THE IMPACT OF EXTERNAL DEBT ON UGANDA’S ECONOMIC GROWTH

BY

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DECLARATION

I, TURINAWE OBADIA hereby declare that this dissertation entitled “The impact of external debt on Uganda’s economic growth” is my original work and has not been presented by anyone for the award of a degree in any other university.

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[Signature]

DATE 12TH FEB 2019
DEDICATION

This research is dedicated to my parents; Mr. & Mrs. Gad Mugyezi Mahega, my wife Sarah Turinawe, brothers, sisters and friends. This work would not have been possible without their constant support, time and encouragement which have contributed immensely to the success of this study. Thank you and God bless you.
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<tr>
<td>ARDL</td>
<td>Autoregressive Distributive Lag</td>
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<tr>
<td>BOU</td>
<td>Bank of Uganda</td>
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<tr>
<td>CUSUM</td>
<td>Cumulative Sum</td>
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<tr>
<td>DEDH</td>
<td>Direct Effect on Debt Hypothesis</td>
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<tr>
<td>ECM</td>
<td>Error Correction Model</td>
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<tr>
<td>FY</td>
<td>Financial Year</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>HIPC</td>
<td>Highly Indebted Poor Countries</td>
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<td>IDA</td>
<td>International Development Association</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>LCH</td>
<td>Liquidity Constraint Hypothesis</td>
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<td>MFPED</td>
<td>Ministry of Finance Planning and Economic Development</td>
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<td>PV</td>
<td>Present Value</td>
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<td>UDN</td>
<td>Uganda Debt Network</td>
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<td>UGX</td>
<td>Uganda Shilling</td>
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<td>USD</td>
<td>United States Dollar</td>
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<td>VECM</td>
<td>Vector Error Correction Model</td>
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ABSTRACT

This study examined the impact of external debt on Uganda’s economic growth over the period 1987-2017 using the Autoregressive Distributed-lagged (ARDL) model estimation techniques after carrying out diagnostic tests on the data. The analysis of unit root was performed on each of the variables incorporated in the model and the result showed that all the variables except lending interest rates were not stationary at level but achieved stationary after first difference at 5% level of significance. This research was prompted by the fact that in the recent past, Uganda’s debt has increased significantly which could cause economic challenges if it’s not prudently managed. As at June 2017, the country’s public debt was estimated at USD 9.4 billion an increase from USD 8.4 billion in June 2016.

Results of the study showed that in the long run, external debt had a significantly negative effect on economic growth while debt service had a positive effect on economic growth. Other variables in the model included exports which had a positive relationship with economic growth. However, the macroeconomic factor of real interest rate and the dummy variable controlling for the debt relief that was given to Uganda did not have a significant effect on economic growth. Based on these findings, it is evident that Uganda’s economic growth was curtailed by its external debt levels and Uganda should therefore adopt prudent management of its external debt by borrowing for only very high priority well appraised and self-liquidating projects if it is to realize benefits out of external borrowing as stated by some theories.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Uganda has made progress in maintaining economic stability and improvements in economic development since the attainment of its independence in 1962. However, despite the efforts which Government has put in place to raise domestic revenues, the country remains in a pattern of financing its deficit through external and domestic borrowing. The World Bank (2017) reported that Uganda’s average annual growth was 4.5% in the five years to financial year (FY) 2015/16, compared to the 7% achieved during the 1990s and early 2000s. The report indicated that this slow economic growth was as a result of a number of factors which included private sector credit constraints, poor execution of public sector projects and an unrealized fiscal stimulus that hindered Uganda from accelerating in its development agenda.

Uganda Debt Network (UDN, 2013) reported that whereas external debt stock is significantly higher than domestic debt, the interest paid on external debt is significantly lower than that paid on domestic debt. Public debt grew from USD 8.4 billion as at end of June 2016 to USD 9.4 billion in June 2017 representing an increment from 34.6% of GDP to 37.0%, this increment in total public debt stock was driven by an increase in external debt from USD 5.2 billion in June 2016 to USD 6.2 billion as at June 2017 (Ministry of Finance, Planning and Economic Development [MFPED], 2017). The report further pointed out that Uganda had moved from low to moderate risk of debt distress.

Studies have found that external debt is one of the main macroeconomic indicators, which form a country’s image in international markets (Abbas, 2007). External debt is one of the
inward foreign direct investment flow determinants and its financing has significant impact on the economy since it results in resource outflow. Some analysts argue that the link between external borrowing and economic growth is driven by the fact that it is low economic growth that leads to high levels of borrowing and therefore countries borrow externally to spur their economic growth (Eaton, 1992; Pattillo et al., 2002; Baldacci et al., 2003). However other analysts argue that external debt negatively affects economic growth. This is based on the hypothesis that external debt servicing crowds out government expenditure on public investments in human capital and infrastructure and thus reducing economic growth (Friedman, 1978; Krueger, 1987).

1.2 Problem Statement

The effect of external debt on economic growth has been a subject of both theoretical and empirical analysis in the economic growth literature for a long period of time. Although there are numerous studies examining this relationship, there is no consensus on the effect of external debt on economic growth.

A number of theoretical and empirical analyses indicate that external debt curtails economic growth. Studies that support this view include (Mugerwa, 2000; Adepoju et al., 2007; Hameed et al., 2008; Oryema, 2009; Ezeabasili, 2011). These studies maintain that external debt negatively affects economic growth. This is mainly through debt overhang (when a country’s debt is more than its debt repayment ability) where by government in effort to repay the accumulated debt will raise the tax rate on the private sector which discourages private sector investment hence impeding economic growth.

However, other studies argue that external debt can encourage investment up to a certain point considering that most developing countries have inadequate capital stock which is attributed to low income, low savings and the savings-investment gap which could be
supplemented by external borrowing. If borrowed funds are put in productive investments and all other factors favorable, economic growth would be enhanced such that debt repayments will be easily met without imposing burdens (Pattillo et al., 2004). Clement et al. (2003) also argued that external debt can encourage investment up to a certain point where the debt overhang begins and the ability of investors to provide capital starts to deteriorate.

In regard to the above studies, it is evident that the empirical studies which focus on the link relationship between external debt and economic growth show mixed results and this may be attributed to the estimation methodologies, a country’s level of debt, quality and span of data used. UDIN (2016) established that while Uganda’s borrowing was not yet a problem, the external borrowing had increased by 82% between FY 2013/14 and FY 2014/15. This increment is quite big and therefore a concern for one to investigate the impact of external debt on Uganda’s economy.

