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DOMESTIC DEBTS AND THE KENYAN ECONOMIC GROWTH

(1960-2013)

BY

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DECLARATION

This research paper is my original work and has not been presented for examination in any other University.

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DEDICATION

This study is dedicated to my family for support and encouragement during the entire duration of the course.

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TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
CHAPTER ONE	1
INTRODUCTION	1
1.0 Introduction	1
1.1.1 Domestic Debt Development in Kenya	3
1.1.1 Consequences of domestic debts	6
1.2 Statement of the problem	
1.3 Objectives	9
1.4 Justification of the study	
CHAPTER TWO	
LITERATURE REVIEW	
2.1 Introduction	
2.2 Theoretical Literature Review	
2.3 Empirical Literature Review	
2.4 Over view of the literature	
CHAPTER THREE:	
RESEARCH METHODOLOGY	
3.1 Introduction	
3.2 Data Sources	
3.3 Model Specification:	
CHAPTER FOUR	
DATA ANALYSIS AND INTERPRETATION	
4.1 Introduction	
4.2 Descriptive Statistics	
4.2.1Trends in Domestic debt (1960-2013)	
4.2 Correlation Analysis	
4.3 Time Series Property of Data	
4.4 Co integration Analysis Results	
4.6 Diagnostic Tests	
4.5 Error Correction Model Results	

4.5.1 Model Results interpretation	
4.9 Effect of Domestic Debt on Economic Growth	
CHAPTER FIVE	
SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS	
5.1 Introduction	
5.2 Summary of the Study	
5.2.2 The effects of domestic debt on economic growth in Kenya	
5.3 Conclusions	
5.4 Recommendations	
5.4 Policy Implications	
5.5 Limitations of the Study	40
REFERENCES	42

LIST OF TABLES

Table 1.1 Domestic Debts by Instruments in Millions of shilling	5
Table 4.1: Descriptive Statistics Results	23
Table 4.2: Correlation Matrix	
Table 4.3 Unit root tests	
Table 4.4: Rank Test - Johansen Cointegration Test	27
Table 4.5: Cointegration regression results	
Table 4.6: Diagnostic Tests	
Table 4.7 Error Correction Model Results	

LIST OF FIGURES

Figure 4.1: Trends in Domestic debt (1960-2013)	24
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CHAPTER ONE

INTRODUCTION

1.0 Introduction

Public debt remains one of the major policy issues facing many poor countries. The debt levels among the Highly Indebted Poor Countries and Low-Income Countries have for a long time raised major concerns among international financial institutions and bilateral lenders hence development of various initiatives from the developed countries and from the international financial institutions to ease the debt burden that was threatening to bring down this economies. Such initiatives have included measures to ease the debt burden through debt rescheduling to debt forgiveness. Many developing countries like Kenya have been unable to control the growth of their domestic debt to ensure that sufficient resources are available after debt service payments to finance other vital government recurrent and development expenditures. Stagnating revenue receipts, unending expenditure pressures and reduced external donor support especially in the 1990s among other factors, resulted in accumulation of high stocks of domestic debt in most developing countries.

Debt can be defined as the cumulative excess of past spending over past receipts. Internal debt also called domestic debt is the debt that is held by residents of the country in which it is issued. Government domestic debt is contracted for various reasons which include financing the budget deficit when the government is not able to meet its expenditure using locally raised revenue and externally sourced grants and loans, help in implementation of monetary policy through open market operations. It is also used in financial markets development. In order to develop and grow the financial market, there is need to make available a wide range of instruments to be traded. Government debt provides a benchmark for issuance of private sector securitized debt such as corporate bonds. The government starts by issuing short term

Treasury bills to build investor confidence through guaranteed returns and hence financial deepening is achieved by issuing longer dated instruments like the treasury bonds.

The government borrows from its citizens by providing bonds which compete with private capital. Private savings are divided between the two investment instruments this are government securities and the private capital. When there is no certainty on the returns, bond and capital can be perfect substitutes for investment. The amount of domestic debt is limited by the saving capacity of the people and the government's intentions and strategy.

Gok Publications Ministry of State for planning National Development (2010) on public debts and debt sustainability show that debt situation has improved tremendously due to prudent debt management that has developed overtime. Analysis indicated that domestic debt financing in the range of 4- 5 per cent of GDP would be within sustainable limits with limited potential for crowding out credit to the private sector. From the publication, there has been a change of the composition on domestic debt from short term maturity to long term profile. A long term debt is composed mainly of the Treasury bonds which constitute 75 per cent of the total domestic debts. Other developments on domestic debt highlighted in the publication include enhanced domestic market development through the reduction of bidding threshold from Kenya Shilling 1 Million to Kenya shilling 100,000 so as to encourage retail participation

The Central Bank of Kenya manages public domestic debt on behalf of the Treasury. This includes contracting domestic debt through sale of Treasury Bills and Bonds, extending overdraft facilities to the Government, maintaining domestic debt register and making payments of domestic debt. As a Banker to the Government, CBK effects payments to external creditors on specific instructions from the Treasury.

1.1.1 Domestic Debt Development in Kenya

Issuance of Treasury bonds has been the main tool that most governments use to borrow from its people. Ngugi et al (2009) in their work gave a history of Kenya's bond market. To them, Kenya's Bond market was launched in 1980s when the government first launched a bid to use treasury bonds as a source of funds to finance government deficit. However the market did not pick up well hence a re-launch in 2001 by the government.

Corporate bonds were first issued in 1996 when the East Africa Development Bank issued a Multi lateral bond. Since then the market has experienced growth in the number of listings of the total bonds value and the contribution in financing economic growth.

Trading in bonds is governed by specific eligibility and listing rules and regulations set up by both the Nairobi Stock Exchange and the capital Market authority. Bonds' trading is carried out at the Nairobi stock exchange on the fixed income securities board but also over-thecounter trading of bonds take place there.

Study by the Ministry of planning and National development (2010) shows that there has been growth in the domestic debt market in Kenya. These developments included:

- A change in the composition of domestic debt from short term maturity to longer term papers. As at 2010, domestic bonds constituted 70 per cent of the total domestic debt with an average maturity of 3.7 years
- Enhanced domestic market development through the reduction of bidding threshold from Kenya shilling 1 million to Kenya shilling 100,000 so as to encourage retail participation

- Due to the global financial crisis and negative domestic shocks for instance drought, there has been more fiscal pressure hence necessitating a more domestic borrowing.
- Though Kenya's debt has increased over time, the World Bank and IMF debt sustainability analysis conducted in 2009 concluded that Kenya faces a low risk of debt distress. Analysis indicated that domestic debt financing in the range of 4- 5 per cent of GDP would be within sustainable limits with limited potential for crowding out credit to the private sector.
- The rising debt stock will raise future payment pressures as debt services increases. Interest payment will take an increasing share of the national budget if the widening of the fiscal deficit continues and the associated debt services increases.

