Domestic or Foreign Debt? A Choice of no Wrong Selection

By David Owuor, Dr. Elijah Museve, Dr. Arvinlucy Onditi & Dr. Michael Nyagol

Jaramogi Oginga Odinga University of Science and Technology

Abstract- This paper reviewed the matter of balance and trade-off between domestic debt and public debt. The study sought to underpin the general consensus on the issue of debt and how economic activities were impacted by the various forms of public debt. The paper gives an overview of different countries experience with regards to debt sourcing. Various authors express various views with regards to this question that do not necessarily bring about points of convergence in ideologies. The general point of agreement of specialists who have looked into this subject matter is established at the use of the debt acquired. If debt is acquired to facilitate development projects then there is no doubt that such debt will resultantly bring about economic growth and economic development. On the other hand there are some governments that do borrow for to finance recurrent expenditure however much that this increases consumption within the economy, the desired growth and development is hardly achieved. Worse still some of the funds acquired as a result of debt in some nations are squandered and pocketed by few individuals and this is very significant in the retrogressive states of many countries with weak systems that provide no serious check mechanisms as well as accountability and ownership of responsibility.

Keywords: domestic debt, foreign debt, economic growth, debt overhang, crowding out.

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Keywords: domestic debt, foreign debt, economic growth, debt overhang, crowding out.

1. INTRODUCTION

Striking a balance between domestic debt and foreign debt presents a challenge as discussed in debt overhang theory. Albeit a sound equilibrating policy or guideline is required to ensure economic growth and development are met with utmost efficiency. Public debt refers to the total of the nation’s debts which covers debts of local and national governments indicating how much public spending is financed by borrowing instead of taxation (Makau, 2008). According to (Patenio & Tan-Cruz, 2007), a public debt is a debt owed to both external and internal parties by a government of an independent country. This is an indication that nations have liberty to bridge their budgetary deficits within the local markets or international financial markets.

(Mahara & Dhakal, 2020) found that fiscal deficit, trade openness, and foreign aid are major macroeconomic determinants of external debt in Nepal. From the obtained results, it is seen that an increase in foreign aid helps to significantly reduce external debt but trade openness and the budget deficit significantly leads to an increase in external debt both in the short-run as well as in the long-run. The error correction term is found to be significant and negative, showing proof of a strong association between the selected variable and ensures the correction of short-term disequilibrium to a stable equilibrium at the rate of 37 percent per annum. The study concluded that foreign aid, budget deficits, and trade openness were the main determinants of external debt in Nepal in both the long-run and short-run. Appropriate export-import or foreign trade policy, effective demand management policy, progressive tax system as well as monitoring tax evasion, effectual and productive utilization of available resources helped to reduce debt accumulation and saves the nation from the possible debt trap.

(Benli, 2020) investigated the long run dynamics of external debt burden – economic growth nexus as well as the nonlinearity in the debt-growth relationship in Turkey over the period 1970-2018. Using a multivariate model in which real output growth, external debt burden, domestic investment, exports and population growth are included as variables we employ Autoregressive Distributed Lags (ARDL) bounds testing approach to cointegration. The empirical findings indicated that the external debt burden harms economic growth in Turkey. The preliminary evidence presented here also does not appear to support the hypothesis of the debt Laffer curve in Turkey for the study period.

(N’Zue, 2020) sort to determine the impact of external debt on economic growth in the ECOWAS region. Panel data spanning from 1990 to 2016 was used and analyzed using panel CS-ARDL estimation approach. The results indicated cointegration among the variables. The study found that external debt has a positive impact on economic performance up to a threshold. In the short run, the threshold stood at 45% and in the long run, it stood at 42.52%. Beyond these points, additional external debt accumulation negatively affects the regional economic performance. Knowing that the level of the region’s external debt-to-GDP ratio...
stood at 33.11% in 2018 (below the threshold), it appears that external debt has not yet hampered economic performance in the ECOWAS region. The study however, noted a need for caution given the fast rate of increase (25% in six years) of external debt accumulation in the region.

II. STATEMENT OF THE PROBLEM

It is largely documented that countries appetite for debt has continually increased pushing up individual countries debt to GDP ratio across board. The structure of these acquired debts range from domestic instruments to foreign instruments. With regards to how these two wide instruments affect economic growth and economic development is a constant point of divergence for researchers. This paper seeks to review insights drawn from African and Asian contexts so as to establish a concrete perspective on matter of debt generally attract higher interests this means that the financiers in the domestic markets make more while dealing with the government. This can spur growth since they will be making more, the levels of consumption is also expected to increase due to the increased incomes.

