

EFFECTS OF DEBT REPAYMENTS ON ECONOMIC GROWTH IN KENYA

BY

DOREEN MULAMA MUCHIMUTI

**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN
PARTIAL FULFILMENT FOR THE AWARD OF THE DEGREE OF
MASTERS OF BUSINESS ADMINISTRATION (FINANCE) AT THE
UNIVERSITY OF NAIROBI**

2018

DECLARATION

This research project is my original work and has not been submitted for award of any degree in any University.

Signature..... Date.....

Doreen Mulama Muchimuti

This research project has been submitted for examination with my approval as University of Nairobi Supervisor.

Signature..... Date.....

DEDICATION

I dedicate this project to my son Achu and other family members. This project would not have been possible without their constant support, humility, time and encouragement which have contributed immensely to the success of this study. Thank you and God bless you abundantly.

ACKNOWLEDGEMENT

I thank God for sufficient grace that saw me clear this project in time. My sincere gratitude also goes to my Supervisor Mr. Martin Odipo for his support and encouragement that helped me to clear this project. Without his positive criticisms, this project would not have been as it is. I cannot forget to mention all my lecturers who made my classes fascinating ready to start off the project.

TABLE OF CONTENT

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENT	iii
LIST OF FIGURES	vii
OPERATIONAL DEFINITION OF TERMS	viii
LIST OF ABBREVIATIONS	x
ABSTRACT	xi
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Debt Sustainability	2
1.1.2 Economic Growth.....	3
1.1.3 Debt Sustainability and Economic growth	4
1.2 Research Problem	5
1.3 Research Objective	6
1.4 Value of the Study	7
CHAPTER TWO	8
LITERATURE REVIEW	8
2.1 Introduction.....	8
2.2 Theoretical Literature.....	8
2.2.1 Keynesian Theory of Public Debt	8
2.2.2 Neoclassical Growth Theory	9
2.2.3 Debt Overhang Theory	9
2.3 Determinants of economic Growth.....	10
2.3.1 Recurrent expenditure and Economic growth	10
2.3.3 Internal debt and Economic growth.....	11
2.3.3 External debt and Economic growth	11

2.4 Empirical Review.....	12
2.5 Conceptual Framework.....	14
2.6 Summary	14
CHAPTER THREE	15
METHODOLOGY.....	15
3.1 Introduction.....	15
3.2 Research Design.....	15
3.3 Population Target.....	15
3.4 Data Collection	16
3.5 Data Analysis.....	16
3.6 Model Specification.....	16
3.7 Diagnostic tests	17
3.7.1 Normality Test.....	17
3.7.2 Test of Multi-collinearity.....	17
3.7.3 Homoscedasticity Test.....	18
3.7.4 Autocorrelation Test.....	18
CHAPTER FOUR	19
RESEARCH FINDINGS AND DISCUSSIONS.....	19
4.1 Introduction.....	19
4.2 Descriptive Statistics.....	19
4.2.1 Means and Standard Deviations	19
4.2.2 Skewness and Kurtosis	20
4.3 Diagnostic Test	21
4.3.1 Multicollinearity Test	21
4.3.2 Normality Test.....	22
4.3.3 Homoscedasticity Test.....	22

4.3.4 Autocorrelation Test.....	23
4.4 Correlation Results.....	24
4.5 Regression Analysis.....	25
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	27
5.1 Introduction.....	27
5.2 Summary of the Findings.....	27
5.3 Conclusion	28
5.4 Recommendations of the Study	28
5.5 Suggestions for Further Studies	29
REFERENCES	30
APPENDICES	38
Appendix I: Data used in model estimation	38

LIST OF FIGURES

Figure 2.1: Conceptual Framework	14
----------------------------------------	----

OPERATIONAL DEFINITION OF TERMS

Crowding out effect: It happens when a significant size of the foreign capital is employed in servicing external public debts as opposed to financing economic developments

Debt overhang effect: It is the likelihood that the country would accumulate a large a large amount of public debt in relation to its ability to repay and this would adversely affect the growth of the economy.

Domestic Debt: It refers to the amount of debt that the government borrows from within through treasury bills and bonds.

External debt: It is the amount of debt that the country borrows from other financial partners or even countries. Some of the financial partners on a global scale include the World Bank.

Gross Domestic Product: It is the overall level of productivity (output against inputs) determined over a given period of time mostly in a year.

Inflation Rate: It refers to the overall rise in prices of goods and services in an economy over a given time period.

Private Investment: Includes the capital stock and it was measured as percentage of GDP.

Public Debt: It is the overall level of debt that is used to finance government budgets. It includes both internal and external debts.

Real Exchange rate: It is the value which a local currency relative to another currency.

Real GDP: It refers to an increase in a Country output of goods and services, measured by changes in real gross domestic product.

Real Interest rate: The actual rate given by the Central Bank and calculated in percentage.

Spurious Results: Results without authenticity or validity.

Total Debt Service: It is the repayment of debt by the government in terms of the interest and the principal amount.

GDP Deflator: It is an adjustment for the impact of changes in nominal GDP. It is calculated as a ratio of GDP in current local currency to GDP in constant local currency.

LIST OF ABBREVIATIONS

CBK - Central Bank of Kenya

EU - European Union

HIPC - Highly Indebted Poor Countries

OLS - Ordinary Least Squares regression

ECU - European Currency Unit

ABSTRACT

This study investigated the effect of debt repayments on economic growth in Kenya, between 2010-2017. The study was informed by the fact that the government was strongly funding its budgets through public debts resulting into an increase in stock of public debts. The study adopted a causal design. The research focused on a case study in Kenya on economic growth, recurrent expenditure, savings, internal debt and external debt for the period 2000-2017 to determine effects of debt repayment. The study relied on data that was collected from secondary sources including reports by the Central Bank of Kenya (CBK). To analyze the findings, SPSS was used and the presentation was done using tables and figures. It was revealed that recurrent expenditure, savings, internal and external debts significantly influences the growth of the economy. The study recommended that the government should strive to maintain an optimal level of recurrent expenditure in order to improve on economic growth. The study also recommended that the government should encourage more savings in order to positively grow the economy. The government should consider using more external debts and less of the internal debts in financing budget deficits in order to grow the economy.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The world over, external debt has become the central problem for the less developed countries. Public debts play an important role in financing huge infrastructure development projects as well as bridge fiscal deficits of a country. Cecchetti and Zampolli (2011) posit that higher points of government debt do not cause instability instead it prevents a deeper recession. National finance will be used in providing money for business, property and basic systems and transport, which leads to higher growth. This aids in economic recovery and in reducing unemployment hence improving the economy of a country.

