

Domestic Debt and Economic Growth in Tanzania - An Empirical Analysis

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Abstract

The main objective of this paper was to examine the impact of domestic debt on economic growth in Tanzania for the period 1990 to 2015 using Ordinary Least Square (OLS) regression method to estimate the effects. The study finds that there is an inverse but insignificant relationship between domestic debt and the economic growth of Tanzania as measured by GDP annual growth. The inverse relationship between domestic debt and GDP may be caused by different factors such as; increased trend in domestic borrowing, government lenders' profile dominated by commercial banks and non-bank financial institutions which promotes the "crowding out" effect; the nature of the instruments used by the government ; the improper use of the domestic borrowed funds which may include funding budgetary deficits, paying up principal and matured obligations on debt, developing financial markets as well as fund other government operations.

Other control variables relate with the GDP as predicted. For example, Inflation (INF) has a negative effect on the GDP growth rate, but the relationship is not statistically significant, while gross capital formation (GCF) has a positive statistically significant effect on GDP growth rate. Furthermore, foreign direct investment (FDI) showed a positive effect on the GDP growth rate and export (X) has a positive effect on GDP growth rate, and the relationship is statistically significant explaining that if a country applied an export-led growth economic strategy it enjoys the gains of participating in the world market. This means that an increase in export stimulates demand for goods which leads to increase in output, and as a country's output increases, the economic performance also takes a similar trend. Finally, government expenditure (GE) had a negative effect on the GDP growth rate which may be explained by the increased government expenditures which are funded by either tax or borrowing.

Therefore, what is required for countries like Tanzania is to have better debt management strategies as well as prudential financial management while maintaining to remain within the internationally acceptable debt level of 45% of GDP and maintain a GDP growth rate of not less than 5%. It is important for the country to realize from where to borrow from, the tenure, the risks involved and limitations to borrowing and thus set the right balance of combination of both kinds of debt. Another requirement is to properly utilize the borrowed funds. The central government's objective should be to use the funds in more development-oriented projects that bring positive returns to the economic development. The government should not only create a right environment and policies for investment to attract investment from domestic and foreign sources but also be cautious about the kind of investments that the foreign investors make.

Keywords: Domestic debt, Economic growth, GDP

1. Introduction

The Governments of developing countries use public debt as a major tool to finance their expenditures. Economic theories tell us that proper and efficient utilization of resources is the most reliable way to fuel the economic growth. However, poor utilization of the public debt would restrict economic growth and create the biggest curse for the economy. There is a lot of debate on foreign debt issue, but domestic debt has not occupied the central stage in research and economic planning. External debt has therefore, historically received the attention it deserves. Until the late 1990s, developing countries did not address the risks and challenges of internal debt. In Tanzania the total domestic public debt stock as of end of December 2014, stood at Tshs 8,721bn (USD 5,028.7mn), of which Central Government Securities outstanding amounted Tshs 7,432.9bn (USD 4,285.6mn) and other liabilities amounted to Tshs 1,288.9bn (USD 743.1mn) (MoFEA, 2014). By looking at the holders of these government securities,

commercial banks and non-bank financial institutions continued to be leading creditor 52.7% of total government securities, followed by institutional investors holding 23.3%, BOT holding 22.7% and lastly individuals holding the least at 1.5%.

On year to year basis, domestic debt increased by 19.7% compared to the corresponding year before. This climbing trend was due to higher issuance of treasury bills, medium and long-term treasury bonds needed to fund budgetary deficits, to pay up principal and matured obligations, to develop financial markets as well as funding other government operations (MoFEA, 2014).

The stock of financing domestic debt was TZS 10,976.8 billion at the end of March 2017, an increase of TZS 327.8 billion from the end of the preceding month. On year-to-year basis, the debt stock increased by TZS 1,538.9 billion from March 2016 (MoFEA, 2017).

The profile of domestic debt in terms of borrowing instruments shows that the proportion of long-term debt increased in March 2017 from the preceding month consistent with the requirement of medium term debt strategy. Notably, the average time to maturity of outstanding domestic debt improved, albeit marginally to 3.7 years in March 2017 from 3.6 years in February 2017. However, the situation was different on annual basis, as the average time to maturity decreased from 4.0 years in March 2016.