III. THEORETICAL REVIEW: DEBT OVERHANG

This theory was propounded by (Myers, 1977). The debt overhang theory is based on the premise that if the total amount of debt exceeds the country’s repayment ability in the future, then the expected debt service of that country will be an increasing function of its output level. This implies that part of the returns gained from investing in the domestic market is taken by the foreign creditors thus discouraging domestic investments (Claessens et al. 1996). In such a situation the indebted country is left with a small proportion of any increases in output and exports because part of the proceeds is used to service external debt.

The theory postulates that reducing debt obligation lead to a rise in investment and repayment capacity. When this happens, the outstanding debt is more likely to be repaid therefore reducing chances of debt default. Similarly when the effect is strong, the indebted country is said to be on the wrong side of the debt Laffer curve. Here debt Laffer describes the relationship between the level of debt and the country’s repayment ability which implies that there is a maximum at which accumulation of debt promotes growth (Elbadawi et al. 1996). Therefore the debt overhang hypothesis predicts that if there is likelihood that in future, debt will be larger than the country’s repayment ability, then the cost of servicing the debt will depress further domestic and foreign investment (Krugman, 1988), (Sachs, 1990), (Karafat, 2002).

IV. CONCEPTUAL FRAMEWORK

![Figure 1](image-url)

**a) Research Design**

So as to be able to capture and explain changes that occur overtime, longitudinal design was best suited for the study.

**b) Study Area**

This study utilized data collected over a period of two decades within reputable and verifiable statistics
bureau in an emerging economy within the east African region.

c) Data Analysis and Model Specification

\[
Z_{t,1} = \beta_{10} + \beta_{11}H_{t-1} + \beta_{12}H_{2, t-2} + \ldots + \mu \\
X_{1 t,1} = \beta_{20} + \beta_{21}Z_{t,1} + \beta_{22}H_{2, t-2} + \ldots + \mu
\]

for all X...

This model will be expanded into the following model:

\[
Z = \beta_0 + \beta_1 H_{1t} + \beta_2 H_{2t} + \epsilon \quad \ldots \ldots .3.3
\]

Where: 
Z = Economic growth (E.G) (Measured by real value of GDS)
H1 = Domestic Debt (D.D) (Measured by total value in Kshs. Of Central Bank Overdraft)
H2 = Foreign Debt (F.D) (Measured by total value in Kshs. Bilateral Debt)

V. RESULTS ANALYSIS, DISCUSSION AND INTERPRETATION

a) Descriptive

<table>
<thead>
<tr>
<th></th>
<th>D.D</th>
<th>F.D</th>
<th>E.G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>22.12</td>
<td>23.58</td>
<td>23.29</td>
</tr>
<tr>
<td>Median</td>
<td>22.02</td>
<td>23.32</td>
<td>23.65</td>
</tr>
<tr>
<td>Maximum</td>
<td>23.35</td>
<td>24.96</td>
<td>24.62</td>
</tr>
<tr>
<td>Minimum</td>
<td>21.79</td>
<td>22.78</td>
<td>21.98</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.31</td>
<td>0.63</td>
<td>0.85</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.68</td>
<td>0.84</td>
<td>-0.23</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>5.60</td>
<td>2.56</td>
<td>1.59</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>180.42</td>
<td>30.23</td>
<td>21.83</td>
</tr>
<tr>
<td>Probability</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000018</td>
</tr>
<tr>
<td>Sum</td>
<td>5309.69</td>
<td>5658.36</td>
<td>5589.45</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>22.65</td>
<td>96.15</td>
<td>173.78</td>
</tr>
</tbody>
</table>

For the dependent variable E.G, the measures of central tendencies were as follows, the mean was (23.29), the median was established as (23.65). The dispersion statistics were generated as follows: standard deviation was (0.85). The Kurtosis statistic was determined as (1.59) which is below the value (3) which illustrates presence of symmetry. The skewness coefficient was (-0.23) this bespeaks that the variable is moderately skewed. Minimum was noted as (21.98) while maximum connoted as (24.62).