This study therefore, intends to complement the existing empirical studies by using Autoregressive Distributed Lag (ARDL) model that uses time series data to investigate the impact and relationship between external debt and economic growth in Uganda. In addition, the model will provide information on any adjustments made on the variables.

1.3 Objectives of the Study

The principal objective of this research is to determine the effect of external debt on economic growth in Uganda.

The specific objectives are:

i. To estimate the impact of debt servicing on economic growth in Uganda

ii. To identify whether there is a relationship between exports and economic growth in Uganda.
iii. To determine the impact of lending interest rates on economic growth.

1.4 Hypothesis

i. An increase in exports leads to an increase in economic growth.

ii. An increase debt service leads to a decrease in economic growth.

iii. An increase in lending interest rates has a negative impact on economic growth.

1.5 Scope of Study

To fully capture the effects of external debt on Uganda’s economic growth, a thorough assessment will be conducted with data covering the period of 1987-2017.

1.6 Significance of the Study

The study was motivated by the fact that studies indicate different relationships between external debt and economic growth, and that the impact of these relationships is country specific. Okonkwo (2013) studied selected West African countries using the Error Correction Model and found that external debt has country specific effects due to structural differences and appeared to have immediate significant impacts. In addition, scholars have given various international, regional as well as country specific explanations for Sub-Saharan African Countries (SSA’s) indebtedness though they fail to point out the exact factors and remedies (Fosu, 1996, 1999; Ayadi, 2008).

This study therefore intends to use empirical analysis to find out the relationship and estimate the impact of external debt on Uganda’s economic growth. The study will be useful because it will add evidence regarding the relationship between external debt and economic growth in Uganda. The analysis on this issue will be essential since the two variables are among the key
macroeconomic variables used to measure the economic progress and fiscal sustainability of the country.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed both theoretical and empirical literature on the effect of external debt on economic growth in Uganda. The chapter also provided a critical review and expounded on the research gaps.

2.2 Theoretical Literature

This section reviews the theoretical literature related to the impact of public debt on economic growth and is classified in four major schools of thought as explained below;

2.2.1 Classical theories on public debt

These focused on the idea that government expenditures satisfy useful social functions which, in general, cannot or are inappropriate to be performed by the private sector. However, in order to perform these useful social functions, the government consumes part of the social wealth that has been produced and in this sense government expenditures are unproductive.

Smith (1776) established that the economic effects of public debt are negative and therefore argued that governments should not run budget deficits because they lead to the accumulation of public debt with destructive effects for the nation even if all of it was owed domestically. His view was based on the idea that the redemption of public debt in the future will entail increased taxation with negative effects on the investment potential of domestic producers and also the flight of capital to foreign countries. According to Smith, debt undermines the “natural progress of a nation towards wealth and prosperity” since resources that could be
used productively from the private sector of the economy are diverted by the state in order to finance its unproductive activities. Smith’s ideal was a balanced budget and the preferred method of financing government expenditures was through taxation and not borrowing (Smith, 1776).

David Ricardo shares Smith’s views on the unproductive character of government expenditures and on the notion that their financing via public borrowing “consumes” the investible product, and, therefore, it becomes detrimental to society’s capacity to accumulate wealth. Ricardo further explains the two methods of financing government budget (taxation vs. borrowing) “in point of economy, there is no real difference” and this has been taken, by some economists, literally to mean the economic effects of the mode of financing are equal. Barro (1974) argued that the policy of cutting taxation through the issue of debt securities in the effort to raise aggregate demand cannot but fail, because the public anticipates the future increase in taxation for the payment of interest on the public debt and thus consumption expenditures fall. As a consequence, the final effects of deficit spending are similar regardless of the mode of financing. Ricardo argues that in the long run, the ruinous results of public borrowing in society’s capacity to accumulate are even worse than those caused by taxation. The rationale is similar to Smith’s, that is, borrowing doubtless “consumes” available savings, while the incidence of taxation is on current incomes for which we do not really know whether they were to be invested or consumed (Ricardo, 1951).

J.S. Mill also argued along similar lines with Smith and Ricardo with regards to the alternative methods of financing of public expenditures. In fact, J.S. Mill qualified his view by arguing that public debt might be beneficial for a country, when it is financed from excess foreign savings, also when government borrowing generates savings that would otherwise
have not taken place and finally when government borrowing absorbs domestic savings that would be either invested unproductively or invested in foreign countries (Mill, 1848).

### 2.2.2 Neoclassical concept on public debt

Some authors, like Modigliani (1961), Diamond (1965) and Saint-Paul (1992), have urged that increasing public indebtedness is indeed detrimental, because a loose fiscal policy boosts current consumption, which in turn leads to the decline of the savings rate. As a result, the interest level needs to rise, which in turn will lead to a decline in investments and a deceleration of economic growth. There is much concern that the high public debt-to-GDP ratios, which are not expected to decrease significantly in the foreseeable future, will have adverse effects on growth prospects (Reinhart and Rogoff 2013).

According to the Liquidity Constraint Hypothesis (LCH), debt service reduces funds available for investment purposes (Hoffman, 1991). Hence a negative effect of debt service on investment would result into a binding liquidity constraint causing debt overhang. Debt-overhang is when a country’s debt is more than its debt repayment ability. Krugman (1988) says that the debt overhang theory shows that when there is likelihood that debt will be greater than the country’s repayment capability in future, the anticipated debt-service costs will dishearten more domestic and foreign investment because the anticipated rate of return from investment will be very low to sustain the economy. This will reduce both domestic and foreign investments and hence lower economic growth.

**Solow Growth Model and External Debt**

The standard Cobb-Douglas production function with a constant scaling coefficient in front of the capital and labor terms is inadequate because the expansion of capital stock and labor supply leave a large portion of economic growth unexplained (Solow 1956). He identified
two possible variation sources of output per worker, i.e. the differences in capital and effectiveness of labor, he also added an important assumption that technological change and saving rate are exogenous and the technology process is labor-augmenting. The principal conclusion of Solow model is that there will be an effect on the income level of savings but the accumulation of physical capital cannot account for either the vast growth over time or the vast geographic differences in output per person, thus the long term driving force of growth is the exogenous technology change or the effectiveness of labor. This position also rests on certain points: (a) fundamental forces like resources, preferences and technology lead to Pareto-efficient outcomes, and (b) institutions do not even influence the choice of the equilibrium. External debt affects the technology change indirectly through capital accumulation. In this way, external debt has economic growth effects in the long run.