Globally, all governments experience deficits due to high costs of expenditure and lack of enough revenues, so it brings a number of things together, so as to collect revenues for example through taxes, and external borrowing. Modigliani (2000), refining contributions by Buchanan (1988) reasoned that the total amount of money that a country owes which is a responsibility for coming generation is seen in form of a condensed flow of finance from private capital. He carefully thought about circumstances that are a responsibility of a country's loan to be paid that will contribute to productive public capital formation. Government has various alternatives to borrow in order to finance its fiscal deficit. The Anchoring theory comes in handy to help make borrowing decisions. The theory describes individual (anchors) who heavily rely on the first information offered to make decisions. This alternative to borrow includes, borrowing from the domestic markets i.e.

local commercial banks, fund managers, insurance companies, hedge funds, individuals as well as from external sources. Corsetti, (2012) argue that each of the methods used by the government to raise finances has an impact on the economy. It is therefore important that the government should choose the most appropriate and economical method that has less impact on economic growth of a country, Panizza & Andrea, (2012).

Developing countries External debt sustainability burden continues to be a key barrier to social and economic progress. In this regards, solvency, sustainability and fiscal policies have become important areas of research. In closed economies, debt was the available choice for financing an economy, but in open economies countries and their economic structures cohabit so external debt has replaced domestic debt with the liberalization. Classens (1990); Semmler and Sieveking (2000); Easterly (2002); Cassimon and Vaessen (2007) and Ferrarini (2008) offer evidence that through external borrowing, countries are able to grow their economies and attainment of their goals for development.

1.1.1 Debt Sustainability

This is a situation whereby a debtor is expected to be servicing its arrears without unrealistic spending; this integration in debt sustainability is in many sub-components. The aim of national debt control plan is to meet the national monetary needs at least long-term borrowing cost without any risk involvement (GoK, 2010). The main creditors to Kenya are the World Bank, followed by Japan and African Development Bank Group. Other notable creditors to Kenya are France, Germany, European Union/European Investment Bank and Italy (GoK, 2010). An analysis on debt sustainability done by a joint World Bank/IMF Fund 2009 found the control of debt factors to have declined, thus reflecting a probable accumulation of debt. Outside debt continues to be the

responsibility of poor nations as much as becoming a hindrance to do a research on areas of policies, natural resources and liquidity of the financial values. As described by Ocampo, (2005), outside debt is as sustainable when there are no major hurdles in meeting contracts on time. However, fewer African nations which have been experiencing unmanageable outside debt are now free from the load.

The sentiment is also supported in Yang and Nyberg (2009). He views the sustainability of long-term loan to continue being a hindrance to developing nations as they continue to borrow in order to sustain their economies, they also have to make a milestone in those attributes for example in doing away with exportation to institutions which do not do well. A question in mind is what are the specific determinants of external debt sustainability?

1.1.2 Economic Growth

Economic growth is the overall productivity on the country measured over a given time frame, usually on an annual basis. Economic growth is a measure of overall productivity of the country over a given period of time (Easterly & Levine, 2016). Economic growth is measured by gross domestic product (GDP) or income per capita. Gross Domestic Product represents the value of finished products (good and services) produced in a country over a specified period of time usually on an annual basis. In country where the economic growth is high, there is improved living standard among people, better infrastructural facilities and adoption of technology in operations. There are also more employment opportunities and the general welfare of people (Carr & Sundaram, 2016). Van-den-Berg (2016) defined economic growth as the increase in capacity of the country of producing products in comparative periods. Greiner, Semmler and Gong

(2016) defined economic growth as an increase in level of produced goods and services per head of the overall population in a given time horizon.

Baskaran, Feld and Schnellenbach (2016) viewed economic growth as an increase in market value of the produced products on a given time horizon. Economic growth according to Lamsiraroj (2016) is one of the measures of how well and healthy an economy is doing in a given time horizon. On a wider scope, economic growth is measured in terms of an increase in Gross Domestic Products, Gross National Product and National Income thus the entire wealth of the nation. Economic growth also includes growth in the production capacity of a country over a period of time. Economic growth can be expressed either in relative or absolute quantities per capita (Brack, 2017).

1.1.3 Debt Sustainability and Economic growth

Scholars are yet to agree on the link between the interaction of debts and the growth of the economy. For example, the findings of Augustor et al. (2015) showed an inverse link between public debt and the growth of the economy. On the other hand, Panizza and Presbitero (2014) in a study revealed no cause effect link between debts and the growth of the economy. Putunoi and Mutuku (2013) and Maana, *et al.* (2008) on the other hand revealed a positive and significant link.

Domestic debts according to Burguet and Ruiz (1998) are too costly to service as compared unlike other external sources of funding. Too much of the public debt would lead to debt overhang effect. However, Umaru et al. (2013) revealed a negative link between external debt and the growth of an economy while domestic debt had a positive link.

1.1.4 Debt Sustainability and Economic Growth in Kenya

Kenya has consistently accumulated the level of public debt used in financing budgets. Most of the public debt by Kenya is used in funding infrastructure projects including the road networks. The key challenge with this increase in debt is whether it would be sustainable for the country to service in terms of the repayment of the interest and the principal amount as and when they fall due.

Kenya has in the recent past heavily borrowed from external markets including the issuance of the sovereign bond which call for consecrated efforts to repay the advanced amount. Therefore, efforts should be put in place to reduce fiscal financing and thus reverse the increasing levels of public debts. If this is not done, the level of debt would rise to a point where it would be unsustainable for the country hence slowing down the growth of the economy in key sector.

1.2 Research Problem

When the level of debts rises to unsustainable level, it results into risk to the government including the possibility to slow down the growth of the country. The major issue in economic development in a number of countries is economic development. This issue has not received adequate scholarly attention. The Kenyan government has been having a rise in debt and weaker economy between 2011 and 2015. More attention put on public debt is believed by many studies to have unfavorable change on growing economy. In Mill (1989), it was revealed that the level of borrowing by the government is detrimental as it slows down capital that would be used for the growth of the economy. It is not clear from literature on the interaction of debts and the growth of the economies. Some studies (Panizza & Presbitero, 2014) reveal a negative link between debts and economic growth.

In the view of Burguet & Ruiz, (1998), local loan is very high in terms of interest of domestic debt but this can be absorbed in important government incomes.