Domestic debt instruments in Kenya are issued by the Central Bank of Kenya on behalf of the government in various forms which include:

- Treasury bills: 91 days, 182 days and 364-days regularly issued.
- Treasury bonds range from 2-yr to 30-yr. Bonds types being issued include : Fixed coupon, Infrastructure Bonds, Special/securitized bonds, Bonds and bills issued via auction-based open tender system to encourage price-discovery and the latest 30 year Savings and development bond.
- Government stocks
- Central Bank overdrafts
- Advances from commercial banks

Year	Treasury Bills	Treasury Bonds	Governme nt stocks	Overdraft at CBK	Advances from Commercial Banks	Other domestic debts	Total domestic
1999	121,685. 53	28,427.9 8	3,005.92	6,664.38	2,899.89	27,643.30	190,300.00
2000	132,660. 35	34114.71	1905.92	5,838.47	2432.31	15,713.54	192,665.30
2001	123,802. 55	80,327.6 1	1,468.22	0.00	2,431.40	13,954.22	221,984.00
2002	107,010. 70	130,483. 63	1,468.22	4,165.69	3,121.98	13,578.01	259,828.23
2003	113,626. 60	178,352. 31	1,057.98	5,052.07	2,605.18	496.43	301,190.58
2004	100,656. 40	180,867. 11	1,057.98	9,232.14	3,007.21	553.59	295,374.44
2005	113,336. 75	209,424. 84	1,057.98	8,908.70	2,068.12	205.49	335,001.89
2006	132,227. 85	237,988. 05	754.70	11,323.86	2,501.97	324.79	385,121.22
2007	126,375. 05	304,676. 55	754.70	1,992.08	1,083.24	3,177.48	438,059.11
2008	121,345. 45	318,613. 11	754.70	15,092.90	4.82	416.93	456,227.91
2009	174,160. 70	402,688. 35	754.70	11,127.92	129.60	109.4	588,970.31
2010	165,104. 75	529,871. 50	0.00	22,665.77	1,546.08	1019.87	720,207.97
2011	137,873. 40	633,549. 35	0.00	25,373.20	2,639.49	444.62	799,880.06
2012	226,042. 45	716,068. 29	0.00	25,373.2	3,407.6	373.90	971,265.44
2013	336,089. 95	816,289. 14	0.00	34,186.64	2,439.21	177.65	1,189,182.5 9

Table 1.1 Domestic Debts by Instruments in Millions of shilling

Source: Central Bank of Kenya

The table above summarizes Domestic debt for the last one decade. We can clearly see that the total domestic debt has continued to grow in volume. There is a notable shift from the increase in volume on treasury bonds from the year 2002 to 2013. The period has shown significant growth in the bonds markets hence the increased volumes. Domestic government debt instruments which include treasury bills and treasury bonds play a very important role in any given economy. They provide economic agents with alternative options to banking for allocating their savings accordingly. Again it is a key part of the Collateral used in financial markets and as such plays an important role in monetary policy implementation and financial depending.

The holders of government domestic debts include;

- Banking Institutions-Commercial Banks
- Non Banking Financial Institutions
- Central bank of Kenya
- Other non bank sources

1.1.1 Consequences of domestic debts

• Impact on fiscal adjustments

Huge public debt undermines the effectiveness and sustainability of any reform programme For instance, the need to raise more revenues for debt repayments and servicing a sizeable public debt may hinder a requisite reduction in tax rates on some tax bases to increase the efficiency of the tax system (Abbas, 2007)

Current and future resources to enhance economic growth are limited due to increased debts servicing requirement

• Effect on private and public investment

A huge domestic debt can be interpreted by investors as a threat to implementation of reforms and also as a basis for future tax increases to meet debt servicing requirements (Christensen, 2005).

• Servicing rapidly growing stock of debt crowds out other expenditure

Servicing rising debt ratios absorbs a significant share of public revenues and limits resources available for investment in social amenities and also human development such as education, health, water and infrastructure. It also reduces access to credit for private investment. This implies reduced available resources for supporting renewal growth resulting to non restoration of growth hence worsening solvency problems leading to vicious cycle (Melecky, 2007)

• Composition of investment

Debts overhangs tend to skew investment towards short term investment in trading activities with quick returns rather than in high risk investment in production

Flight capital tend to be held in liquid assets such as treasury bills foreign currency denominated assets in domestic banks rather than in capital assets (Abbas, 2007)

• Places burden to the future generations who have to pay

According to Christensen, (2005), for this to happen, it is assumed that the current generation does not reduce its savings and the government does not add to the capital stock and the productivity of the country.

Other effects of government borrowing on the economy include:-

• It changes the distribution of income as interest payments on debts are financed from taxation

• It reduces the ability of funds for private sector which will result in a welfare loss if the returns of funds used in the private sector is greater than in the public sector

• Government borrowing may be more inflationary than tax finance. This is because raising taxes reduces disposable incomes and curbs consumption spending which offsets to some extent the rise in government spending

7

The neoclassical model stresses that when the government initiates project whether financed by taxes or borrowing, resources are removed from the private sector. It is assumed that most resources removed come at the expense of consumption. Again, when the government borrows, it competes for funds with the private sector who want the money for their own investment projects. Hence it is generally assumed that debt as most of its effect on the private investment. This results into crowding out. Crowding out is when the public sector draws on the pool of resources available for investment reducing private investments. Crowding out is induced by changes in interest rates. When the government increases its demand for credit the interest rate will increase. But if the interest rates increase private investment becomes more expensive and less of it is undertaken

1.2 Statement of the problem

The importance of Kenya's domestic debt on the economic growth cannot be underestimated considering that the total domestic debt has been increasing tremendously over the years as witnessed from the table and the analysis done above. Kenya's domestic debts market has witnessed tremendous growth in the past few decades. The growth in the domestic debt market has not only been in terms of volume but also in terms of investor base and maturity profile. Growth in domestic debt levels is theoretically expected to lead to a similar growth in the economy but this has not always been the case. If we are to refer to the Solow's growth model that is the neoclassical model, we would expect that the acquisition of more debts would increase the government capital hence we would expect that the economy would grow at the same speed as the debts.

The main question that would arise is how then does the government use the funds raised from domestic debts? In some cases where the system is clogged by corruption there could

be a probability that the money raised initially for specific purpose is embezzled hence no economic gain is realized but rather it goes to the pocket of a few corrupt individuals Again there is no much empirical evidence on the specific channels through which domestic debt affects economic growth in Kenya .There is not so much empirical work done to investigate the relationship between domestic debts and economic growth too. Studies that have been done previously have shown contrasting literature on the relationship between domestic debt and economic growth in most developing economies. Some studies reveal a positive relationship for instance according to Abbas (2007) and Abbas and Christensen (2007) in their study they concluded that the relationship between domestic public debt and economic growth is positive. Thus, the benefits of domestic borrowing dominate its costs. While others points to a negative relationship for instance Christensen (2005) revealed that, the use of domestic debt had significantly crowded out private investment. Others still show no statistically significant correlations between domestic debts and growth for instance Maana et al (2008) in their study found out that domestic debt expansion had a positive but insignificant effect on economic growth.