2.2.3 Keynesian conception of the public debt

Based on the Keynesian approach, an expansive fiscal policy resulting in growing budget deficit and public debt increases the aggregate demand through the budgetary multiplier mechanism (Haavelmo, 1945; Baumol, 1955) and hence results in a greater growth rate. Additionally, indebtedness may also lead to investments through infrastructural developments which may expand aggregate supply as well. It must be noted that while on the one hand Keynes suggested that the proportion of roles assumed by the government should be increased during an economic recession to replace dropping aggregate demand, on the other hand, it is not debt and deficit which directly lead to accelerated economic growth but as it may be concluded from the new growth theory, for instance – it is the suitably structured fiscal stimulus (expanding mainly human and other infrastructure) which results both in the deterioration of debt and deficit indicators, and in the acceleration of economic growth.
In contrast with the above theories, the Ricardian equivalence proposition emphasizes that indebtedness does not affect economic growth (Barro, 1989). The hypothesis proposes that at the time when fiscal stimulus takes place and thus the budget deficit is growing and government indebtedness is accelerating, market players prepare for a future period of austerity measures and tax rises, and consequently they shift their focus from consumption and investment to increasing savings, which neutralizes the impact of the demand stimulating fiscal policy.

2.3 Empirical Literature

Various studies have been carried out on the issue of the impact of external debt on economic growth across the world. In the recent publication (MFPED, 2017) reported that under the most extreme stress scenario, there was a breach of the Present Value (PV) of debt to exports ratio in a debt sustainability analysis that was conducted. The report further stated that exports were a significant cause of concern for external debt sustainability. If exports are not enhanced, the country could face a debt liquidity problem. In addition, the report showed that Uganda’s debt was still sustainable, however the countries levels of debt moved from low to moderate risk of debt distress. This could affect the level of investments and foreign inflows into the country.

Apart from the effect of high debt stock on investment, external debt can also affect growth through accumulated debt service payments which are likely to “crowd out” investment (private or public) in the economy (Cohen, 1993; Clement et al., 2003). This reduces the resources that can be used domestically. Tayo (1993) opined that the impact of debt servicing of growth is damaging as a result of debt-induced liquidity constraints which reduces government expenditure in the economy. These liquidity constraints arise as a result of debt service requirements which shift the focus from developing the domestic economy to
repayments of the debt. Public expenditure on social infrastructure is reduced substantially and this affects the level of public investment in the economy. In the Uganda’s budget for financial year 2016/2017, the estimated interest payable public debt was UGX 2.0 trillion, about 10% of the total budget allocations and the third largest among budget sectors (MFPED, FY 2016/17). This could have economic growth implications since a lot of funds were allocated to debt servicing.

Agenor and Montiel (1996) stipulated that, the approach to external debt is motivated by many observations. The principal argument is the policy-oriented discussion that the debt problem is premised on the question of whether the debt crisis is one of solvency or of liquidity problem. Liquidity problem is when a country is unable to service its debts. This implies that absence of liquidity is when a country lacks enough cash at hand to pay current debt. Solvency relates to whether the value of a country's liabilities exceeds the ability to pay at any time. Ajayi (1991) says “a country is insolvent when it is incapable of servicing its debt in the long run”.

The International Monetary Fund (IMF) and the International Development Association (IDA) agreed to support a debt reduction package for Uganda under the enhanced Heavily Indebted Poor Countries (HIPC) Initiative. This was after a huge increase in Uganda’s external debt level for over decades due to arrears accumulation as a result of successive governments defaulting on debt obligations, deteriorating terms of trade, expansionary fiscal policies and heavy borrowing for economic recovery and stabilization programs. In 2016, UDN reported that public debt was on a rise which could result into a debt overhang problem.

External debt does not automatically transform into debt burden when funds are optimally utilized. In an optimal condition, the marginal return on investment is greater than or equal to the cost of borrowing. According to Edelman (1983), the critical factors affecting debt
service capacity are returns on investment, the cost of borrowing, and the rate of savings. He added that the benefits of external borrowing have been emphasized in the literature to the neglect of the costs. Ubok-Udom (1978), enumerates the costs of external borrowing to include debt service burden which incorporates costs implied by the term structure of external loans, costs of resultant liquidity crisis, costs of the viciously cumulative debt, the manageability of the debt, costs of debt rescheduling, and costs of import substitution among others.

S. Ayadi and Ayadi (2008) examined the impact of external debt on the economic growth of the Nigerian and South African economies using annual data on real GDP, external debt stock, fixed capital stock and terms of trade and found evidence of a negative relationship between external debt and economic growth for South Africa and a positive external debt contribution to growth up to a certain point for Nigeria. They however failed to establish the threshold level of external debt in Nigeria. Debi et al. (2013) also used ARDL model to determine the impact of Public debt on economic growth and found that domestic and external debt had a negative impact on economic growth in India. In addition, they revealed that debt service payment and exports had a positive and significant effect on economic growth.

Clement et al. (2003) also argued that external debt can encourage investment up to a certain point where the debt overhang begins and the ability of investors to provide capital starts to deteriorate. They analyzed the channels through which external debt impacts economic growth in low-income countries by estimating a reduced form growth equation for 55 low-income countries for the period of 1970 to 1999, using both fixed effects and system generalized method of moments. However, Adegbite et al. (2008) attempted to investigate the external debt-growth relationship using a non-linear model, and found an insignificant
relationship between external debt and economic growth in both developing and industrial countries.

Colaco (1985) explained debt service vulnerability in developing countries using three contexts as follows. First, the size of external loans has reached a level that is much larger than equity finance, resulting in an imbalance between debt and equity. Secondly, the proportion of debt at floating interest rates has risen dramatically, so borrowers are hit directly when interest rates rise. Thirdly, maturities have shortened considerably in large, partly because of the declining share of official flows. Mehran (1986) argues that adequate debt management is essential in an increasingly complex financial environment and identified the critical components of debt management as policy co-ordination, regulatory environment, accounting, and statistical analysis. This is true since the effectiveness of measures to reach a balanced level of debt supportive of development, depends on the debtor nation adopting fiscal adjustment and structural reform. Other features are transparency and anticorruption policies, creation and/or improvement of debt management structures, and decision-making processes among others.

