**EFFECT OF DEBT ON ECONOMIC GROWTH OF EAST AFRICAN REGION**

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**ABSTRACT**

*This research study established the effect of debt on economic growth of East African region in view of an upsurge in the level of debts in many countries on the African continent. In order to achieve the research objectives, a methodology framework of panel autoregressive distributed-lag (Panel ARDL) was undertaken. The study answered the following research questions: What is the effect of multilateral institutions debts on economic growth in East African region? What is the effect of debts from development financial institutions on the economic growth of East African region? What is the effect of internal debts on the economic growth of East African region? For research purposes the study employed descriptive research design. Several econometrics methods: pooled mean group, mean group, dynamic fixed effects and also allow for common correlated effects. The study focused on East African region and relied on secondary data obtained from the World Bank website, ADI and WDI website. A checklist developed based on the research questions of the study was used to collect data on the values of the variables in the corresponding period under study for each country under consideration. The time series data covered 2000-2020. The data was organized through excel and later imported to E-views 12 software for analysis. Regression, descriptive statistics and analytic statistical methods were employed in the analytical process and results presented in tables, graphs and figures for clarity and ease of understanding. The study findings reveal that the variables internal debt and debt from development financial institutions have a significant impact on economic growth while multilateral debt were insignificant. Moreover, all the variables multilateral debt and internal debt were found to have a negative relationship with economic growth of the East Africa region while debts from development financial institutions were found to have a positive relationship with economic growth of East African region countries. The study suggested the need of respective East African region's governments to establish and adopt an optimal balance between multilateral debt, debts from DFIs and domestic debt to maintain steady economic growth. With domestic debt having a negative significant effect on GDP growth is an indication of a crowding-out effect thus a need to strike a balance on the optimal domestic borrowing that would not negatively affect private investments in the East African region*

*Keyword: Debt, Domestic Debt, External Debt, Multilateral institutions debts, Economic growth*

## INTRODUCTION

Economic growth and development are definitely a major goal of most developing countries; hence resources are mobilized from various sources including external borrowing for investment into viable projects for growth acceleration. Sustainable economic process may be a predominant concern for all countries, especially developing economies that regularly face burgeoning fiscal deficits mainly driven by higher levels of debt service, particularly external debt servicing and widening accounting deficits (Reinhart et al., 2012). According to Atique and Malik (2012), external debt constitutes a greater share of the general debt structure in developing countries. Reliance on external borrowing isn't only rationalized on the grounds that excessive domestic borrowing can cause financial instability and displace the private sector (Panizza et al., 2010) but also, as argued by Todaro and Smith (2006), developing countries in their early stages of development got to borrow externally due to inadequate domestic capital for investment.

The Harrod-Domar growth model has been the normal inspiration for development economists in explaining the importance of external borrowing in closing the savings-investment gap in developing countries. Krugman (1988), asserts that debt servicing obligations cause distortions in an economy and hence discourages investment and economic process. Eaton (1993), on the other hand, argues that external debt is a complement to domestic savings and investment, and thus promotes growth. Several hypotheses have been put forward on the adverse effects of external debt on developing countries' growth. They are the Debt Overhang Hypothesis, the Crowding-Out Effect, liquidity constraint hypothesis, Debt Laffer curve theory.

The most effective tool for economic process is sound macroeconomic policies that specialize in both private and public investment to get wealth, increase productivity, value and employment, reduce inflation, and finance public service provision (Saunweme & Mufandaedza, 2013). However, most countries are unable to collect enough revenue to finance national budgets rely on domestic and external debt to finance economy growth and expansion (Ali & Mustafa, 2009; Boboye & Ojo, 2012), making debt one of the major economic policy issues confronting governments today (Maana, Owino, & Mutai, 2008; Shabbir, 2012).

## Statement of the Problem

Economic growth in East African region had been projected to recover to an average of 4.1% in 2020 from 3.7% in 2019 (AFDB, 2019). Although, the overall outlook for the rest of Africa was cautious, but positive, East African region GDP growth has lag quite behind oscillating between 3% to 4% annually against an overall average in African GDP growth of 5-6% (East Africa Economic Outlook, 2019). This is despite a rise in the region's debt in recent years. Sustainable economic growth is a predominant concern to all economies and an effective tool for economic growth is comprehensive macroeconomic strategies on both private and public ventures to increase output, national income, generate wealth, reduce inflation, unemployment, and fund service delivery (Saunweme & Mufandaedza, 2013). However, this is not the case as countries are unable to collect enough revenue to finance national budgets and hence put a reliance on domestic and external debt to finance economy growth and expansion (Ali & Mustafa, 2009; Boboye & Ojo, 2012). This, makes debt a key economic strategy matter challenging governments today (Maana, Owino, & Mutai, 2008). However, a rapid build-up of loans has pushed East African region countries close to a debt crisis, putting at risk the region's long-term economic stability. Five East African region countries have together amassed more than $100 billion domestic and foreign debt, stretching their repayment budgets to the limit. The surging debt loads of East Africa region countries have stoked fears over future capacity to meet repayment obligations, with indications that the region is headed into a debt overhang prompted by increased appetite for quick and expensive loans. In

addition, East Africa's external debt, like that of many African countries, has become more market-based and less concessional, which increases rollover risks. If invested wisely, debt is likely to improve the well-being of citizens. However. What is happening in East African region may not be the case. Excessive debt in infrastructure, mostly transport, is not translating into improved well-being. The amount the East African region countries are paying to redeem the debts will result in capital flight at the expense of social services delivery. The debts are choking real economic development within the East African region (IMF; Regional Economic Outlook 2020 report). For the past five decades, a number of studies have been carried out to establish the relationship between external debt and economic growth (Schclarek, 2004; Pattillo et al, 2012). Further, since early 1980"s, debt crisis has been a major issue for many nations especially developing nations of Africa. By conventional propositions, it is expected that external borrowing will serve as a source of capital formation, which spurs Economic Growth. However, economic performance of many debtor countries has been undermined by huge debt accumulation (Adegbite et al., 2018). Given the increasingly growing concern of the debilitating impact of debt on growth, especially among developing countries, this study will investigate the presence of mixed findings on the external debt and growth relationship. In the midst of mixed findings, it may not be totally clear of the impact of debt on economic growth. However, although the relationship between Debt and Economic Growth is a major concern for policymakers and public opinion in general, there is little empirical work investigating this relationship. Furthermore, there is even less evidence on the specific channels through which debt affects growth. Several scholars and researchers have reviewed the concept of government debt and its effects on the economy. Harmon (2012) looked at the impact of P Debt on inflation, GDP growth and interest rates in Kenya. The study concluded that a Debt, inflation, GDP growth and interest rates link could not be found in a single analysis. Moki (2012)

did an analysis of the relationship between Debt and Economic Growth in Africa. Moki"s (2012) findings indicate Debt has a significant positive relationship on Economic Growth. Investment however, is not a significant predictor of Economic Growth. Makau (2008) did an empirical analysis on external Debt servicing and Economic Growth in Kenya. The empirical results in the short run indicated that the coefficients of external debt to GDP, savings to GDP and debt service to GDP had the correct sign and were significant while the coefficients of interest to GDP and growth in labor force were insignificant. Koka (2012) reviewed the relationship between Government Bond issues and Economic Growth in Kenya. The results show that the issuance of Government Bonds has a positive effect on the level of Economic Growth. The study seeks to add into the empirical literature of the growth-debt nexus through change of approach. In this study specific types/ sources of debts will be the study variables unlike other approaches where debt variables are aggregated as either; external or internal debts, concessional or commercial loans. This study intends to fill this gap.

**Objectives of the Study**
The main objective of this study was to examine the effect of debt on economic growth of East African region. The study was guided by the following specific objectives;

- To establish the effect of multilateral institutions debts on economic growth in East African region.
- To assess the effect of debts from development financial institutions on the economic growth of East African region.
- To assess the effect of internal debt on the economic growth of East African region.

**LITERATURE REVIEW**

**Theoretical Review**
A brief summary of the theoretical explanations regarding the impact of debt on economic growth will be presented. There is no unified theoretical and/or empirical explanation for the debt-growth

nexus. The majority of theoretical propositions and empirical findings, however, reveal a negative relationship. The Harrod-Domar growth model provides the most basic direct relationship between savings and the rate of economic growth. According to the model, capital accumulation in the form of savings is essential for growth. External borrowing is, therefore, seen as capital helping to fill the financing gap in developing countries to promote growth (Eaton, 2013). Early growth models emphasize the role of foreign borrowing in supplementing domestic savings that is required to meet investment demand and fuel economic growth.