Given this mixed results from the previous studies and the big question of how the money raised through domestic debt is utilized by the government of the day, the study will be seeking to establish more concrete empirical relationship between domestic debts and economic growth in Kenya.

1.3 General Objectives

- The study will aim at analyzing the development in public domestic debt in Kenya and its impact on the economy for the period from 1960 to 2013.
- The study will also aim at making policy recommendations for improving the management of the domestic debts in Kenya so as to gain full benefits of the same if at all there are any

- Specific Objectives
 - i) To analyze causes of development of domestic debt from 1960-2013.
 - ii) To analyze domestic debt impact on economic growth in

Kenya from 1960-2013.

ii) To establish policy recommendation for improving management of domestic debt

1.4 Justification of the study

The study will be useful to the government policy makers in coming up with policies on domestic debts and domestic debt sustainability. These would lead to effective utilization of domestic debts hence leading to economic growth

The study will also aim at developing econometric models that can be used to forecast the domestic debts trends and the economic impact that they would have on the economy. This will be achieved by the proper understanding of the impact of the domestic debts and economic growth by looking at both the theoretical and empirical literature that is already in existence and drawing informed conclusions through the use of econometric models. Hence, presenting empirically grounded policy conclusions on Domestic Debts to guide macro-financial practitioners in the country.

The findings of the study will also shed light on various issues affecting the domestic debts market and hence provide the direction to the government when planning and formulating policies regarding domestic debt market. Again without the study the policy makers may not understand fully the importance of proper debt monitoring and management. Hence need to develop and adhere to proper debt management policy which would avert the recurring debt burden

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Unlike in the past when most emerging economies and developing countries gave a lot of emphasize on foreign debt, their interest has now been turned on domestic debts. Most of these countries suffered due to foreign exchange fluctuations since the loan repayments were made in foreign currencies hence the shift.

The huge borrowing from domestic market is good as long as the funds are going into long term productive sectors such as infrastructure which boosts both private and public sector but studies have shown that domestic borrowing puts a strain on debt servicing as it is increasingly consuming huge chunk of the national budget mostly on the interest rates repayment (Ngugi et al, 2009). The rise of domestic debt levels has been attributed to high budget deficits, low output growth, large growth expenditure, narrow revenue basis, high inflationary rates and weak monetary policies. there is need to strengthen domestic debt management not only to lower the cost of debt servicing to the government but also to guaranteeing additional resources that could be channeled towards pro-poor development programmes, and also widening the development of capital markets to include a wider section of the Kenyan society.

2.2 Theoretical Literature Review

Neither the economic theory nor the empirical evidence provides clear cut answers to the question of how the composition of public expenditure affects economic growth. The theory develops a rationale for government provision of goods and services based on the failure of markets to provide public goods, internalize externalities and cover costs when there are

significant economies of scale. But these theoretical notions do not translate easily into operational rules about which component of public expenditure is to be cut.

Ngugi et al (2009) in their book on bonds market in Kenya highlighted that the foundation of bond market in Kenya goes back to 1980 when the government first introduced treasury bonds as a source of funds for financing its budget deficit. To them the bond market did not pick up and it was re introduced in 2001when the economy started experiencing growth in the bond markets with the first corporate bond being issued in 1996 by the East African Development bank.

Modigliani (1961) indicated that a national debt is usually a burden for the future generation citing that such burden comes as reduced income flow due to a reduced volume of private capital. It was also pointed out that the effect on long term interest rates depending on the size of the operations of government could drive the interest rates high. Hence the conclusion that the debt increase will not be costless to the next generation even though it is of advantage to the current generation.

Mankiw, N (2002) considered two views of government debts; the traditional and Ricardian views. According to the traditional view, a government budget deficit expands aggregate demand and stimulates output in the short run but crowds out capital and depresses economic growth in the long run. According to the Ricardian view, a government budget deficit has none of these effects, because consumers understand that a budget deficit represents merely the postponement of a tax burden. To the traditional view of government debt, a debt-financed tax cut stimulates consumer spending and lowers national saving. This increase in consumer spending leads to greater aggregate demand and higher income in the short run, but it leads to a lower capital stock and lower income in the long run.

Douglas,B (1987) study of the theory of Ricardian Equivalence argued that a debt-financed tax cut does not stimulate consumer spending because it does not raise consumers overall resources it merely reschedules taxes from the present to the future.

Barro, J (1974) argued that the relevant decision-making unit is not the individual, whose life is finite, but the family which continues forever. According to the study, an individual decides how much to consume based not only on his own income but also on the income of future members of his family. A debt-financed tax cut may raise the income an individual receives in his lifetime, but it does not raise his family's overall resources. Instead of consuming the extra income from the tax cut, the individual saves it and leaves it as a bequest to his children, who will bear the future tax liability.

According toTodaro (1977) rapid economic growth has been a major concern for many economist, planners and politicians in low developing economies. Todaro defines economic growth as the steady process by which the productive capacity of an economy is increased over time to bring about rising levels of national income. He argues that modern economic growth is characterized by high rates of per capita output and population growth, high rate of productivity increase, high rate of economic structural transformation, high rate of social political and ideological transformation and the international economic outreach.

Elias, J (1999) argues that economic growth defined in terms of Y per capita has been one of the main objectives pursued by most countries for a long time. Economic growth improves the well being of a country's poor and brings an increase in social welfare for all members of the society. But as an objective of economic policy, economic growth has not been easy to achieve. Economic development theory provides many arguments to help explain these difficulties but there are still important questions to be addressed by economic growth theorist.

Janse et al (1994) defines economic growth as an increase in the productive capacity of an economy also referred to as potential output or potential Y. This can be improved by increasing the quantity of capital stock, quality of labor and improving technological progress

2.3 Empirical Literature Review

The literature, in particular the empirical part, on the relationship between government debts and economic growth is scarce. Most studies on this topic emphasize the impact of external debt and debt restructuring on growth in developing countries.

Maana et al (2008) in their study on the impact of domestic debts in Kenya concluded that there is no evidence that domestic borrowing crowded-out private sector lending in Kenya during the period. This could be attributed to the considerable level of financial development in Kenya. Maana et al (2008) using a modified Barro growth regression incorporating a domestic debt variable, found out that domestic debt expansion had a positive but insignificant effect on economic growth. However, domestic borrowing consumed a significant proportion of government revenue which poses a risk to fiscal sustainability. To them domestic debt was characterized by higher interest rates compared with those on external debt, which is contracted mainly on concessional terms, and it is therefore expensive to maintain. They concluded that there was urgent need for the government to formulate and implement debt reduction schemes for domestic debt.

Abbas and Christensen (2007) analyzed optimal domestic debt levels in 40 sub-Saharan Africa countries and other emerging markets between 1975 and 2004 and concluded that considerable levels of domestic debt as a percentage of Y have an important and positive effects on economic growth. From the study it was also concluded that debt levels over 35 percent of total bank deposit have a negative impact on economic growth. To them, market based domestic borrowing contributes more to economic stability than any other form of budgetary financing

Christensen (2005) analyses the role of domestic debt markets in Kenya and other 26 sub-Saharan African countries for the period range of1980–2000. The study also aimed at establishing whether domestic borrowing crowded out private sector lending. It was concluded that domestic debt market in these economies were small, short term with a narrow investor base and domestic debt had highly crowded out private sector lending.