Ezeabasili (2011) applied a granger causality test using Nigerian external debt data and found a negative relationship between economic growth and the level of external debt in Nigeria. Furthermore, the Pairwise Granger Causality test results revealed uni-directional causality between external debt service payment and economic growth at 10 percent level of significance. External debt was found to Granger cause external debt service payment at the 1 percent level of significance. Audu (2004) examined the impact of external debt on economic growth and public investment in Nigeria and found that debt service trouble prevents rapid economic growth and worsens the social issues. This increased uncertainty in the Nigerian
economy which impeded foreign investors and also reduced the level of private investment in the economy.

Debt acquisition and management determines the level of sustainability of public debt. Ajayi and Khan (2000) reported that sustainable foreign borrowing is measured by several ratios, such as debt stock to export, debt service to export, public debt to GDP (or GNP), and external debt to Gross National Income (GNI) among others. However, the determination of the sustainable level of these ratios is indeterminable and their usefulness is reduced to a warning of potential explosive growth in the stock of foreign debt. For instance, if the acquisition of additional foreign debt increases the debt servicing burden more than it increases the country’s capacity to bear the burden, such an acquisition becomes undesirable and the situation must be reversed through export expansion. If export is not expanded, more borrowing will be necessitated for servicing debt and external debt will pile up above the country’s capacity to bear.

Adepoju et al. (2007) revealed that Nigeria's huge debt burden has negative effects for the economy. This was through the servicing of external debt had gravely encroached upon resources availability for socioeconomic development and poverty alleviation. Jonse (2002) analyzed the impact of external debt and economic growth in Ethiopia, and noted that though the indebted developing countries have been able to pay, the willingness to pay decreases for a number of reasons like fiscal irresponsibility, exchange rate misalignment among others. In Uganda the cost of debt serving has been increasing overtime. As a percentage of Uganda’s government total expenditure, interest payments were 13.8 % in FY2016/17. This compares with 10.2 % in FY 2015/16 (MFPED, 2017).
Choong et al. (2010) investigated the impact of external debt on the economic growth in Malaysia during the period 1970 – 2006. Using Co-integration test, the findings revealed that all components of debts have a negative effect on long run economic growth. In addition, the Granger causality test showed the existence of short-run causality linkages between external debt and economic growth. Also, Malik et al. (2010) examined the effect of external debt and economic growth in Pakistan for the period between 1972–2005, applying was time series econometric technique, they found out that the relationship between external debt and economic growth was significant and negative, meaning that an increase in external debt leads to reduction in economic growth. Hameed et al. (2008) analyzed the long run and short run relationships between external debt and economic growth in Pakistan using annual time series data from the period of 1970 to 2003. They investigated the dynamic effect of debt stock, debt service, capital stock and labor force on economic growth and concluded that debt servicing burden had an adverse effect on the productivity of labor and capital, hence negatively affecting economic growth.

Edo (2002) analyzed the African external debt problem with reference to Nigeria and Morocco and concluded that external debt has affected investment severely. His other findings included the fact that fiscal expenditure, balance of payments, and global interest rates are major factors explaining debt accumulation in the studied countries. He, therefore, suggests measures that could alleviate the above problems which included; privatization, sustained export promotion program, restructuring and development of capital markets, among others.

Karogol (2002) investigated both the short-run and long-run relationships between economic growth and external debt service for Turkey during 1956 – 1996. The study employed a standard production function model which analyzed data using multivariate co-integration
techniques. The Vector Auto regression estimates showed that there exists one Co-integration equation. It also revealed that debt service is negatively related to economic growth in the long-run. The causality test showed uni-directional causality between debt service and economic growth. Clements, Bhattacharya, and Nguyen (2003) examined the channels through which external debt affects growth in low income countries. Their results suggested that the substantial reduction in the stock of external debt projected for Highly Indebted Poor Countries (HIPC) would directly increase per capita income growth by about 1 percentage point per annum. They also added that reductions in external debt service could also provide an indirect boost to economic growth through their effects on public investment.

Oryema (2009) applied a panel data estimation technique to investigate the effect of external debt in Sub-Saharan Africa from 1990 to 2005 and found a negative statistically significant relationship between external debt and economic growth; he however found that external debt service had insignificant effects on economic growth. He further concluded that debt overhang was the main channel through which external debt negatively affects economic growth in Sub-Saharan Africa. Kosimbei (2015) also investigated the impact of external debt on the economic growth in East African Community for the period of 1990 – 2013, using the random effects model, the findings showed a significant negative effect of external debt on economic growth.

Ochieng et al. (2014) also examined the effect of external debt on economic growth in the East African Community for the period 1970 – 2010. Applying a Hausman specification test to verify the panel fixed-effects model, they revealed that external debt negatively and significantly affected economic growth in the East African Community. This meant that an increase in external debt leads to reduction in economic growth. Furthermore, Kamau (2006) used simultaneous equation models and found an adverse relationship between debt-servicing
and economic growth rate in Kenya. In addition, Were (2011) used regression and granger causality models to identify the relationship between Kenya’s external debt stock, debt service, economic growth and investment, he revealed that external debt accumulation had a negative impact on economic growth and private investment which confirmed the existence of debt overhang in Kenya at that time. Her study posts that debt servicing does not appear to affect growth adversely but has some crowding-out effects on private investment.

Contrary to the above findings, Jayaraman and Lau (2009) found that higher debt levels can promote higher economic growth. Their study involves six Pacific island countries, covering the period of 1988–2004, and was based on regressing external debt stock, exports and the budget deficit (all as a percentage of GDP). They found out that 1 % increase in the external debt stock leads to a 0.25% increase in national output. They also tested for causality and found out that while there is no granger causality relationship between real GDP and external debt in the long run, there is a significant causal relationship running from external debt to GDP in the short run. Musisi and Richens (2007) recommended that Uganda government should consider external borrowing over domestic borrowing, according to their paper, external borrowing has minimal negative effects on private sector credit and that when the external funds are invested in strategic public investments, they lead to higher economic returns.

IMF (2016) reported that Uganda was in a phase of scaling up public investment in infrastructure to support high and sustainable growth over the medium and long-term. As a result, debt was projected to continue increasing until these projects were completed and the expected growth dividends realized. They noted that strong project selection and implementation frameworks will be key to the success of the Uganda’s’ strategy, as well as fiscal consolidation once large infrastructure projects are completed, including by boosting
domestic revenue mobilization. In addition, the IMF noted that weak exports, exposure to exchange rate depreciation, and low revenues as well as the short maturity of domestic debt pose risks to debt prospects.
CHAPTER THREE

METHODOLOGY

3.1 Introduction

The general effect of external debt on economic growth can be analyzed by looking at the individual effects of the debt overhang and debt crowding effect. According to the debt overhang hypothesis, the government in an attempt to amortize the accumulated debt will increase tax rate on the private sector. This will discourage private sector investment and also reduce government expenditure on infrastructure as the resources are used to pay up huge debt service payments instead of being put into good use. This will lead to a reduction of total private and public investment in the economy and hence a downward shift of both the investment and production function curves in Solow growth model.