The possible positive impact of external debt on growth is also explained by Cohen (2011). It argues that in reality, countries are neither in financial autarky nor can borrow as much as they want. Due to the risk of debt repudiation, creditors may impose a credit rationing on a borrowing country. When lenders minimize the fear of the risk of debt repudiation by managing to set a lending strategy (set efficient credit ceilings) that is contingent up on the growth rate of the debtor country (which he calls "efficient credit ceilings"), a larger credit ceiling (i.e., larger external debt) increases the investment and growth rate of the economy (Cohen, 2011, pp. 137-148). Assuming those borrowed funds are associated with productive investment, this suggests that low debt levels are positively associated with growth. A number of theories have been developed to explain why large external debt is likely to reduce growth. For instance, Alesina and Trabellini (1989) developed a simple dynamic model in which there are two social groups behaving non-cooperatively.

This non-cooperation creates uncertainty as to which group wil1 be in control in the future and results in a political turbulence and risk that leads to capital flight and excessive government borrowing, which in turn slows down growth in developing countries. Debt service payment can have an adverse impact on growth through the fiscal account, which is called the "crowding out" effect. Much of government revenue will be devoted to

servicing the debt and this will in turn reduce total investment and private investment to the extent that public investment is complementary to private investment (Diaz Alejandro 1981; Taylor 1983) and reduce productivity of investment by reducing investment in infrastructure. It also reduces investment in human capital (human capital formation) which, according to endogenous growth theories, is important for growth (as cited by Serieux & Samy, 2001). Some of the theories related to this study include;

**Keynesian theory of debt**

Keynesian views of debt are mostly optimistic: Keynes, Hansen, Lerner, Musgrave, Samuelson, and Krugman believe government borrowing – including for avowedly unproductive public projects – stimulates output, especially in recessions, by absorbing excess savings and boosting aggregate demand. Exceptions include realists like McCord and Seymour, who endorse cyclical but not chronic deficit spending. Clark and Moulton, although sympathetic to the Keynesian view, are pessimistic about Lerner's "functional finance."Regarding the economic effects of public indebtedness, the Keynesian view delineates fundamentally from that of the classical economists, as public borrowing ceases to be blamed for its damaging consequences, and is evidenced, on the contrary, in the foreground, its contribution to the smooth functioning (without major imbalances) of the economy. Two major arguments support this change of perspective.

First, by accepting the extension of the scope of the state, public expenditure (at the funding of which public indebtedness contributes) cease to represent, in their entirety, definitive and unrecoverable consumptions of resources, negatively affecting the national wealth and the prosperity of the nation as a whole. The involvement of public authorities in value adding activities (e.g., public works, which are recommended by Keynes) permits, on the contrary, to avoid negative effects as the above ones and contributes to economic growth and development.

Secondly, the reconsideration of the role assigned to public authorities, in the sense of assuming the task of countering disturbing economic and social phenomena, gives new meanings to public borrowing, as ways of intervention to correct imbalances and ensure an upward evolution of the economy.

From this perspective, it seems relevant to highlight the role assigned to public indebtedness by some adepts of the Keynesianism (A.H. Hansen, J. Hicks, P. Samuelson, etc.) in designing demand-side fiscal policies for relaunching the economy in recession or stimulating balanced economic growth. Inspired by the realities of the global economic crisis of 1929-1933 and based on the extensive theoretical construction of Keynes, such policies propose the engaging of the state, through its financial means, in supporting economic recovery and fighting unemployment, in times of recession, or in accelerating the pace of economic growth, when it is too slow or the economy is stagnant. More specifically, measures are adopted aimed primarily at increasing public consumption or investment spending, without excluding, however, tax measures (tax cuts, tax exemptions, etc.) (Filip, 2010). Such measures help increase overall demand and, in this way, stimulate the increasing of the supply of goods and services, the GDP growth and employment.

This theory is relevant to this study in that it shows how public debt stimulates economic growth by absorbing excess savings and boosting aggregate demand. This theory indicates that government borrowing for development spending have the effect of increasing the output level in an economy through public works and countering disturbing economic and social phenomena.

**Modern theory of debt**

The modern theory of debt is a countercheck of Keynesian theory of economics. The modern theory of debt which is concerned with macro-economic variables assumes the whole economy as a single unit. According to the theory, "whatever the relative position of the country in question, increasing deficits (A/N and debt) express the promise of future economic difficulties and reduced welfare" (Landais, 1998).

As a counterweight to Keynesian solutions and therapies, they are denied the positive results of any budgetary measure aimed at stabilizing the economy, especially from the perspective of a longer period of time, and is therefore contested the ability of public authorities to act, by promoting budget deficits and financing them by means of borrowing, with the aim to relaunch the stagnating economy or in decline. In this regard, referring to the role of the public budget, Milton Friedman said that "far from being a balancing mechanism to offset other forces that ease fluctuations it was itself a major disruptive factor and generator of instability" (Friedman, 1995).

The main argument to justify the disapproval of state's indebtedness arises from the emergence, when public authorities turn to public loans to finance budget deficits, of a negative effect called the "crowding-out effect". Looking at the market for loanable funds, the crowding-out effect broadly assumes that, when public authorities in debt themselves by raising public loans, the demand for loanable funds increases while the offer remains unchanged, which results in an increase in the interest rate on this market. This in turn reduces private investment (sensitive to interest rate changes), and so private capital funds "flee" towards the public sector to serve public expenditure financing. Overall, the monetarists emphasize that, in this way, it is possible that the anticipated positive effect on GDP growth produced on the account of promoting debt-financed budget deficits becomes very low, even null.

The implication of this theory is the need for proper debt management policies in East African region in order to ensure a balanced debt composition. The relevance of this theory to this study is borne by the fact that East African region countries debt portfolios are not balanced and thus some countries have domestically over borrowed while others are externally overborrowed thus experiencing external debt servicing pressure. The theory gives an in-

depth insight into the effect of budget deficits on economic growth. Understanding this relationship will help inform on the appropriate economic policies to be adopted to foster economic growth.

## Debt overhang theory

Krugman (1988) proposed the concept of "Debt Overhang" where the government's ability to repay external debt decreases below the actual debt value. Debt Overhang depends on the fact that if debt will surpass the nation's repayment ability with some likelihood in the future, then the expected debt service is likely to be increasing as the country's output level increases. In this manner a portion of returns from investing in the domestic economy will be taxed away to pay the existing creditors and this will discourage new foreign investors (Claessens, Detragiache and Kanbur, 1996). The borrower country will therefore use only partially of any increase in output and exports since a good portion of that increase will be used to service the existing external debt. This creates a problem because if a country has a new investment project which may generate positive net present value, the country will not invest due to an existing debt position hence the country's level of 'investment will start decreasing. The presence of this stock of external debt changes the incentive of either the creditor or the debtor. External debt relief may therefore benefit either of them.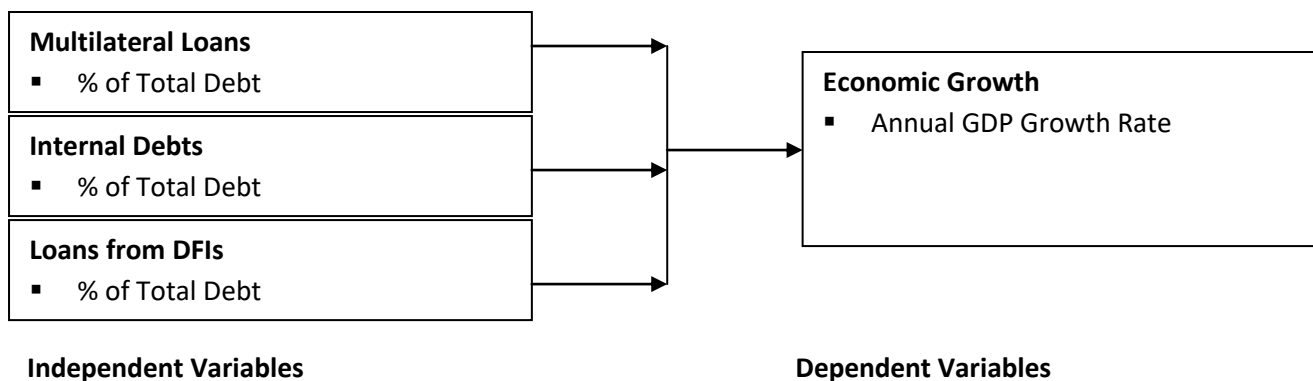 The creditor could have an incentive to keep on lending in order to avoid a loss thinking that the debtor will improve its economic conditions and will be in a position to repay the debt in the near future. On the other hand, the debtor has disincentive to invest because of the assumption that all the gains will be taxed away to pay the lender.

