at least by more than five percent growth rate, the living standards of people in the economy will be affected positively.

According to Rusike (2007) most policymakers and academicians have always questioned the impact of accumulated external borrowing on investment and economic growth of a country. There has never been an agreement on the role of external debt on economic growth. External debt has both positive and negative effects on the growth of an economy. Different experts have argued that external debt will have positive effect on economic growth because it leads to increased capital inflow. When external borrowing is utilized properly, for expenditures which are growth related, accelerated pace of economic growth will be realized. It provides foreign capital for industrial development, managerial know-how for internal institutions, advanced domestic technology, internal technical expertise acquiring knowledge from external markets and mobilization of a nation's human and material resources from access to foreign markets (Reinhart and Rogoff, 2012).

Soludo (2003) asserts that there are two major factors leading to massive borrowing of nations. One is increasing investment and two, increasing consumption. Increasing investment is boost to economic growth. A country that attracts capital or has the ability to borrow externally, can provide a source for necessary imported goods for investment by obtaining foreign debt, this will ease the shortage of foreign exchange of the economy. Increased investment will lead to increased economic growth and thus improved economic status of the nation. It should be noted that, investment links capital inflow to economic growth of an economy. High economic growth will translate to increased country's credit-worthiness and this is a positive factor to attract more capital inflows.

1.2 Statement of the Problem

As mentioned in the background, the rate at which Kenya is borrowing has gone in the rise in the past five years to harmonize the budget deficit resulting from low revenue collection which cannot cater for the desired expansion of the economy and development of infrastructure (CBK, 2014). For instance, external debt ceiling doubled from ksh.1.2 trillion by 2012 to 2.5 trillion by 2013 (Kenya central Bank, 2012).

Kenya's external debt is on the rise and portrays a state of distress. According to the IMF (2007), in sub-Saharan Africa, domestic debt accounted for 23 percent of total debt between 1995 and 2000. This was a rise from an average of 20 percent between 1990 and 1994. The domestic debt to GDP ratio for these countries increased considerably from 12 percent to 16 percent in the same period. Since independence, Kenya has experienced economic shock as a result of poor governance and political instability.

The increase in GDP in 1990 and 1994 as a result of inflation exhibited reduction in agricultural produce at an annual rate of 3.9%. The Treasury's debt figures show that, external debt rose by Sh20.14 billion from May 2011 to stand at Sh721.04 billion in May 2012. According to treasury bulletin (GoK, 2013) as at end of June 2013 external debt was at 45% of GDP and this increase was due to the increase in disbursements and the Kenyan currency depreciation against the major currencies. In Kenya the external debt portfolio has Euro forming the largest share of 34 percent, followed by dollar which holds 32 percent of the total external debt in the country. The result of

the debt rise therefore has placed Kenya in the second most indebted country in sub-Saharan Africa (IMF, 2013). In the recent study by IMF, the sustainable analysis on external debt exhibits a wide threshold to future expectations.

Many researchers, academicians and policy makers have looked in to the relationship between debt servicing, capital formation and economic growth .Several empirical studies have been done in various countries yielding mixed results, some researchers have come up with results showing negative relationship between debt and GDP, others realizing no insignificant negative effect of debt to GDP while other researchers concluded that debt has no effect on GDP. These studies include Mishra, 2014; Agu, 2012; Were, 2001; Maana, Owino and Mutai, 2008; Matiti, 2013; Hameed et.al 2008; Ahmed, 2005; Elbadawi, 1999 Agu 2012 and Ayadi, 1999 their results are well discussed in Chapter two. All these studies have found a direct link between debt and economic growth.

The knowledge about the link/channel through which the effect debt servicing is transmitted to affect Kenyan affects economic growth is key in this research paper. It should be pointed out that external debt will affect economic growth indirectly through its effect on domestic savings and capital formation. Knowledge of such channels is vital in informing policies to enhance economic growth in a country. Direct relationship between external debt and low economic growth has been assumed in the literature. The channels through which the effect of debt is transmitted to economic growth have not been examined in any of the earlier studies. This study will fill this gap by investigating the effect of external debt (overall and debt servicing) savings, capital formation and gross domestic product.