While in Umaru, Hamidu and Musa (2013), outside loan have a bad effect on the growing economy whereby internal loan will be having good effect on the growing economy. Public debt has effects on the growing economy and has been a topic of discussion among scholars and academicians. Buchanan, (1999) argues that money owed may be of special quality to the money supply and the particular groups. While Malthus (2013) indicated the contrary and argued that plans initiated by the government through borrowings take longer to give fruitful outcome from the loan. Most research has failed to incorporate the ideas on the macroeconomic variable which come about due to much borrowing thus affecting the growing economy. The main aim of this research is to fill the void by incorporating data and addressing overall debt with respect to the growth in economy

Manundu, (1984) looked at the debt management strategies for Kenya and showed that the debt burden in Kenya is explained by an increase in imports and low levels of savings. Other scholars that have investigated the public debt and the growth of an economy include (Gulam, 1987; Ng'eno, 1991 & Ochieng 1991). All these studies have offered inconclusive findings on the interaction between debts and the growth of the economy hence a gap that informs the current study.

1.3 Research Objective

The study sought to examine relationship between debt sustainability and economic growth in Kenya.

1.4 Value of the Study

This study would assist in knowing how levels of public debt affect the growth in economy for the government policy makers thus adopting plans that would enable the debt level in the country manageable. Also, the research outcome would be useful in preparation and planning of effective policies. This would help in accurately determining the nature of the link between debts and growth of the economy; whether it is linear or nonlinear. Also, action planners, members of political know-how and academicians would find this research very useful, as the information would inform them about the effects of debt on the growing economy. It would also give information to the organizers on the effects of debt on the operation of the country's financial supply.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

We will look at all ideas, principles of literature as well as conceptual framework. Section 2.2 presents the theoretical literature on external debt. Section 2.3 analyses the determinants of economic growth, Section 2.4 analyses the empirical evidence relating to external debt sustainability while section 2.5 the conceptual framework 2.6 is a summary of the literature review on the determinants of external debt sustainability.

2.2 Theoretical Literature

This sections reviews theories that form the basis of the study.

2.2.1 Keynesian Theory of Public Debt

The sluggish development in public debt is brought about by the economic predicament due to the 1930's economic despair. The traditional view that speedy rising public debt and constant unbalanced budget hinder the financial stability of nations, this opens other avenues for the conception that huge debt is a liability of a country.

Keynesian's approach on the classical principles on public finance and budgeting was an extension of Keynesian attack on the economy. This theory is important for policy & decision makers as it can be used to determine the level of debt that is sustainable when budgeting hence economic growth

2.2.2 Neoclassical Growth Theory

This theory is also called Solow-Swan version and it argues that policies should focus on development of prices of funding and savings. According to the theory, effective channels of savings result into the growth of the economy. Modigliani (2000) noted that the amount of debt in the country is like a burden to the future generation.

Krugman and Eggertson (2012) argue that a reduction in debts would result into growth in investments and thus the economy as a whole. Too much debt on the basis of the debt overhand theory would be unsustainable for the country to repay in terms of the principal amount and the interest as and when it falls due. Thus, countries should be extremely cautious on the level of public debt accumulated.

2.2.3 Debt Overhang Theory

Developing countries suffer so much due to loan acquired, this is called debt overhang. The major findings on this theory is that in countries whereby there is good governance debt rises to 25% of GDP, but debt becomes irrelevant when it is about 70%. Also in nations where we have bad policies the evidence is that debt overhang is weaker and cannot be managed, Krugman (1988). The presence of debt overhang could affect the incentives of policy makers, but as Sachs, (1989) said the foreign debt is a burden to poor nations thus making the government increase the growing economy through other avenues. The presence of political debt overhang can affect the income of a policy maker, also those in the private sector. A typology of debt crises done by Classens & Diwan, (1990), included the following factors:

Debt overhang which is the weight of debt which could be very heavy that future economy boom is compromised. The affected nation cannot invest thus they cannot meet future debt duties on new loans as well as debt alleviation. vulnerable debt overhang occurs when the first-rate debt is simply too massive to be resolved through the supply of cash. But, a nation may additionally use some dedication to suggest that it might use the brand-new cash for investment then it may get away from the debt overhang. the author also outlines a dedication mechanism as an institution that creates an incentive for debtor countries to make investments new cash in efficient activities, instead of the usage of the money for present consumption.

2.3 Determinants of economic Growth

2.3.1 Recurrent expenditure and Economic growth

These are expenses incurred by the government in the daily operations including the wages and salaries paid to employees and costs including traveling. As the level of debt continues to build up in Kenya, so is recurrent expenditure hence slow economic growth. The country should not utilize the borrowed funds to meeting recurrent expenditure but rather, development expenditure.

2.3.2 Savings and Economic growth

Saving is a portion of income left after consumption. People save for several reasons and motives including transaction and speculative. Saving is an important driver of investment that shapes the growth of the economy. The amount saved can be used to finance projects that would be of value to the county and people as a whole.

2.3.3 Internal debt and Economic growth

High levels of domestic have a substantial economic cost which is weak which has a weak economic growth. The growing loan will eventually lead to escalation in loan servicing interest, leaving less for investment in the growth of the transport and spending on health, education and society sectors. Loan having been a useful value when sourcing for capitals to fund the development plans of the Kenyan government, as the budgetary situation of the government has always remained in deficit. Some portion of the deficit is met through domestic and foreign borrowing. As a result, the volume of the debt has also increased quite sharply.

According to Bucham, (1968), he is of the opinion that we have no connection between policies and retirement issues of national debt. Such deficits are produced firmly for enhancing of collective request, national thus liability will not be used in funding but cash will be formed directly as another means of fund. In this situation the issue of loan will have an undesirable impression to the demand. The confusion on this arises because institutionally, national government tends to change creation of money through borrowing from the banks and public debt.

2.3.3 External debt and Economic growth

A major concern for all economics is how they can sustain their growing economy, especially in developing economies. This economy mainly faces increasing fiscal shortages occasioned by external liability servicing and widening current account deficits Reinhart et al., (2012). Poor nations are striving for sustainable growth in economy are in need to control the escalation in fiscal deficit. In order to cut the cost these nationals are confronted with the challenges of increasing revenues on non-essential spending of

public resources while introducing new investments drive the growth in economy, while reducing the current account deficit to sustainable levels (Baum, Arai et al).

They hoped that for faster development through major investments these loans would be of great importance. Due to increase in the debt ratio in the year 1980s it was clear that these countries' debt payments. It is hoped that for faster development through major investments these loans would be of great importance in that the ratio reached was higher in the 1980s. External debt will have satisfactory outcome on the economy growth because it will increase money influx, it is mainly done in favor of interrelated expenses to speed up the growing economy, Reinhart et al., (2012). Once outside liability accrues to a certain level, it bonds the growing economy by hindering investment. A clarification on this adverse connection is the alleged debt projection. This hypothesis situation implies that high level of obligation will not be encouraging to investors and this will affect the revenue growth negatively as seen in Baum et al., (2013).