This theory is relevant to our study in the sense that it implies that a decrease in the amount of external debt will lead to increase in domestic investment and a reduction in government spending consequently impacting growth in the long run.

## Debt Laffer curve theory

Lastly, the Debt Laffer Curve theory postulates a nonlinear relationship between debt and growth on the assumption that there is an optimal level of debt that promotes growth. Beyond that threshold further debt accumulation impedes growth. Cohen (1993) observes that the Debt Laffer Curve can be used to show the relationship between the face value of debt and investment, since the curve explains that as the outstanding debt increases beyond a certain threshold, repayment capacity begins to fall. In other words, when a country borrows to finance its budget deficit, it makes resources available for capital investment which could help promote growth objectives. However, borrowing beyond a certain level creates debt overhang and debt service challenges, and may retard growth (Pattillo et al,2000).

## Conceptual Framework

| Independent Variables | | Dependent Variables |
|---|---|---|
| **Multilateral Loans**<br>▪ % of Total Debt | → | **Economic Growth**<br>▪ Annual GDP Growth Rate |
| **Internal Debts**<br>▪ % of Total Debt | → | |
| **Loans from DFIs**<br>▪ % of Total Debt | → | |

**Independent Variables**     **Dependent Variables**

**Figure 1: Conceptual Framework**

**METHODOLOGY**

**Research Design:** This refers to the overall tactic that was selected to incorporate the different components of the study in a rational and comprehensible way enhancing effective address of the research problem (Chaplin, 2000). This study utilized explanatory research design. This research design is a well-organized empirical inquiry in which the researcher does not have direct control of independent variables since their manifestations have already occurred (Kerlinger & Lee, 2000).An explanatory research design was suitable because the researcher strived to explain how the phenomenon works by distinguishing the underlying determinants that produce the change in which case there was no manipulation of the independent variable (Mugenda & Mugenda, 2003).

**Target Population:** The subjects of this study were the 13 countries in East African region. The actual value data for all the variables under consideration in each of the 13 countries constitute the research population. However, the study captured the annual economic variable data for the period 2000 to 2020 for only a few sampled countries depending on data availability.

**Sampling Technique:** In this study a non-probabilistic sampling technique has been employed. A convenience non-probabilistic sampling is the most suitable considering the nature and time frame of the research. Purposive convenience sampling technique is used. Purposive sampling give room to a researcher to make use of cases that have the required information with respect to the objectives of the study, (Mugenda and Mugenda 2003).

**Research Data:** The data used in this research study is secondary in nature, obtained from the world development indicator [WDI]. The variables of interest included; Real Gross Domestic Product (RGDP) as dependent variable, multilateral institutions debts (MIDT), internal debt (INTDT) and loans from FDIs as independent variables. The choice of the sampled countries and the period of the observed data was determined by issues of data availability. Since the data consists of a panel of 6 countries for 20 years, where $N = 6$, is much less than $T = 20$ the GMM estimator was appropriate for analysis. However, when T is larger than N (as in this case) the ARDL approach is appropriate and therefore was preferred method for this analysis.

**Table 1: Operationalization/Measurement of Study Variables**

| Variable | Measurement | Expected Sign | Authors who have used similar variables |
|---|---|---|---|
| *Dependent Variable* | | | |
| GDP growth rate | % Of Total Debt | Positive (+/-) | |
| *Independent Variable* | | | |
| Multilateral Loans | % Of Total Debt | Positive (+/-) | Akpokodje Omojimite (2008), Alabai (2014) Ighodaro and Nwaogwugwu (2013) |
| Loans from DFIs | % Of Total Debt | Positive (+/-) | Uremadu et al (2018), Ebenezer et al (2019) |
| Internal debt | % Of Total Debt | Positive (+/-) | Kadir and Tugaal (NI2015) |

**Data Collection Methods:** The main method of collecting data was the desk study. Checklists were used to collect data; each checklist was assigned to an individual country. The checklist structure particulars included; number of years, the variables and their corresponding data for each year as shown in the appendix.

**Data Processing:** After the data is collected it was properly recorded on excel; coding and labelling was done at this stage.

**Analytical Model Specification:** The model is in the form of a regression model where all the indicators of debt were regressed against economic growth. The model is a multiple linear regression of the form;

$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$

Where:

Y = GDP growth rate

$X_1$ = Multilateral Loans

$X_2$ = Loans from DFIs

$X_3$ = Internal debt

After diagnostic tests, the regression model selected was the random effects model represented by the equation below:

$Y_{i,t} = \beta_0 + \beta_jX'_{i,t} + (\alpha_i + \varepsilon_{i,t})$ Where:

- "$Y_{i,t}$" is the dependent variable as observed for each region in each year
- "$\beta_0$" represents the model's y intercept
- "$\beta_j$" represents the various independent variable coefficients
- "$X'_{i,t}$" represents all the independent variables for each region in each year

- "$\alpha_i + \varepsilon_{i,t}$" is the composite error term containing both the individual random effects represented by "$\alpha_i$" and the idiosyncratic error term represented by "$\varepsilon_{i,t}$"

**Data Analysis:** The data was analysed and models fitted using statistical data analysis software; E-views. The investigation was conducted through Panel Autoregressive Distributed Lag (PARDL) co-integration approach, in other word, bounds test. The results of the analysis ware organized in tables and graphs. For a significant and robust result of this study, econometric problems were checked and eliminated.

## FINDINGS AND DISCUSSION

### Descriptive statistics

**Table 2: Summary statistics of variables**

| Variables | LNGDP | LNMIDT | LNINTDT | LNDFI |
|-----------|---------|----------|-----------|----------|
| Mean | 2.323865 | 1.353775 | 1.586727 | 1.209943 |
| Median | 2.906068 | 1.662774 | 1.587991 | 1.480677 |
| Maximum | 4.587312 | 2.639057 | 4.150709 | 3.212133 |
| Minimum | 0.062787 | 0.198031 | 0.387532 | 0.033048 |
| Std. Dev | 0.361665 | 0.330619 | 0.339114 | 0.381445 |
| Skewness | -0.41975 | -0.189162 | -0.036064 | -0.131632 |
| Kurtosis | 3.551325 | 2.274077 | 3.605410 | 2.108123 |
| J-Bera | 53.48181 | 3.517997 | 24.466161 | 4.539945 |
| Probability | 0.39063 | 0.76309 | 0.57107 | 0.10456 |

Table 2 presented the descriptive statistics of the variables of interest. It can be observed that the mean and median of virtually all the variables are close in values, which implies that their distributions are nearly symmetrical. This is an indication of low variability. The skewness statistics shows all variables are negatively skewed. The Jarque-Bera probability values for all the variables are greater than the 0.05 critical level.

This suggests an acceptance of the null hypothesis of normal distribution for the variables at 5 per cent level of significance. The normality of the log form of the variables is also supported by the skewness

values of all the variables which are zero or close to zero.

### Optimal Lag Length Selection

Before estimating the ARDL model, the study determined the optimal lag length (K). This was to ensure that the model specified should have the "right" number of lags included. This is because including too many lags would lead to loss of degrees of freedom. If the included lags are too few then the model will be imprecise. The information criteria like Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC), Likelihood ratio (LR), and Final Prediction Error (FPE) were employed

to choose and affirm the appropriate lag length. From the results on VAR Lag Order Selection Criteria, AIC selected 1 lag as the optimal.

