EFFECT OF PUBLIC DEBT ON INTEREST RATES IN EAST AFRICAN COMMUNITY COUNTRIES

By

Matu Jacqueline

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI

OCTOBER 2021

DECLARATION

This research project is my original work and has not been presented for any degree award in any institution.

Signature……………………………….. Date……………01/12/2021………………..

Matu Jacqueline Gathigia

D61/81734/2015

SUPERVISOR'S DECLARATION.

This research project has been submitted for examination with my approval as the university supervisor.

Signature……………………….…….……… Date 6/12/2021…………...........................

Dr. Duncan Elly Ochieng, (PhD,CIFA,CPA)

Senior Lecturer, Department Of Finance and Accounting

Faculty of Business and Management Sciences, University Of Nairobi

ACKNOWLEDGEMENT

First and foremost my gratitude is to the Lord Almighty for his unending providence and favour that I was able to undertake and complete my studies.

Special thanks of gratitude to my supervisor, Dr. Duncan Elly for his invaluable advice in this project. His consistent help and insightful reviews have contributed tremendously to the successful completion of the project.

My gratitude goes to my mum and family for their invaluable support and encouragement.

Lastly, am grateful to my employer and colleagues for the understanding they accorded me throughout my learning.

DEDICATION

This project is dedicated in loving memory of my father, late Joseph Matu Mwihia, for the sacrifices he made to ensure I succeed in life.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

ANOVA	Analysis of Variances
ARDL	Autoregressive distributed lag
CLRM	Classical Linear Regression Model
EAC	East African Community
ECM	Error Correction Model
GDP	Gross Domestic Product
GNI	Gross National Income
IMF	International Monetary Fund
KNBS	Kenya National Bureau of Statistics
SPSS	Statistical Package Social Science
USD	United States Dollar
VIF	Variance Inflation Factor

ABSTRACT

Any country's economic progress is dependent on its public debt. Its usage is also critical for the country's economic development because it is the first payment made with all of the money accumulated over time. The goal of the study was to see how debt affected interest rates in the EAC. The goal of the study was to see how external debt and local debt affected interest rates. A descriptive research approach was used in this study, and secondary data on variables was acquired. A timeframe and amount of natural data were collected. Descriptive analysis was used to examine the data. The correlation analysis was used to analyse the association between the variables, while the regression analysis was used to identify the strength of the independent variable in comparison to the dependent variables. Debt Service, Home Debt, and External Debt were three unique independent factors that were postponed in relation to dependent variables: Interest rates are used to determine the length of your connection. Time series models were employed in the study to examine the influence of public debt and its subsequent service level on Kenya's Gross Domestic Product Growth. Budget deficit is crucial in deciding economic expansion, budget deficit has a significant but negative connection with a 5% risk premium and it has no effect on short-term wealth creation, and loan repayment has made a contribution to short-term population development, but the result is not significant, according to research. The finding was that, in the near run, public debt has minimal impact on the country's economic development. Financing from developing infrastructure, as outlined in Vision 2030, to ensure that the country achieves a middle-income economy, should be promoted, according to the report, and foreign debt should be managed properly (With infrastructure development and infrastructure development social and external debt levels controlled and limited).

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

When government revenue amount is not enough to cover all provincial expenses in any given financial year, the country is then forced to borrow to be able to finance the difference known as the budget deficit. This regular borrowing program has left governments with huge debts left over. While proper borrowing to finance public debt is key to rapid economic growth, over-indebted borrowing without proper investment planning mechanisms is likely to lead to massive debt burden and interest rates that could lead to various undesirable consequences. in the national economy (Joy & Panda, 2020).

Government debt is used to promote the country's economic growth, but if it accumulates at high levels, a large portion of government revenue is used to repay the debt and repay the outstanding debt that leads to greater cost of opportunity not only now, but in future generations. . This is called the public debt burden, where each generation puts a heavy burden on the winners, leaving a lump sum (Akos & Istavan, 2019). In a situation where the cost of repaying such a debt rises above the country's administrative economy, its efforts to achieve its most appropriate fiscal and fiscal policy objectives may be underestimated. Increased debt burden can limit the country's ability to pursue high-value investment programs such as infrastructure, public health and education (Johnny & Johnnywalker, 2018).

Public debt plays a major role in financing the government's budget deficit. However, it is important to note that too much debt can end up in the country as the money will be used to pay interest and the principal amount and thus the investment need will be taken into account and therefore economic growth will end up suffering. The result of this overcrowding has been the result of over-indebtedness as it prevents local and foreign investors from investing which has a undesirable influence on the budget. The size of public lending in all East African countries is usually increasing. In sub-Saharan Africa, the share of public debt in GDP raised at 52.6 percent in 2016 and was likely to grow to 56.2 percent by the end of 2017. Fruitful foreign investment not only contributes to economic stability but also contributes to high interest rates which have a positive impact on local government savings and hence the need for investment (Mogaka & Ochieng, 2018). An acceptable instance of outside credit is the issuance of private bonds. Kenya was one of the East African Community countries that managed to raise Kshs. 202 billion ($ 2 billion) in the new Eurobond issue according to

figures from National Treasury (2018). The bond was listed on the London Stock Exchange (LSE).

1.1.1 Public debt

For states to fulfil its responsibilities to its citizens, be it infrastructure such as Vision 2030 or community progress goals, you need funding. For the most part, these funds will come from taxes or loans. Since many governments are unable to raise enough money for taxes, they turn to external or internal borrowing to cover the shortfall between receipts and expenses. This has actually led to an increase in international obligation problem as countries increasingly rely on debts to meet their obligations (Magero, 2015). The national debt of the country includes the external, internal debt and servicing of the said debts. In this study, domestic and foreign debts are considered important indicators of debt.

In EAC countries, the debt crisis has increased dramatically in recent years since the global debt crisis began in the 1980s. This has led to more lending to banks from different countries and greater borrowing from these countries. The decline in world commodity prices to such an extent that petrol also worsens the situation in Africa (IMF, 2011). More than 40 percent of EAC countries are at risk of debt crisis. As of 2016, the external debt burden on the EAC since 2016 has increased to USD 524,119.3 million in 2017 from USD 262,995.5 million in 2009 (World Bank, 2019). There has been a continuous discussion in the mass media and political podiums about EAC nations' growing public debt and its influence on their budget (Ndii, 2017). Even though governments keep defending borrowing to be not only necessary but also to cover for the infrastructural gaps and spur the growth of the economy, the opponents of borrowing argue that the current course of public debt is not only unsustainable but also damaging for the economic development as the optimal of public funding affects the inducements, resources used, and the invention potentials (Owusu-Nantwi & Erickson, 2016).

1.1.2 Interest rates

The interest rate can be defined as the amount a debtor recompenses to use a non-personal loan that he must eventually repay to a lender, in excess of his own interest, when he borrows from the borrower. It is articulated as a proportion of capital expenditures over a period of one year (Devreux, and Yetman, 2002).