According to MoFEA (2017) the profile of debt in terms of holders indicates that banks remained leading investors in domestic debt by accounting for 41.7 percent of total domestic debt at the end of March 2017, albeit declining from 49.7 percent in March 2016. As a result, the shares of other holders of domestic debt increased. This was particularly evident for pension funds and insurance companies. Thus, the investor base of government domestic debt is fairly becoming diversified.

Domestic debt issued for budget financing in March 2017 amounted to TZS 938.0 billion, of which Treasury bills and bonds amounted to TZS 5,553.4 billion and TZS 384.6 billion, respectively. On annual basis, debt issued was TZS 6,228.2 billion, of which TZS 4,312.1 billion was Treasury bills and TZS 1,916.1 Treasury bonds. Domestic debt that fell due for payment during the month was TZS 728.0 billion, including TZS 611.1 billion that was rolled over and the balance was paid out of government resources. Domestic debt that fell due for payment during the year ending March 2017 was TZS 5,345.5 billion, of which TZS 4,225.8 was rolled over and the balance was paid out of the government resources.

There are several reasons for public domestic debt; first, it is used to finance budget deficit; second, it is used to implement monetary policy through open market operations and third, there is need to develop and deepen the financial markets by the instruments of domestic debt. Domestic debt can have severe implications for the economy as well. Domestic debt servicing absorbs a major part of government revenues. So, government has fewer resources to spend on development projects. In this way, internal debt servicing is more harmful for the economic growth than the stock of internal debt.

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. There is an inadequate literature on the effects of domestic debt on the economy of Tanzania. In addition, the available studies on public debt and economic growth have typically focused on external debt. This study aims at filling this gap by using the data from the period 1990 to 2015 to investigate the impact of domestic debt on economic growth in Tanzania. The rest of the paper is arranged as follows: while in section 2 literature is reviewed, methodology of the paper is presented in section 3. Section 4 discusses the results of the paper, and the paper concludes in section 5.

2. Literature Review

2.1 Theoretical Consideration

In concerns of ever rising government debt, Ricardo (1820s) addressed the issue of public debt from the perspective of the growth rate of the English capital stock and the future prosperities. In summation, Ricardo was concerned that growing debts do not contract the future. His argument was therefore against financing government expenditure by means of loan where he shows the effect of public debt in economic growth context of unproductive nature of public expenditure and possibly extravagant use of findings, decrease in private investments a rising from wealth illusion at the time debt is contracted and the incentive to export capital to escape tremendous taxes arising from requirements to service the debt and recommended its redemption in order to reverse capital flight. And as capital growth is an important part of economic growth in classical growth models, Ricardo asserted that public borrowing may harm capital by misleading the population as to the extent of government squander and to the degree of their personal wealth safety. Thus, recommended debt redemption at present and tax financing of

prudent government expenditure in the future times would be a good formula to prosper England's economic growth and growth of any other country for that matter (Churchman, 1997; Bittante, 2013).

For developing countries however, the best explanation for why large levels of accumulated debt lead to lower economic growth comes from 'debt overhang' theory. The debt overhang theory explains that if there is some likelihood in the future that debt will be greater than a country's ability to repay, then expected debt service costs will discourage further domestic and foreign investment and thus harm growth (Elbadawi et al., 1997; Pattillo, 2002). This is because, a country with debt overhang, external debt captures many effects of other explanatory variables that traditionally explain investment (Deshpande, 1997) and just like in the initial explanation given above, potential investors will fear that the more of a country produces, the more it will be 'taxed' by creditors to service the external debt and thus they will be less willing to incur costs today for the sake of increased output in the future. The argument is supported by the Laffer curve which shows that large debts are associated with low probabilities of loan repayments, and although debt-overhang models do not explicitly explain the effect of debt on growth, large debt stock lowers growth partly by reducing investment. Also, debt overhang limits the benefits that could be derived from policy reforms intended to enhance efficiency and growth, such as those of trade liberalization and fiscal adjustments (Pattillo, 2002)