**Correlation Analysis**

**Table 3: Correlation Matrix**

```
Covariance Analysis: Ordinary
Date: 11/19/21   Time: 00:39
Sample: 2000 2020
Included observations: 126
```

| Correlation<br>t-Statistic<br>Probability | LNGDP | LNMIDT | LNINTDT | LNDFI |
|---|---|---|---|---|
| LNGDP | 1.000000<br>-----<br>----- | | | |
| LNMIDT | -0.036908<br>-0.411271<br>0.6816 | 1.000000<br>-----<br>----- | | |
| LNINTDT | -0.033233<br>-2.597124<br>0.0127 | 0.291234<br>3.390000<br>0.0009 | 1.000000<br>-----<br>----- | |
| LNDFI | 0.190100<br>2.156178<br>0.0330 | -0.326106<br>-3.841351<br>0.0002 | -0.426053<br>-5.244092<br>0.0000 | 1.000000<br>-----<br>----- |

All the variables under consideration are not exact or linearly dependent on one another. The correlations between the variables are presented in Table 3. All the variables had a perfect correlation with themselves as was expected. Debt from multilateral institutions and internal debt had a negative correlation with GDP growth. Debt from multilateral institutions had a statistically insignificant correlation while internal debt had a significant correlation with GDP growth. Loans from development financial institutions had a positive significant relationship with GDP growth. Since most of the correlations were not statistically significant, multicollinearity was likely not to be a problem in the data.

**Diagnostic Tests for the Time Series Regression Model**

Classical linear regression technique requires that all the necessary assumptions be made alongside the fulfillment of certain properties that must hold for the variables under study (Enders, 1995). Before estimation, these requirements were ascertained.

**Stationarity test**

**Table 4: Unit-Root Test**

| ADF - Fisher Chi-square | | | | | | | |
|---|---|---|---|---|---|---|---|
| Variables | Level (trend & intercept) | | | 1st Difference(intercept) | | | |
| | Stats | Prob | Status | Stats | Prob | Status | |
| LNGDP | 15.2621 | 0.2274 | Non-stationary | 58.0411 | 0.0000 | Stationary | |
| LNMITD | 9.0476 | 0.6988 | Non-Stationary | 68.1454 | 0.0000 | Stationary | |
| LNINTDT | 9.8919 | 0.6254 | Non-stationary | 43.1151 | 0.0000 | Stationary | |
| LNDFI | 12.3664 | 0.4167 | Non-Stationary | 58.6356 | 0.0000 | Stationary | |

**Table 5: Unit-Root Test**

| PP - Fisher Chi-square | | | | | | |
|---|---|---|---|---|---|---|
| Variables | Level (trend & intercept) | | | 1st Difference(intercept) | | |
| | Stats | Prob | Status | Stats | Prob | Status |
| LNGDP | 17.3510 | 0.1368 | Non-stationary | 113.3436 | 0.0000 | Stationary |
| LNMITD | 28.5435 | 0.0046 | Stationary | | | |
| LNINTDT | 9.3565 | 0.6722 | Non-stationary | 76.8768 | 0.0000 | Stationary |
| LNDFI | 28.4710 | 0.0047 | Stationary | | | |

While the ARDL approach to co-integration is applicable whether the variables are all integrated of order zero or of order one, it is still necessary to carry out unit root tests on the variables in order to be sure that no I (2) variable is involved. In order to identify the stationarity and order of integration of the variables, Augmented Dickey-Fuller (ADF) unit root test and PP-unit root test were conducted. The tests were carried out in the level form and first difference of the series. The variables were assumed in level with a constant and linear trend, whereas assumed only a constant in first difference. Moreover, the lag length of ADF test using Akaike Information Criterion (AIC) with a maximum lag length of 1 was employed. The results in Table 5 showed that under ADF unit root test all the log form of the variables are nonstationary at level at 5% significance level, but attain stationarity at first differencing. The results in Table 5 showed that under PP-unit root test the log form of the GDP growth and development financial institutions are nonstationary at level at 5% significance level but stationary after first differencing. On the other hand, the log form of internal debt and multilateral debt are stationary at level. In conclusion, the stationarity of the variables is found in ADF tests and PP tests, besides there is no I (2) variables in the test. Therefore, can proceed to the model estimation by using ARDL technique.

**Normality test**

**Table 6: Jaque Bera**

| Variables | LNGDP | LNMIDT | LNINTDT | LNDFI |
|---|---|---|---|---|
| J-Bera | 53.48181 | 3.517997 | 24.466161 | 4.539945 |
| Probability | 0.39063 | 0.76309 | 0.57107 | 0.10456 |

The initial step is to investigate whether the variables follow the normal distribution. This study relies on the Jargue-Bera test where a null hypothesis of normality is tested against the alternative hypothesis of non-normal distribution. For normal distribution the JB statistic is expected to be statistically indifferent from zero. H0: JB = 0 (normally distributed) H1: JB ≠ 0 (not normally distributed) Rejection of the null for any of the variables would imply that the variables are not normally distributed and a logarithmic transformation is necessary. From Table 6 it's inferred that the JB statistic is not statistically significant from zero implying that the variables are all normally distributed. Normality rules out the possibility of getting nonstandard estimators.

**Heteroskedasticity**

Heteroskedasticity transpires when the variance of the residuals in a model is not constant. LR test was employed to test for the presence of heteroskedasticity. The null hypothesis for the test, $H_0$: Variance is constant (homoscedasticity). If the probability value (p-value) is greater than 5 percent, the null hypothesis is not rejected.

**Cross-Section Correlation**

**Table 7: Cross-section dependence**

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in
    residuals
Equation: Untitled
Periods included: 21
Cross-sections included: 6
Total panel observations: 126
Note: non-zero cross-section means detected in data
Cross-section means were removed during computation of
    correlations

| Test | Statistic | d.f. | Prob. |
|------|-----------|------|-------|
| Breusch-Pagan LM | 51.58133 | 15 | 0.6232 |
| Pesaran scaled LM | 6.678806 | | 0.4089 |
| Pesaran CD | 6.115575 | | 0.6209 |

Serial correlation is present if residuals of one period are related to the residuals of the previous period. Breusch-Godfrey Serial Correlation LM test was employed in the study to test for the presence of cross-section correlation. The null hypothesis for cross-section correlation test was stated as, H0: There is no cross-section correlation. If the probability value (p-value) is greater than 0.05, the null hypothesis is not rejected. The results on Breusch-Godfrey cross-section Correlation LM Test confirmed that there was no evidence of cross-section correlation as the probability of the observed R-squared is greater than 0.05 hence the

study accepts the null hypothesis of no cross-section correlation.

**Autocorrelation**

Serial correlation is present if residuals of one period are related to the residuals of the previous period. Breusch-Godfrey Serial Correlation LM test was employed in the study to test for the presence of serial correlation. The null hypothesis for serial correlation test was stated as, H0: There is no serial correlation. If the probability value (p-value) is greater than 0.05, the null hypothesis is not rejected. The results on Breusch-Godfrey Serial Correlation LM Test are presented in table 8.

**Table 8: LM-Test**

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 1 lag

| | | | |
|------|------|------|------|
| F-statistic | 0.916095 | Prob. F(1,18) | 0.3512 |
| Obs*R-squared | 1.210734 | Prob. Chi-Square(1) | 0.2712 |

Table 8 confirmed that there was no evidence of autocorrelation as the probability of the observed R-squared is greater than 0.05 hence the study accepts the null hypothesis of no serial correlation.

**Multicollinearity test**

The research applied the Variance Inflation Factor to determine the level of collinearity between the predictor variables. All VIF factors that were between 1 and 10 were adopted since they indicated zero multicollinearity.

**Table 9: Multicollinearity test**

Variance Inflation Factors
Date: 11/19/21   Time: 02:21
Sample: 2000 2020
Included observations: 120

| Variable | Coefficient Variance | Uncentered VIF |
|---|---|---|
| LNMIDT | 0.029922 | 1.249734 |
| LNINTDT | 0.018352 | 1.087946 |
| LNDFI | 0.018177 | 1.155346 |

The findings above indicated that the VIF values for the variables; log of multilateral debt (VIF= 1.249734), log of internal debt (VIF= 1.087946) and log of debt from development financial institutions (VIF= 1.155346). This indicated there was zero correlation problem in the research since all the VIF values were below 10.