Interest is most often expressed as the annual percentage of the principal. It is therefore calculated by dividing the interest rate by the principal value. In particular, interest rates fluctuate because of current government policies or inflation. Actual interest rates reflect lower inflation rates. An adverse real interest rate means the inflation rate is higher than the interest rate (Gagnon and Ihrig, 2004). The Central Bank also uses the Interest Rate as a monitoring tool for major currency fluctuations. A positive increase in interest rates is essential to alleviate foreign rates and to reduce pressures and thus avoid many negative economic consequences.

1.1.3 Relationship between Public debts on interest rates

Public debt has a positive and negative result on interest rates in countries. Analysis of the impression of domestic and external levels on financial development or interest rates can be done in two cases; Traditional and Ricardian view. Government debt is considered equal to forthcoming duties in Ricardian's view.

Bearing in mind that consumers are considered progressive and rational, the current budget deficit equals a significant amount of future tax rebates. Therefore, the effects of aggregated wealth are not the products of the shit between taxation and deficit. As a result, spending is not affected by the increase in government debt. A sensible consumer in the face of current shortages will save for future tax increases so the full amount of savings in the economy will not be affected. So, any decline in state's spending accompanied by an upsurge in remote funds.

Numerous emerging countries for instance the EAC countries are not able to suppress the evolution of their public debt to ensure that enough revenue remains existing after the repayment of loans to finance further developmental government spending. Inadequate income receipts, constant cost pressures and reduced support for foreign donors, especially in the 1990's, among other things, have led to an increase in domestic and foreign debt in emergent countries. According to the IMF (2003), internal and external debt accounted for 23% of total sub-Saharan Africa debt in 1995 and 2000, up from 20% between 1990 and 1994. In addition, domestic and foreign debt The GDP rate in these countries has increased significantly from 12% to 16% over the same period.

In addition, if the fees are too high, the government is also at risk of default due to insufficient funds. Frequent breaches of home debt can also lead to higher interest rates. The

study will analyse the association amid public debt and interest rates in the EAC and determine the impact of the connexion amid the two variables.

1.1.4 EAC Member countries

The EAC is a local government of six countries: The region's economy over the past few years has fallen into a financial crisis in an effort to finance the ongoing budget deficit every year while implementing major infrastructure projects against the backdrop of declining revenue collection. This trend has led to the economy turning to borrowing, both domestic and international markets to satisfy their desire to borrow money. With the current levels of debt, there are fears that an increase in mortgage lending could put many of them at risk of debt. EA governments already had high levels of debt even before the Covid-19 collapse, Kenya's total debt increased by more than the $ 60 billion mark (more than 60% of its GDP) while Uganda's total public debt stands at $ 13 billion, which is about 36.5 percent of GDP.

There is a growing tendency in the level of foreign debt in East African nations. IMF figures (2018) show that Burundi is the first country with debt with 72.3% then Kenya with 53%, Tanzania with 34%, Uganda with 27% and Rwanda with 22%. The report also puts Kenya in second place with 28.5% of foreign debt and Burundi is 50% ahead. Various scholars have examined the link between public debt and economic growth (Babu, Kiprop, Kalio & Gisore, 2014). Contempt this level of foreign debt, the economic growth of East African countries has been very positive. According to the East African Monetary Position (2018), East African countries saw the best economic performance on the continent in 2018. Bank, 2019). The increase is due in part to Kenya, Ethiopia and Rwanda. So, the query relics as to whether foreign debt has exaggerated the interest rates of the other three East African states (Uganda, Southern Sudan and Burundi) and this will inform the study as well.

1.2 Research Problem

Countries whose domestic credit markets are less developed often depend on external borrowings to cover their financial needs since domestic debt does not mean and can't contest the financial needs of the state. Therefore, their mortgage debt is largely compounded by external debt. Though many countries in East Africa eventually deepen their domestic markets, much of their borrowing is foreign and it is therefore denominated in foreign currency. Even though external funding largely comes from authorized sources, the quagmire

of managing foreign debt remains universal. For example, exchange rate oscillations make credit services greater than the expected thus leaving few assets to finance project developments. Chawdhury (2001) agrees that foreign debt could have a significant impact on these countries overall performance. Mukui (2013) finds that Kenya's high external debt levels pose a significant economic challenge given that much of the revenue goes to debt repayment rather than to domestic investment.

Quite a number of studies have examined the effect of public debt on growth of the economy. However, the founder is not enlightened of studies that have examined the effects of public debt on interest rates in the backdrop of the EAC region. The rise in public debt in these countries is in conflict with the credit growth theory which emphasizes that owing to the lack of funding in developing countries a definite level of foreign exchange should boost the growth of the economy through revenue collection and capacity growth. The study hence seeks to answer the following question: does public debt affect interest rates in EAC countries?

1.3 Research Objectives

1.3.1 General objective

The principal objective of this investigation determined the effects of public debt on the interest rates in East African countries.

1.3.2 Specific Objectives

The following specific objectives will guide the research in this study:

1. To examine the effect of external public debt on interest rates in EAC countries

2. To determine the effect of domestic public debts on interest rates in EAC countries

1.4 Value of the Study

This study will help expand the framework of information on how public debt affects interest rates in the EAC which will be beneficial to both academics and academics alike. In addition, it will suggest areas where further research can be done by future scholars to study in order to develop a highly limited knowledge base.

Governments, through the Treasury, are responsible for developing policies on debt management strategies in the country. This study will therefore increase awareness of the

influence of government debt on the interest rates and thus assist policy makers with appropriate guidelines on borrowing. This study will also assist the government in identifying indicators of good credit management that will inform the policy of setting appropriate standards for sustainable debt.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter lays out the literature review on the effect of public debt on interest rates in the East African Community countries. Theoretical and empirical literature reviews have been discussed and summary of the review given.

2.2 Theoretical Evidence

2.2.1 Debt Overhung Theory

A well-known theory of increasing external debt sustainability comes from the over-indebtedness of Barro, (1978). He defines the theory of debt overhang as the acquisition of a debt acquired as an inheritance large enough for debtors to expect with certainty that it will be repaid in full. These hypotheses suggest that in the event that in the times to come debt will be larger than the ability of a country to repay and the anticipated cost of debt service shall disappoint both internal and external investments. The potential for excess tax debt could alter not only the compensation of policymakers, but as well as those facing privately owned companies.

Adofu and Abula (2010) the heavy burden of foreign debt on the developing world government hinders economic growth through a number of channels. High debt often undermines the stability of the economy by rising deficits in the budget. When debt service is enveloped by soaring taxes as opposed to budget increases, higher tax rates do tend to undercut growth by initiating significant economic deviations, including higher trade barriers (with trade taxes), larger flights, tax evasion and job losses. Charan, (1999), provides the types of debt issues that include the following categories: debt default: debt burden is so severe that future economic growth becomes risky. The debtor country cannot invest and therefore cannot meet future obligations without new loans and debt relief.

Another aspect of the debt overhang theory underscores the instance that huge stock markets expand the expectation that credit services are often funded through distorted measures (Ali, Malwanda and Sliman, 1999). However, as per Adofu and Abula (2010), precariousness regarding future taxes on private domestic workers could unfavourably impact the local economy, in addition to some unsatisfactory impacts on the policy makers. In order to direct this issue, a number of external debt analysis methods have been discussed vastly both in

theoretical and empirical literature. Key decisions of this analysis incorporate an increase in external debt, financial performance and foreign payoffs linked to economic growth and access to other foreign currencies.