But the conclusions made in this study may not hold to date given that a lot of reforms have been implemented in the management of domestic debt, and in the financial sector as a whole, from 2001 to date in Kenya. The country as witnessed high performance of the economy and broadening of the investor base in government securities, the maturity profile of domestic debt as also increased significantly during the period with government issuing Treasury bills for as long as one year and treasury bonds ranging from 2 years to 30 year Bond

Valeriano Garcia (2001) pointed out that high interest rates on domestic debt was an issue of concern for many economies citing that many were choosing domestic debt financing over foreign debts as a way of cautioning themselves on the real exchange rate fluctuations. This could affect the debt sustainability through its impact on the interest rates hence reduction in economic growth.

15

Marco et al (2006) in their study on the role of domestic debt in poor countries argued that there is a need for the development of domestic market in the developing economies. Policy recommendations in most developing economies are focused on promoting and developing government bonds in the domestic market. To them internal credit compared to external borrowing and credit from banking institutions will protect the economy from external shocks and avoid the risk of foreign exchange rate fluctuations. Other advantages of internal credit cited in their work included implementation and transmission of monetary policy and developing long term financial instruments that could help reduce the cost of government financing among others.

Melecky (2007) defending government's borrowing, argued that the government has to borrow so as to improve the welfare of its citizen as well as promote growth through provision of public goods and services. According to Melecky, how much the government borrows depends on the targeted amount as well as the sustainability of the debt. The government also decides on which debt instrument to use and also look at the best terms offered to them.

Elmendorf and Mankiw (1999) argued that public debt accumulation can affect economic growth through higher interest rates in the long term due to more debt finance government shortfall. The high interest rates on government instruments will drive funds to public sector hence no growth on private sector both by households and firms.

Robert Solow (1956) in the neoclassical production function argued that the factors of production which are labor and capital can be substituted for each other. Each factor of production can be substituted for each other, each factor of production experiences diminishing marginal productivity and that there are constant return to scale. This means that

16

when all factor of production are expanded, in the same proportion, then real output which is the economic growth is expanded in the same scale.

2.4 Over view of the literature

Studies on domestic debt exhibit mixed results with some concluding that domestic debts have a positive impact on economic growth. The scholars in this category include; Marco Arnone and Andrea F. Presbitero (2006), Martin Melecky (2007), Abbas and Christensen (2007) and Maana et al (2008). Other scholars argue that domestic debts have a negative impact. They include Christensen (2004), Elmendorf and Mankiw (1999), Valeriano F. Garcia (2001) and Diamond (1965). The study also points out the development that has been made in the Domestic debt market with such literature by Rose Ngugi and Agoti Justus (2009) on Bonds market in Kenya. Also contributing greatly on the growth of domestic debt market is the latest publication from the government of Kenya by Ministry Of State for planning National Development (2010)

My study borrows a bit from the study by Maana et al (2008) who studied the impact of domestic market in Kenya in 2007. But my study is quite enriched from theirs in that I will be using the latest data that is up to 2013 whereas theirs uses data up to 2005. I will also be using a longer period than they did since I will be stating form 1960-2013 making it long enough to accommodate the data methodology.

CHAPTER THREE:

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes how the data will be sourced, how time series properties of the data used in the study will be analyzed, specification of the empirical model, data sources and measurement of variables.

3.2 Data Sources

To achieve the stated objectives of the study, annual time series data of the variables will be used. The data will consist of yearly observations of total domestic debts, yearly total private credit and yearly total broad money as well as the yearly Y Growth. The data will be obtained from the Central Bank of Kenya Publications, the World Bank publications and the statistical abstracts published by the Kenya national bureau of statistics.

3.3 Model Specification:

The study adopts a neoclassical analytical framework developed by Solow (1956). This analysis has been adopted by studies such as Cunningham (1993) who also introduced public debt burden into a growth equation. The analysis is based on the aggregate production function that relates factor inputs and a variable of total factor productivity to output.

B = Cf(D, E, F).....(1.0)

Where: B= the level of potential output, C = an exogenous measure of factor productivity usually assumed to be constant, D= the stock of physical capital, E = the labour force used in the production process, while F= a vector of other factors that affect growth. Assuming that all partial derivatives of B with respect to their derivatives and that of factor productivity, then the above aggregate production function expressed in growth terms becomes:

Equation (1.1) is then rearranged to obtain the coefficients of the regressors with respect to the output which gives the impact of their unit contribution to changes in output:

Writing the coefficients in terms of their regressors from equation (1.2) the equation becomes:

$$n_0 = \frac{dC}{C}, \ n_1 = C.\frac{\partial b}{\partial d}.\frac{D}{b}, \ n_2 = \frac{\partial b}{\partial E}.\frac{E}{b}, \ n_3 = C.\frac{\partial b}{\partial F}.\frac{F}{b}.$$
(1.3)

The study introduce investment which is impacted greatly by public debt in the model by noting that dk = investment and the coefficients above are: constant term (C) growth of factor productivity, (n_1) is the marginal productivity of capital; n_2 gives the elasticity of output with respect to labor input, while n_2 is the elasticity of output with respect to other factors a part from capital and labour to which debt belongs.

To bring out robust statistical analysis the above variables were taken into consideration due to their linkages with domestic debt and further impact on economic growth. The model that was estimated was specified as follows: Y=fn (K, L, DD, T, DC, M₂).....1.4

Where:

Y = Economic Growth
DD = Domestic Debt per GDP
DC = Domestic Credit (credit to private sector) per GDP
M₂ = Broad money supply per GDP
T = Trade

 ϵ = Error term which is assumed to be (0, σ)

Credit to private sector and broad money supply is used mostly to measure the development of financial sector in any given economy. The ratio of Broad Money supply to Y measures financial depth and the size of financial intermediary activity in an economy. The estimated coefficient of the ratio to Y of domestic debt could either be positive or negative depending on the levels of domestic debt. Huge domestic borrowing can result in a rapid accumulation of domestic debt which has a negative effect on the economy through increased interest payments or higher interest rates. But on the other hand public expenditure used in the provision of necessities to the public is beneficial for the development of the private sector.

The expensive public investment could take a long time to show any results but benefits the private sector in the long run. This includes public projects like building of infrastructure. A country with good infrastructures reduces the cost of doing business and thus increasing profitability. Also public investment in human capital and health care services develops the skills and quality of life of the manpower in the economy hence raising human productivity.

A specification associated with error correction modeling (ECM) will be applied to capture the long run equilibrium after the variables are differentiated to make them stationary. By using co integration and error correction model, the study will establishes both the short and long run equilibrium.