**Co-integration Analysis**

**Table 10: Johansen Co-integration Test Result**

Johansen Fisher Panel Cointegration Test
Series: LNGDP LNMIDT LNINTDT LNDFI
Date: 11/17/21   Time: 18:30
Sample: 2000 2020
Included observations: 126
Trend assumption: Linear deterministic trend (restricted)
Lags interval (in first differences): 1 1

Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Fisher Stat.* (from trace test) | Prob. | Fisher Stat.* (from max-eigen t...) | Prob. |
|---|---|---|---|---|
| None | 62.73 | 0.0000 | 57.46 | 0.0000 |
| At most 1 | 19.83 | 0.0703 | 16.62 | 0.1645 |
| At most 2 | 9.719 | 0.6406 | 9.253 | 0.6812 |
| At most 3 | 6.352 | 0.8973 | 6.352 | 0.8973 |

* Probabilities are computed using asymptotic Chi-square distribution.

Result presented in table 10 above is the summary of co-integration test conducted in the study with respect to the model specified to examine the effect of debt on economic growth of East African region countries. Trace statistics reported in table 10 revealed that there is strong evidence to reject the null hypothesis of no co-integration, in favour of two co-integration equation at 5% level of significance. This is to say that though there is no short run equilibrium relationship between debt and economic growth, in the long run there is existence of equilibrium relationship.

**Panel ARDL Estimation**

Before employing PMG and MG Panel ARDL methods, it is necessary to check whether there exist long-run association among the variables under consideration by performing cointegration test.

**Pooled Mean Group**

The Pooled Mean Group model results are as presented in table 11. The results showed that Debt from multilateral institutions and internal debt had a negative relationship with GDP growth. The relationship was statistically significant at 5% level for domestic debt but insignificant for Debt from multilateral institutions. On the other hand, loans from development financial institutions had a positive significant relationship with GDP growth.

**Table 11: PMG**

| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
|---|---|---|---|---|
| | | Long Run Equation | | |
| LNMIDT | -0.088547 | 0.129752 | -0.682435 | 0.4967 |
| LNINTDT | -0.190983 | 0.089091 | -2.143688 | 0.0387 |
| LNDFI | 0.395857 | 0.097388 | 4.064748 | 0.0275 |
| | | Short Run Equation | | |
| COINTEQ01 | -0.599013 | 0.119853 | -4.997899 | 0.0000 |
| D(LNMIDT) | 0.271218 | 0.243455 | 1.114037 | 0.2681 |
| D(LNINTDT) | -0.203820 | 0.301090 | -0.676941 | 0.5001 |
| D(LNDFI) | -0.066323 | 0.060069 | -1.104110 | 0.2724 |
| C | 1.830756 | 0.389632 | 4.698679 | 0.0000 |

**Mean Group**

The Mean Group model results are as presented in table 12. The results show that Debt from multilateral institutions and internal debt had a negative relationship with GDP growth. The relationship was statistically significant at 5% level for domestic debt but insignificant for Debt from multilateral institutions. On the other hand, loans from development financial institutions had a positive significant relationship with GDP growth.

**Table 12: MG**

| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
|---|---|---|---|---|
| | | Long Run Equation | | |
| LNMIDT | -0.088547 | 0.129752 | -0.682435 | 0.4967 |
| LNINTDT | -0.190983 | 0.089091 | -2.843688 | 0.0276 |
| LNDFI | 0.395857 | 0.097388 | 4.964748 | 0.0153 |
| | | Short Run Equation | | |
| COINTEQ01 | -0.496138 | 0.119853 | -4.997899 | 0.0000 |
| D(LNMIDT) | 0.312178 | 0.243455 | 1.114037 | 0.3156 |
| D(LNINTDT) | -0.382010 | 0.301090 | -0.676941 | 0.4402 |
| D(LNDFI) | -0.040168 | 0.060069 | -1.104110 | 0.2394 |
| C | 1.756235 | 0.389632 | 4.698679 | 0.0000 |

**Hausman test**

In order to determine which of the two models – PMG or MG - is a better estimator, Hausman test was conducted to establish homogeneity restriction on the long-run coefficients. The null hypothesis of PMG is the appropriate model was tested.

**Table 13: Hausman test**

Correlated Effects - Hausman Test
Equation: Untitled
Test cross-section homogeneity

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section homogeneity | 2.607839 | 3 | 0.4561 |

Cross-section homogeneity test comparisons:

| Variable | MG | PMG | Var(Diff.) | Prob. |
|---|---|---|---|---|
| LNMIDT | -0.175167 | -0.114793 | 0.003145 | 0.2817 |
| LNINTDT | 0.005261 | -0.028994 | 0.001055 | 0.2916 |
| LNDFI | -0.095075 | -0.027677 | 0.001948 | 0.1268 |

In this case the p-value (0.4561) is greater than 0.05 thus the null hypothesis PMG is the appropriate model was tested can not be rejected, thus PMG is better than MG. In conclusion the Pooled Mean Group model is the appropriate model.

**Panel ARDL – PMG estimator**

Table 11 and 12 presented the results of PMG and MG estimation as well as the result of Hausman test were as presented in Table 13. The results revealed that internal debt and debts from development financial institutions respectively, have significant negative and positive impact on economic growth of East African region countries in the long-run according to both PMG and MG estimators. On the other hand the long-run coefficient of multilateral debts yielded by both PMG and MG estimator suggests a negative insignificant impact on economic growth of East African region countries. In the short-run, the results reveal that internal debt, multilateral debts and debts from development financial institutions, have an insignificant relationship with economic growth of East African region countries according to both PMG and MG estimators. Internal debt and debts from development financial institutions exhibits a negative relationship with GDP growth in the short-run while multilateral debts exhibits positive relationship with GDP growth in both PMG and MG estimates. To ascertain the validity and efficiency of long-run homogeneity restriction across the cross sections, Hausman test has been tested and reported in Table 12. The result of the test accepts the null hypothesis of homogeneity restriction on the long-run coefficients, as the Hausman test p-values of p-value (0.4561) is greater than 0.05. This suggests that PMG is a more efficient estimator than MG.

Having detected PMG as the most efficient estimator, the analysis of this study centered on its result to determine the effects of debt on economic growth of East African region. From the PMG estimator results (Table 11) the following regression equation can be derived:

**Regression Equation:**

$$GDPGr_{it} = 1.830756 - 0.190983 INTDT_{it} - 0.088547 MIDT_{it} + 0.395857 DFI_{it}$$

The result of the PMG estimator as earlier stated shows that internal debt and debts from development financial institutions, have significant negative and positive impact respectively on economic growth of East African region countries in the long-run. On the other hand, the long-run coefficient of multilateral suggests a negative insignificant impact on economic growth of East African region countries. In the short-run, the results reveal that internal debt, multilateral debts and debts from development financial institutions, have an insignificant relationship with economic growth of East African region countries. Internal debt and debts from development financial institutions exhibits a negative relationship with GDP growth in the short-run while multilateral debts exhibit positive relationship with GDP growth.

The constant value which is known as the Y intercept, is 1.830756. The altitude of the regression line when it touches the Y axis is explained by the value of constant in a model. If all the regressors are assumed to be zero, it's the projected value of GDP growth per annum. The values -0.190983, -0.033581 and 0.395857 implies that when domestic debt and multilateral debt increases by 1 percentage point respectively, on average, the estimated Gross domestic product growth per annum decreases by 0.190983 and 0.033581 percentage point respectively holding other variables constant. While 1% point icrease in debt from development financial institutions lead to a 0.395857 growth in GDP per annum in the East African region countries.

According to the Granger representation theorem, when variables are co-integrated, there must also be an error correction model (ECM) that describes the short-run dynamics or adjustment of the co-integrated variables towards their equilibrium values. The error correction term, which measures the speed of adjustment, was –0.599013 (59.90%). This means that the long-run convergence among the variables would be sped at 59.90%. It further affirms the long-run relationship among the variables as established earlier.

## Discussion of Findings

### Effect of internal debt on economic growth

The findings show that domestic debt had a coefficient of -0.190983 with a probability of 0.0276. This indicates that internal debt has a negative and significant effect on economic growth of the East African region. These results are interpreted as a 1% increase in domestic debt will lead to a 19.09% decrease in economic growth in the long run. This research findings were in line with Christensen (2015) who used a cross country survey of the role of domestic debt markets in sub-Saharan Africa based on a new data set of 27 sub-Saharan African countries during the 20-year period (1980-2000) and found out that domestic markets in these countries are generally small, highly short term and often have a narrower investor base. He also found out that domestic interest rate payments present a significant burden to the budget with significant crowding-out effects.