1.3 Specific Objectives

- i. Determine the effect of external debt servicing on capital formation in Kenya.
- ii. Establish the effect of external debt servicing on economic growth in Kenya.

2.0 Literature Review

2.1 Theoretical Review

This study was built on the underpinning theory that informs the study variables.

2.1.1 Neoclassical Growth Theory

The Neoclassical theory as developed by Solow (1956) assumes that planned investment is always equal to savings because prices adjust immediately; this will also apply to interest rates. With these assumptions, neoclassical growth theory focuses its attention on capital and technology. According to this theory, only the supply side factors determine rate of economic growth of a country. In the model, the growth of output is achieved in the short run through higher rate of saving which leads to higher rate of capital formation. However, diminishing returns to capital poses a limitation to economic growth in this model. Intuitively, the neoclassical growth model assumes constant returns to scale which exhibits diminishing returns to capital and labour separately.

Neoclassical theory is considered a pillar in the execution of a country's economic growth; however, it exhibit weaknesses where growth is assumed to depend on the exogenous technological progress and the apparent inconsistency of the unconditional convergence hypothesis with the actual data prompting investigation of alternative growth theories. The theories as well do not consider the other factors, other than technology that indirectly affect the labor productivity.

The conclusion of neoclassical growth models hold that for economies with similar technologies the level of output should converge to a certain level in the stable state; a paradigm that has appeared to contradict empirical evidence, unless where the per capita growth of the economy's rate of investment and public policies are taken into account (Meade, 1996). The neoclassical growth theorists widely imply that, external borrowing to finance government spending will lead to reduction of private investment and this will raise real interest rates for the economy. The result will be decreased economic growth.

2.2 Empirical Review

A study carried out by Mosley in 1980, disaggregated the inflows of foreign capital into aid and other various financial inflows. Foreign aid inflows were lagged by five years. A sample of eighty three countries was used and the period considered for the study was the years 1969 to 1977. In the study two stage least squares (TSLS) regression was applied on a system of two equations. In the first equation, the dependent variable was the growth in GDP while savings, foreign aid, and other foreign capital inflows were the explanatory variables. In the second equation, the dependent variable was the foreign aid and GDP per capita was used as the explanatory variable. The results showed a negative effect of foreign aid and other inflows on economic growth; however the effect was statistically insignificant in the case of all eighty three developing countries. The results concluded that in the thirty poorest countries, foreign aid had significantly positive effect on economic growth when lagged by five years.

Dowling and Hiemenz (1983) in the presence of policy variables carried out a test on the relationship between foreign aid, savings and growth. Their sample consisted of 52 countries of the Asian region and the study period was the years 1968 – 79. They performed ordinary least squares regression on foreign aid, other capital inflows and savings, and four policy variables. The results showed that, all the three standard variables positively and significantly affected economic growth for all the countries. The study also reported that economic policies adopted in the countries have been encouraging which has invited allocation of foreign aid leading increased economic growth (and other resources) especially in the countries of the Asian region associated with high growth. Various aspects of government policies were incorporated into the regression model and the results give a conclusion that, for countries experiencing high growth, liberal trade and financial policies leads to improvement of overall growth. From the results, it was also concluded that for countries which are experiencing low economic growth, liberal trade policies and improved government tax revenues lead to increased economic growth.

Gupta and Islam (1983) carried out a study on 52 developing countries; they made three income groups and three geographical regions. They specified and estimated a nine-equation simultaneous model and applied both OLS and TSLS methods to obtain estimates. From TSLS technique and based on usual statistical criteria, they obtained estimates which were not encouraging for the two sets of equations. These resulted to them reporting only the OLS results. The major finding reported was that domestic savings and foreign capital made a positive and significant contribution towards economic growth but domestic savings was relatively more significant than foreign capital. When foreign capital is disaggregated into foreign aid and foreign private investment, the study easily compared the significance of both, it suggested a slight advantage of foreign aid over foreign private investment but there was a tradeoff encountered. Foreign private investment was found to have a less significant effect on domestic savings than aid, while foreign aid was found to contribute more towards growth.