Co integration test for series with higher order of integration will be performed using the Augmented Dickey Fuller (ADF) test to the residuals of the statistical co integration regression since it is believed that the variables differenced to achieve their stationary lose their long run relationship. Diagnostic test will also be performed to indicate model inadequacy or failure of it .A series of diagnostic test performed will indicate whether any of the assumptions required for OLS to be the Best Linear Unbiased Estimator (BLUE) is violated. Diagnostic tests to be performed in this case will be: Serial Correlation test for the distribution of the residuals and Ransey Reset test for regression specification

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The chapter presents findings of data analysis and their interpretations. It commences with the trending of the variables and the descriptive statistics. The data is summarized in form of tables and graphs to reveal the trends of variables evolution overtime. To capture the relationship between the variables, a co-integrating regression model is utilized on the time series data. In preliminary analysis the study tested variable normality using the Jacque Bera (JB) test. Since the study employs time series data, the test for stationarity and the order of integration is necessary thus the use of the Augmented Dickey-Fuller (ADF) test. The presence of long run relationship between the variables is tested using the two step Engel-Granger and Johannes test for co integration. The model exhibits co integration and an error correction model was utilized to capture the short run movements or the adjustment mechanism in the empirical model. This is accomplished by moving from over parametization modeling to parsimonious modeling.

4.2 Descriptive Statistics

Table 4.1 gives the summary statistics of the main variables that have been included in the model including: minimum, maximum, mean, standard deviation, coefficient of variance, skewness, kurtosis and percentile values. Mean is used to locate the center of the relative frequency distribution. Additionally, standard deviation gives the spread or dispersion in a series, whereas skewness is a measure of negative or positive symmetry of a distribution of a series around its mean, and kurtosis is the peakedness of the distribution. The variables were also investigated if they 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.

 H_0 : JB = 0 (normally distributed)

H1: JB \neq 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.

	Broad money	Domestic	Trade (ksh	Domestic	Gross Domestic
	Supply per	Debt per	bn)	Credit per	Product (%)
	GDP (ksh	GDP (ksh		GDP(ksh bn)	
	bn)	bn)			
Mean	291.45	123.43	130.67	314.21	2.21
Median	86.22	89.33	78.45	186.90	0.88
Maximum	978.14	344.21	622.33	856.87	7.13
Minimum	22.53	36.44	49.67	69.23	-2.41
Std. Dev	14.10	12.40	9.20	7.88	0.057
Skewness	2.00	0.78	2.11	2.00	0.34
Kurtosis	3.00	3.00	2.00	2.00	-1.00
Jarque Bera	3.18783	1.278091	2.67231	3.78214	1.34201
Observations	50	50	50	50	50

Table 4.1: Descriptive Statistics Results

From Table 4.1 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 non standard estimators. The standard deviation as a measure of volatility shows that economic growth is more fluctuating. This can be explained probably by the sensitivity of macroeconomic variables considered in the study in response to macroeconomic environment within the sample period.

The results showed that economic growth as measured by GDP has a percentage mean of 2.21 with a minimum percentage of -2.41 and maximum percentage of 7.13, skewness of 0.34 and kurtosis of -1.00. Comparatively, Domestic debt has a mean of Ksh123.43 billion minimum of Ksh 36.44 billion maximum of Ksh 344.21 billion and kurtosis of +3.00.

Additionally, money supply has a mean of Ksh291.45 billion with a minimum of Ksh22.53 billion and maximum of Ksh978.14 billion, skewness of 2.00 and kurtosis of +3.00.

Analysis of skewness shows that all the regressors are positively skewed; only economic growth had near normal distribution with skewness values of 0.34. Additionally, money supply and domestic debt was highly peaked (leptokurtic distribution) given a kurtosis value of 3.00 respectively. Trade and domestic outstanding debt had flatter peakedness. The study uses real quarterly time series data from 1960 to 2010 which translates into 50 observations.

4.2.1Trends in Domestic debt (1960-2013)

The study employed real data from Kenya National Bureau of Statistics. From the study findings, Kenya's domestic debt has been increasing significantly over the period under review. Data presented in Figure 4.1 shows that the period between 1990 and 1999 saw a significant increase in public debt from 121.5 billion in 1990 to 564.3 billion in 1999. Additionally, from 2000, domestic debt has been on the increase rising to Ksh800 billion in 2013 from Ksh206 billion in 2000. The figure further shows that generally, domestic debt incline has assumed a gradient of Ksh10 billion over the years.





Source; Kenya National Bureau of Statistics, (2013)

4.2 Correlation Analysis

Though the descriptive analysis on which equation was more able to yield better results and highlighted on possible problems to encounter, there was need to enhance statistic with a more insightful quantitative analysis such as the correlation matrix. Correlation matrix is an important indicator of a linear association of the explanatory variables and helped in determining the strengths of association in the model, that is, which variable best explained the relationship between economic growth and its determinants. It also helped in deciding which variable(s) to drop from the equation.

	Money	Domestic	Trade	Domestic	Gross
	Supply	Debt		Credit	Domestic
		outstanding			Product
Money Supply	1				
Domestic Debt	0.582	1			
Trade	0.0157	-0.782	1		
Domestic Credit	0.523	0.346	0.143	1	
Gross Domestic	0.7231	0.7822	0.7883	0.7219	1
Product					

 Table 4.2: Correlation Matrix

From the Table 4.2, it can be deduced that there was a positive and negative correlation between the regressors and economic growth. Domestic debt has a Pearson correlation coefficient of 0.7822 (p < 0.001) pointing to a good linear association between domestic debt and economic growth. Similarly, other explanatory variables had good linear relationship with economic growth: money supply (0.7231), trade (0.7883) and domestic credit (0.7219).

The statistics suggest that there exists a unique long run relationship between the set of variables showing positive and statistically significant at 5% level which implies that domestic debt has a positive and significant impact on economic growth. This is consistent

with the findings of Barro (1978), Gurley and Shaw (1956) and Maana *et al.* (2008). The findings by Maana *et al.* (2008) indicated that although the relationship between domestic debt and economic growth is positive, it is insignificant. From the estimated co-integrating regression line, a one unit expansion on Domestic debt leads to 14.2% growth in GDP. This significant effect could be attributed to better debt management structures in and reduction in corruption with the formation of the Kenya Anti-corruption Commission.

4.3 Time Series Property of Data

The study sought to determine the time series property of the data in order to establish if it is auto correlated or its autoregressive property. This was done in order to change the variables to stationary as a key assumption in multiple linear regression analysis and other inferential statistics. Besides, working with highly collinear variables would yield spurious result from which further inference is insignificant. Thus, unit root tests were done using Augmented Dickey Fuller tests. The results are as shown in Table 4.3

Variables	No of	Critical	Critical	ADF	Order of
	lags	values at	values at		Integration
		5%	1%		
Money Supply	1	-2.734	-3.612	-4.434	I(1)
Gross domestic product	1	-2.734	-3.612	-6.562	I(1)
Domestic Debt	1	-2.734	-3.612	-5.525	I(1)
Trade	1	-2.734	-3.612	-8.333	I(1)
Domestic Credit	1	-2.734	-3.612	-5.641	I(1)
Summary ADF test on GDP					
ADF test statistics	-6562	1% critical	-3.612		
		value			
		5% critical	-2.734		
		value			

 Table 4.3 Unit root tests

Table 4.3 shows that none of the variables were stationary at levels. They were all stationary after first differencing. The critical values at 1 percent and 5 percent were greater than ADF

test statistics values of all variables in absolute terms at 1 and 5 percent implying that the residuals are stationary and therefore the residuals were used as the error correction term and an error correction formulation was adopted.