For F.D, the mode was equivalently obscure while the mean was derived as (23.58) and median stood at (23.33). The standard deviation was fixed at (0.63). Kurtosis statistic was specified as (2.56) denoting presence of symmetry. Skewness coefficient confirmed the same settling at (0.84). The minimum value was (22.78) and the maximum value was (24.97).

CBK_Over drafts the fifth independent variable wanted the mean as (22.12) and median stood at (22.02) the mode was analogously nebulous. The standard deviation was fixed at (0.31). Both Kurtosis statistics that was specified as (5.60) and Skewness coefficient that settled at (1.68) illustrates lack of symmetry. The minimum value was (21.79) and the maximum value was (23.35).

b) Unit Root

<table>
<thead>
<tr>
<th>Series</th>
<th>Prob.</th>
<th>Lag</th>
<th>Max Lag</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.D</td>
<td>1.00</td>
<td>12</td>
<td>14</td>
<td>227</td>
</tr>
<tr>
<td>D.D</td>
<td>1.00</td>
<td>14</td>
<td>14</td>
<td>225</td>
</tr>
<tr>
<td>E.G</td>
<td>0.65</td>
<td>13</td>
<td>14</td>
<td>226</td>
</tr>
</tbody>
</table>

Method: Statistic

<table>
<thead>
<tr>
<th>ADF - Fisher Chi-square</th>
<th>3.10</th>
<th>1.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF - Choi Z-stat</td>
<td>4.29</td>
<td>1.00</td>
</tr>
</tbody>
</table>
The data was not stationary.

c) **Differenced Unit Root**

<table>
<thead>
<tr>
<th>Series</th>
<th>Prob.</th>
<th>Lag</th>
<th>Max Lag</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(F.D)</td>
<td>0.02</td>
<td>12</td>
<td>14</td>
<td>226</td>
</tr>
<tr>
<td>D(D.D)</td>
<td>0.00</td>
<td>13</td>
<td>14</td>
<td>227</td>
</tr>
<tr>
<td>D(E.G)</td>
<td>0.00</td>
<td>12</td>
<td>14</td>
<td>226</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>Statistic</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF - Fisher Chi-square</td>
<td>180.14</td>
<td>0.0000</td>
</tr>
<tr>
<td>ADF - Choi Z-stat</td>
<td>-11.51</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

The tested variables had no unit root this was later achieved on differencing.

d) **Correlation Analysis**

<table>
<thead>
<tr>
<th></th>
<th>D.F.D</th>
<th>D.D.D</th>
<th>D.E.G</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.F.D</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.D.D</td>
<td>-0.27</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td>D.E.G</td>
<td>0.17</td>
<td>0.53</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

The correlation analysis revealed that both foreign debt and domestic debt are positively correlated with economic growth as evidenced by their coefficients 0.17 and 0.53, respectively.

e) **Johansen Cointegration Trace Test**

From Johansen test, the time series variables were not cointegrated. Consequently, the best model to use in the study was Vector Autoregressive Model (VAR).

**Vector Autoregressive Model (Var)**

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(1)</td>
<td>0.18</td>
<td>3.77</td>
<td>0.00</td>
</tr>
<tr>
<td>C(2)</td>
<td>0.13</td>
<td>2.78</td>
<td>0.01</td>
</tr>
<tr>
<td>C(3)</td>
<td>-0.0002</td>
<td>-0.05</td>
<td>0.96</td>
</tr>
<tr>
<td>C(4)</td>
<td>0.55</td>
<td>7.98</td>
<td>0.00</td>
</tr>
<tr>
<td>C(5)</td>
<td>0.52</td>
<td>10.19</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Determinant residual covariance: 0.00

Equation: \( \text{DEG} = C(1)\times \text{DEG}_{t-1} + C(2)\times \text{DEG}_{t-2} + C(3) + C(4)\times \text{DFD} + C(5)\times \text{DDD} \)

- R-squared: 0.64
- Mean dependent var: -0.01
- S.D. dependent var: 0.03
- Sum squared resid: 0.10
- Log Likelihood: 587.84

The model is reliable for forecasting since Log Likelihood criteria \( \{587.84>30\} \) is an indication of the goodness of fit. With an R-Square of 64% the model is fit for prediction. This is interpreted that \( \text{E.G} \) can be explained by the variables in the model up to 64% while the remaining 36% could be explained by other variables not in the current study.