2.4 Empirical Review

A study to determine the interaction between public debt and the growth of the economy was done by Panizza, (2013). It was noted that the Kenya's public debt has significantly grown and it is likely to get to unattainable level. It was established that domestic debts does not significantly result into crowding out effect. Hui and Suvita (2013) used regression analysis on a period from 1975 all through to 2010 to determine the link between debts and the growth of the economy. The study was done in Nepal and it was shown that debts had an influence on economic growth.

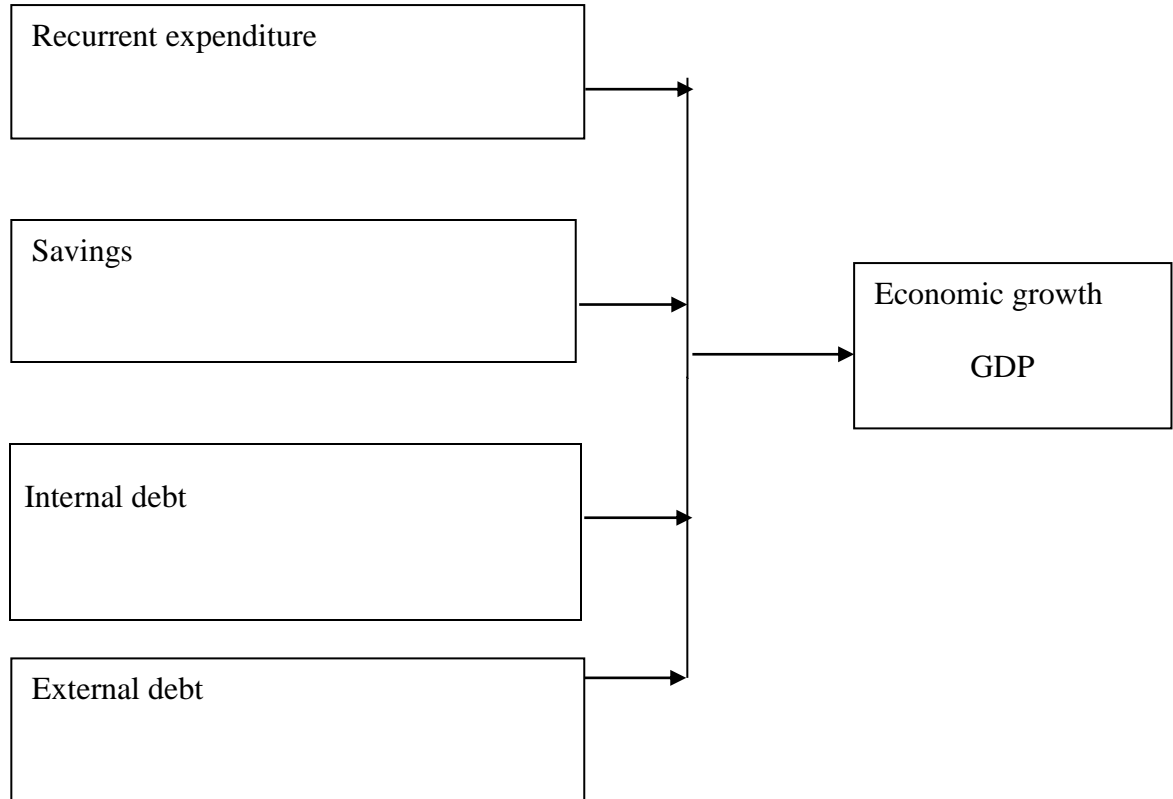
In the studies conducted by Zhang and Wang (2012) in China's context on how financial boom influences the growth of the economy. The study covered a time frame from 2001

all through to 2006. The findings of the study pointed out that in deed financial boom results into investor confidence and thus the growth of the economy. Other studies (Cunningham, 1993; Afxentiou & Serletis, 1996; Deshpande, 1997 & Karagol, 2002) revealed that external debts have favorable outcomes on growth of the economy.

While in Umaru, Hamidu and Musa (2013), outside loan have a bad effect on the growing economy whereby internal loan will be having good effect on the growing economy. Public debt has effects on the growing economy and has been a topic of discussion among scholars and academicians. Buchanan, (1999) argues that money owed may be of special quality to the money supply and the particular groups. While Malthus (2013) indicated the contrary and argued that plans initiated by the government through borrowings take longer to give fruitful outcome from the loan. Most research has failed to incorporate the ideas on the macroeconomic variable which come about due to much borrowing thus affecting the growing economy. The main aim of this research is to fill the void by incorporating data and addressing overall debt with respect to the growth in economy. Manundu, (1984) looked at the debt management strategies for Kenya and showed that the debt burden in Kenya is explained by an increase in imports and low levels of savings.

2.5 Conceptual Framework

Independent Variable



Source: Author 2018

Figure 2.1: Conceptual Framework

2.6 Summary

When a country keeps on changing the mode or the way of payment it is known as debt repayment problem, in order to assist those poor countries, a modality is identified so as to arrange the legal agreement on how to pay. According to McFadden et al (1985), the factors include an increase in import price thus discouraging them from exporting. Other determinants are mainly exporting, GDP, domestic debt and external debt.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

In the following chapter, we have outlines of the methods used in conducting research. Section 3.2 explains the research design that was applied in the study; section 3.3 covers the population of the study as well as the sample size and sampling techniques that was applied in the study, section 3.4 presents the data and data collection methods used. Finally, section 3.5 outlines the data analysis methods and covers both the conceptual and empirical models.

3.2 Research Design

Creswell (2003) defines a research design as the structure or plan that outlines how the objectives of the study are to be attained. It goes along to determining the methods to use in collecting and analysis of the data. The study employed a causal descriptive design to determine the cause effect interaction between the study variables. The design helped the researcher to effectively determine the link and interaction of debts and the growth of the economy with references to the Kenyan context.

3.3 Population Target

This research thus focused on a case study in Kenya on economic growth, recurrent expenditure, savings, internal debt and external debt for the period 2010-2017 to determine debt sustainability.

3.4 Data Collection

The type of instrument the research used basically relies on the budget matter, topic of research etc. This is due to the fact that different tools and instruments work on specific data. The researcher used secondary figures which were collected as follows: Data on recurrent expenditure and savings was collected from the CBK website and the KNBS website. Information on principal and interest on internal and external debt will both be collected from the Central Bank website. The unit of analysis for this study is the economy of Kenya.