2.2 Empirical Literature

Empirical studies which have investigated the impact of debt on economic growth of a county differ one from the other. Some are in support of Ricardian's theory while others show that there is no statistically significant relationship between debt and growth like the results from a study conducted by Hassan and Akhter (2012) on Bangladesh over 1980 to 2011, while others suggesting a positive relationship between debt and growth but only over the long run if maturity term of debt is long (Afonso & Jalles, 2011). Differently, some empirical studies investigating the relationship between debt and growth concluded an inverse relationship between debt and growth such as the studies of Kumar and Woo (2010) which involved 38 advanced countries. Nautet and Van Meensel (2011) focusing on the euro zone also gave a negative but did not suggest which part of debt influenced the negative growth the most. It is therefore important to note that debt has effect on a country's growth and although there is a variation of results of the impact, the variations may be caused by econometric reasons, time period, composition of debt and country among others (Kim & Mueser, 2013; Pollin et al., 2013).

While studies on the effect of external debt on growth are numerous, those focusing on effect of domestic debt which is also a component of public debt are limited. Lojsh et al. (2011) in the same context emphasize that there is a need now more than ever to put surveillance over growing government debts ratios that need to be established and controlled to prevent country crisis. Also that beyond the size of government debt, the composition of the debt is also a fundamental aspect instigating financial vulnerabilities. Sjaastad (1983) and Sheikh et al. (2010) on the same note agrees with the importance of considering the proportions of the composition of debt where according to observations made by Sjaastad (1983), there is a bigger problem if a larger proportion of the public debt is foreign because most of the country's export earnings and an important part of their foreign assets are owned by private sector. On the other hand, Sheikh et al. (2010) alerts that domestic debts may have severe implications as well because they absorb a good part of government revenues and thus a government may have fewer resources to spend on development projects. Furthermore, in underdeveloped financial markets, as domestic debt increases, the interest cost also rises due to holding a large amount of debt in short term instruments.

The analysis done by Malik and Atique (2012) in Pakistan between the period 1980 to 2010 and that on Uzochukwu (2005) on Nigeria investigating the impact of domestic and external debt on economic growth of those respective countries revealed that there is a statistically significant and inverse relationship for both domestic and external debt on growth. Although both proved to significantly affect growth, external debt amounted to slowing down growth more in comparison to domestic debt. The reason behind was due to having to service the debt in foreign currency (i.e. currency mismatch risk) in turn making local currency weak in comparison to that of foreign creditors, along with low or stagnant growth in exports which means that more resources are put into servicing debt and less are put in to importing capital and technology and making investments necessary for growth (Iqbal and Kanbur, 2013).

While Mutai et al. (2008) in their study on how domestic public debt affects economic growth of Kenya for the period 1996 to 2009 find that although not statistically significant domestic debt expansion had positive effect on growth, Motubi and Putunoi (2012) who conducted a similar study for the period 2000 to 2010 concluded a positive and statistically significant effect of domestic borrowing on growth. This positive effect brought by extension of maturity profile of debt and in fact not crowding out private lending in Kenya but rather promoting economic efficiency and financial depth.

Likewise, in a study of similar nature conducted by Sheik et al. (2010) to investigate the effect of stock of domestic debt on economic growth of Pakistan for period 1972-2009, results lead to a conclusion that domestic debt would affect growth positively in a country. In line with this, the findings of Abula and Adofu (2009) indicate that domestic debt would have a negative effect in the economic growth of a country. Their study which was based on the effect of domestic debt in Nigeria's economy concluded that the negative effect was caused by several reasons such as low output in country, increased government expenditure in unproductive projects, high inflation and continued budgetary deficits while the level of domestic debt continued to rise.

On top of that, Muhdi and Sasaki (2009) in their study found that increased domestic debt would discourage private investments due to the reduced supply of funds in domestic market which would in turn reduce private investment. In other words, trends of increased levels of domestic debt may lead to a crowding out effect and once private investment is affected, also does economic growth of a country.