Khan and Rahim (1993) carried out a similar study, estimating the foreign assistance impact on the economic growth and development in Pakistan. A Single-equation model was employed to estimate savings and economic growth functions over a period of twenty eight years, 1960 to 1988. They also disaggregated different types of foreign capital and estimation on their impact on the growth of GNP and savings rate using the OLS estimation method was carried out. Their results showed that there is a negative and insignificant impact of foreign assistance on savings. The results also argued that, the different types of capital from foreign countries affected GNP differently.

3.0 Research Methodology

The study adopted a longitudinal research design where time series data on external debt, capital formation was analyzed. Time series properties of the data was checked in terms of stationary tests, and the standard diagnostic tests of regression such normality, autocorrelation, multicollinearity and specification. The study covered the period from 1984 to 2014 which spans across thirty years. This helped to find out the long run interactions between external debt servicing, capital formation and the Kenyan GDP. The data in the study were annual and were obtained from Kenya National Bureau of Statistics. CBK statistical bulletin, National Treasury and shall cover the period 1984 – 2014 which is 30 observations and this was adequate for time series.

Theoretical Framework

The study adopts neoclassical growth theory developed by Solow. The neoclassical growth theory focuses its attention on supply side factors such as capital and technology for determining economic growth in an economy. The Solow model is specified as:

$$Y_t = F(K_t, L_t) \dots\dots\dots 3.1$$

where Y_t is gross domestic product in period t , K_t is capital in period t , and L_t is labour in period t .

In the model investment is assumed to be equal to saving:

$$I_t = S_t = sY_t \dots\dots\dots 3.2$$

Where I_t is Investment in period t , S_t is savings in period t and sY_t is savings rate in period t

Further capital evolves according to the standard equation:

$$K_t = (1 - \delta)K_{t-1} + I_t \dots\dots\dots 3.3$$

Where K_t is capital in period t , $(1 - \delta)K_{t-1}$ is capital depreciation in period t

Substituting 3.2 into 3.3 yields

$$K_t = (1 - \delta)K_{t-1} + sY_t \dots\dots\dots 3.4$$

Defining domestic saving as a sum of private saving, government saving and foreign saving (see for example Sepheri and Akram-Lodhi (2005),

$$S_t = S_t^P + S_t^G + S_t^F \dots\dots\dots 3.5$$

Where: S_t^P is domestic private savings

S_t^G is government savings

S_t^F is foreign savings

The total saving in the economy is reduced through repayment of debt by government given as follows:

$$S_t^G = E_t - DS_t \dots\dots\dots 3.6$$

Where government fiscal effort is given by E_t

DS_t is Debt service in period t

Equation 3.6 indicates that total saving in the economy is reduced through debt repayment and this will have negative effect on the economy ability to investment.

Therefore, saving can be made a function of debt service as follows:

$$S_t = sY_t = f(DS_t) \dots\dots\dots 3.7$$

Where DS_t is Debt service in period t

Substituting 3.7 into 3.4 gives:

$$K_t = (1 - \delta)K_{t-1} + f(DS_{t-1}) \dots\dots\dots 3.8$$

This implies that, as a consequence, capital formation in the economy is negatively affected by debt service. The relationship is given as:

$$K_{t+1} = f(DS_t) \dots\dots\dots 3.9$$

Or

$$K_t = f(DS_{t-1}) \dots\dots\dots 4.0$$

Where $f' < 0$

Substituting 3.8 into 3.1 yield the following production function

$$Y_t = F[f(DS_{t-1}), L_t] \dots\dots\dots 4.1$$

Model Specification

Using equation 3.8, the following equation is specified:

$$K_t = \beta_0 + \beta_1 DS_{t-1} + \varepsilon_t \dots\dots\dots 4.2$$

In the analysis equation 4.2 was estimated and its predicted value used in the production function. Therefore production function in 4.1 was specified as follows, taking into consideration equation 4.2

$$Y_t = \alpha_0 + \alpha_1 \hat{K}_t + \alpha_2 L_t + v_t \dots\dots\dots 4.3$$

Where \hat{K}_t is predicted value of capital from equation 4.2

4.0 Research Results and Discussion

4.1 Descriptive Statistics

Table 1 presents summary statistics of the variables used in the study.