3.5 Data Analysis

Data analysis technique to be applied was quantitative using the Project management software and MS Excel 2010 for simple data analysis so as to analyze data using tables. This was applied to examine and compare the impact of the independent variables on the dependent variable. Data was analyzed using descriptive statistics, correlation and simple linear advanced examination to determine the relationship between the determinants of the external debt and its sustainability.

3.6 Model Specification

The study sought to determine the interaction and link between debts and the growth of the economy in Kenyan context. The researcher conducted an equation on ordinary regression to establish the correlation between domestic debt and the performance of economy in Kenya. It was done as follows:

$$y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon \dots\dots\dots ii)$$

y = Economic Growth

X_1 = Recurrent Expenditure (Kshs)

X_2 = Savings (Kshs)

X_3 = Internal debt (Kshs)

X_4 = External debt (Kshs)

β_0 = Constant

$\beta_1 - \beta_4$ It is the regression co-efficient

ε = It's the error

3.7 Diagnostic tests

3.7.1 Normality Test

Regression analysis should be conducted when the data set is normally distributed. This is the essence of carrying out a normality test. To test for normality, the values of Skewness and Kurtosis and normal PP plots were used.

3.7.2 Test of Multi-collinearity

Multicollinearity occurs when one of the variables are highly correlated with each other. It was tested using Variance of Inflation Factor (VIF). Values of VIF between 1-10 show the absence of multicollinearity.

3.7.3 Homoscedasticity Test

A condition whereby an error is the same as independent variable is known as Homoscedasticity test. This is the present of the magnitude of fault differs in all the values of the independent variable. The effect in violating the assumption of Heteroscedasticity is as degree growing as heteroscedasticity upsurges. It was detected using Scatter Plots.

3.7.4 Autocorrelation Test

Use of Ordinary least squares method assumes lack of serial correlation in the residuals. It was tested using Durbin Watson Statistics.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings of the analysis on the secondary data that was collected. The data for the study was collected using data collection sheet for a period of 2000 to 2017. The collected data was coded into SPSS software and the findings were analyzed using descriptive and inferential statistics.

4.2 Descriptive Statistics

The researcher used descriptive statistics to describe the variables of the study as shown in subsequent sections.

4.2.1 Means and Standard Deviations

The findings on the means and standard deviations on the variables of the study are shown in Table 4.1.

Table 4.1: Means and Standard Deviations

	N	Minimum	Maximum	Mean	Std. Dev
Economic Growth	18	1.23	8.41	4.85	2.078
Recurrent Expenditure	18	36.03	59.49	49.09	7.775
Savings	18	15.84	21.24	18.95	1.570
Internal Debts	18	12.37	22.58	18.35	3.178
External Debt	18	25.01	75.20	43.29	17.482

Table 4.1 shows that on average, economic growth was at 4.85, recurrent expenditure at 49.09, savings at 18.95, internal debts at 18.35 and external debts at 43.29. However, there was no significant deviation in the variables of the study except for external debts as indicated by a high value of standard deviation of 17.482.

There are several observations from the above findings in Table 4.2. First, it can be seen that the country relies more on external as compared to internal debts. Secondly, it can be observed that savings are relatively lower than the debts level, which is economically detrimental.

4.2.2 Skewness and Kurtosis

Table 4.2 gives the findings on Skewness and Kurtosis are shown in Table 4.2.

Table 4.2: Skewness and Kurtosis

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Economic Growth	18	-.392	.536	-.694	1.038
Recurrent Expenditure	18	-.213	.536	-1.425	1.038
Savings	18	-.703	.536	-.462	1.038
Internal Debts	18	-.528	.536	-.972	1.038
External Debt	18	.836	.536	-.706	1.038

Table 4.2 indicates the values of Skewness and Kurtosis. From the findings, all the Skewness and Kurtosis values were less than ± 2 . This observation shows that the data set was from a normal distribution.

4.3 Diagnostic Test

Diagnostic tests were carried out to ensure that the data set did not violate regression assumption. The findings are shown in subsequent sections.

4.3.1 Multicollinearity Test

This test was carried out to assess whether one of the variables were highly correlated. It was detected using Variance of Inflation Factor (VIF) as indicated in Table 4.3.

Table 4.3: Multicollinearity Test

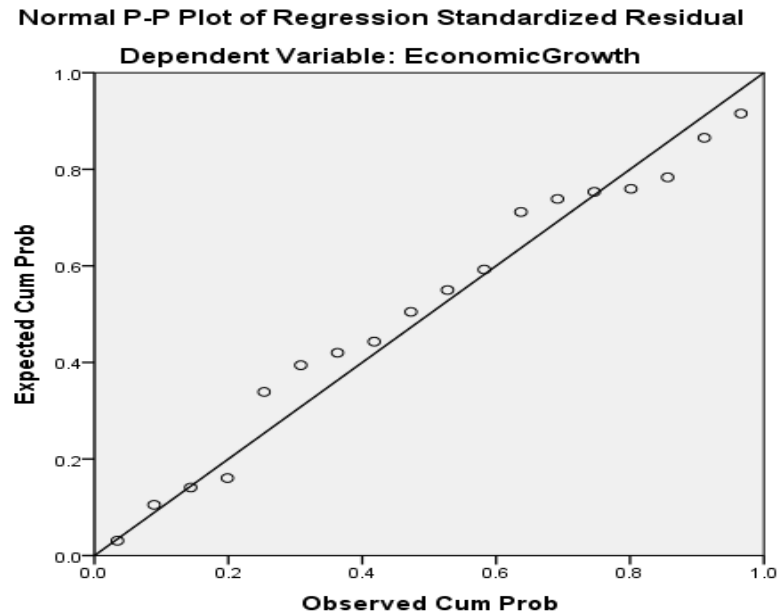
	Collinearity Statistics	
	Tolerance	VIF
Recurrent Expenditure	.189	5.29
Savings	.642	1.55
Internal Debts	.288	3.47
External Debt	.198	5.05

a. Dependent Variable: Economic Growth

From Table 4.3, all the VIF values were within the range of 1-10. This finding suggests that there was no multicollinearity in the data set and thus suitable for regression analysis.