In the case of debt crowding out, in a bid to clear the outstanding debts, countries use their revenue from export earnings and in some cases transfer resources including foreign aid and foreign exchange resources to service their forthcoming debt. Those countries which transfer revenue from export earnings to pay huge debt payments which would have been used in other sectors of the economy discourage public investment. This in turn will decrease economic growth and will shift both the investment and production function curves in Solow growth model downward (Dereje, 2013).
3.2 Theoretical framework and model specification

The relationship between economic growth and external debt will be based on a standard production function model:

\[ Y = f(K, L) \]

Where \( Y \), \( K \) and \( L \) are measures of output, capital and labour respectively.

According to debt overhang theory if the debt of a country is more than its repayment capacity, it negatively affects investment and the ability to work, and therefore affect the growth of the economy. Therefore, external debt, debt service, exports, lending interest rate all affect capital and labour therefore affect economic growth. Pattillo and Poirson (2002) argued that debt has an inverted U-shaped relationship on economic growth. This study includes external debt, exports, debt service and lending interest rate. The inclusion of exports as one of the key inputs in the production function is consistent with Cunningham (1993) who argued that large-scale exports from a country lead to raised productivity, and hence positive economic growth.

The econometric model is from a traditional growth model established using conditional convergence equation which is extended to include debt variable and other variables that affect capital and labour which in turn affect economic growth. Cunningham (1993) tested the highly indebted developing nations and found that debt burden can be deleterious to economic growth. Debi et al. (2014) used a similar model to explain public debt and economic growth in India and also found out that external debt had negative effects of economic growth of India. This model will extend the growth model to include external debt stock, debt service, lending interest rate, exports and dummy variable for debt relief (d) under HIPC initiative that was granted to Uganda.
This changes Eq. (1) as follows,

\[ Y = f(D, S, LIR, EX, d) \]  

In Eq. (2), the variable \( D \) is external debt stock, \( S \) is external debt service, \( LIR \) is lending interest rate, \( EX \) is exports and \( d \) is a dummy variable for debt forgiveness under HIPC initiative. In order to determine the individual effects on economic growth, the study used the Ordinary Least Square (OLS) to establish the output equation for Uganda for 31-years (1987 – 2017).

\[ Y = \beta_0 + \beta_1 D_t + \beta_2 S_t + \beta_3 LIR_t + \beta_4 EX_t + \beta_5 d + \epsilon_t \]  

Where\( \beta_0 \) is a constant and \( \beta_1, \beta_2, \beta_3 \) and \( \beta_4 \) are the coefficients of External debt (D), Debt service (S), Lending interest rate (LIR), Exports(EX) and \( d \) is a dummy variable for the debt relief granted to Uganda under the HIPC initiative. By under taking the natural logarithms on both sides, this will translate into the following,

\[ \ln Y_t = \beta_0 + \beta_1 \ln D_t + \beta_2 \ln S_t + \beta_3 \ln LIR_t + \beta_4 \ln EX_t + \beta_5 d + \epsilon_t \]  

The reasons for applying the logarithm conversion were mainly to seasonally adjust all the variables and for the magnitude change of the variables. It also helps to interpret the results in elasticity term. Theoretically the effects of exports are positive and lending interest rates negative however the effects of debt and debt service are ambiguous.

### 3.3 Estimation procedure

The study employed annual time series data obtained from Bank of Uganda (BOU), Ministry of Finance Planning and Economic Development (MFPED) and the World Bank database.
The estimation techniques included Ordinary Least Square (OLS) method, Augmented Dickey-Fuller (ADF) Unit Root test, Phillips Perron unit root test and the Auto Regressive Distributed Lag model (ARDL). The estimation technique followed a three-step modeling procedure as shown below:

i. Chose optimal lag length for the model then undertook the unit root test to establish the stationarity of data and the order of integration determined. This was done employing the Augmented Dickey-Fuller (ADF) and Phillips Perron unit root test. Time series data were assumed to be non-stationary; therefore, it was necessary to carry out the unit root test because of the problem of non-stationary data producing spurious results.

**ADF test equation**

\[ \Delta Z_t = \alpha_0 + \alpha_2 t + pZ_{t-1} + \sum_{i=1}^{m} \beta_i \Delta Z_{t-1} + u_t \]

Phillips Perron unit root test equation:

\[ \Delta Z_t = \alpha_0 + \alpha_1 Z_{t-1} + u_t \]

ii. After establishing the stationarity of data, it was found to be integrated of I (0) and I (1) and then the researcher performed an ARDL level regression which involved leading and lagging of the variables introducing long run and short run dynamism into the model.

**ARDL general equation is;**

\[ y_t = \beta_0 + \sum_{i=1}^{p} \phi_i y_{t-i} + \sum_{i=0}^{q} \psi_i x_{t-i} + e_t \]

iii. Bounds test for co integration which helped to determine if there is a long run relationship in the model. This was determined and the F value was found to be greater than the upper limits of 10%, 5%, 2.5% and 1% levels of significance implying that the variables are co-integrated at those levels and therefore have a long run relationship.
3.4 Variable description, data type and source.

3.4.1 Economic Growth

Economic growth is measured by the increase in a country’s total output. In this study economic growth is the dependent variable and represented by the growth rate of real Growth Domestic Product (GDP) per capita in USD. The data was obtained from World Bank database.

3.4.2 External Debt

External debt (or foreign debt) is that part of the total debt in a country that is owed to creditors outside the country. This is believed to have a negative impact on economic growth, but the Keynesian economists pointed out that an increase in government debt induced by deficit-financed fiscal policy will increase economic growth. The empirical literature on different countries shows mixed results. Some of the studies found that external debt had positive impact on economic growth up to threshold level, but if the debt crosses beyond 60 percent of GDP, it would have a negative effect on economic growth. In this case Uganda’s external debt stock is measured in USD and was obtained from the World Bank database.