2.2.2 Interest Parity Theory

The notion that any variance in bilateral interest rates is measured in terms of exchange rates (Huang, 1984). The theory is that interest rates amidst the two countries are equivalent to the dissimilarity between the local exchange rate and the forward exchange rate. Interest rates play a crucial role in foreign exchange markets, foreign exchange rates and coordinating interest rates (MacKinnon, 1991).

Exchange rates can affect the aggressiveness of firms that have been unsheltered from the exchange rate risk, or impact on the assets total value acquired in foreign currencies. However, this may incidentally influence the banks' portfolio or the portfolio of the financial institutions that fund or guarantee these companies. Another cause of risk is the exchange rate risk that is associated with the financial transactions, particularly in the unrestricted ranks that are controlled by these institutions in the financing and investment activities in major global markets.

2.2.3   Arbitrage pricing theory

The pricing theory's basic principle involves the recognition that the expected return on any asset may be included in the chart as a linear number of major economic factors associated with market indicators (Mosley, Hundson and Horrel, 1987). It is expected that there will be some degree of exchange if not all the features are relevant. Running conditions using this model helps to achieve an amount equal to the expected performance of goods (MacKinnon, 1991). The desired result is that the asset's price will be equivalent to the value expected at the end of the specified period, and the end result will be reduced by the price set by the Master asset model. It is understood that if the price of a commodity deviates from the path, such a solution will help to bring the price back to reasonable limits (Hendry and Juselius, 2000).

This model will be used in the study to determine the sensitivity of the EAC banks' return on interest rates and exchange rate fluctuations. Despite the fact that it is conventional that unforeseen changes in interest rates create risks, there exists other risks facing banks apart

from the market risks and interest rates. They also may be exposed to exchange rate risks that increase as their global operations, as well as those of their clients, increase. Despite the increase in the number of international banking operations attempts to consider the exchange rate, few studies have attempted to consider the exchange rate as a determining factor in the recovery of bank stocks (Hendry and Juselius, 2000)

2.3 Determinants of Interest Rates

In this section, we highlight different determinants of interest rates.

2.3.1 Public debt

Maana et al (2008) analysed how national interest rates are impacted by public debt. The study finds that government debt does not limit the lending of private companies in EAC countries at this time due to the high level of financial development. The outcome showed that the public debt increase had a positive though the effect on the EAC interest rates was insignificant. Public debt according to Looney and Frederiken (2017) refers to government borrowing. According to them, government borrowing could have two major implications, namely: the recommendation effect and the effect of overcrowding. They also say that the result of government borrowing will be the congestion caused by strong competition for resources and private companies on the one hand and the corresponding effect on the other.

2.3.2 Economic Growth

Growth in the world economy is represented by the Gross Domestic Growth per Capita (GDP). GDP is a measure that can be used to determine the ability to supply the country's debt and to determine purchasing power. An increase in the country's GDP could increase the demand for loans or reduce the need for loans. Increased demand for loans can cause interest rates to spread. The low demand for loans can mean that there are additional savings that can lead to lower interest rates (Koech, 2012).

2.3.3 Exchange Rate

Ezrim and Muoghalu (2006) investigate the relationship between the interest rates and the exchange rate conditions, the problem of foreign investment and external debt burden of slowly developing economies using Nigeria as a test. The results showed that the current exchange rate problem was a productive and noteworthy function of the conditions of the previous exchange rate, foreign crisis volatility and international oil prices but poor

performance of the external debt burden and Nigerian international prices. Evidence has shown that the cost of external debt has put undue pressure on the exchange rate to make it more difficult. The findings also showed that the foreign investment burden is far more important than the highly stressed variance of the debt burden in bringing about a financial crisis. The degenerating exchange rate apparently reduces the income's purchasing power and the return on any profits. Additionally, the exchange rate controls other aspects of income for example interest rates that are controlled by many complex factors that have surprisingly left even the most experienced economists perplexed, Its imperative therefore that investors should have some knowledge and an understanding of how the exchange rate and the inflation rate play a significant role in recovering from their investments.

2.3.4 Reserve Requirement

According to Gelos (2006), key interest-bearing factors became widespread in Latin America where reserve requirements, higher costs and the level of competition in banks were determined by the level of market focus. Gelos (2006) found there compared to other banks in other regions, Latin American banks have a higher spread due to higher efficiency, higher borrowing rates and higher investment requirements. In the area Ngugi and Kabubo (1998) conducted research to find the response of the financial sector in the transformation process. As feedback indicators, they examined the determining factors, interest rate and interest rate distribution. They took samples of 20 banks in the study and collected their data from various relevant institutions including the largest bank in Kenya. Their findings were still very much in progress, and the financial system was still under pressure.

2.3.5 Inflation Rate

One of the major factors affecting interest rates is the rate of inflation. Considering the low rate of inflation the rate will reflect a currency rate rise, while the purchasing power of the currency will increase as compared to currencies of other countries (Duarte & Stockman, 2012). In general, the price stability is what is used to measure the rate of inflation within the economy. In theory, there are two dimensions under which inflation can be divided, namely; demand pull inflation otherwise known as demand side inflation and inflation costs also known as side inflation. In open economies, inflation is as a result of internal pressures (domestic factors) and external pressures (external factors) from overseas factors (external pressure) (Edwards, 2002). The origin of external sources are rising commodity prices or

fluctuations in the rate of exchange. The magnitude of volatility on the interest rate is dependent on the country's choice of the exchange rate. An important role is played by the exchange rate structure, in minimizing or reducing the risk of oscillations in the exchange rates that shall have an effect the economy. There will be significant impact on the economy with any changes in the exchange rates.

2.4 Empirical Evidence

EAC countries' experience with the currency exchange process shows a rise with the interest rate that spreads after the interest rate release. The period is represented by apparent high costs that have a strong monetary policy that were achieved through increase in budgets and monetary rates. Notwithstanding the significance of polices on exchange rate in economic management, some studies have been conducted in the EAC to assess their relationship. It has already been acknowledged in the literature that the real rate of exchange is a perpetual dynamic that not only responds to policy-driven constraints but also that long-term real exchange rate fluctuations will often lead to economic instability (Ndung 'and Ngugi, 1999).

Makau (2008) analysed the provision of foreign public debt and growth of the economy in Kenya. The period of the research was between 1970 and 2003. The study used OLS to measure a single growth model. Research has shown that external debt is legal and that most of it comes from a variety of sources. The study also revealed that since the early 1990's, foreign debt has been steadily rising. The specification associated with the error correction model (EGM) was used. Using a combination of the co-integration and error correction model, both short-term and long-term equilibrium was determined from the study. The limited model was a simple setback. The variables that depend on the growth rate of Gross Domestic Product and descriptive variables were the annual rate of growth of the employees and the savings as a result of GDP. Strong results in the short-term measurement model have shown that the external debt coefficients in GDP, savings in GDP and GDP services are relevant and important indicators while interest coefficients in GDP and credit service in GDP are relevant and significant while interest coefficients on GDP and labour growth were not significant. Over time the estimated model, credit coefficients in GDP, debt services in GDP and savings in GDP were significant while the coefficient of labour growth and interest in GDP were not significant.