Table 1: Descriptive statistics

Variables	Mean	Maximum	Minimum	Std. Dev.	Number of observations
Labour force (million)	11.30	17.50	7.00	3.05	35
Gross domestic product (US\$ billions)	26.80	49.40	14.60	9.56	35
Gross fixed capital (US\$ billions)	3.91	11.10	1.60	2.69	35
Debt service on external debt (US\$ billions)	3.59	9.20	0.39	3.25	35

Source: Own computation

The four variables were annual values for the period between 1980 and 2014, giving a sample size of 35 years. The statistics shown are the mean, standard deviation, minimum and maximum. As shown in Table 1, the mean value of gross domestic product was US\$ 26.80 billion during this period. The mean values of gross fixed capital, debt service and labour were US\$ 3.91 billion, US\$ 3.59 billion and 11.3 million people, respectively. The results show that the mean gross fixed capital formation was slightly higher than external debt service repayment. However the external debt service repayment exhibited higher variability than gross fixed capital as shown by the standard deviation of US\$ 3.25 billion as compared to US\$ 2.69 billion. Additionally, gross domestic product was shown to have higher spread as compared to both gross fixed capital and external debt repayment since its standard deviation UD\$ 9.56 billion

4.2 Diagnostic Tests

In the analysis, the four variables were transformed into natural logarithms. Diagnostic tests were carried out using these transformed variables. The tests that were carried out were unit root, autocorrelation, normality and multicollinearity.

4.2.1 Stationarity test

Time series data when they are non stationary and are used in regression may give spurious results because estimates obtained from such data may possess non constant mean and variance. This study used time series data and it was important to establish the stationarity of the variables. In this regard, the test of unit root was carried out based on objective one and objective two. The results of unit root test for objective one are shown in Table 2.

Table 2: Unit root test for fixed capital formation and debt service

Variable	Test at level	Alpha	Statistic	Test critical values	Decision
External service debt	Intercept	1%	0.583465	0.739	Stationary
	Trend and intercept	1%	0.201763	0.216	Stationary
Fixed capital	Intercept	1%	0.583465	0.739	Stationary
	Trend and intercept	1%	0.201763	0.216	Stationary

Source: Own computation

The results in Table 2 show that the variables are stationary at level at one percent. Fixed capital formation was then regressed on lagged external debt servicing as indicated in the methodology. The predicted values of capital formation were then generated and used in the unit root test for objective two. The unit root test results for all the variables used in the second objective are shown in Table 3.

Table 3: Unit root test for gross domestic product, labour and predicted capital formation.

Variable	Test at level	Alpha	Statistic	Test critical values	Decision
Gross domestic product	Intercept	1%	0.694479	0.739	Stationary
		5%	0.694479	0.463	Not stationary
	Trend and intercept	1%	0.128662	0.216	Stationary
		5%	0.128662	0.146	Stationary
Labour	Intercept	1%	0.70	0.74	Stationary
		5%	0.70	0.463	Not stationary
	Trend and intercept	1%	0.082393	0.22	Stationary
		5%	0.082393	0.16	Stationary
Fitted Fixed capital	Intercept	1%	0.651955	0.739	Stationary
		5%	0.651955	0.463	Not stationary
	Trend and intercept	1%	0.113848	0.216	Stationary
		5%	0.113848	0.246	Stationary

Source: Own computation

The results in Table 3 show that the variables are stationary at level at one percent but not stationary at five percent. However unit root test at trend and intercept confirms that gross domestic product, labour and fitted capital formation are stationary at five percent.

4.2.2 Multicollinearity

For objective 1 there was only one explanatory variable and therefore multicollinearity test was not conducted. However in the second objective, two explanatory variables were used and correlation analysis was carried out to assess the problem of multicollinearity.