### Effect of multilateral debt on Economic growth

The findings show that multilateral debt had a coefficient of -0.088547 with a probability of 0.4967. This indicates that multilateral debt has a negative and insignificant effect on economic growth in the East African region. These results are interpreted as a 1% increase in multilateral debt would not have any significant impact on the economic growth in the long run. This study finding conforms with that of Thomas, (2016) who observed the impact of multilateral debt on South Africa's economic growth, Multilateral debt is a problem for the entire developing world, but it's particularly acute for the poorest countries. The impact of debt is felt in two ways—through the diversion of national resources to debt servicing and through the effects of SAPs which are designed to transform economies from production for the local market to a "globalized" model of production and export of whatever garners the most-hard currency. SAP-linked IFI loans are meant to finance the redesign of governmental, industrial, and commercial systems, to enable countries to continue to pay debt servicing. However, SAPs have almost invariably caused increased poverty, unemployment, and environmental destruction and have usually led to an increase in the overall size of a country's multilateral debt. The universal failure of the standard SAP recipe has meant that debt and structural adjustment simply end up fueling each other.

### Effect of debts from development financial institutions on economic growth

The findings show that debts from development financial institutions had a coefficient of 0.395857 with a probability of 0.0153. This indicates that debts from development financial institutions have a positive and significant effect on economic growth in the East African region. These results are interpreted as a 1% increase in debts from development financial institutions will lead to a 39.58% increase in economic growth in the long run. The positive relationship and statistically significant relationship between debts from development financial institutions and GDP growth are consistent with a prior expectation and economic theory and this finding conforms with the findings by Kamau (2013) who analyzed debt from DFIs and economic growth in Kenya using a time series data for the period 1980 to 2010. The study employed a single equation model with real GDP growth rate as a function of debt among other factors. The findings of the analysis showed that there is indeed aa positive relationship between DFIs debts and economic growth rate.

## CONCLUSION AND RECOMMENDATIONS

The general objective of this study was to establish the effects of debt on economic growth of East African region countries. The real inspiration of this study was based on the fact that there have been a rapid build-up of loans by East African region countries to levels close to debt crisis, putting at risk the region's long-term economic stability. To achieve the objectives of the study a methodology framework of panel ARDL model is undertaken to investigate variable data from 2000 to 2020. The study was out to answer the following research question: What is the effect of multilateral debt on

economic growth of East African region? What is the effect of internal debt on economic growth of East African region? What is the effect of debt from development financial institutions on economic growth of East African region? Descriptive statistic research design is used. Secondary data collected from the World Bank website, Statista website and WDI website is employed. Data analysis is done using the E-views 12 software and results presented in form of tables. The study findings reveal the following;

The findings on the first objective show that domestic debt had a coefficient of -0.190983 with a probability of 0.0276. This indicates that internal debt has a negative and significant effect on economic growth of the East African region in the long run. This variable finding was supported by Debt Laffer Curve theory which postulates a nonlinear relationship between debt and growth on the assumption that there is an optimal level of debt that promotes growth. Beyond that threshold further debt accumulation impedes growth.

The findings on the second objective indicate that multilateral debt had a coefficient of -0.033581 with a probability of 0.4967. This indicates that multilateral debt has a negative and insignificant effect on economic growth in the East African region in the long run. This study finding was supported by the modern theory of debt. According to the theory, "whatever the relative position of the country in question, increasing deficits (A/N and debt) express the promise of future economic difficulties and reduced welfare" (Landais, 2018).

The findings on the third objective depict that debts from development financial institutions had a coefficient of 0.395857 with a probability of 0.0153. This indicates that debts from development financial institutions have a positive and significant effect on economic growth in the East African region. These results are interpreted as a 1% increase in debts from development financial institutions will lead to a 39.58% increase in economic growth in the long run. This variable was supported by by Keynesian theory of debt which is of the view that accepting

the extension of the scope of the state, public expenditure (at the funding of which public indebtedness contributes) cease to represent, in their entirety, definitive and unrecoverable consumptions of resources, negatively affecting the national wealth and the prosperity of the nation as a whole. The involvement of public authorities in value adding activities (e.g., public works, which are recommended by Keynes) permits, on the contrary, to avoid negative effects as the above ones and contributes to economic growth and development.

The study on the first objective concluded that the contribution of debt to the economic growth of East African region countries is mainly a function of debt from development financial institutions. This implies that the East African region countries can drive their respective national economic growth by financing their respective budget deficit through debts from development financial institutions in order to finance major infrastructure development projects that would spur economic growth in the short-run through expenditure spending and in the long-run through revenue generation from the projects.

The study on the second objective concluded that Internal debt was found to have a significant negative relationship with economic growth in the long-run. This study is grounded by Debt Laffer Curve theory which postulates a nonlinear relationship between debt and growth on the assumption that there is an optimal level of debt that promotes growth. Beyond that threshold further debt accumulation impedes growth. Extensive domestic borrowing by governments may sets in motion a chain of events that results in the curtailing of private sector spending. The sheer scale of this type of borrowing can lead to substantial rises in the real interest rate, which has the effect of absorbing the economy's lending capacity and of discouraging businesses from making capital investments. This in turn constraint economic growth in East African region. From the findings there was evidence of crowding out effect.

The study on the third objective concluded that negative effect of debt from multilateral institutions

(-0.033581) on economic growth is an indication of the existence of debt overhang effect in the East African region countries. This implies that a large number of East African region member countries could default their debt obligations in the absence of debt reliefs.

The study recommended on the first objective that, the governments should establish and adopt an optimal balance between multilateral debt, debts from DFIs and domestic debt to maintain steady economic growth. With domestic debt having a negative significant effect on GDP growth is an indication of a crowding-out effect thus a need to strike a balance on the optimal domestic borrowing that would not negatively affect private investments in the East African region. Governments encouraged to borrow externally rather than internally to allow internally available fund be channeled to local investments by private sector. Private sector and government to reduce cash holding in banks but rather invest in short- and long-term viable projects to boost the economy. However, caution should be observed in external borrowing to ensure that such borrowing is sustainable.

The study recommended on the second objective that, the positive effect of debts from development financial institutions on economic growth affirms the need for governments to ensure that contracted national debts are directed towards encouraging investment in the country so as to increase capital formation in the country and consequently a sustainable economic growth.

The study recommended on the third objective that, prudential fiscal management measures are required to avoid an unnecessary increase in overall debt. A reduction in borrowing will enable East African region countries to use a greater proportion of their tax revenues for investments rather than repaying loans, thereby increasing economic growth.

**Areas for Further Research**

In future, this study can be extended by other researchers in the following ways. First, different indicators such as debt repayment and the debt-to-GDP ratio can be used to evaluate the effects of external debt on economic growth in East African countries. Second, a different estimation technique can be used to explore the short term and long-term effects of domestic and external debt on economic growth.

**REFERENCES**

Abbas, S. A., Blattner, L., De Broeck, M., ElGanainy, M. A., & Hu, M. (2012). *Sovereign debt composition in advanced economies: a historical perspective*. International Monetary Fund.

Abbas, S. A., & Christensen, J. E. (2010). The role of domestic debt markets in economic growth: An empirical investigation for low-income countries and emerging markets. *IMF Staff Papers*, *57*(1), 209-255.

Abu-Bader, S., & Qarn, A. (2006) 'Financial development and economic growth nexus: Time series evidence from middle eastern and north African countries', *Munich Personal RePEc Archive (MPRA) Paper 972, University Library of Munich, Germany.*

Acaravci, S. K., Ozturk, I., & Acaravci, A. (2009). Financial Development and Economic Growth: Literature Survey and Empirical evidence from Sub-Saharan African Countries. *SouthAfrican Journal of Economic and Management Sciences, 12, 11-27.*

Adofu, I., & Abula, M. (2010). Domestic debt and the Nigerian economy. *Current Research Journal of Economic Theory*, *2*(1), 22-26.

Adegbite, T. A., & Azeez, B. A. (2018). Company income tax revenue and economic growth: empirical evidence from Sub-Sahara countries in Africa. *Вестник КазНУ. Серия Экономическая*, *139*(1), 39-49.