Reinhard and Rogoff, (2010) in their paper, growing in Debt, applied Barro's parallel theory in the database of international debt history (44 countries). They want to analyse whether there is a formal connection between inflation, growth and levels of public debt. The result showed that there was a connection between the real GDP and debt with less than 90% of the GDP. On the typical margins of debt, this association was relatively frail. Countries that had debt levels of more than 90 percent of the GDP have moderate lower rates of growth than others; Medium growth rates (at least) are a few percent lower. Nonetheless, the connection between growth and public debt is alike not only in all the developing countries but also in the developed economies.

Were, (2001), used data from a series of time series between 1970 and 1995 to determine the impact of foreign debt on Kenya's growth of the economy. They point out that the construction of foreign debt impacted the growth of the economy negatively. They also point out that there is creation of private investment with the inflow of existing debt. There have however been major changes in policies since 2001 and presently, the same cannot be said with certainty. Comparison of the study and the findings of this study are used to assess whether foreign debt still has a similar negative effect on the growth of the economy or if it deviates from the current state of debt in the country.

Achieng, (2010) studied the effect of domestic debt on Kenya's private investments during the period between 1963 and 2009 and established that the volatility of the domestic debt service rate was significant at a confidence level of 95%. The study focused on the value of domestic debt on investments that were private. Ochieng 2013 used Harrod Domar's growth model to establish the existing relationship between economic growth and social debt and observed that domestic debt was fairly stable.

2.5 Summary of the Literature Review and Knowledge gap

Author of study	Focus of Study	Methodology	Findings	Knowledge Gaps	Focus of current study
Were (2011)	External debt on economic growth in Kenya	Descriptive method	Creation of foreign debt has had a devastating effect on	Since 2001 there have been changes in policies and this may not be	Assessing whether foreign debt still has a negative impact on the growth of the economy or if there is

			economic growth	true in recent years.	a deterioration in the present debt circumstances in EAC countries.
Elmedorf (2013)	To determine whether treasury yields were affected by expected federal government deficits	Regression analysis	The results found that DRI's predictions about a lack of unity government had a positive effect on the treasury's medium-term yields.	A similar increase in the long-term level of the expected shortfall of the Treasury Department has led to a small non-significant effect	The study will investigate whether government borrowing has a direct effect on overcrowding, and the expected impact will be higher on interest rates.
Schclarek (2014)	Analysis of the debt growth in industrial countries and developing countries	Descriptive method	The findings revealed that with the increase in capital accumulation, debt is affected while proof of the effect of credit on the total amount of production is limited.	Data were collected from both developed and developing countries and industrialized countries showed non-statistical relationships between variables.	The results found that DRI's predictions about a lack of unity government had a positive effect on the treasury's medium-term yields.

Overall, there is controversy over the influence of public debt on its interest rates in EAC countries. Many studies find that there are negative relationships associated with economic

13

theory, while others find that there are positive relationships. Some studies have suggested that debt and its components have no effect on interest rates.

The current study is aiming at examining the outcome and will contribute to the discussion of whether government debt affects interest rates in EAC countries. The current study examines the impact of public debt on interest rates in EAC countries and links established concepts of debt, as well as profit rating theory to establish which ultimately describes the current scope the best. Moreover, as opposed to previous research looking at the cause this specific study will look at all the effects of public debt and its subsequent repayment on interest rates.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter represented the strategy that was used in investigating the data collected, the design used, the data collection methods, population, sample size, data validity and reliability of the said data not to mention analysis of data.

3.2 Research design

Creswel (2014) argues that the research framework is a precursor that sets out the methods and procedures for collecting and analysing information required for research. is a framework for answering research questions. Provides guidance on how to organize research sites. This study will use the design of a case study. The causal research design proposes a causal link between variability by looking at current events and analysing available data to try to identify the causal relationship. It is about determining the relationship of cause and effect and understanding where the variables depend and which are independent. This research design will be the best in determining whether the two species are related or distinct. This will be established through the use of adequate information and cause and effect analysis data. It aims to explore the relationship between debt and interest rates in Kenya and help answer research questions.3.3

3.3 Population of the study

Kombo and Tromp (2011) illustrate population density as an object, objects or group of people from which samples were taken for measurement. The number of people in this study will include the country's total debt service, as well as the interest rate from 2010-2020. The time will be considered because it provides the most up-to-date data in the research area and it was during this time that the country recorded an increase in public debt rates on domestic debt instruments such as Treasury loans and Nairobi securities bonds.

3.4 Data collection

The data used was only be from secondary sources. Archived data from the National Bureau of Statistics (NBS) will be used for library. The second collection of national taxes and the National Credit shall be gathered from the Central Bank, the Kenya Bureau of Statistics (KNBS) and the archives of World Bank between the years of 2010-2020.

3.5 Data analysis

Analysis of data collected shall be carried out using the SPSS 23 version which will use smaller calculations using a multi-regression model. Diversity analysis (ANOVA) is used to assess differences between the methods of more than two groups, and can be used for projects with more than one independent variation. In the current study, ANOVA will be used to assess the difference between mortgage points and the profitability of commercial banks in Kenya and to assess a 95% confidence rate and an interest rate of 5%. Assessing the relationship, if any, between public debt and interest rates in the East African Community countries. Consistent with previous studies and a better analysis of the relationship between public debt and interest rates, the definition of a different mathematical model will use alternatives such as domestic and foreign debt and strongly define interest rates as strong decisions in this relationship. The study therefore continues with the improved version of Adofu and Abula (2010) Classical Linear Regression Model (CLRM) of the hereunder form:

Int Rate = $\beta_0 + \beta_0 GDrate + \beta_0 FXrate + \beta_0 Ddebt + \beta_0 Dfcit + U_t$

Where:

Int rate = rate, which will be measured at the national interest rate per year.

Debt = domestic debt, which will be measured as the total amount of Domestic Product data obtained from the Central Bank of Kenya.

GDrate = Gross Domestic Product, this will be measured by the actual debt received at the country's GDP growth rate.

P credit = private sector debt will be measured by Private Sector Credit0

FX rate = foreign exchange rate to be measured by the growth rate of the Foreign Exchange Rate.

Dfcit = deficit, measured as a percentage of GDP

Ut = Stochastic variable (error name)

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Descriptive statistics

Table 4 shows the descriptive statistics for the variables utilized in this investigation. Each variable contains two observations, as shown in table 1. 136. GDP and interest rates were substantially greater than the external debt ratio and domestic debt. Because their tilt was above or below zero, the variables looked to be less evenly distributed. Except for interest rates, all variables have been modified accordingly. Furthermore, because the variations' Kurtosis was good, they appear to have a very wide distribution.