The model therefore was stated as:

\[
\text{E.G} = -0.0001 + 0.18\text{E.G}_{t-1} + 0.13\text{E.G}_{t-2} + 0.5200 \text{D.D} + 0.5524 \text{F.D}
\]

The table indicates that the regression weight of D.D and E.G was 0.5200 \( (p = 0.0000< 0.05) \) indicating existence of a positive and significant effect of D.D on E.G and hence the null hypothesis was rejected. This means that a unit increase in D.D causes E.G to expand by 0.5200. The amount borrowed should be matched with type of investment to ensure repayment is done on...
time thus avoiding delayed repayment costs. This finding has a bearing on borrowing implementation policy that ought to match borrowed money and targeted investments required to reduce chances of penalties associated with delayed debt servicing. This will in turn enhance credit rating hence reduce cost of borrowing consequently narrowing the interest rate spread. (Muhammad, Muhammad & Tariq, 2010) in their study in Pakistan on impact of domestic debt on economic growth found that there exists a positive relationship between domestic debt and economic growth. (Putunoi & Mutuku, 2013) also found existence of a positive relationship between public debt and economic growth in their study of domestic debt in Kenya.

g) Foreign Debt (F.D) and Economic Growth (E.G)
The sixth objective of the study was to determine effect of bilateral debt on economic growth. The null hypothesis was therefore stated as follows; 

\[ H_0: \text{Foreign Debt has no significant effect on Economic Growth.} \]

The analysis on Table 4.6b indicates that the regression weight of F.D on E.G was 0.55 (p = 0.000 < 0.05) indicating existence of a positive and significant effect of bilateral debt on economic growth and this therefore led to the rejection of the null hypothesis. This means that a unit increase in F.D enhances E.G by 0.55. This result could be attributed to economic discipline (management efficiency) in the application of debt as contained in the debt agreement between the parties hence improved debt rating. This in turn enables the government to access cheaper credit in future. This finding has a policy implication with respect to continue having a legal limit on size/volume of bilateral debt to avoid situation of excess debt repayment installments (Principal, interest and associated penalties) that consequently reduces savings necessary to catalyze economic development. These findings affirm use of Debt Overhang Theory. These findings contradicts the study by (Pattillo, Poirson, & Ricci, 2004) who looked at the channels through which external debt affects growth. They found out that there exists a strong negative relationship between external debt and economic growth. In their study that looked at the impact of external debt and debt servicing on poverty reduction in Nigeria, (Oloruntoba, Apollos & Emerah, 2013) also contradicts the findings of this current study since they indicated that there exists an inverse relationship between external debt and economic growth.

VI. Conclusion

a) Domestic Debt (D.D) and Economic Growth (E.G)

The first objective of the study was to establish the effect of D.D on E.G. The null hypothesis was therefore stated as follows; 

\[ H_0: \text{Domestic Debt has no significant effect on Economic Growth.} \]

The findings show existence of a positive and significant effect of D.D on E.G and hence the null hypothesis was rejected. D.D is seen to stimulate economic growth as evidence by the positive correlation as well as positive coefficient in the estimated model. This variable defies the expectations from the neoclassical theory since it shows that debt can be a tool to invoke economic growth.

b) Foreign Debt (F.D) and Economic Growth (E.G)

The second objective of the study was to determine effect of Foreign Debt on Economic Growth. The null hypothesis was therefore stated as follows; 

\[ H_0: \text{Foreign Debt has no significant effect on Economic Growth.} \]

The analysis indicates existence of a positive and significant effect of bilateral debt on economic growth and this therefore led to the rejection of the null hypothesis. Bilateral debt was not in agreement with the neoclassical postulations since it indicated a positive interaction with economic growth.

VII. Recommendation

Key establishments have it that as a country secures loans, feasibility has to be factored in to see the position in terms of debt repayment. Still to be considered is the function of the acquired debt and this should largely revolve around development projects to ensure sustainability of growth and development. Further if the development projects could also be income generating the better for the country since this will relieve undue and unnecessary pressures within the economy in search for funds to help off-set the loans. These consideration factors are a clear indication that frugality in cost-benefit analysis needs to occur and this could possible tame the global outrage of debt appetite. The market from where the debt is drawn is of importance to the individual governments’ consideration since the outcomes have significant effects to both the market players and the countries at large. Domestic debts.

References Références Referencias


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