3. Methodology

3.1 Data

The study uses secondary data whereby a set of time-series data on domestic debt, from the year 1990 to 2015, were compiled. Data on domestic debt were obtained from the compilation of data from the Debt Management Department of the Bank of Tanzania. Whilst Likewise, data on foreign direct investment, government expenditure, inflation, gross capital formation and exports were obtained from the World Bank databank.

3.2 The Model

To investigate the relationship between GDP growth of Tanzania and domestic debt, an econometric model is adopted but modified from those used by Malik and Atique (2012) as follows;

$$\text{GDP} = f(\text{ED}, \text{FDI}, \text{INF}, \text{GCF}, \text{X}, \text{GE}) \quad (\text{i})$$

The econometric equation specified in their linear form is given as bellow:

$$\text{GDP} = \beta_0 + \beta_1\text{DD} + \beta_2\text{FDI} + \beta_3\text{INF} + \beta_4\text{GCF} + \beta_5\text{X} + \beta_6\text{GE} \quad (\text{ii})$$

Where

GDP= Gross domestic product (annual growth)

DD = Domestic debt to GDP

FDI = Foreign direct investment

INF = Inflation

GCF= Gross capital formation (annual growth)

X = Exports

GE = Government expenditure

Table 3.1 Variables Description

Variable	Definition	Used previously by
Real GDP per capita growth	The annual percentage growth rate of GDP per capita as an indicator of economic growth	Sheikh et al. (2012), Kasidi and Said (2013) and Babu et al. (2014)
Domestic debt to GDP	Domestic debt over Real GDP	Sheikh et al. (2012) and Bua et al. (2014)
Foreign direct investment	A ratio of GDP measuring complementary external resource inflow	Frimpong and Oteng-Abaye (2006) and Babu et al. (2014)
Gross capital formation (annual growth)	Proxy for domestic investment	Babu et al. (2014)
Export rate	Proxy for an open economy, participation in international economy	Frimpong and Oteng (2006): Azam et al. (2013).
Inflation	Measured as a GDP deflator	Azam et al. (2013)
Government expenditure	General government expenditure as a share of GDP	Babu et al. (2014)

3.3 Descriptive Statistics of Variables

Table 3.2 provides a presentation of descriptive statistics of the dependent variable GDP annual growth and the explanatory variable domestic debt (DD) along with the control variables. The results show that the average annual growth rate of Tanzania as measured by GDP growth rate is at 5.1%, while minimum rate is 5.8% and highest annual growth rate was at 7.9% for the period under consideration. From the table the mean of domestic debt as a percentage of GDP is at 12% while the least level of domestic debt was recorded at 5.7%

It is further reported that the minimum and maximum levels of inflation for the country for the period of 1990 to 2015 were 5% and 39% respectively, while the mean is 16%. The highest and lowest levels of inflows of FDI recorded 6.6% and 0.0002%, while the mean is 2.9% Gross capital formation representing the level of domestic investment, had a mean of 6.7% and, minimum and maximum levels of -14.8% and 21.7%.

Exports of goods and services of the country for the period are averaged at 17.6% while its minimum and maximum levels recorded at 10.2% and 24% respectively. And lastly, Tanzania's government expenditure for the period under study recorded a mean of 15.1% and minimum and maximum levels of 8.2% and 19.6% respectively.

Table 3.2 Descriptive Statistics

Variable	Mean (%)	Std.dev (%)	Min (%)	Max (%)
GDP	5.183917	2.190006	5.843222	7.918823
DD	12.12385	7.03626	5.75265	30.34903
ED	70.50428	47.81694	19.07605	161.9206
INFL	16.06857	9.926765	5.283344	39.25499
GCF	6.736068	9.207228	-14.89079	21.71592
FDI	2.984867	1.866463	.0002018	6.615232
X	17.61077	3.638909	10.26206	24.07472
GE	15.18364	3.09686	8.284477	19.63795

4. Empirical Analysis

Ordinary Least Square (OLS) regression technique was applied to establish the relationship and statistical significance between the dependent variable and the independent variables. But prior to any analysis of the results, it is important to satisfy that the assumptions that need to hold in order to make a good regression model are met to avoid misleading results and conclusions. Some of these key assumptions need to hold for an OLS not to be misleading include homogeneity of variance of the residuals and normal distribution of residuals. Another assumption is that of linearity, that the independent variables are linearly related to the dependent variable and that the model is properly specified. That is to say, the model has all the relevant variables included and it has not omitted relevant variables. To check these assumptions a series of diagnostic tests is presented before the presentation of OLS regression results.