Table 4.1: Descriptive statistics

Variable	Observation	Mean	Std. dev	Variance	Skewness	Kurtosis
Economic growth	136	4.8078	6.3675	40.5447	-4.0463	45.9413
Exchange rate	136	4.55e+09	3.25e+19	1.05e+19	0.6214	2.9611
Inflation rate	136	11.54094	8.90547	79.3074	1.3877	4.6995
Public debt	136	574.4387	680.6396	463270.3	1.2593	3.6303
Reserve Requirement	136	1.03e+07	5334870	2.85e+13	0.587972	2.901662
Interest rate	136	5.4670	12.8223	164.4123	-2.4763	11.1128

4.2 Correlation

Table 4 shows the relationships between public debt choices. 2. Even though expected, all

	GDP	External debt	Inflation	Exchange rate	Reserve requirement	Domestic debt	Interest rate
GDP	1.0000						
External debt	0.0100	1.0000					

public debt choices were made in full consultation with themselves. Reserve demand and inflation were statistically highly correlated with governmental debt. The currency rate has a big influence on economic growth, inflation and the need for investment. government debt has a lot to do with interest rates. In contrast, public debt had a significant connection to all rates. Most of the connections were statistically significant according to the table below:

Table 4.2: Correlation matrix

*Where * means statistically significant at 5% and the figures in parameters are p-value*

	(0.9079)					
Inflation	-0.1618	0.2836*	1.0000			
	(0.0598)	(0.0008)				
Exchange rate	0.2109*	0.0509	-0.2639	1.0000		
	(0.0137)	(0.5565)	(0.0019)			
Reserve requirement	0.0805	0.7302*	0.0846	0.2897*	1.0000	
	(0.3515)	(0.0000)	(0.3273)	(0.0006)		
Domestic debt	0.1728*	0.1231	-0.2327*	0.8902*	0.4080*	1.0000
	(0.0443)	(0.1532)	(0.0000)	(0.0000)	(0.0000)	
Interest rate	0.1097	0.1097	-0.1416	0.2526*	0.0952	0.0819	1.0000
	(0.2034)	(0.2034)	(0.1002)	(0.0030)	(0.2702)	(0.3432)	

4.3 Multi-collinearity

The VIF for each variable was calculated to test for multi-collinearity, and the findings are provided in table 4.3. Multi-collinearity was definitely a concern, since the VIFs for labor force, debt servicing, and stock market were all greater than 10.

Table 4.3: Multi-collinearity

Variable	VIF	1/VIF
Reserve requirement	27.11	0.0369
Exchange rate	21.68	0.0461
Public debt	14.81	0.0675
Inflation	2.61	0.3834
Interest rate	1.77	0.3834
Mean VIF	13.60	

The storage requirement has been removed from the model to address multi-collinearity as it has a very high VIF. As a consequence, as indicated in Table 4.4, the VIF for all variables reduced to less than ten. As a result, multi-collinearity was no longer a significant data issue.

Table 4.4: Multi-collinearity test

Variable	VIF	1/VIF

Public debt	9.61	0.1041
Exchange rate	6.51	0.1536
Inflation rate	2.49	0.4017
Interests rate	1.53	0.6524
Mean VIF	5.035	

4.4 Heteroscedasticity Test

A modified Wald test for intelligent group heteroscedasticity was used to determine the presence of heteroscedasticity. The results in Table 4.4 clearly reveal that the data had an issue with heteroscedasticity. As a result, to solve the problem of heteroscedasticity, the most prevalent common mistakes are applied.

Table 4.5: Heteroscedasticity test

Ho: Sigma (ι)^2= *sigma fo all ι*	
Chi2(32)	5.945.11
Prob>chi2	0.0000

4.5 Haussmann Test

Haussmann's experiments were performed to choose between a consistent and randomized outcome model. As stated in Table 4.6.1, the test chose random outcomes as the preferable model.

Table 4.6: Haussmann test results

	Coefficients			
	(b)fe	(B)re	(b-B) difference	Sqrt (diag (V_b- V_B) S.E
Ln external debt	-0.1414329	-0.6838576	0.5424245	1.334695
Inflation	-0.1328004	-0.1035951	-0.0292053	0.0327579
Interest rate	0.0043556	-0.0046721	0.0090276	0.0164649

20

| Ln   exchange rate | 0.5055203 | 0.6403187 | -0.1347983 | 0.4120081 |

| Ln   domestic debt | -0.4106035 | -0.1394458 | -0.2711577 | 0.2839462 |

B=consistent under Ho and Ha, obtained from xtreg

B=Inconsistent under Ha efficient under Ho; obtained from xtreg

Chi2 (6)=(b-B) (Vb-v_B)$^\wedge$(-1) (b-B) =1.55

prob>chi2=0.9561

4.6 Costs vs risk analysis

The influence of public transaction and currency exchange on total debt was measured for the considerable cost analysis. Table 4.6.1 shows the outcomes of the quantitative outcome model. In Nations, the rate of exchange showed positive and substantial statistical relationships with governmental debt, as seen in the table. In terms of overall debt, however, rate of interest increased positive but not highly significant.

Table 4.7: Fixed effect model

Ln Overall debt	Coefficients	Robust Std. errors	t	P>t
Ln Exchange rates	0.1468896	0.0350399	1.70	0.188
Inflation	0.0066067	0.004777	1.38	0.025
Interest rates	0.0022229	0.0022663	0.98	0.399
GDP	-0.0003164	0.0011745	-0.27	0.805
Constant	18.348112	4.979961	3.68	0.035
Sigma _μ	1.3070416			
Sigma _e	6.2692613			
Rho	0.04165508			

4.7 Discussion

External debt has a negative and statistically significant link with DGP growth, which is consistent with previous forecasts and economic theory. It also aligns with Akram (2010), Boboye and Ojo (2012), and Mukui (2013) studies, which indicated a negative link between foreign debt and GDP growth in Pakistan, the OECD, and Kenya, respectively. Through a variety of mechanisms, public debt may stifle economic development and decrease interest rates. To begin with, when the national debt grows, a considerable part of tax revenue should be allocated to pay down foreign loans. This reduces the amount of money available for development initiatives in developing nations, which are necessary to lower interest rates. The repayment of governmental debt may result in a depreciation of the local currency, resulting in an increase in inflation in EAC nations with foreign purchasers. As a result, economic growth is slowing. If the advantages of public debt are not well managed or invested in non-productive firms, this reduction might be large, obstructing credit availability. The rapid increase in government debt has harmed investment by raising uncertainty about government policy. Increased public debt holdings frequently raise expectations that the government would use deception to pay its debt commitments. As a result, private investors are more willing to defer their investments, lowering interest rates.

A focus was assumed to be the positive but highly meaningful link between domestic fees and interest rates. The findings back up those of Mbate (2013), who found that domestic debt in 21 Sub-Saharan African nations had a negative interest rate. Putunoi and Mutuku (2012) and Sheikh, Faradi, and Tariq (2010), who showed a positive association between domestic crisis and economic development in Kenya and Pakistan, respectively, disagree with the conclusions. Budget deficit, according to Cohen (1993), can have a beneficial influence on interest rates up to a point when it becomes negative. Budget deficit, as a result, can lower interest rates by limiting private ownership stake. The fact that most EAC nations have weak financial markets contributes to the link between governmental debt and interest rate growth's insignificance. As a result, they rely on external debt rather than internal debt. This lowers the risk of domestic debt in venture capital.