Table 4: Correlation matrix

Variable	Labour	Predicted capital
Labour	1.000000	0.974332
Predicted capital	0.974332	1.000000

Source: own computation

Table 4 presents correlation matrix results of multicollinearity test which shows the relationships between explanatory variables of the second objective {labour and predicted capital}. The presence of multicollinearity makes the standard errors of the affected coefficient to be large and also affects calculations regarding the individual predictors. When the correlation coefficient between the explanatory variables is less than 0.5, multicollinearity problem is said to be tolerable.

In the sampled period, correlation coefficients between the independent variables for objective two were on the higher side. A correlation matrix for this study showed that the pair wise correlations are 0.97 as shown in the correlation matrix. This was ignored as it is not a matter to affect the objective of the study significantly.

Autocorrelation and heteroskedasticity were found in this study however, newey-west HAC was applied to correct this error.

4.3 Regression Results

To address objective one which is to determine the effect of external debt servicing on capital formation in Kenya, Gross domestic product was regressed on labour and the predicted capital formation obtained from regression of capital formation on lagged external debt service. The regression results for objective one are shown in Table 5.

Table 5: Regression results of fixed capital formation on external debt servicing

Dependent variable is log of fixed capital formation

Variable	Coefficient	Newey-West HAC standard error	t-statistic	Probability
Log of lagged external servicing debt	-0.475970	0.050810	-9.367627	0.0000
Intercept	32.13723	1.130101	28.43748	0.0000
Adjusted R-squared = 0.87, F-statistic = 223.81, Prob(F-statistic) = 0.0000, n = 34				

Source: Own computation

In Table 5 the coefficient of lagged external servicing is -4.47597 and this coefficient is statistically significant at one percent level. The value of the coefficient of log of lagged external debt repayment means that one percent increase in external debt repayment results in the decline in fixed capital formation of 0.476 percent. This is because the coefficient is elasticity. The log of lagged external debt explains 87 percent of the total variation in fixed capital formation. The overall regression is good since the F-statistic is statistically significant at one percent. These results show that external debt repayment has negative effect on fixed capital formation in the country.

To address objective two which is establishing the effect of external debt servicing on economic growth in Kenya, regression was done for gross domestic product on labour and predicted capital. Regression results are shown in table 5.

Table 6: Regression results of gross domestic product on labour and predicted capital

Dependent variable is log of gross domestic product

Variable	Coefficient	Newey-West HAC standard error	t-statistic	Probability
Log of Labour	1.631325	0.158812	10.27203	10.27203
Log of predicted capital	-0.180739	0.082863	-2.181164	0.0369
Intercept	1.474877	0.901978	1.635159	0.1121
Adjusted R-squared = 0.98, F-statistic = 1052.01, Prob(F-statistic) = 0.0000, n = 34				

Source: Own computation

In Table 6 the coefficient of lagged labour is 1.631 and this coefficient is statistically significant at one percent level. The value of the coefficient of log of labour force means that one percent increase in external debt repayment results in the increase in gross domestic product of 1.63 percent. This is because the coefficient is elasticity. The log labour force and adjusted capital formation explains 87 percent of the total variation in gross domestic product.

The value of the coefficient of log of predicted capital means that one percent increase in predicted capital leads to a decline of 0.18 percent in gross domestic product. This decline shows the impact of change in debt servicing of a nation which influence gross domestic product indirectly. Increase in debt servicing will lead to a decline of gross domestic product through decreased capital formation.

The overall regression of the second objective is reliable with the F-statistic being statistically significant at one percent. These results show that debt servicing, indirectly through its negative effect on capital formation has negative effect on gross domestic product in the country while labour force has a positive effect on gross domestic product in Kenya.

The findings of this study are consistent with several other studies in the literature review explained as below; In a study done by Were (2001) to explain the Kenyan external debt and its implications on economic growth arrived to the empirical results showing that external debt has a negative impact on economic growth and private investment. In this study the effect of debt service on gross domestic product is negative.