4.3.2 Normality Test

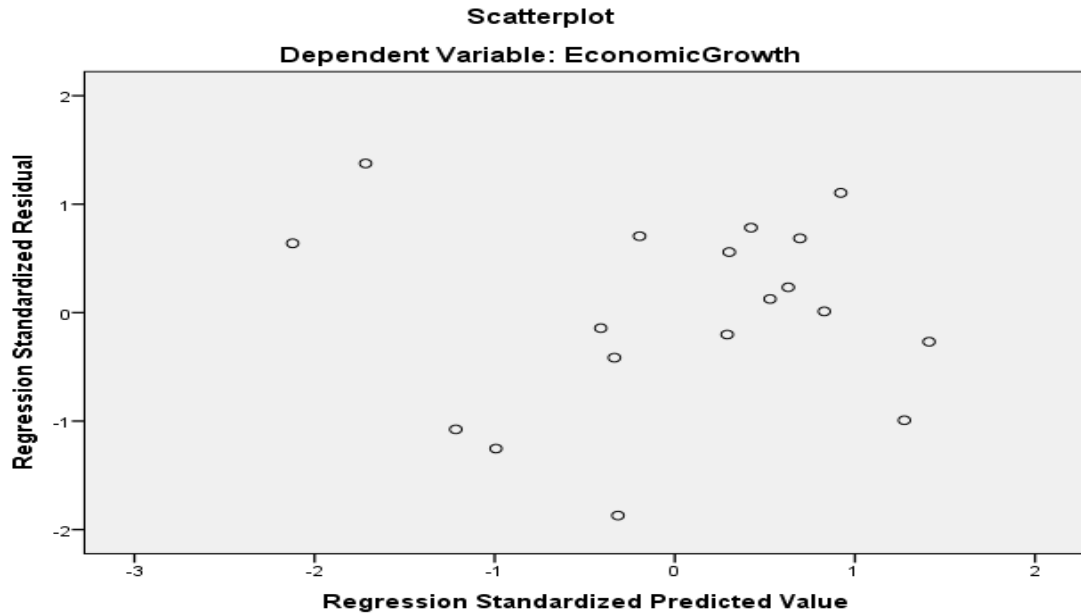
This test was conducted to determine whether the data set had a normal distribution. It was tested using Normal PP Plots.



From the findings in Figure 4.1, the data points fall closely within the Normal PP line. This infers that the data set had a normal distribution. This finding is in tandem with the earlier one in Table 4.2 on Skewness and Kurtosis.

4.3.3 Homoscedasticity Test

Homoscedasticity was tested using Scatter Plots as shown in Figure 4.2.



As indicated in Figure 4.2, the data points are far spread with no distinct pattern formed. Thus, shows that there was homoscedasticity which is desirable for regression analysis.

4.3.4 Autocorrelation Test

Autocorrelation was tested using Durbin Watson Statistics. The findings are shown in Table 4.3.

Table 4.4: Autocorrelation Test

Model	Durbin-Watson
1	1.737

a. Predictors: (Constant), External Debt, Savings, Internal Debts, Recurrent Expenditure

b. Dependent Variable: Economic Growth

From Table 4.4, the value of Durbin Watson is 1.737, which is approximately 2. This shows that there was no serial correlation in the data set and it was suitable for correlation and regression analysis.

4.4 Correlation Results

In order to establish the relationship between the study variables, the researcher carried out correlation analysis. The findings are reported in Table 4.5.

Table 4.5: Correlation Results

		Economic Growth	Recurrent Expenditure	Savings	Internal Debts	External Debt
Economic Growth	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	18				
Recurrent Expenditure	Pearson Correlation	.150	1			
	Sig. (2-tailed)	.001				
	N	18	18			
Savings	Pearson Correlation	.603**	-.416	1		
	Sig. (2-tailed)	.008	.086			
	N	18	18	18		
Internal Debts	Pearson Correlation	-.331	-.070	-.392	1	
	Sig. (2-tailed)	.000	.782	.107		
	N	18	18	18	18	
External Debt	Pearson Correlation	.354	.795**	-.089	-.562*	1
	Sig. (2-tailed)	.003	.000	.725	.015	
	N	18	18	18	18	18

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

From Table 4.5, recurrent expenditure $r=0.150$, $p<0.05$, shows that there exists a direct link between recurrent expenditure and economic growth. Savings $r=0.603$, $p<0.05$, implies that there is direct link between savings and economic growth. Internal debts $r=-0.331$, $p<0.05$, indicate that internal negatively influences economic growth. External debts $r=0.354$, $p<0.05$, this shows that external debts positively influences economic growth.

4.5 Regression Analysis

In order to determine the effect of external debts, internal debts, savings and recurrent expenditure on economic growth, regression analysis was employed. The findings are indicated in Table 4.6.

Table 4.6: Model Summary

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	13.170	4.262		3.090	.003
Recurrent Expenditure	.366	.108	.216	3.380	.010
Savings	.534	.235	.616	2.268	.041
Internal Debts	-.120	.050	-.160	-2.394	.000
External Debt	.421	.188	.153	2.233	.019
$R=.619^a$	$R^2=.384$	Adj. R square=.194	F=10.786	2.13691	

a. Predictors: (Constant), External Debt, Savings, Internal Debts, Recurrent Expenditure

a. Dependent Variable: Economic Growth

The findings in Table 4.6 indicate that shows a coefficient of determination of 0.384. This shows that 38.4% change in economic growth is explained by the identified

independent variables of the study. The findings in Table 4.6 further indicates that the recurrent expenditure $p=0.010 < 0.05$ significantly influences economic growth. Savings $p=0.041$ significantly affects economic growth. Internal debts $p=0.000$ and external debts $p=0.019$ had significant effect on economic growth.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter present a summary of the analyzed findings based on objectives. The conclusions informed by the analyzed findings are also presented. The recommendations for policy and theory are also clearly presented. The chapter suggests areas for further studies to future scholars.

5.2 Summary of the Findings

The purpose of the study was to determine relationship between debt sustainability and economic growth in Kenya. The variables of the study were savings, external debts, internal debts and recurrent expenditure. The study collected secondary data on these variables using data collection sheet. Data was collected on a period of 2000 all through to 2017.

From descriptive statistics, the study established that the country relies more on external as compared to internal debts. Secondly, it can be observed that savings are relatively lower than the debts level, which is economically detrimental. Diagnostic tests were conducted including multicollinearity, normality, autocorrelation and homoscedasticity. The resultant values from, all these tests were within the established thresholds confirming that the data set was suitable for inferential statistics.

Correlation analysis was then conducted to determine how variables were related with each other. From the findings, it was revealed that recurrent expenditure $r=0.150$, $p<0.05$, shows that there exists a direct link between recurrent expenditure and economic growth.

Savings $r=0.603$, $p<0.05$, implies that savings positively influences economic growth. Internal debts $r=-0.331$, $p<0.05$, indicate that internal debts negatively influences economic growth. External debts $r=0.354$, $p<0.05$, this shows that external debts positively influence economic growth.