Although there was no statistically significant association between inflation, interest rates, and exchange rates and interest rates, the coefficients' signals were consistent with initial expectations and interest rate theory. The negative inflation coefficient is based on the

concept that inflation reduces GDP growth by reducing combined demand. Inflation raises manufacturing costs, which lowers interest rates. The negative sign of the coefficient of real interest interest rates indicates that financial capital expenses have a negative influence on economic growth. Investors are finding it harder to get adequate capital to grow or develop their firms as interest rates climb. As a result, the interest rate is reduced. The function of inflation in stimulating exports helps to explain the positive link between exchange rates and interest rates. Local items become more competitive in overseas markets as the local currency falls in value. Exporters will be able to sell and obtain more in overseas marketplaces as a result of this. The rise in international commerce and job creation that results contributes to economic growth, which is why exchange rates and interest rates have a positive connection.

The fact that public debt and exchange rates have a positive and statistically significant link is in line with priorities and economic theory. The results back up those of Alam and Taib (2013) as well as Mahmood, Rauf, and Rehman (2006). The quantity of external debt grows as the local currency depreciates in relation to the foreign currency in which the loan is committed, but the percentage remains the same. This results in significant financial losses since more domestic money is required to repay external debt.

Rate of interest, is from the other hand, have had only a little impact on overall debt. This is in line with Kinoshita's (2006) results, which showed that interest rates seemed to have a significantly positive impact on public debt. An increase in internal debt may induce the government to borrow from outside sources, resulting in an increase in the public debt's external debt. Reduced domestic interest rates, on the other hand, encourage economic borrowing, increasing the domestic component of government debt. In addition, the overall rise in interest rates is likely to add to the debt load.

Exchange rates, according to the conclusions described in the preceding paragraphs, constitute a considerable risk to public debt management. It also highlights the reality that foreign debt contributes significantly to funding shortages in several EAC nations with weak financial markets. The danger of interest rates, on the other hand, appears to be low because interest rates do not have a statistically meaningful association with public debt.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter includes an overview of the study project's goals, a discussion of the findings, conclusions, and suggestions. Even without reports or publications from the World Bank, the analysis was relied on a second information gathering released by KNBS and the National Treasury. The discussion section evaluates the findings based on the research questions and literature review. The findings are based on a particular study topic. The chapter concludes with suggestions for improvement and research topics.

5.2 Summary of major findings

Typically, the study's goal was to confirm the impact of governmental debt on interest rates in EAC nations. The survey's specific goals were to determine the influence of debt servicing on interest rates in EAC nations as well as the impact of external debt on interest rates in EAC countries. The second data was collected during the period 2010-2020. The data collected was a time series on the environment and collected quarterly. Mandatory entry deflection has been conducted to analyse whether the data complies with the requirement for standard small squares. Based on the retrospective results, the model reported only 2.62% of the variance in interest rates for the period under review.

Statistical 12 was used to analyse the information gathered. In terms of receivables, domestic debt, external debt, and debt repayment, I (0) was reached, and economic growth remained stable. However, after the initial diversification, the diversification of economic growth has come to a halt since the test statistics were not the best of all critical values at the three important levels. Therefore the study series was said to be combined with orders 1 (0) and I (1). The results of the cross-border assessment showed that the interest rate, Home Debt and External Debt all have aggregate figures while debt repayment is not included in its calculations. Stata 12 was used only to analyse the obtained data.

During the review of the judgments, the ARDL ECM standard was employed. A variety of diagnostic tests were done prior to the study, and the findings were within the acceptable range: To guarantee that the variables contained diverse ordering, unit root testing was conducted using Augmented Dickey-Fuller testing. While the Limitations test is used to verify integration, it is done in the order I (0) and I (1) rather than in the order I (2). This was

done to see if the variables were grouped together or not when each version was used as a dependent variable in a statistic. Domestic debt, international debt, and debt repayment all scored I (0), but economic growth remained steady. However, after the initial diversification, the diversification of economic growth came to a halt since the test results were not the best of all key values at the three important levels. As a result, the research series was referred to as a combination of orders 1 (0) and I. (1). Economic growth, domestic debt, and foreign debt are all aggregated in the border assessments, however debt provision has no co-integration in its reach.

5.3 Conclusion

The study's major goal was to see how public debt affected interest rates in East African Community nations including Kenya, Rwanda, Burundi, Uganda, and Tanzania. The study discovered that different characteristics of public debt affect proxies for economic growth by GDP in different ways. Foreign debt has had a detrimental influence on interest rates in East African countries, in particular. Domestic debt, on the other hand, has had little impact on interest rates. This isn't to say that borrowing from family is risk-free. Domestic debt has a negative association with interest, which contributes to this image. As a result, rising domestic debt will almost certainly have a negative influence on future interest rates.

The reserve requirement had an impact on interest rates, with the exception of foreign debt. Rising savings rates, in particular, have resulted in increased GDP growth. This suggests that EAC nations are concentrating their efforts as industries on developing real money in order to boost production and, as a result, lower interest rates. The study also discovered that macroeconomic factors, such as inflation and currency rates, had no discernible impact on interest rates. Furthermore, research has revealed that EAC nations incur currency rate risk while borrowing. The fall in municipal financing, in particular, has resulted in a rise in public debt.

Other researchers might build on this research in the future in the following ways: first, other indicators such as debt repayment and interest rate estimations can be utilized to analyse the impact of external public debt on interest rates. Second, to assess the short- and long-term consequences of domestic and foreign debt on economic growth, a separate measuring approach can be applied.

25

5.4 Recommendations of the study

In view of the findings and conclusions stated in the preceding sections, EAC governments and policymakers should examine the following recommendations for better public debt management. To maintain sustainable economic growth, governments must first define and implement an optimal balance between foreign and domestic debt. Although domestic debt has a little influence on GDP development, it cannot be completely depended upon since the fast expansion of local borrowing has the potential to impede private investment.

Second, because of the negative increase in spending on public debt, exchange rate stability is critical to debt management. This means that policies like increasing exports must be pursued in order to keep domestic finances steady. If a result, as the value of the local currency drops, the quantity of foreign money collected in international debt will not grow much.

5.5 Limitations of the study

A research was done to investigate the impact of public debt on economic development, and the following obstacles were encountered:

5.5.1 Accessibility of data

Residential debt, lending rate, and quarterly debt service, including principle payments on both debts, are the three separate components studied to assess the influence of public debt on economic development. Although these were not big changes characterizing economic development, the analysis was confined to these three independent changes. This was due to the lack of data from other financial instruments in any single document.

5.5.2 Data inconsistency

An examination of secondary literature is included in this study. The same information from numerous financial organizations, as well as reprinted central bank reports, international money debt reports, and amended international fund reports As a consequence, the research relies on data from the National Treasury's Annual Public Debt Management Report.

5.6 Suggestions for further studies

The study was confined to looking at the effects of public debt, but it was expanded to cover public debt implications such foreign inflation, foreign exchange, and the necessity to save money at interest rates. Other elements that impact economic development in the model, such

as government expenditure, private investment, the budget deficit in the time after the release of the new constitution, and the formation of institutions, are an evident part of the extra research that may be done. Future study should look at how varied debt repayments effect economic development, including an examination of domestic debt and debt management, as well as overseas debt and service, as well as the impact on other economic concepts like private investment and the budget deficit.