Afxentiou, C. (2013): "GNP Growth and Foreign Indebtedness in Middle-income" Developing Countries, *International Economic Journal, Cilt 7, Sayı 3, ss. 81-92.*

Afxentiou, C., & Serletis, Apostolos (2006): "Foreign Indebtedness in Low- and Middle-Income Developing Countries", *Social and Economic Studies, Cilt 45, Sayı 1, ss. 133-159.*

Afxentiou, C., & Serletis, A. (2011): "Growth and Foreign Indebtedness in Developing Countries: An Empirical Study Using Long-term Cross-Country Data", *The Journal of Developing Areas, Cilt 31, Fall, ss. 25-40.*

Akinlo, T. (2016). Institution and economic growth in sub-Saharan Africa (1986–2013). *Emerging Economy Studies*, *2*(2), 170-180.

Amoateng, K., & Amoako, B. (2014): "Economic Growth, Export and External Debt Causality: *The Case of African Countries", Applied Economics, Cilt 28, ss. 21-27*.

Atique, R., & Malik, K. (2012). Impact of domestic and external debt on the economic growth of Pakistan. World Applied Sciences Journal, 20(1), 120-129.

Asghar, N., Qureshi, S., & Nadeem, M. (2016). Effects of socio-economic and political factors on the crime rate in Pakistan. *Journal of political studies*, *23*(1), 183.

Asteriou, D., & Monastiriotis, V. (2004). What Do Unions Do at the Large Scale? Macro-Economic Evidence from a Panel of OECD Countries. *Journal of Applied Economics, 7(1), 2746.*

Alesina, Alberto, and Guido Tabellini (1989), External Debt, Capital Flight and Political Risk,Joumal of Intemational Economics, Vol. 27, pp. 199-220.

Ali, R., & Mustafa, U. (2009). External debt accumulation and its impact on economic growth in Pakistan. *The Pakistan Development Review*, 79-95.

Ayadi, F. S., & Ayadi, F. O. (2008). The impact of external debt on economic growth: A comparative study of Nigeria and South Africa. *Journal of sustainable development in Africa*, *10*(3), 234-264.

Baldacci, E., Gupta, S., & Mulas-Granados, C. (2009). How effective is fiscal policy response in systemic banking crises?.

Baltagi, G., & Xiong L. (2000). To Pool or Not to Pool: Homogeneous Versus Heterogeneous Estimators Applied to Cigarette Demand. *Review of Economics and Statistics 82: 117*

Balassone, F., Francese, M., & Zotteri, S. (2010). Cyclical asymmetry in fiscal variables in the EU. *Empirica*, *37*, 381-402.

Bauerfreund, O. (2009): "External Debt and Economic Growth: A Computable General Equilibrium *Case Study of Turkey 1985-1986", Duke University Ph.D.*

Barro, R. J., McCleary, R. M., & McQuoid, A. (2010). Economics of Sainthood (a preliminary investigation). *Online: www. economics. harvard. edu/faculty/barro/files/Saints% 2Bpaper% 2B020910. pdf*.

Borensztein, E. (2010): "Debt Overhang, Credit Rationing, and Investment", *Journal of Development Economics, Cilt 32, ss. 315-335.*

Boboye, A., & Ojo, O. (2012). Effect of External Debt on Economic Growth and Development of Nigeria, International Journal of Business and Social Sciences, 3(12), 297-304.

Bullow, J., & Kenneth R. (2012): "Cleaning Up Third World Debt Without Getting Taken to the Cleaners*", Journal of Economic Perspectives, Cilt 4, Sayı 1, ss. 31-42*.

Burnside, C., & Dollar, D. (2000). Aid, policies, and growth. *American economic review*, *90*(4), 847-868.

Cecchetti, S. G., Mohanty, M. S., & Zampolli, F. (2011). The real effects of debt.

Checcherita-Westphal, C. D., & Rother, P. (2010). The impact of high and growing government debt on economic growth: an empirical investigation for the euro area.

Chowdhury, K. (2014): "A Structural Analysis of External Debt and Economic Growth: Some Evidence from Selected Countries in Asia and the Pacific", *Applied Economics, Cilt 26, ss. 1121-1131.*

Clements, K. W., & Qiang, Y. (2003). The economics of global consumption patterns. *Journal of Agricultural and Applied Economics*, *35*(1379-2016-113574), 21-37.

Cohen, D. (2013): "Low Investment and Large LDC Debt in the 1980's", *The American Economic Review, Cilt 83, Sayı 3, ss. 437-449.*

Cohen, J. A. (2011). *Intangible assets: valuation and economic benefit* (Vol. 273). John Wiley & Sons.

Cunningham, T. (2013): "The Effects of Debt Burden on Economic Growth in Heavily Indebted Nations", *Journal of Economic Development, Cilt 18, Sayı 1, ss. 115-126.*

Diaz Alejandro, C. F. (1981). Open economy, closed polity?. *Millennium*, *10*(3), 203-219.

Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social indicators research*, 189-216.

Deshpande, A (2010): "The Debt Overhang and the Disincentive to Invest", *Journal of Development Economics, Cilt 52, ss. 169-187.*

Deshpande, A. (Ed.). (2011). *Capital without borders: challenges to development*. Anthem Press.

Eaton, R. A., & Hale, M. D. (1993). *Wood: decay, pests and protection*. Chapman and Hall Ltd.

Eaton, S. (2013). Political economy of the advancing state: The case of China's airlines reform. *The China Journal*, (69), 64-86.

Fayed, M. E. (2012). Crowding out effect of public borrowing: The case of Egypt. *International Research Journal of Finance and Economics*, *107*(1), 28-38.

Feldstein, M. (2006): "International Debt Service and Economic Growth: Some Simple Analytics", *National Bureau of Economic Research, 2076, 35 Pages.*

Filip, B. F. (2010). Determinants of public debt. The case of the European Union countries. *Theoretical & Applied Economics*.

Fosu, K. (2011): "The Impact of External Debt on Economic Growth in Sub-Saharan Africa", *Journal of Economic Development, Cilt 21, Sayı 1, ss. 93-118.*

Fosu, K. (2013): "The External Debt Burden and Economic Growth in the 1980s: Evidence from Sub-Saharan Africa", *Canadian Journal of Development Studies, Cilt 20, Sayı 2, ss. 307-318.*

Fry, J. (2006): "Terms-Of-Trade Dynamics in Asia: An Analysis of National Saving and Domestic Investment Responses to Terms-Of Trade Changes in 14 Asian LDC", *Journal of International Money and Finance, Cilt 5, ss. 57-73.*

Fried, D. B. (2017). *Inflation, default, and the currency composition of sovereign debt in emerging economies*. Congressional Budget Office.

Fukuda, S. I., & Kon, Y. (2010). ADBI Working Paper Series

Geiger, L. (2010) Debt and Economic Development in Latin America, *The Journal of Developing Areas, 24, 181-194.*

Harmon, E. Y. (2012). *The impact of public debt on inflation, GDP growth and interest rates in Kenya* (Doctoral dissertation, University of Nairobi,).

Hauner, D. (2006). Fiscal Policy and Interest Rates: How Sustainable is the'New Economy'?.

Hofman, B., & Helmut, R. (2011): "Some Evidence on Debt-Related Determinants of Investment and Consumption in Heavily Indebted Countries", *Weltwirtschafliches Archiv, Cilt 127 Sayı 2, ss. 280- 297.*

IMF. (2019) World Economic Outlook, *Supplementary Note 1, Washington, USA.*

Ighodaro, C.A., & Nwaogwugwu, I.C. (2013). Effectiveness of foreign aid on the growth of the agricultural sector in Nigeria. Ethiopian Journal of Economics, 22(2), 131 – 146.

Iyoha, M. A. (2010). Leadership, policy making, and economic growth in African countries: The case of Nigeria. *Leadership and Growth*, *165*.

Jayaraman, T. K., & Lau, E. (2009). Does external debt lead to economic growth in Pacific island countries. *Journal of Policy Modeling*, *31*(2), 272-288.

Kamau, G. W. (2013). *Effect of macroeconomic factors on Commercial banks lending to agricultural Sector in Kenya* (Doctoral dissertation, University of Nairobi).

Kasidi, F., & Said, A. M. (2013). Impact of external debt on economic growth: A case study of Tanzania. *Advances in Management and Applied economics*, *3*(4), 59.