Regression analysis was then carried out to assess how the independent variables affected the dependent variable. The coefficient of determination R square 0.384 showing that the independent variables of the study explained 38.4% change in economic growth of the country. The value of F calculated was 10.786 compared to F critical by 3.179. This showed that the overall model was fit for the study. At 5% level of significance, the p values of all the independent variables were less than 0.05 showing that they significantly influenced economic growth.

5.3 Conclusion

The study concludes that recurrent expenditure has a direct link relationship with economic growth. Savings has a direct link with economic growth. Internal debts have an inverse and significant relationship with economic growth. External debts positively influences economic growth.

5.4 Recommendations of the Study

The study recommends that the government should strive to maintain an optimal level of recurrent expenditure in order to improve on economic growth. The study also recommends that the government should encourage more savings in order to positively grow the economy. The government should consider using more external debts and less of the internal debts in financing budget deficits in order to grow the economy.

5.5 Suggestions for Further Studies

The current study focused on four independent variables (savings, recurrent expenditure, external and internal debts). From the regression results, these variables explained 38.4% change in economic growth. Thus, there are other factors that explain economic growth which future studies should focus on. The current study was also limited to Kenya as an economy. Future studies should be done among countries in East Africa including Tanzania and Uganda. This would facilitate comparison and detailed decision making.

REFERENCES

- Abu Bakar, N., & Hassan, S. (2008) *Empirical Evaluation on External Debt of Malaysia*.
International Business & Economics Research Journal, 1-3
- Adekanye F. (1986), *The elements of Banking in Nigeria*, Graham Burn, Bedfordshire LU
7EA.
- Afxentiou, P. C., & Serletis, A. (1996). Growth and foreign indebtedness in developing
countries: An empirical study using long term cross-country data. *J. Dev.*
Areas, 31(1): 25-40. *Journal of Development Economics*, 31(1), 25-40.
- Anyanwu (1998). Role of capital market in industrial development in Nigeria. 2221,
Journal of Macroeconomics, 2014, vol. 41, issue C, 21-41
- Augustor et al. (2015). *Public Debt and Economic Growth*. *Journal of Economics*, 25-28.
- Babu et al. (2014). External debt and economic growth in the East Africa Community.
Africa Journal of Business Management, 1011-1018.
- Barro, R., & Sala-i-Martin, X. (2003). *Economic Growth* (Ed ed.). New York: McGraw-
Hill. Beck.
- Baum, A., Checherita-Westphal, C. and Rother, P. (2013). "Debt and growth: New
evidence for the euro area," *Journal of International Money and Finance*, Vol.
32, No. 1, February
- Beck, Thorsten & Levine, Ross & Loayza, Norman, 2000. "Finance and the sources of
growth," *Journal of Financial Economics*, Elsevier, vol. 58(1-2), pages 261-
300.

- Benhabib, J., & Spiegel, M. M. (2000). The Role of Financial Development in Growth and Investment. *Journal of Economic Growth*, 25-35.
- Blake, T. (2015). *Investigating the Impact of Public Debt on Economic Growth in Jamaica*. Kingston: Bank of Jamaica.
- Blinder, A. S. (2012). *The Concise Encyclopedia of Economics*. Keynesian Economics.
- Buchanan, J. M. (1999). *Liberty Fund*. Retrieved from ISBN-0-86597-216-8.
- Burguet, S., & Ruiz, J. (1998). Growth through taxes and borrowing? A model of development traps with public capital. *European Journal of political Economy*, 327-344.
- Cassimon, D., & Vaessen, J. (2007). Theory, practice and potential of debt for development swaps in the Asian and Pacific Region. *Economic Systems* 31, 12-34.
- Cecchetti, S and K Schoenholtz (2011): *Money, banking and financial markets*, third edition, New York, McGraw-Hill Irwin.
- Cecchetti, S, M Mohanty and F Zampolli (2011): “*The future of public debt*”, in S Gokarn (ed), *Challenges to central banking in the context of the financial crisis*, New Delhi: Academic Foundation, pp 183–217.
- Central Bank of Kenya. (2014). *Central Bank of Kenya Act*. Kenya: Central Bank of Kenya.
- Claessens, E. (1990). *The debt Laffer curve: some estimates*. *World Development* 18 (12), 1671-1677.

- Corsetti, K. Kuester, A. Meier, and G. J. Muller. Sovereign risk, fiscal policy, and macroeconomic stability. *IMF Working paper* 12/33, 2012
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Washington: Sage.
- Cunningham, R. T. (1993). The effects of debt burden on economic growth in heavily indebted Nations. *Journal of Economics Development*, 115-126.
- De Bondt, G. (2002). *Euro area corporate debt securities market: First empirical evidence*. Working Paper No. 164 (pp. 16-24). Frankfurt: European Central Bank Working Paper Series.
- Deshpande, A. (1997). The debt overhang and the disincentive to invest. *Journal of Development Economics*, 52, 169-187.
- Dimitrova, N. (2005). *Stability Analysis of a Nonlinear Model of Wastewater Treatment Processes*. In L. V. Zhilin Li, *Numerical Analysis and Its Applications* (pp. 598-604). Rousse: NAA.
- Easterly, W., (2002). How did heavily indebted poor countries become heavily indebted? 40 Reviewing two decades of debt relief. *World Development* 30 (10), 1677-1696.
- Goosen, F. M. (2013). Institutional Aspects of Economic Growth: Assessing the Significance of Public Debt, Economic Governance and Industrial Competition, *The Open Business Journal*.
- Granger, C. W., & Newbold, P. (1974). Spurious Regressions in Econometrics. *Journal of Econometrics*, 2, 111-120.

- Greenwood, J. And Jovanovic, B. (1990), “Financial Development, Growth, and the Distribution of Income”, *Journal of Political Economy*. 98: 1076-1107.
- Greenwood, J., Jovanovic, B., 1990. *Financial development and economic development*. *Economic Development and Cultural Change* 15, 257 – 268.
- Hameed, H. A., & Chaudhary, M. A. (2008). *External Debt and Its Impact on Economic and Business Growth in Pakistan*. *International Research Journal of Finance and Economics*, 20, 132-140.
- Himbara, D. (1993). Myths and Realities of Kenyan Capitalism. *Journal of African Political Economy*, 93-107.
- International Monetary Fund, 2002, “*Assessing Sustainability*,” prepared by the Policy Development and Review Department, SM/02/166,
- International Monetary Fund. (2009). *Fighting the Global Crisis*. Istanbul: IMF Publication Services.
- Jie Yang & Dan Nyberg, 2009. *External Debt Sustainability in HIPC Completion Point Countries*
- Krugman, P., & Eggertson, G. P. (2012). Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach. *The Quarterly Journal of Economics*, 127(3), 1469-1513.
- Ferrarini, B. (2008). *Proposal for a contingency debt sustainability framework*. *World Development* 36 (2), 2547-2565.