REFERENCES

Adofu, me and Abula, M. (2010). Debt domestic and Nigerian economy. Current Research Journal of Economic Theory, 22-36.

Adofu, me, and Abuja, M.. (2010). Debt domestic and Nigerian economy. International Business Studies Journal, 1212-1230.

Akram, N. (2010). *Impact of public debt on the economic growth of Pakistan.* Islamabad: Center for Poverty Reduction and Social Policy Development.

Alam, N., &Taib, F. (2013).An investigation of the relationship of external public debt with budget defcit, current account deficit, and exchange rate depreciation in debt trap and non-debt trap countries.European Scientific Journal. 9(22): 144-158.

Ali, A.A, Malwanda, G.C & Sliman, Y. (1999). Official development assistance in Africa: An overview. Management education journal, 909-924.

Barro, R. (1978). Public debt and taxes. Management journal, 99-120.

Boboye, A., & Ojo, O. (2012). Effect of external debt on economic growth and development of Nigeria. *International Journal of Business and Social Science, 3(12)*, 297-303.

Buchanan, J. (2008). The principles of public debt: self-defense and re-advocacy. International Business Studies Journal, 461-476.

Central Bank of Kenya. (2018). Annual report and financial statements for 2017/2018. Nairobi: CBK.

Charan, S. (1999). Domestic debt and economic growth in India. Management course review, 532-550.

Creswel, S. (2007). Possible based thinking on Co integrated vector autoregress: Models. International course management and organization, 113-133.

Duarte, M. & Stockman, A.C. (2012). The level of Excahnge passes, the level of the economy fluctuates and the exchange rate ceases. Financial Economics Journal, 941-946.

Duran, M.G.G. (2017). Social and economic debt in the Philippines: Evidence of risk. . International science conference "Economic and Social Development", 11-125.

Edwards, S. (2002). The biggest debate over the exchange rate after Argentina. Worksheet No. 74.

Eichengree, B. (2014). Currency policy and exchange rate in Korea. International financial articles, 156.

Eze, O.R, & Ogiji, F.O. (2016). The impact of the financial crisis on Nigeria's economic stability. Journal of expenditure and banks, 111-125.

Ezrim, C. and Muoghalu, K. (2006). Real expected expectations are budget deficits and interest rates. International Journal of Conflict Management, 42-73.

Gelos, G .. (2006). Banking is widespread in Latin America. International Fund, 42-73.

Huang, S .. (2004). Possible based assumptions on Co-integrated Vector autoregressive Co models. Academy of Management Journal, 902-908.

IMF. (2003). Public Debt Management Guidelines: The accompanying document and selected courses. . Journal of management science, 770-791.

Kasidi, F., & Said, A.M. (2013). The impact of external debt on economic growth: Tanzania's Acase Study. Advances in mangement & Applied economics, 3 (4), 59-82.

Kinoshita, N. (2006). Government debt and long-term interest rates.*IMF Working Paper no. 06/63.*

Kodongo, O. (2018). Kenya's public debt rises to dangerous levels. Johannesburg: University of the Wtwatersrand.

Koech N.F. (2012). The impact of foreign aid flows into private investment in Kenya. . Paper presented at the AERC workshop in Nairobi.

Meaning, J. (2008). Domestic debt and its impact on the economy - a Kenyan story. Academy of management review, 243-263.

MacKinnon, J.G. (1991). Important Values of Co Integration Test. A study in Co-integration International business review, 739-753.

Mahmood, T., Rauf, S., &Rehman, H. (2006). Debt dynamics and its burden on national economy: A case study of Pakistan. *Journal of Political Studies,* 1(1): 37-49.

Manundu, M. (2014). Kenya's debt management strategies: A summary of the findings of a workshop organized by the Friedrich Ebert Foundation in November. Management Education Journal, 611-628.

Mason D.R. (2013). Mathematical strategies in business and economics (18th ed.). USA: Von Hoffman press.

Mergesa, K. and Cassimo, D.. (2015). Public Debt, Economic Growth and Public Sector Management in Developing Countries. Public administration development, 1733.

Mukui, G. (2013). *Effect of external public debt on economic growth in Kenya.* Nairobi: University of Nairobi.

Mutiso, C.M. (2011). Foreign debt decisions in Kenya. Publishing paper for Masters of Arts in Economics degrees.

Mwanza, J .. (2007). Impact of alternative activities on disclosure of interest rate risk on banks listed on the Nairobi stock exchange. Unpublished MBA project.

Ndii, D. (2017). Jubilee Feast: The chickens are coming home to sleep. Everyday nation. Narobi: Daily Nation.

Ngugi, R.W & Kabub, J.. (1998). Changes in finance and interest in Kenya. Kenya Center for Policy Review and Analysis.

Njuguna, S., Kamau P. & Owino W. (2008). Reconstruction and liberation in Kenya. Journal of International Development, 11: 465-491.

Ochieng '. (2013). External debt burden decisions: A review of Kenya 1970-1989. Masters degree in Economics research paper.

Owusu-Nantwi, V. & Erickson, C. (2016). Public debt and Ghana's economic growth. African Development Review, 116-126.

Patillo, C. (2012). External debt and growth. Management science, 170-191.

Reinhart, C.M & Rogolf, K.S. (2010). Growth during debt. American Economic Review, 573-78.

Renjith, P.S & Shanmugam, K.R. (2018). (2018). Dealing with debt. International Economics Journal, 168-191.

Sheikh, M., Faridi, M., & Tariq, K. (2010). Domestic debt and economic growth in Pakistan: An empirical analysis. *Pakistan Journal of Social Sciences, 30*(2): 373-387.

Topal, P. (2014). The effects of public debt on economic growth in the Eurozone. SSRN: https://ssrn.com/abstract.

Have, M . (2001). Impact of external debt on Kenya's economic growth. UNUWIDER research paper.

Wetmore, J.L. (1994). Commercial bank risk: Market, interest rate and foreign exchange. Financial Research Journal, 585-596.