4.1 Regression Diagnostics Tests

4.1.1 Stationarity of Data

A unit root test was applied to check if or not the data taken is stationary, this is because if the variables under the study are non-stationary, they may lead to biased and inefficient results. The possibility of non-stationarity would have been attributed to changes in economic policies or changes in the structure of the economy. For that reason, the Dickey-Fuller test was run on each variable to determine if they are stationary or non-stationary. The null hypothesis is that the series has unit root test. The criterion in making the decision is that if P-value is significant, null hypothesis is rejected therefore the series is stationary. While if P-value is not statistically significant, the null hypothesis is not rejected thus unit root exist.

At level: Each variable was checked for unit root, and at level, only two variables GCF and FDI were found to be stationary while the remaining were found to be non-stationary as seen in Table 4.1. For the variables to be made stationary, they are checked at first difference.

At first difference: at first difference, all variables were found to be stationary when they were tested for unit root because the p-values results for all variables are statistically significant as presented in Table 4.2 Therefore, variables are stationary at first difference. This is acceptable as the variables are integrated in the order at of the first difference I (1).

Table 4.1 Dickey-Fuller Test Results at Level

Variable	P-value for z (t)
GDP	0.3931
DD	0.3231
ED	0.8051
FDI	0.0391
CGF	0.0423
INF	0.0841
X	0.2373
GE	0.4345

Table 4.2 Dickey-Fuller Test Results at First Difference

Variable	P-value for z (t)
GDP	0.0000
DD	0.0000
ED	0.0125
FDI	0.0000
CGF	0.0000
INF	0.0000
X	0.0269
GE	0.0002

4.1.2 Model Specification

The purpose of doing a model specification test is to ensure that all appropriate variables are included in the model and irrelevant variables are excluded. not being included. This is because if the model is not properly specified, it would inflate the error terms because relevant variables are omitted while remaining variables are wrongly included which would significantly affect the results.

For a properly specified model, the value of variable of prediction (**_hat**) is expected to be statistically significant while the value of squared prediction variable (**_hatsq**) is expected to be statistically insignificant. The test results are given in Table 4.3 for specification of domestic debt model. On the model, (**_hat**) is statistically significant implying that there is no model specification problem and (**_hatsq**) is not statistically significant implying that the squared prediction does not have an explanatory power. Therefore, it is concluded that the model is properly specified.

Table 4.3 Link Test Results for Domestic Debt Model Specification

	Domestic debt
_hat	0.006
_hatsq	0.426

4.1.3 Homoscedasticity of Residuals

Heteroskedasticity was checked on the regressed model to check for the variance of the residuals using Breush-Pagan test. The null hypothesis is that there is a constant variance in the residuals. The results as presented in table 4.4 have a p-value which is not statistically significant therefore concluding that the residuals are homoskedastic.

Table 4.4 Heteroskedasticity Test Results on the model

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity		
Variables used in models of	chi ² (1)	Prob > chi ²
Domestic debt	1.51	0.2198

4.1.4 Normality of Residuals

Shapiro-Wilk test for normality is applied to check whether the residuals are normally distributed. The null hypothesis is that distribution of residuals is normal. The results of the test show a statistically insignificant p-value, therefore failing to reject the null hypothesis and conclude that residuals are normally distributed. Table 4.5 below provides the normality test results.