The study proceeded to estimate the number of the co-integrated variables using Johansson and Julius (1992) procedure involving Eigen value and trace test. This provides evidence for the long run stability of the system and further validates its efficiency for prediction, forecast and policy recommendations. The result of the co-integration test is presented in Table 4.4 in

Table 4.4: Rank Test - Johansen Co integration Test

Lag order = 1 Estimation period: 1960 - 2010 (T = 50) Unrestricted constant

Rank	Eigen value	Trace test	p-value	Lmax test	p-value
0	0.97892	374.27	[0.0000]	158.24	[0.0000]
1	0.94193	216.03	[0.0000]	116.69	[0.0000]
2	0.64736	99.335	[0.0000]	42.735	[0.0020]
3	0.54110	56.600	[0.0052]	31.936	[0.0102]
4	0.34391	24.664	[0.1793]	17.280	[0.1647]

Log-likelihood = -4957.92 (including constant term: -5074.27)

The co-integration result using Johansen Rank Test for the effect of domestic debt on the Kenyan economic growth reveal a four co-integrating variables in the system and variable of concerned depicts a common trend characteristics. Hence there is a long-run stability relation between domestic debt and economic growth. Consequently the study went further to conduct an ordinary least square estimation to determine the extent of the relationship between domestic debt and economic growth.

4.4 Co integration Analysis Results

Co-integration is the statistical implication of long run relationship between economic variables (Granger and Newbold, 1974). The basic idea behind co-integration is that if in the

long run two or more series move closely together, even though the series are trended, the difference between them is constant, (Hall and Henry,1989). Lack of co integration suggests that such variables have no long run relationship, in principal they can wander arbitrary far away from each other, (Dickey and Fuller, 1981). A linear combination of non-stationary variables is said to be co integrating if the error term obtained from the co-integrated equation is stationary at level.

The study has employed the Engle and Granger and Newbold (1974) two stage procedures and Johannes test to determine the existence of long-run relationship between the variables. The Engle and Granger test is a residual based and it is necessary so as to avoid running a spurious regression. The first step is to estimate the hypothesized long run relationship using OLS method (Co-integrating regression). In the second step, the residual series are generated and subjected to an ADF test. It's expected that the error term will be I (0) process for the variables to be co-integrated. The idea behind co integration is that there are common forces that move the variables overtime implying that though the variables are stochastic, they share a common trend. The evidence of co integration rules out the possibility of obtaining spurious results by regressing non stationary variables at level, (Hall and Henry, 1989). The results of the tests are as shown in Table 4.5.

Variables	coefficient	t-ratio	p-value
constant	-36.8922	-6.421	0.001
Money supply	0.3885	2.8495	0.001
Domestic debt	0.6712	3.3972	0.001
Trade	0.7560	2.3953	0.001
Domestic credit	1.2456	4.3390	0.001
\mathbb{R}^2	0.8820	Mean dependent	46.356
		variable	
Adjusted R ²	0.8638	S.D. dependent	10.452
		variable	
S.E of regression	1.9452	Akaike info	3.973
		criterion	
Sum squared resid	356.982	Schwarz criterion	3.989
Log likelihood	-122.762	F-statistics	189.543
Durbin Watson	1.8431	Prob(F-statistics)	0.001
statistics			

 Table 4.5: Co integration regression results

The lagged variable for public domestic debt reveals its persistent effect on economic growth (GDP) and the regression coefficient is 0.003080, positive and not statistically significant at 5% level. This reveals that the overall effect of public domestic debt in the Kenyan economy is yet to be a significant drive of GDP. The results show that 100 percent point increase in public domestic debt has led to 3 percentage point increase in gross domestic product. This may be explained by the slow growth of credit in the Kenyan economy due to risk aversion particularly to the real sector.

4.6 Diagnostic Tests

Further, the preferred regression model was subjected to a number of diagnostic tests to evaluate the validity of the model. They include the LM autocorrelation test which supplement the DW (Durbin Watson) statistics, the ARCH (Autoregressive conditional heteroscedasticity) test which detects the problem of heteroscedasticity, Ramsey RESET test for the specification of the regression, the Jacque bera test for normality of the residuals and the CUSUM test for stability over time of the coefficients of the regression model. The results were presented in Table 4.6 below.

Test	F-statistics	Probability
Ramsey RESET Test:	1.760507	0.163014
White Heteroskedasticity Test:	2.125333	0.079932
ARCH Test:	1.185552	0.324352
Breusch-Pagan Test for Heteroskedasticity LM Test:	1.12472	0.573265

 Table 4.6: Diagnostic Tests

Table 4.6 shows that the parameters of the regression analysis were stable and the model can be used for estimation at 5 percent confidence level. The Ramsey RESET Test for model specification, ARCH Test and White Heteroskedasticity Test for constant variance of residuals and Breusch-Godfrey Serial Correlation LM Test for serially correlated residuals used the null hypothesis of good fit (specification, heteroskedasticity, and non-autocorrelated against the alternative hypothesis of model mis-specification, heteroskendasticity, and autocorrelated respectively. All the probability values were less than F-statistics coefficients at 5 percent level of significance and therefore the null hypothesis was not rejected. The diagnostic test outcomes were therefore satisfactory.

4.5 Error Correction Model Results

From the above results, co integration was accepted and therefore error correction model was selected as the preferred model and re-specification of the estimation equation was done to include the error correction term. The Error correction model represents the adjustment mechanism towards equilibrium. To construct this model the variables are used at their first difference and simply the ECM is overparametised then one moves from overparametised modeling to parsimonious by eradicating the variables that are statistically insignificant from

the model. This is known as General to Specific Approach. The estimation procedure in this study draws on the recent development in co-integration analysis and the error correction model (ECM) that have been used to explore several economic phenomena. Central to this approach is the determination of the time series properties of the variables. At this stage, the idea is basically to ascertain the number of times a particular variable has to be differenced to arrive at stationary, and to determine the order of integration of the series to be used. The purpose was to overcome the problem of spurious estimates often associated with non-stationary macroeconomic time series data and to generate a possible feedback effect as well as valuable long-run relationship between the regressed and explanatory variables simultaneously. The results obtained from the second regression were presented in Table 4.7.