The results of this study shows a significant negative impact of debt servicing to GDP; Chowdhury (1994) tested the significance and the effect of foreign borrowing on economic growth on pacific and Asian countries over the period 1970-88. The results showed a very small effect of external debt on gross domestic product and both have opposite signs. From the results, an increase in GNP led to increased levels of capital obtained through external borrowing; however, the overall external borrowing does not cause any harm or negative effect on economic growth.

A study by Hansen and Tarp (2001) on the analysis of the relationship between foreign aid and growth in real gross domestic product per capita. Their results are contrary to the results of this study. From their results, the conclusion was that increase in foreign aid by all means will cause increased gross domestic product growth rate. The increase would happen regardless of the government policies adopted in the country, whether bad or good. Burnside and Dollar (2000) had suggested that foreign aid has a positive relationship with economic growth but this is associated with 'good' policy. They also found out that decreasing or increasing returns to foreign aid and the estimated effectiveness of foreign aid were highly responsive to the choice of estimator and the selected set of control variables. Their study has a different approach were the negative effect of debt servicing on capital formation is transferred to gross domestic product.

This study yields similar results to the study done by Presbitero (2010), analyzing the effect of public debt on output growth, a panel of low- and middle-income countries over the period 1990-2007 was used. The results showed that public debt will lead to a negative effect on growth of output up to a threshold of about 90 percent of GDP, beyond which its impact becomes immaterial.

The explanation of this non-linear effect is associated with country-specific factors since debt overhang leads to slow economic growth posing a constraint to smooth economic development and it is found only in countries with sound macroeconomic policies and unwavering institutions.

This study's approach is the opposite of the study done by Agu (2012) where he examined debt servicing, capital inflow and economic growth in Nigeria over 35 years from 1975-2009. The results showed that the impact of external debt repayment on economic growth is negative while capital stock and labour positively impact on economic growth. Also exchange rate and economic growth positively influence external debt servicing with external debt stock having a negative relationship. The last result was capital inflow was negatively and positively affected by external debt service and economic growth respectively. In this study, debt service is found to affect capital formation negatively and the effect is channeled to affect the gross domestic product negatively.

Comparing my results to the results for a study done in Ethiopia by Mishra (2014) examining the connection between public debt, capital formation and economic growth, with the purpose to identify the existence cause and effect relationship between external debt, capital formation and economic growth in Ethiopia. The results were that Ethiopia was under serious external debt problem until 1990's. The results of this study shows that external debt can also be a serious problem in Kenya due to the negative effect of its repayment which eats on capital stock and the result is deteriorating gross domestic product .

A researcher by the name Muinga in 2014 examined the association between external public indebtedness and economic growth in Kenya in the period 1970 to 2010. Using Econometric technique of ordinary Least Square obtained consistent results with the results of this study that external debt and interest payments on external debt payments contribute negatively to economic growth in Kenya and that Capital formation and labour force have significant positive contribution to economic growth . This view is in line with the results of a developing empirical literature which shows that there is a negative connection between public borrowing and growth of the economy, and finds that this relationship becomes more strapping when public debt approaches 100% of GDP (Reinhart and Rogoff 2010a, 2010b; Kumar and Woo 2010; Cecchetti 2011). Using a different approach of analyzing the channel through which the effect of debt servicing affects economic growth through a negative effect on capital formation, this study shows similar results.

This study gave similar results to a study carried out by Maana, Owino, and Mutai (2008) on examining the effect of domestic borrowing on gross domestic product in Kenya for the period between 1996–2007. They applied generalised methods of moments regression model. Their results showed that, lagged gross domestic product, ratio of government expenditure to GDP, broad money supply, secondary school enrolment, private sector credit, ratio of debt to GDP and trade have significant effect on the level of economic growth. Their results indicated that, increasing domestic debt will result to increased interest rate payments without crowding out private investments due to the favourable level of financial development. This study's results discourage increasing external debt which will lead to high external debt servicing.