- Maana, I., Owin, R., & Mutai, N. (2008). *Domestic Debt and its Impact on the Economy- The case of Kenya*. 13th Annual African Econometric Society Conference (pp. 1-27). Pretoria: Econometric Society.
- Mageto, J. N. (2015, May 10). *Public Debt and Economic Growth in Kenya*. Public Debt and Economic Growth in Kenya. Nairobi, Nairobi, Kenya: Kenyatta University.
- Makau, J. A. (2008). *External Public Debt Servicing and Economic Growth in Kenya. An Empirical Analysis*. University of Nairobi.
- Malthus. (2013). *Classical Economics (II)*. In R. B. Ekelund, & R. F. Hebert, *A History of economic Theory and Method* (pp. 181-183). Illinois: Waveland Press Inc.
- Manundu, M. (1984). *Debt Management Strategies for Kenya: Summary of findings of a workshop organized by Friedreich Ebert Foundation in November*.
- Matiti, C. (2013). *The Relationship Between Public Debt and Economic Growth in Kenya*. International Journal of Social Sciences and Project Planning Management, 65-86.
- Maysami, R. C., Howe, L. C., & Hamzah, M. A. (2011). Relationship between macroeconomic variables and stock market indices: cointegration evidence from stock exchange of Singapore. *UKM Journal Article Repository*, 47-77.
- Mcfadden, D., R. Eckaus, G. Feder, V. Hajivassiliou & O'Connell, 1985. *Is there life after debt?* world bank academic press
- Mill, J. S. (1989). *Principles of political Economy* (46 ed.). London: Longmans, Green and Co.

- Modigliani. (2000, January 15). National Debt in a Neoclassical Growth Model. *The American Economic Review*, pp. 1124-1152.
- Mutiso, C. M. (2001). “*Determinants of External Debt in Kenya*” A Dissertation paper for the degree of Masters of Arts in Economics: University of Makerere.
- Neusser, K., & Kugler, M. (1998). Manufacturing Growth and Financial Development: Evidence from OECD Countries. *The Review of Economic and Statistics*, 638-646.
- Neusser, K., Kugler, M., 1998. Manufacturing growth and financial development: evidence from OECD countries. *The Review of Economics and Statistics*, 638 – 646.
- Ngechu, M. (2004). *Understanding the research process and methods: An introduction to Research*. Nairobi: Kenya Literature Bureau.
- Ng’eno, N. K. (1991), “*The external debt problem of Kenya*” A paper presented at the *AERC Workshop in Nairobi, in May*.
- Ocampo, José Antonio, and Gabriel Palma (2004). *Dealing with Volatile External Finances at Source: The Role of Preventive Capital Account Regulations*. Processed, Initiative for Policy Dialogue, Columbia University, New York.
- Ochieng, J. S. (1991), “*Determinants of the external debt burden: An analysis of Kenya, 1970- 1989*”. A Research paper for the degree of Masters in Economics: University of Nairobi.
- Onyango, J. K. (2014, June 12). *The Impact of External Debt on Economic Growth in Kenya*. *The Impact of External Debt on Economic Growth in Kenya*.

- Panizza, U., & Presbitero, A. F. (2013, January 10). *Public Debt and Economic Growth in Advanced Economies*, pp. 1-24. Working paper no. 78, pp. 1-24.
- Pesaran et al. (2001). *Bounds testing approaches to the analysis of level of relationships*. *Journal of Applied Economics*, 16(3), 289-326.
- Putunoi, G. K., & Mutuku, C. M. (2013). Domestic Debt and Economic Growth Nexus in Kenya. *Current Research Journal of Economic Theory*, 5 (1), 1-10.
- Rifaqat, A., & Mustafa, U. (2012). External Debt Accumulation and Its Impact on Economic Growth in Pakistan. *The Pakistan Development Review*, 79-95.
- Reinhart, C., Rogoff, K., & Savastano, M. (2003). "Debt Intolerance". *Brookings Papers on Economic Activity*, forthcoming.
- Semmler, W., & Sieveking, M. (2000). *Critical debt and debt dynamics*. *Journal of Economic*
- Shabbir, S. (2005). *Does External Debt Affect Economic Growth: Evidence from Developing Countries? Un-published paper*. Un-Published Paper.
- Singh, C. (1999). *Domestic Debt and Economic Growth in India*. *Economic and Political Weekly*, 34, 1445-1453.
- Smith, Gordon W.; Cuddington, John T. [Editors]; Smith, Gordon W.*Cuddington, John T. [Editors]. 1985. *International debt and the developing countries (English)*. Washington, DC: The World Bank.
- Umaru, A., Hamidu, A. A., & Musa, S. (2013). *External Debt and Domestic Debt Impact on the growth of the Nigerian Economy*. *International Educational Research*, 70-86.

Were, M. (2001). *The Impact of External Debt on Economic Growth in Kenya*. Discussion Paper No. 2001/116. World Institute for Development Economic Research. Helsinki: United Nations University.

Zhang, J. W., & Wang, S. (2012). *Financial development and economic growth: evidence from China*. Hong Kong: Hong Kong University of Science and Technology

APPENDICES

Appendix I: Data used in model estimation

YEAR	Economic growth measured by GDP	Recurrent expenditure	Savings	Domestic debt	External debt
2000	0.60	58.81	16.71	20.13	49.214644
2001	3.78	56.66	18.15	21.29	43.356213
2002	0.55	57.50	17.24	21.11	47.422128
2003	2.93	52.92	15.84	21.63	46.970625
2004	5.10	54.77	16.26	21.51	43.730683
2005	5.91	48.59	18.70	19.99	34.609216
2006	6.33	44.23	19.42	17.91	29.779654
2007	6.99	38.20	19.96	17.65	27.766343
2008	0.23	36.03	18.86	17.44	25.008233
2009	3.31	38.67	18.51	15.89	27.998394
2010	8.41	42.12	20.37	16.97	27.254482
2011	6.12	43.40	20.39	20.94	30.031201
2012	4.45	44.59	21.24	20.5	28.855401
2013	5.74	44.07	20.41	22.58	30.783239
2014	7.18	53.84	19.64	13.84	65.769955
2015		57.30	19.63	12.37	75.201364
2016	5.94	59.49	20.45	13.31	72.334199
2017	6.20	52.57	19.46	15.4	73.258854