Table 4.5 Normality Test Results on the model

Shapiro-Wilk W test for normal data					
Residuals in models of	Obs.	W	V	Z	Prob>z
Domestic debt	23	0.97683	0.606	-1.019	0.84582

4.1.5 Multicollinearity

The possibility of multicollinearity is also checked although it would not usually affect the assumptions of OLS, but the residuals would be biased. To check for multicollinearity, the Variance Inflation Factor (VIF) was used to determine whether each of the explanatory variables has a strong linear relationship with the other. The rule for decision making is that mean VIF is no greater than 5.0 and variable VIF are not greater than 10.0. Test results as reported in Table 4.6 reveal that there is no serious multicollinearity in the independent variables as used in each of the models.

Table 4.6 Test Results on Multicollinearity on the model

Variable	VIF	1/VIF
DD	3.02	0.312370
FDI	2.21	0.380656
GCF	2.18	0.507748
INF	1.95	0.556944
X	1.37	0.814812
GE	1.24	0.849339
Mean VIF	1.99	

4.1.6 Robust Standard Error Regression

After going through the series of diagnostic tests, it was revealed that there exist observations with large residuals in the given data set. To deal with the problem of existence of problems, Verardi and Croux (2009) as well as Hamilton (1991) recommend the use of robust regression. Because a shortcoming of using OLS method is that it gives great significance to observations with large residuals and henceforth distort parameter estimations.

4.2 Empirical Results

This paper aimed to find out the quantitative effect of domestic debt on the economic growth of Tanzania. The estimation function for the quantitative investigation composed of six variables. GDP annual growth as the dependent variable used to reflect economic growth, while Domestic debt used as an explanatory variable. The model also was loaded with the control variables such as inflation, gross capital formation, foreign direct investment, and export and government expenditure.

Generally, the independent variables DD, INF, GCF, FDI, X and GE statistically significantly predict GDP annual growth rate, $F(6,16) = 17.49$, $P < 0.05$ implying that the regression model is a good fit and the independent variables account for 83.40% of the explained variability in GDP growth rate. The estimated equation to predict GDP annual growth rate for Domestic debt model is given as:

$$\text{Predicted GDP} = 2.575401 - 0.1236598\text{DD} - 0.0375252\text{INF} - 0.0759553\text{GCF} + 0.2961404\text{X} - 0.0976883\text{GE}$$

The results of Robust Standard Error Regression reveal that there is an inverse relationship between domestic debt and GDP growth rate of Tanzania, although the relationship is not statistically significant at 5% significance level. According to the results, as given in Table 4.7, for every 1% increase in the country's domestic debt, the rate of economic growth as measured by GDP growth rate would decrease by 0.12%, other independent variables remaining constant. Thus, it can be concluded that high levels of domestic debt have a negative impact on the

economic growth of Tanzania. Similar results were also found by Babu et al. (2014), Bua et al. (2014), Malik and Atique (2011), Sheikh et al. (2010), Adofu and Abula (2010), Muhdi and Sasaki (2009) and Uzochukwu (2005) in their studies.

Table 4.7 Linear Regression Results for Domestic Debt Model

Linear regression						Number of obs = 23	
						F(6, 16) = 17.49	
						Prob > F = 0.0000	
						R-squared = 0.8340	
						Root MSE = 1.052	
gdp	Coef.	Robust Std. Err.	t	P> t 	[95% Conf. Interval]		
dd	-.1236598	.0652932	-1.89	0.076	-.2620751	.0147556	
inf	-.0375252	.050108	-0.75	0.465	-.1437495	.068699	
gcf	.0759553	.0347567	2.19	0.044	.0022744	.1496362	
fdi	.105474	.1763012	0.60	0.558	-.2682679	.4792159	
x	.2961404	.0650014	4.56	0.000	.1583435	.4339372	
ge	-.0976883	.0601733	-1.62	0.124	-.2252499	.0298734	
_cons	2.575401	1.832165	1.41	0.179	-1.308615	6.459417	

The inverse relationship between domestic debt and economic growth may be an outcome of several reasons. Increased trend in domestic borrowing can be a justification for domestic debts to emit negative effect on the economic growth of a country. Tanzania's government in the years 2000 to 2017 has increased its levels of domestic borrowings significantly. For instance, in 2008 the domestic debt was at USD 1,466.5mn and by 2014, domestic debt record was at USD4,341.6mn (BoT, 2015). These trends of increasing domestic borrowing by the government may discourage private investments due to the reduced supply of funds in the domestic market. The limitations to access capital would inhibit economic growth due to the limitation in the expansion of private investment. In other words, an increased trend of domestic borrowing may generate the crowding out effect. And once private sector investment in a country is negatively affected, economic growth will also suffer negative effects because investment is a vital component for growth.