3.4.3 Exports

Export in international trade means the value of goods and/or services produced in one country and sold to another country. If exports exceed imports, the country is said to run a trade surplus. If exports are less than imports, the country is said to run a trade deficit. A country which is in trade surplus doesn’t necessarily enjoy economic growth and a country on trade deficit doesn’t necessarily fail in terms of economic growth. The export coefficient in the model relates to the output of exports and this variable reflects the degree of “openness”
of the economy and constitutes an “input” in the production function (Gounder, 2001). Edwards (1998) observes that exports play a positive role in the growth process by increasing total factor productivity. The study expects a positive effect of exports on economic growth. Data for this variable was obtained from the World Bank data base.

3.4.4 Debt Service

Along with the debt overhang effect, the debt crowding out effect is also studied by different researchers (e.g. Krugman, 1988; Sachs, 1989). This is the case when indebted poor countries transfer resources, including foreign aid and foreign exchange resources to service their accumulated debt. The equivalent which can trap the crowding out effect is the total debt service. It may take a positive value where debt relief is higher than total debt service. The study expects a negative impact of the debt service on economic growth. This data was obtained from the World Bank data base and are measured in US dollars.

3.4.5 Lending Interest Rate

The deterioration of debt is caused partly by changes in the composition of debt but mainly by the rise in interest rates. This can lead to a reduction in economic growth since higher interest’s rates discourages people from borrowing and therefore reduce growth in the level of economic activity. In this case lending interest rate is measured in percentages and the expected sign is negative. The data was obtained from World Bank data base.

3.4.6 Highly Indebted Poor Countries (HIPC) debt relief

Between 1986 and 1994, Uganda's external debt rose from USD1.4 billion to USD3.2 billion, representing 121% increment. This corresponded to an average increase of 10.4% every year. The sharpest increases occurred in 1987, 1989 and 1990 and were mainly due to new loan
disbursements. However, the rise in external debt had been less pronounced since 1992, when the country embarked on a debt-reducing strategy. Uganda's inability to meet its debt-servicing obligations in full stretches back to the late 1970’s, total debt stock increased by 16% to 17% annually toward the end of the 1980s (Holmgren et al. 1999).

In May 2000, Uganda met the conditions for its completion point under the Enhanced HIPC Initiative. It had earlier met conditions for the debt relief and benefited from the first HIPC Initiative in April 1998. Donor countries and the Government of Uganda expect that the debt relief provided under the HIPC Initiative will reduce Uganda's debt-service obligations and create room for additional public expenditures on poverty-reduction programs thus increase economic growth. Uganda's eligibility for debt relief under the enhanced HIPC Initiative is recognition by the international community of the progress made in implementing economic reforms and poverty reduction (IMF, 2000). Because of a debt relief that was granted to Uganda, a dummy variable (d) was created to control for the structural break in external debt data.

3.5 Diagnostic Tests

Post estimation tests were also performed at each stage to check parameter consistency and reliability of the results. These tests included; serial correlation, heteroscedasticity, normality, multicollinearity, stability tests (CUSUM), specification test (Ramsey reset test).
CHAPTER FOUR

ANALYSIS, RESULTS AND DISCUSSION OF THE EMPIRICAL FINDINGS

4.1 Introduction

The data employed in this study are annual macroeconomic variables which include Uganda’s Real Gross Domestic Product (RGDP), external debt, exports of goods and services, debt service, and lending interest rate. The sample period is from 1987-2017. Data was obtained from the World Development Indicators (WDI). This section deals with the analysis of the obtained data and interpretation of findings. We use the Descriptive statistics, Correlations, Augmented Dickey-Fuller (ADF) Unit Root Test, Phillips Peron (PP), Auto Regressive Distributed Lag model (ARDL) and Bounds Test. The logarithms of the variables were obtained so as to bring the time-series data of the variables to the same base.

4.2 Descriptive Analysis

Data was analyzed descriptively in terms of measures of central tendency and measures of variability. A measure of central tendency includes the mean, median and mode. A measure of variability includes standard deviation, skewness and kurtosis. Descriptive analysis of data is necessary as it helps to determine the normality of the distribution. The nature of the statistical technique to be applied for inferential analysis of the data depends on the characteristics of the data. Below is the table that summarizes the descriptive statistics of the variables under review.
Table 1: Descriptive Data Analysis and Statistical Tests

<table>
<thead>
<tr>
<th>Stats</th>
<th>LGDP</th>
<th>LEXDEBT</th>
<th>LEXPORTS</th>
<th>LDEBTSER</th>
<th>LLIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Mean</td>
<td>5.819</td>
<td>21.96</td>
<td>20.78</td>
<td>18.59</td>
<td>3.180</td>
</tr>
<tr>
<td>Sd</td>
<td>0.438</td>
<td>0.513</td>
<td>1.018</td>
<td>0.542</td>
<td>0.226</td>
</tr>
<tr>
<td>Min</td>
<td>5.032</td>
<td>20.99</td>
<td>19.24</td>
<td>17.75</td>
<td>2.928</td>
</tr>
<tr>
<td>Max</td>
<td>6.555</td>
<td>23.02</td>
<td>22.33</td>
<td>20.56</td>
<td>3.689</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.215</td>
<td>0.415</td>
<td>0.297</td>
<td>1.336</td>
<td>0.974</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.997</td>
<td>3.112</td>
<td>1.764</td>
<td>6.632</td>
<td>2.645</td>
</tr>
<tr>
<td>Median</td>
<td>5.677</td>
<td>21.99</td>
<td>20.40</td>
<td>18.70</td>
<td>3.101</td>
</tr>
<tr>
<td>Variance</td>
<td>0.192</td>
<td>0.263</td>
<td>1.036</td>
<td>0.293</td>
<td>0.051</td>
</tr>
</tbody>
</table>

Source: Computed data by author

Table 1 show that variables are normally distributed apart from debt service and debt stock. This is because their skew value is more than zero and kurtosis more than 3. The variables are good measures of central tendency and there are no outliers as shown by the mean and median that falls within the maximum and minimum values.