Karagol, E. (2002). External debt and economic growth relationship using the simultaneous equations.

Koka, D. N. (2012). *The relationship between the government bond issues and economic growth in Kenya* (Doctoral dissertation, University of Nairobi).

Körmendi, L. K. G. V. (2019). China in Search of Equilibrium–Transition Dilemmas of Growth and Stability. *FINANCIAL AND ECONOMIC REVIEW*, 114.

Khan, S., & Senhadji, A. (2013) Financial development and economic growth: A review and new evidence, *Journal of African Economies, 12, AERC Supplement 2: ii89-ii110.*

King, R. & Levine, R. (2013). Finance, Entrepreneurship, and Growth: Theory and Evidence. *Journal of Monetary Economics, 32(3), 513.*

Kiran, B., & Guris, B. (2009) Financial development and economic growth: A panel data analysis of emerging countries, *International Research Journal of Finance and Economics, 30, 1450-2887.*

Krugman, P. (1988). Financing vs. forgiving a debt overhang. *Journal of development Economics*, *29*(3), 253-268.

Levine, R., & Beck, T. (2010) financial intermediation and growth: Causality and causes, *Journal of Monetary Economics, 46, 31-77.5860*

Lintner, J. (1975). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. In *Stochastic optimization models in finance* (pp. 131-155). Academic Press.

Loayza, V., & Rancière, R. (2006). Financial Development, Financial Fragility, and Growth. *journal of Money, Credit and Banking, 38(4), 1051-1076.*

Lucas, R. (1988) On the mechanics of economic development. *Journal of Monetary Economics, 22(1), 3-42.*

Luintel, K., & Khan, M., (1202) A quantitative reassessment of the finance growth nexus: evidence from a multivariate VAR, *Journal of Development Economics, 60(2), 381-405.*

Maana, I., Owino, R., & Mutai, N. (2008, July). Domestic debt and its impact on the economy-the case of Kenya. In *13th Annual African Econometric Society Conference in Pretoria, South Africa from 9th to 11th July* (Vol. 40, No. 346-598).

Makau, J. K. (2008). *External public debt servicing and economic growth in Kenya: An empirical analysis* (Doctoral dissertation).

Matiti, C. (2013). The relationship between public debt and economic growth in Kenya.

Moki, M. (2012). *An analysis of the relationship between public debt and economic growth in Africa* (Doctoral dissertation).

Mohamed, S. (2008) Financial-growth nexus in Sudan: empirical assessment based on an autoregressive distributed lag (ARDL) model Arab Planning Institute *Working Paper Series 0803, [Online], Available: http://www.arabapi.org/wps/wps0803.htm*

Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative & qualitative apporaches* (Vol. 2, No. 2). Nairobi: Acts press.

Muhanji, S. (2010). *Mitigating the effects of external debt burden in Africa* (Doctoral dissertation, University of Witwatersrand).

Nautet, M., & Van Meensel, L. (2012). Main developments in public finance. *The Return of the Deficit: Public Finance in Belgium Over 2000-2010*, 7, 51.

Ndambiri H. (2012) Determinants of Economic Growth in Sub-Saharan Africa: A Panel Data Approach. *International Journal of Economics and Management Sciences Vol. 2, No. 2, 2012, pp. 18-24*

Ndebbio, J. (2004) Financial deepening, economic growth and development: Evidence from selected sub-Saharan African countries, *African Economic Research Consortium (AERC) Research Paper 142.*

Neusser, K., & Kugler, M. (1998) Manufacturing growth and financial development: evidence from OECD countries, *Review of Economics and Statistics, 80, 638-646.*

Odedokun, M. (2016) Alternative econometric approaches for analyzing the role of the financial sector in economic growth: Time-series evidence from LDCs, *Journal of Development Economics, 50(1), 119-146.*

Ogunmuyiwa, M. S. (2011). Does external debt promote economic growth in Nigeria. *Current research journal of economic theory*, 3(1), 29-35.

Pattillo, C., H. Poirson and L. Ricci (2006) *What Are the Channels through Which External Debt Affects Growth*? IMF WP, WP/04/15.

Pattillo, C., H. Poirson and L. Ricci (2011) "External debt and growth". *Review of Economics and Institutions*, **2** (3), Article 2.

Panizza, U., & Presbitero, A. F. (2013). Public debt and economic growth in advanced economies: A survey. *Swiss Journal of Economics and Statistics*, *149*, 175-204.

Pesaran, M., & Smith, R. (2015). New Directions in Applied Macroeconomic Modeling. *Dept. of Applied Economics, University of Cambridge.*

Pesaran, H., & Smith, R. (2017). Structural Analysis of Vector Error Correction Models with Exogenous I (1) Variables. *Dept. of Applied Economics University of Cambridge.*

Pesaran, H., & Smith, R. (2010). 'Bounds testing approaches to the analysis of level relationships', *Journal of Applied Econometrics, 16(3), 289-326.*

Pesaran, H., & Shin, Y. (2015). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association, 94(446), 621-634.*

Rais, S. I., & Anwar, T. (2012). Public debt and economic growth in Pakistan: A time series analysis from 1972 to 2010. *Academic research international*, *2*(1), 535.

Ramzan, M., & Ahmad, E. (2014). External debt growth nexus: Role of macroeconomic polices. *Economic Modelling*, *38*, 204-210.

Rousseau, L., & Wachtel P. (2018) Financial intermediation and economic performance: Historical evidence from five industrialized countries, *Journal of Money, Credit and Banking, 30,65778.*

Reinhart, C. M., Reinhart, V., & Rogoff, K. (2015). Dealing with debt. *Journal of International Economics*, *96*, S43-S55.

Reinhart, C. M., & Rogoff, K. S. (2008). The aftermath of debt surges. *Annual Review of Economics*, *14*, 637-663.

Saungweme, T., & Mufandaedza, S. (2013). An empirical analysis of the effects of external debt on poverty in Zimbabwe: 1980–2011. *International Journal of Economics and Research*, *4*(6), 20-27.

Sen, S., Kasibhatla, K. M., & Stewart, D. B. (2007). Debt overhang and economic growth–the Asian and the Latin American experiences. *Economic Systems*, *31*(1), 3-11.

Serieux J., Samy Y. (2001). *The debt service burden and growth: Evidence from low-income countries* [Working paper]. The North-South Institute

Schclarek, A. (2004) *Debt and Economic Growth in Developing Industrial Countries*. Lund University Department of Economics, WP No. 34.

Singh, C. (2015). Separation of debt and monetary management in India. *IIMB Management Review*, *27*(1), 56-71.

Shabbir, S. (2012). Implications of public external debt for social spending: a case study of selected Asian developing countries. *The Lahore Journal of Economics*, *20*(1), 71.

Spilioti, S., & Vamvoukas, G. (2015). The impact of government debt on economic growth: An empirical investigation of the Greek market. *The Journal of Economic Asymmetries*, *12*(1), 34-40.

Todaro, M. P. (2006). stephen C. Smith. *Economic development*, *10*.

Taylor, J. B. (1983). Staggered price and wage setting in macroeconomics. *Handbook of macroeconomics*, *1*, 1009-1050.

Uremadu, S. O., & Onyekachi, O. (2018). The impact of capital structure on corporate performance in Nigeria: A quantitative study of consumer goods sector. *Current Investigations in Agriculture and Current Research*, *5*(4), 697-705.

Were, M. (2001). *The impact of external debt on economic growth in Kenya: An empirical assessment* (No. 2001/116). WIDER discussion paper.

Woods, N. (2003). The United States and the international financial institutions: Power and influence within the World Bank and the IMF. *Foot, McFarlane and Mastanduno (Eds.), US Hegemony and International Organizations, Oxford*, 92-114.

World Bank (2020), World Development Indicators, CD-ROM.

Wu, L., & Su-Yin, C (2010) The dynamic impacts of financial institution on economic growth: Evidence from the European Union. *Journal of Macroeconomics, Elsevier, Vol. 32(3), pages 879-891 September.*

Zang, H. & Kim, Y. C. (2007) Does financial development precede growth? *Robinson and Lucas might be right, Applied Economic Letters, 14, 15-19*

Zouhaier, H., & Fatma, M. (2014). Debt and economic growth. *International Journal of Economics and Financial Issues*, *4*(2), 440-448.