Further, the Tanzania's government lenders profile would also explain the inverse relationship between domestic debt and economic growth. According to BOT, (2015) report Government lenders' profile is dominated by commercial banks and non-bank financial institutions as the leading lenders. As an outcome, the "crowding out" effect is further underscored as the private sector consisting of small and medium enterprises in developing countries like Tanzania depends on borrowing from the same sources. Considering the private investor is deprived from borrowing, ultimately the level of private investment is negatively affected of which is a setback for economic growth of Tanzania.

Also, for domestic debt to work effectively, it is crucial that the government has diverse investors in their profile. This is because having diverted investors would lower the rate of the debt and volatility of market yield as well as the stress that a lender's profile is biased towards commercial banks which differently reduce efficiency in the banking system and worsen the crowding out effect.

In addition to lenders profile, the nature of the instruments used would explain that inverse relationship. The build-up of securitized debt coupled with the fact that the Tanzania's government had largely avoided debt service areas unlike with domestic debt. Also, the profile of the government securities show that only about 16% of the securities mature in more than ten years but a greater portion of about 84% of the government securities mature within ten years (MoFEA, 2015). As a result, the average time to maturity for domestic debt is short at 4.7 years which puts the government in a vulnerable position to roll-over risk which would also bring about interest rate risk on the debt as interest rates are likely to rise and therefore leading to a macro-economic instability (MoFEA, 2014).

Moreover, the uses of the domestic borrowed funds as given by the quarterly national debt reports by Tanzania's MoFEA very well explain why there is an inverse relationship between domestic debt and economic growth of the country. The uses of the borrowed funds include funding budgetary deficits, to pay up principal and matured obligations on debt, to develop financial markets as well as fund other government operations (BoT, 2014). The nature of the spending not necessarily translating into economic growth.

The relationship between GDP and the control variables was also analysed. Table 4.7 shows that Inflation (INF) has a negative effect on the GDP growth rate, but the relationship is not significant. Whereby, for each 1% increase in inflation, GDP growth rate would decrease by 0.37%, other independent variable held constant. These findings are similar to those of Hodge (2005) and Khan and Senhadji (2001). Findings from their studies suggest that inflation would hinder growth rate over the long run, most specifically for developing countries whose estimated threshold of inflation is 11% above which would cause significant negative implications on growth. In Tanzania, according to the summary statistics given earlier the mean inflation rates are at 16%, higher than given thresholds for a developing country. Thus, explaining the negative coefficient.

However, Gross capital formation (GCF) has a positive effect on GDP growth rate of the country and the relationship was statistically significant. From the results, with each 1% increase in gross capital formation, GDP also increased by 0.08%, keeping other independent variables in the model constant. These findings are like those of Shuaib and Ndidi (2015), Kanu and Ozurumba (2014), and Bakare (2011). The positive relationship between capital formation and economic growth is possibly brought about by the fact that the more an economy can save and thus invest out of a given GNP, the more the GDP would grow (Shuaib and Ndidi, 2015). Capital formation would positively relate to GDP growth as it helps to exploit resources and establishment of investments and meet requirements of a growing population such that as the level of a country's population's need and wants rise, with the accumulation of gross capital formation, those needs are able to be satisfied (Bakare, 2011).

The regression results also reveal that foreign direct investment (FDI) had a positive effect on the GDP growth rate, but the effect is not statistically significant. Whereby, if other independent variables held constant, with every 1% increase in FDI, there would be an increase of 0.105474% in GDP growth rate. Brenner (2014), Hansen and Rand (2004) and, Mallampally and Savant (1999) arrive to similar findings in their studies on the relationship between FDI and economic growth. In developing countries, FDI would bring a positive impact on growth through the transfer of knowledge and adoption of new technology, human capital skills, and access to international markets as well as better firm management.