Variables	Coefficient	S.E	t-statistics	Prob.
Lagged Gross	0.302317	0.165220	1.829784	0.0783
domestic product				
Lagged Money	0.1840069	0.146858	1.253381	0.2208
Supply				
Lagged Domestic	0.373811	0.137564	-2.717354	0.0113
Debt				
Lagged Trade	0.1840069	0.146858	1.253381	0.2208
Lagged Domestic	0.202322	0.165541	1.7297830	0.0733
Credit				
Lagged residual	-0.382233	0.034521	-2.45123	0.0023
Constant	0.387373	0.137865	2.809793	0.0091
R^2	0.904696	Schwarz	-4.4000477	
		criterion		
Adjusted R ²	0.869398	F-statistics	25.63043	
Durbin Watson Stat	1.848157	Prob (F-stat	0.000000	

Table 4.7 Error Correction Model Results

The model estimated revealed that there is a long run relationship in the variables hence it can be referred as a long-run or a co integrating model. There was need to employ the error correction model so as to capture the short-run relationship between the variables, Granger and Newbold (1974). The ECM contains the lagged error term obtained from the co integrating equation which is termed as the error correction term and the negative coefficient being the rate of adjustment per quarter. The Schwarz Information Criterion (sic) is used to determine the required lag length or as a guide to parsimonious reduction. A fall in its value indicates model parsimony. From the error correction model shown in Table 4.7, it's clear that the coefficient of the error term is negative as theoretically expected and it is statistically significant at 5% level. The negative sign implies that any deviations from equilibrium by a variable will be corrected or reversed in the future while the coefficient indicates that 37% of any disequilibrium in the co integrating model will be corrected in the next quarter. It also indicates that the explanatory variables maintain the GDP equilibrium throughout time.

4.5.1 Model Results interpretation

The analysis of the result showed that the domestic debt determinants accounted for over 86 percent changes in domestic debt as result of the variations in the determinant factors. The adjusted R-squared result of over 86 percent variation in domestic debt contributed by changes in the determinant variables also confirms the R-squared result. The study further revealed that all the variables used except economic growth, were significant determinants of domestic debt in Kenya. The analysis of economic growth rate and domestic debt at 5 percent level of significance revealed that economic growth does not significantly support domestic debt and thus establishes a negation relation with domestic debt. This also indicates that economic growth rate of the economy reduces domestic debt by 0.38 percent and therefore conforms to a priori expectations. Domestic credit has an inverse relationship with domestic debt. This result of the empirical analysis shows that increase domestic credit helps in mobilization of funds for investment and growth thereby increasing tax revenue. This reduces the chances of running into debt by private and government investors.

Domestic credit is not only statistically significant as a determinant of domestic debt but also is applicable to the a priori expectation. A percentage increase in domestic credit has a decreasing impact of over 0.18 percent on domestic debt. A further investigation on foreign exchange reveals that a 1 percent increase in exchange rate would significantly increase domestic debt by a corresponding rate of 17 percent all things being equal. This implies that the cost of unit of import would be higher forcing government to borrow more to import the same item. Foreign exchange rate determinant is therefore statistically significant and in line with economic theories.

Broad money supply exhibited a positive relationship with domestic debt and although statistically significant does not conform to a priori expectation. Money supply when endogenously determined is supposed to create more goods and services to the economy and through its multiplier and accelerator principles increase productivity and cause reduction in debt burden. Instead increase in money supply is found to increase domestic debt by approximately 0.2 percent. This is not farfetched as can be ascertain to be majorly caused by exogenously determined factors of money supply outside the control of the monetary authorities.

The predominance of these factors including illegal economic activities that takes place underground induce inflationary pressures and devaluation on the naira currency. This hinders proper economic growth and henceforth encourages borrowing for investment projects most times. Finally, fiscal deficit significantly reduce domestic debt as we can deduce from the study. An increase of one percentage in government fiscal deficit reduces domestic debt by 0.89 percent. The government fiscal deficit in this study is statistically significant and goes contrary to theory but may be explained by government resort to inflationary financing, drawing down on foreign reserve, borrowing abroad or by the fact that period of study coincides with when Kenya received debt relieve from the Paris club.

4.9 Effect of Domestic Debt on Economic Growth

The result from table 4.7 investigates the determinants of domestic in Kenya. The analysis of the result shows that the domestic debt determinants accounted for over 80 percent changes in domestic debt as result of the variations in the determinant factors. The R-squared result of over 78 percent variation in domestic debt contributed by changes in the determinant variables also confirms the R-squared result. The F-statistic confirms the statistical significance of the model and further signifies that the model is statistically different from zero and thus will be useful for economic analysis and decision making as also revealed by the F. probability result. The empirical evidence arising from the Durbin Watson statistics indicates evidence of positive autocorrelation of the variables that constitutes the model specification. The study further reveals that all the variables used except economic growth, were significant determinants of domestic debt in Kenya. The analysis of economic growth rate and domestic debt at 5 percent level of significance reveals that economic growth does not significantly support domestic debt and thus establishes a negation relation with domestic debt. This also indicates that economic growth reduces domestic debt in the economy. As could be seen from the analysis a one percentage growth rate of the economy reduces domestic debt by 0.38 percent and therefore conforms to a priori expectations. Private credit has an inverse relationship with domestic debt. This result of the empirical analysis shows that increase private sector credit decreases domestic debt incurred by the government. Increase in private sector credit helps in mobilization of funds for investment and growth thereby increasing tax revenue. This reduces the chances of running into debt by private and government investors.

Private sector credit is not only statistically significant as a determinant of domestic debt but also is applicable to the a priori expectation. A percentage increase in private sector credit has a decreasing impact of over 0.18 percent on domestic debt. A further investigation on foreign exchange reveals that a 1 percent increase in exchange rate would significantly increase domestic debt by a corresponding rate of 17 percent all things being equal. This implies that the cost of unit of import would be higher forcing government to borrow more to import the same item. Foreign exchange rate determinant is therefore statistically significant and in line with economic theories. Broad money supply exhibits a positive relationship with domestic debt and although statistically significant does not conform to a priori expectation. Money supply when endogenously determined is supposed to create more goods and services to the economy and through its multiplier and accelerator principles increase productivity and cause reduction in debt burden. Instead increase in money supply is found to increase domestic debt by approximately 0.2 percent. This is not farfetched as can be ascertain to be majorly caused by exogenously determined factors of money supply outside the control of the monetary authorities. The predominance of these factors including illegal economic activities that takes place underground induce inflationary pressures and devaluation on the naira currency. This hinders proper economic growth and henceforth encourages borrowing for investment projects most times. Finally, fiscal deficit significantly reduce domestic debt as we can deduce from the study. An increase of one percentage in government fiscal deficit reduces domestic debt by 0.89 percent. The government fiscal deficit in this study is statistically significant and goes contrary to theory but may be explained by government resort to inflationary financing, drawing down on foreign reserve, borrowing abroad or by the fact that period of study coincides with when Kenya received debt relieve from the Paris club.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the study findings, conclusions and recommendations based on the study findings.

5.2 Summary of the Study

The overall objective of the study was to investigate the effect of domestic debt on economic growth. On investigating the size of domestic debt in Kenya, the findings showed that the period between 1990 and 1999 saw a significant increase in public debt from 121.5 billion in 1990 to 564.3 billion in 1999. Additionally, from 2000, domestic debt has been on the increase rising to Ksh800 billion in 2012 from Ksh206 billion in 2000. The figure further shows that generally, domestic debt incline has assumed a gradient of Ksh10 billion over the years.