4.3 Correlations

Tests for correlations were undertaken to test for causal relationship between the variables. Correlations between variables indicate that as one variable changes in value, the other variable tends to change in a specific direction. The correlations provide insights into the relationships between variables. Table below indicates the correlations between the variables under this study.
Table 2: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>LGDP</th>
<th>LEXDEBT</th>
<th>LEXPORTS</th>
<th>LDEBTSER</th>
<th>LLIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGDP</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEXDEBT</td>
<td>0.354</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEXPORTS</td>
<td>0.920*</td>
<td>0.451*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.000</td>
<td>0.011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDEBTSER</td>
<td>-0.027</td>
<td>0.227</td>
<td>-0.157</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.884</td>
<td>0.219</td>
<td>0.399</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LLIR</td>
<td>-0.224</td>
<td>-0.320</td>
<td>-0.503*</td>
<td>0.348</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0.225</td>
<td>0.079</td>
<td>0.004</td>
<td>0.055</td>
<td></td>
</tr>
</tbody>
</table>

Source: Computed data by author

* Indicates that the correlation coefficient is significant at 10 percent level of significance

Results of table 2 indicate that GDP and exports have a strong positive correlated, the rest of the variables are correlated positively and others negatively at 10% level of significance. With this, there is no threat of multi-collinearity in the model.

4.4 Unit Root Tests

Unit root test tests assist to identify whether time series variables are stationary or non-stationary. The two tools used in this study were Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root tests, below is the table showing the results of the two tests.
**Table 3**: ADF and Phillips Perron tests at level and at first difference

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF at level</th>
<th>ADF at 1&lt;sup&gt;st&lt;/sup&gt; difference</th>
<th>PP at level</th>
<th>PP at 1&lt;sup&gt;st&lt;/sup&gt; difference</th>
<th>Level of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGDP</td>
<td>-1.038</td>
<td>-4.249</td>
<td>-1.894</td>
<td>-4.054</td>
<td>I (1)</td>
</tr>
<tr>
<td>LEXDEBT</td>
<td>-1.227</td>
<td>-2.428</td>
<td>-2.025</td>
<td>-5.054</td>
<td>I (1)</td>
</tr>
<tr>
<td>LEXPORTS</td>
<td>-0.543</td>
<td>-3.040</td>
<td>-2.447</td>
<td>-3.629</td>
<td>I (1)</td>
</tr>
<tr>
<td>LDEBTSER</td>
<td>-2.110</td>
<td>-1.983</td>
<td>-0.972</td>
<td>-6.071</td>
<td>I (1)</td>
</tr>
<tr>
<td>LLIR</td>
<td>-3.620</td>
<td>-2.037</td>
<td>-0.999</td>
<td>-4.023</td>
<td>I (0)</td>
</tr>
</tbody>
</table>

*Critical value at 5%*

-2.994 -2.777 -3.580 -3.584

Source: Computed data by author

Table 3 above show the results of the Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root tests. The results showed that all variables except lending interest rate were not stationary at level using the ADF. When differenced, all variables became stationary thus becoming integrated of order one (I (1)). The variable lending interest rate was ambiguous when the two tests were carried out. ADF shows that the variable is integrated at level (I (0)) while the Phillips Perron test shows the variable as I (1). In this case the researcher decided to use the results of the PP test and not the ADF test.

**4.5 Chow Test**

Data was tested for the presence of the structure break using the chow test and it was found that F-statistic was 39.12 with a probability value of 0.0000, thus showing presence of a structural break. The data showed presence of one structural break in 2007. Literature shows
that Uganda received debt relief under the Heavily Indebted Poor Country (HIPC) Initiative in 1998 and in 2007 (IMF, 2000). However due to the magnitude of the debt forgiveness schedule, the tests only detected the structure break in one period (2007). This is because external debt stock didn’t reduce by a bigger margin (USD 406 million) in 1998 when compared to the reduction of USD 2.6 billion in 2007. In the presence of the structural break in 2007, a dummy variable (d) to control for the change in policy due to the debt relief that Uganda received was created.

4.6 Model Estimation

The model was estimated using Autoregressive Distributed Lag Model (ARDL) after carrying out a number of diagnostic tests. The regression assessed the impacts and elasticities of the independent variables (external debt stock, debt service, exports and lending interest rates) on a dependent variable GDP growth. Due to the presence of a structural break in Uganda’s external debt data, a dummy variable (d) for debt forgiveness under HIPC initiative which takes on the value of 1 post debt forgiveness and 0 otherwise was also included in the model to control for the presence of the structure break in the data. Table 4 is a summary of results of the regression model.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficients</th>
<th>t-statistic</th>
<th>Probability value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1.931</td>
<td>-1.08</td>
<td>0.296</td>
</tr>
<tr>
<td>Short run</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEXDEBT</td>
<td>0.228</td>
<td>3.27</td>
<td>0.004</td>
</tr>
<tr>
<td>LDEBTSER</td>
<td>-0.086</td>
<td>-1.70</td>
<td>0.107</td>
</tr>
<tr>
<td>Long run</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEXDEBT</td>
<td>-0.263</td>
<td>-3.10</td>
<td>0.007</td>
</tr>
<tr>
<td>LEXPORTS</td>
<td>0.519</td>
<td>8.31</td>
<td>0.000</td>
</tr>
<tr>
<td>LDERTSER</td>
<td>0.191</td>
<td>2.76</td>
<td>0.013</td>
</tr>
<tr>
<td>LLIR</td>
<td>-0.056</td>
<td>-0.26</td>
<td>0.796</td>
</tr>
<tr>
<td>Debt forgiveness(d)</td>
<td>-0.077</td>
<td>-0.69</td>
<td>0.498</td>
</tr>
<tr>
<td>ECM (-1)</td>
<td>-0.751</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 = 0.869 \quad \text{Adj } R^2 = 0.792 \quad f\text{-statistic} = 71.06 \quad \text{Prob (F-Statistics) } = 0.0000 \]

Source: Computed data by author

### 4.7 Interpretation of results

The results reported in Table 4 indicate that External debt stock (LEXDEBT), exports of goods and services (LEXPORTS), debt service (LDERTSER) significantly determine economic growth rate in Uganda. While external debt stock (LEXDEBT) and lending interest rate (LLIR) negatively impact on economic growth, debt service exhibits a positive relationship on economic growth in the long run. With an adjusted R-squared of 0.792, it means all independent variables in the model explained 79.2 percent variability in the
dependent variable. The F-statistic validates the joint contribution of the independent variables in explaining economic growth.