Export (X) has a positive effect on GDP growth rate, and the relationship is statistically significant. According to the results, for each 1% increase in exports, GDP growth rate would increase by 0.2961404%, other independent variables in the equation held constant. Similar results were found by Sheikh et al. (2010) whereby they explain that if a country applied an export led growth economic strategy, it puts that country in a good possibility of enjoying the gains of participating in the world market. Such that, an increase in export stimulate demand for goods which leads to increase in output, and as a country's output increases, the economic performance also takes a similar trend.

Table 4.7 also reveals that government expenditure (GE) had a negative effect on the GDP growth rate but the relationship is not statistically significant. The results show that for every 1% increase in government expenditure, the growth rate of GDP would decrease by 0.0976883%, other independent variables held constant. These findings are similar by those of Babu et al. (2014) and Jiranyakul and Brahmasrene (2007). The negative effect may be explained by the increased government expenditures which are funded by either tax or borrowing. In the government induces tax, it would discourage firms and individuals from investing more and working hard because of increasing costs and reduced profits which ultimately affect their incomes. While by borrowing, for example if the government borrows commercially from banks then it would most likely crowd out the private sector, affecting private investment and thereafter, the overall economic prospects of a country sector. However, the negative effect in some cases is brought about by the distribution of government's expenditure. If a country spends more in non-productive projects and less in development then, it will not bring economic returns and thus leading to the negative effect.

5. Conclusions and Policy Implication

The main objective of this paper was to examine the impact domestic debt on economic growth in Tanzania for the period 1990 to 2015. The study finds that there is an inverse but insignificant relationship between domestic debt and the economic growth of Tanzania as measured by GDP annual growth. This apparently implies that the funds generated through domestic borrowing have been used partially to finance those expenditures of government, which do not favourably contribute to growth rate of GDP. The fundamental principle is that domestic debt should

be spent for long-term development purposes. The inverse relationship between domestic debt and GDP may be caused by different factors such as; *firstly*, increased trend in domestic borrowing, which may discourage private investments due to the reduced supply of funds in the domestic market. In other words, an increased trend of domestic borrowing may generate the crowding out effect. And once private sector investment in a country is negatively affected, economic growth will also suffer negative effects because investment is a vital component for growth. *Secondly*, the Tanzania's government lenders' profile would also explain the inverse relationship between domestic debt and economic growth. According to BOT, (2015) report Government lenders' profile is dominated by commercial banks and non-bank financial institutions as the leading lenders. As an outcome, the "crowding out" effect is further underscored as the private sector consisting of small and medium enterprises in developing countries like Tanzania depends on borrowing from the same sources. For domestic debt to work effectively, it is crucial that the government has diverse investors in their profile. This is because having diverted investors would lower the rate of the debt and volatility of market yield as well as the stress that a lender's profile is biased towards commercial banks which differently reduce efficiency in the banking system and worsen the crowding out effect.

Thirdly, the nature of the instruments used by the Government would also explain this inverse relationship. The build-up of securitized debt coupled with the fact that the Tanzania's government had largely avoided debt service areas unlike with domestic debt. *Fourthly*, the improper use of the domestic borrowed funds may also very well explain why there is an inverse relationship between domestic debt and economic growth of the country. The improper uses of the borrowed funds may include funding budgetary deficits, paying up principal and matured obligations on debt, developing financial markets as well as fund other government operations. The nature of the spending not necessarily translating into economic growth. Therefore, what is required for countries like Tanzania is to have better debt management strategies as well as prudential financial management while maintaining to remain within the internationally acceptable debt level of 45% of GDP and maintain a GDP growth rate of not less than 5%. It is important for the country to realise from where to borrow, the tenure, the risks involved and limitations to borrowing and thus set the right balance of combination of both kinds of debt. Another requirement is to properly utilize the borrowed funds. The central government's objective should be to use the funds in more development-oriented projects that bring positive returns to the economic development. The government should create a right environment and policies for investment to attract investment from domestic and foreign sources but also being cautious about the kind of investments that the foreign investors make.

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