This study is done using Kenyan data to examine external debt servicing, capital formation and gross domestic product of the country. The results and are similar to the results of a study carried out by Yadi (2008) in Nigeria on the effect of external debt alongside its repayment, the researcher employed OLS and GLS techniques to carry out their estimation.

The results led to the conclusion that the external borrowing and debt repayment have a negative effect on gross domestic product. In this study the results confirm that the effect of external debt on economic growth is not direct but through its effect on domestic savings and capital formation. The channels through which the effect of debt is transmitted to economic growth have not been examined in any of the earlier studies; this study has filled this gap by investigating the effect of

external debt repayment and capital formation on gross domestic product. The results have shown a significant negative effect of debt servicing on gross domestic product in Kenya.

5.0 Conclusion

The study examined the effect of external debt servicing on gross domestic product in Kenya over the period 1980-2014. The results got from the regression analysis showed that external public debt servicing has a negative effect on gross domestic product hence providing a provision that an expansion in external debt creates a strain on economic growth. Expanded external borrowing amounts to increased debt servicing which leads to more resources of the nation being utilized to service external loans.

Before embarking on external debts policy makers should consider the loan repayment amount, interests plus principal, the period of loan repayment and the viability of the projects to utilize the borrowed funds. Policy makers should focus more on projects that flow in capital and increase human productivity to improve economic growth for the economy. Borrowed funds should therefore be applied to selective projects and strict terms, conditions and strategies implemented to ensure that there are no misuse of such funds.

The coefficients of external public debt servicing variables are negative and quite significant. This means any increase in external debt stocks would worsen economic growth in Kenya. Therefore, there is a call for the government to follow economic policies that are geared towards dropping the external debt stock in order to reduce this effect on gross domestic product of the country.

The results of this study stress the fact that, Kenya should strive to ensure that external debt is maintained as low as possible. The current policies should be revised to review the benefits realized from external borrowing, compared with the harm external debt is causing the nation. New policies to control external borrowing should be implemented to safe the economic growth of Kenya. The plan on debt servicing should be provided before going for external debts, it should be scrutinized to confirm viability capturing on how beneficial the debt will be to the Kenyan economy. External debts should strictly be geared towards improving the economy of Kenya.

6.0 Recommendation

From the research where debt servicing was deemed important in economic growth, appropriate planning and adoptions of strategies that would enhance economic stability are recommended. It is important for the policy makers in Kenya to be cautious on the implementation of projects that raise the public debt. It is evidential that such costs leads to borrowing from outside sources that may drive the country towards high debt ratio regime associated with lower economic growth. To reduce such attempts, the government need to pursue policies geared towards reducing the debt stock to minimize the strains placed by debts on economic growth. There should be controlled measures on debt management profiles especially in the government expenditure by carrying out evaluation of funded projects to gauge the use of funds in such areas.

Borrowed funds should be injected into productive projects and programmes to ensure sustainable development. Intuitively, there is a need for the Kenya's laws to enact measures to guide sourcing, management and government borrowing. Consequently, borrowed funds should be tied to productive ventures rather than channeling them to social consumption. To avoid loan build up, the government needs to diversify the economy to help generate revenues. Conversely, the government should put a measure that increases capital formation because it is one of the major

determinants of economic growth. Such decisions will help increase investment which will result to economic growth.

From the strategy prospective it is also suggested that increase in domestic saving and export earnings could also lead to a higher estimated growth rate of GDP and reduce the economy's dependence on external borrowing. It is very essential to increase domestic currency by creating favorable environment for investment and much focus of the strategies and policies should be on the inflow of Foreign Direct Investment (FDI), while the external borrowing should be discouraged.

The government needs to diversify the economy so as to produce more revenue and shun loans build-up. Since capital is a key determinant of economic growth, it is important for the government to put measures to increase capital formation. This would lead to increased investments hence growth of the economy. Policies of the government should also be channeled towards reducing the rate of external borrowing by sourcing alternative means of financing its project because of its negative impact on gross domestic product of the Kenyan economy and the inflow of capital. Policies of the government should ensure depletion of any existing external debt stock to ensure that the economy does not face problems of debt overhang.

7.0 References

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