4.7.1 External debt and Economic Growth

In the long run, external debt stock has a significant negative impact on GDP. The results indicate that one percentage increment in external debt leads to a 26.3 percent reduction in economic growth. This finding is not surprising because it confirms with the prior expectation and particularly in the context of Uganda where most of the government borrowings are utilized in consumption expenditure and very few portions go towards forming productive capital. This result is also consistent with Adam Smith theory that argues that increased public debt has destructive effects for the nation. The result is also consistent with the finding of Debi and Badri (2014) who found a negative relationship between external debt and economic growth. In the short run, the relationship between external debt and economic growth is positive and significant; results indicate that an increase in external debt by 1 percent results into 23.4 percent growth in GDP this is because the flow of external debt funds immediately increases economic activity. This is consistent with the findings of Ajayi and Oke (2012).

4.7.2 Debt service and Economic Growth

Debt service to GDP growth showed that increase in debt service increases GDP and is significant in the long run. The study found out that a 1 percentage increase in debt service increases GDP growth by 19.1 percent. This is because in Uganda, external debt service payments are a small proportion of debt service due over the years. This result is consistent with Debi and Badri (2014) findings who found a positive significant effect of debt service on economic growth.
4.7.3 Exports and Economic Growth

The influence of export growth on GDP growth was confirmed by the results because the relationship was positive and statistically significant indicating that an increase in exports increases economic growth by 51.8 percent. This confirms the researcher’s prior expectation and also in line with Edward’s (1998) observation that exports plays a positive role in the growth process by increasing total factor productivity.

4.7.4 Lending Interest rate and Economic growth

In the long run, the lending interest rate had a negative insignificant relationship with GDP.

4.7.5 HIPC/Structural Break

Results of the model indicate that in the long run, Debt forgiveness (d) under the HIPC initiative has a negative and insignificant relationship with GDP growth.

Bounds Test

The bounds test showed that the variables are co-integrated and have a long run relationship as seen by the F value being greater than the upper limits of all levels of significance as shown in the table below.
Table 5: Bounds Test

F=18.024

t= -6.069

<table>
<thead>
<tr>
<th>Level of significance</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>2.26</td>
<td>3.35</td>
</tr>
<tr>
<td>5%</td>
<td>2.62</td>
<td>3.79</td>
</tr>
<tr>
<td>2.5%</td>
<td>2.96</td>
<td>4.18</td>
</tr>
<tr>
<td>1%</td>
<td>3.41</td>
<td>4.68</td>
</tr>
</tbody>
</table>

Source: Computed data by author

4.8 Post estimation diagnostics

The Breusch-Godfrey LM test was carried out to check for serial correlation with the null of no serial correlation against the alternative hypothesis of serial correlation and results showed its nonexistence since the p-value is 0.211 and greater than 0.05. The Ramsey regression equation specification test (RESET) was estimated to determine if the nonlinear combinations of the fitted values explain the dependent variable and this was true since the p-value is 0.259 and greater than 0.05. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity was estimated with the null that residuals are homoscedastic against the alternative. The results revealed no heteroscedasticity given the p-value of 0.581 being greater than 0.05. The residuals are normally distributed given Jarque-Bera test which gives the p-value of 1.946 greater than 0.05. There is no multicollinearity since the VIF is 9.55 is less than 10.
CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provided the summary, conclusion and recommendations of the study based on the results obtained in chapter four. The chapter also provided implication of the results to policy implementation and also areas that needed further research.

5.2 Summary of finding

Many countries opt for external finance as a means of ensuring sustained development and against domestic borrowing. The ‘dual gap’ theory postulates that investment is a function of savings and that investment that requires domestic savings is not sufficient to ensure economic development, thereby necessitating external resources. This paper has applied econometric approaches to investigate the presence of linear or non-linear effect of debt on economic growth in Uganda in which descriptive statistics, pairwise correlations and ARDL method were used by the study.

The time series properties of the variables were established using the ADF and PP unit root tests. These showed that most of the variables were not stationary at level except lending interest rate which was stationary at level using the ADF. When differenced, all variables became Stationary making them I(1). ARDL model was estimated to determine both the long and short run relationship between the dependent and independent variables because of the presence of I(0) and I(1) variables.
The results show that increase in exports and debt service are important in the increase of economic growth in the long run. The key point is that the growth in debt stock relative to productivity discourages further growth in investment. This is the argument of the ‘debt overhang’ proponents. However, in the short run debt contributed significantly to economic growth. This argument is logical because at an earlier period of debt acquisition, because of its manageable size (and meaningful borrowing), external debt significantly contributes to investment growth. The increase in exports increase economic growth due to the positive role they play in the growth process by increasing total factor productivity. Increase in the lending interest rate reduces economic growth though in this case it wasn’t significant.

Finally, the growth in external debt servicing and exports becomes the wheel of investment. This is expected as the ‘crowding out’ theorists argue that external debt service crowds out investments. Generally, the results in this paper support both the ‘debt overhang’ theory and ‘crowding out’ theory.

Debt service to GDP showed a positive relationship in the long run. The external debt stock has a negative and significant relationship with economic growth confirming the negative impact of debt in Uganda in the long run. Debt stock contributes significantly to growth at the initial period of acquisition, up to a point when its further acquisition becomes non-sustainable and consequently retards economic growth. When the terms of trade are favorable, growth is accelerated.

**5.3 Conclusion**

Uganda needs to consolidate on the gains of the debt relief that was granted to her in 1998 and 2007 and the consequent reduction in its debt stock. One way to do this is through implementation of prudent debt management strategies, efficient and affective utilization of
the acquired debt, persistence servicing of debt, and possible liquidation of all outstanding external debt.

A major implication of these findings is that Uganda requires better management of its external debt obligations. The government should consider placing an embargo on further acquisition of external finance, except for top priority projects. If the current rate of debt accumulation is maintained, external debt will become Uganda’s major problem, threatening its economic environment, thus increasing poverty.

Finally, Uganda and all indebted countries of the world should seek external loans only for very high priority, well-appraised, and self-liquidating projects. Such projects should have direct impact on economic development. An economic culture of transparency in the issue of debt management should be explored. Governments should make fiscal adjustments through cuts in expenditures, as this could reduce the level of deficit financing, which exerts pressure on foreign exchange. Government should avoid short term debt financing, especially when floating rates of interest are involved. A sound macroeconomic environment should be strengthened since it is an important ingredient of growth because of its logical prerequisite to proper utilization of external funds.

5.4 Recommendation for further research

Domestic debt has been increasing in Uganda and therefore there is need to investigate the effects of domestic borrowing on Uganda’s economic growth. There is also a need to undertake more studies in other developing countries or even the East African Community (EAC) so as to compare and corroborate the results of this study. Such findings can enhance management of public finance in the country.
REFERENCES