5.2.2 The effects of domestic debt on economic growth in Kenya

The study investigated domestic debt in Kenya. The analysis of the result showed that the domestic debt determinants accounted for over 80 percent changes in domestic debt as result of the variations in the determinant factors. The R-squared result of over 86 percent variation in domestic debt contributed by changes in the determinant variables also confirms the R-squared result. The F-statistic confirmed the statistical significance of the model and further signified that the model was statistically different from zero and thus was useful for economic analysis and decision making as also revealed by the F. probability result. The empirical evidence arising from the Durbin Watson statistics indicated evidence of positive autocorrelation of the variables that constitutes the model specification. The study further revealed that all the variables used except economic growth, were significant determinants of

domestic debt in Kenya. The analysis of economic growth rate and domestic debt at 5 percent level of significance revealed that economic growth does not significantly support domestic debt and thus establishes a negation relation with domestic debt. This also indicates that economic growth reduces domestic debt in the economy. As could be seen from the analysis a one percentage growth rate of the economy reduces domestic debt by 0.38 percent and therefore conforms to a priori expectations. Domestic credit has an inverse relationship with domestic debt. This result of the empirical analysis shows that increase domestic credit decreases domestic debt incurred by the government. Increase in domestic credit helps in mobilization of funds for investment and growth thereby increasing tax revenue. This reduces the chances of running into debt by private and government investors.

Domestic credit is not only statistically significant as a determinant of domestic debt but also is applicable to the a priori expectation. A percentage increase in domestic credit has a decreasing impact of over 0.18 percent on domestic debt. A further investigation on foreign exchange reveals that a 1 percent increase in exchange rate would significantly increase domestic debt by a corresponding rate of 17 percent all things being equal. This implies that the cost of unit of import would be higher forcing government to borrow more to import the same item. Foreign exchange rate determinant is therefore statistically significant and in line with economic theories.

Broad money supply exhibited a positive relationship with domestic debt and although statistically significant does not conform to a priori expectation. Money supply when endogenously determined is supposed to create more goods and services to the economy and through its multiplier and accelerator principles increase productivity and cause reduction in debt burden. Instead increase in money supply is found to increase domestic debt by approximately 0.2 percent. This is not farfetched as can be ascertain to be majorly caused by

exogenously determined factors of money supply outside the control of the monetary authorities.

The predominance of these factors including illegal economic activities that takes place underground induces inflationary pressures and devaluation on the naira currency. This hinders proper economic growth and henceforth encourages borrowing for investment projects most times. Finally, fiscal deficit significantly reduce domestic debt as we can deduce from the study. An increase of one percentage in government fiscal deficit reduces domestic debt by 0.89 percent. The government fiscal deficit in this study is statistically significant and goes contrary to theory but may be explained by government resort to inflationary financing, drawing down on foreign reserve, borrowing abroad or by the fact that period of study coincides with when Kenya received debt relieve from the Paris club.

5.3 Conclusions

The study attempted to fill the remarkably gap that exists in the formal study of the impact of Domestic Debt on economic growth for Kenya. It covered the period 1960-2013 and revealed that public domestic debt markets play an increasingly important role in supporting economic growth. The findings in this study show that domestic debt expansion has a positive, long run and significant effect on economic growth. This is consistent with the findings of Barro (1978), Gurley and Shaw (1956) and Maana *et al.* (2008). The study has also revealed evidence that interest rates and domestic credit have no effect on economic growth whereas money supply, trade and domestic debt outstanding have significant effect on economic growth.

5.4 Recommendations

Based on this study results, the study makes the following recommendations: Firstly, the government should institute efforts to channel Domestic Debt revenue to productive activities

in the economy so that debt does not rise to become unsustainable. This would require funding well appraised productive projects to foster economic growth. Secondly, a proper legal framework for contracting debt is essential. Greece is currently in a debt crisis with overall debt comprising above 130% of GDP (Bank for International Settlements, 2008); Kenya's GDP-Debt ratio is still below 60% (CBK, 2010) and sustainable though constant monitoring is required. To mitigate unsustainability, the government should explore other avenues of financing the budget deficit by improving on the present revenue base rather than resulting to more domestic borrowing. Thirdly, debt is a contractual liability and has to be paid. There are alternatives in non-debt creating flows like grants, foreign direct and portfolio investment and workers' remittances that supplement credit flows in meeting resource requirement of emerging economies.

Lastly, excessive domestic borrowing can be inflationary and may crowd out private sector borrowing. Close monitoring of government borrowing through the domestic market is therefore necessary. The problem of a high domestic debt is more difficult to solve vis-à-vis external debt, mainly because the relationship between the borrower (government) and creditor is different; the solutions of debt write-off, debt conversion, debt rescheduling etc will not apply because these solutions could be counterproductive and would mean government reneging on its commitments, which would affect future mobilization of resources (UNITAR-DFM E-Learning, 2008). It is also noted that Private sector credit is yet to be a significant drive of economic development and policy should look into ways of enhancing credit delivery to the private sector such as Development Banking and microfinance.

5.4 Policy Implications

Government needs resources for public expenditure. While taxes generally provide the bulk of the revenue, public borrowings bridge the resource gap between receipt and expenditure. Public borrowing could be in the domestic market or abroad. However, where local markets are not developed, external sources provide the bulk of funding for the resource gap. An emerging economy would therefore begin by tapping concessional external sources and choose between domestic and external commercial borrowing to bridge the gap.

Though borrowing increases resource availability, it is a contractual liability and has to be repaid. Borrowings overtime leads to accumulation of debt and increases principal and interest liability. Therefore, unless used productively, borrowings could soon begin to strain government finances, as more and more resources have to be diverted for debt service, which would leave less money for routine and development expenditure. Borrowed resources should therefore be used productively and efficiently to increase the capacity to service debt through accretion to government resources. A misuse of resources may easily lead to a buildup of debt to unsustainable levels which has been a major impediment to growth in emerging economies.

5.5 Limitations of the Study

It should be noted that the econometric results and the economic interpretation rest on the analysis of the long time period since 1960. Thus the study apply to what could be broadly called "normal" economic times, some short-term disruptions in past decades notwithstanding. Recent fiscal and financial market developments in the country carry characteristics of crisis situations which call for emergency policy responses which forms a limitation of this study. While, ideally, the long-term economic relationships established in the literature should provide the basis also for such short-term policy strategies, their value for concrete policy decisions may be more limited.

Since the main purpose of this study was to determine the nature, size and reforms in public domestic debt and their effects on economic growth in Kenya, Kenya National Bureau of Statistics and Central Bank of Kenya considered some information sensitive and confidential and thus the researcher had to convince them that the purpose of information is for academic research only and may not be used for any other intentions.

The findings of this study may not also be generalized to all countries across the globe but can be used as a reference to countries in developing nations since they face almost the same challenges due to the same prevailing economic situations as opposed to countries in developed nations.

Public domestic debt keeps on changing from period to period depending on prevailing economic situations and market demand. The findings therefore may not reflect the true effect of public domestic debt on economic growth in Kenya. Other variables that affect economic growth exist apart from those considered in the model specification which might have been a major limitation of the study.

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