APPENDICES

Appendix 1: Research Data

				Public debt					
	2012	2013	2014	2015	2016	2017	2018	2019	2020
				Tanzania					
Summary external debt stock by creditor type									
	9349	1169	1366	15375	1644	1834	1940	2107	2211
Long-term External debt stocks	.2	7.5	8.8	.7	2.7	1.4	5.2	1.3	0.3
Public and publicly guaranteed	7884	1018	1140	12482	1309	1455	1530	1684	1761
debt from:	.7	0.6	9.4	.6	1.4	0.8	0.2	3.4	9.1
	7174	8697	9969	11094	1180	1304	1363	1427	1529
Official creditors	.4	.2	.2	.2	2.4	7.3	3.5	4.7	3.8
	5506			7427.		8865	9385	1008	1117
Multilateral	.5	6459	6889	8	7750	.6	.2	7.9	6
	7818	1014	1137	12450	1305	1451	1526	1681	1758
of which: World Bank	.3	3.4	5.1	.4	9.8	6.7	7.1	0.7	4.7
	710.	1483	1440	1388.		1503	1666	2568	2325
Private creditors	3	.4	.2	4	1289	.5	.7	.6	.2
Bondholders	0	0	0	0	0	0	0	0	0
	710.	1483	1440	1388.		1503	1666	2568	2325
Commercial banks and others	3	.4	.2	4	1289	.5	.7	.6	.2
Private nonguaranteed debt	1464	1516	2259	2893.	3351	3790	4105		4491
from:	.5	.9	.3	1	.3	.7	.1	4228	.2
Bondholders	0	0	0	0	0	0	0	0	0
	1464	1516	2259	2893.	3351	3790	4105		4491
Commercial banks and others	.5	.9	.3	1	.3	.7	.1	4228	.2
	640.	753.	682.		514.	458.	364.	300.	274.
Use of IMF Credit	7	4	5	592.2	5	8	1	6	4
Net financial inflows	0	0	0	0	0	0	0	0	0
Net debt inflows	0	0	0	0	0	0	0	0	0
Use of IMF Credit	0	0	0	0	0	0	0	0	0
	1443	2610	1896	1419.	717.		1045	1604	325.
Long-term	.8	.1	.5	5	3	1275	.2	.2	9

32

Official creditors	1081.9	1681.8	1689.5	1437.1	954.8	1033.5	804.2	691.1	589.2
Multilateral	687.1	925	798.8	803.8	530.8	737.7	710.7	747.5	737
of which: World Bank	0	0	0	0	0	0	0	0	0
Bilateral	394.8	756.8	890.7	633.3	424	295.8	93.5	-56.5	-147.7
Private creditors	362	928.3	207	-17.5	-237.5	-241.5	-241.1	-913.1	-263.4
Bondholders	0	0	0	0	0	0	0	0	0
Banks and other private	0	0	0	-17.5	-237.5	-241.5	-241.1	-913.1	-263.4
Short-term	361	-410.5	303.9	-211.3	193.3	-18.7	-235.6	16.2	-7.2
Net equity inflows	0	0	0	0	0	0	0	0	0
Foreign direct investment	1399	912.5	907.3	346.5	631.3	824.2	477.8	628.5	684.8
Portfolio equity	3.5	3.5	3.7	3.9	3.9	3.6	0.9	3.9	0
Debt ratios	0	0	0	0	0	0	0	0	0
External debt stocks to exports (%)	136.7	162.8	187	217.3	226.7	266.8	259.4	244.8	294.6
External debt stocks to GNI (%)	30.8	31.1	33	39	39.9	41.1	39.8	39	41.3
Debt service to exports (%)	1.9	2.9	3.5	5.6	8.6	10.1	12.1	12.6	14.6
Short-term to external debt stocks (%)	17	11	11.5	12	12.8	12.2	11.6	11.6	12.3

Kenya

33

Summary external debt stock by creditor type

Long-term External debt stocks	8938.3	9860.4	13562.9	15858.6	17799.7	23226.2	27988.8	31610.7	34509.4
Public and publicly guaranteed debt from:	8938.3	9745.4	13276.7	15123.8	17126.3	22377.6	26968	30793.4	33688.5
Official creditors	8029.4	8824.9	10252.3	11360.5	13265	17510.9	20334.3	23692.1	26282.9
Multilateral	4930.1	5590.3	6011.1	6363.9	6975	8778.9	10116.2	12716.1	15157.3
of which: World Bank	0	0	0	0	0	0	0	7125	9333.6
Bilateral	3099.3	3234.7	4241.2	4996.6	6290	8732.1	10218.1	10976	11125.6
Private creditors	908.9	920.5	3024.4	3763.3	3861.3	4866.6	6633.7	7101.3	7405.5
Bondholders	0	0	2750	2750	2750	2750	4750	6100	6100
Commercial banks and others	908.9	920.5	274.4	1013.3	0	0	0	0	0
Private nonguaranteed debt from:	0	115	286.2	734.8	673.5	848.6	1020.8	817.3	820.9
Bondholders	0	0	0	0	0	0	0	0	0
Commercial banks and others	0	115	286.2	734.8	673.5	848.6	1020.8	817.3	820.9
Use of IMF Credit	1293	1470.9	1327.9	1204.8	1103.4	1046.7	878.6	719.7	1390.7
Net financial inflows	0	0	0	0	0	0	0	0	0
Net debt inflows	0	0	0	0	0	0	0	0	0
Use of IMF Credit	0	0	-58.6	0	0	0	0	0	0
Long-term	1382.6	1017.3	4348.7	2719.3	2255.4	4507.5	5055.6	3710.7	2129.1
Official creditors	713	900.4	2046.5	1511	2165.6	3652.1	3082.4	3430.2	1921.1

34

Multilateral	442.9	633	776.6	608.1	812.6	1427.9	1510.5	2640.6	2015.2
of which: World Bank	0	0	0	0	0	0	0	0	1866.2
Bilateral	270.1	267.3	1269.9	902.9	1353	2224.2	1571.9	789.6	-94
Private creditors	0	116.9	2302.2	1208.4	89.7	855.3	1973.2	280.4	208
Bondholders	0	0	0	0	0	0	0	0	0
Banks and other private	0	116.9	447.8	-1208.4	0	0	0	0	0
Short-term	291	824.5	-391.4	695.7	-593.3	-457.5	-131.8	-138.6	-338.4
Net equity inflows	0	0	0	0	0	0	0	0	0
Foreign direct investment	1170.3	675.4	237.3	89.6	431.5	792.5	626.7	901	716.8
Portfolio equity	257.1	296.8	954.3	10.8	56.7	-126.2	-292.9	13.5	0
Debt ratios	0	0	0	0	0	0	0	0	0
External debt stocks to exports (%)	102.2	121.6	143.9	184.9	210.1	254.3	267.1	298.4	380.3
External debt stocks to GNI (%)	23.5	25.2	27.9	31.3	30.9	34.8	36.4	37.3	39.4
Debt service to exports (%)	4.6	4.7	11.4	8.3	11.2	14.6	23.7	38.4	27.8
Short-term to external debt stocks (%)	13.4	17.6	11.8	13.7	10.1	9.9	8.1	7.5	6
Multilateral to external debt stocks (%)	41.8	40.7	35.6	32.2	33.2	32.6	32.2	36.4	39.7
Reserves to external debt stocks (%)	48.4	48	46.6	38	35.9	27.2	26	26.1	21.7

Gross national income (GNI)	50187.3	54496.8	60579.8	0	0	0	0	0	0

Rwanda

Summary external debt data by debtor type

Total External debt stocks	1814.5	2314.6	2909.9	3452	4318.7	5076.1	5681.1	6514.9	8193.4
Use of IMF Credit	131.3	129.8	119.4	111.6	203.3	290.7	307.9	305.6	520.2
Long-term external debt	1597.2	2173.7	2765.4	3329.1	3888.8	4478.8	5019	5865.9	7295
Public and publicly guaranteed sector	1045.2	1552.7	1755.4	2057.3	2353.3	2833.4	3249.5	3929.1	5121.9
Public sector	1045.2	1552.7	1755.4	2057.3	2353.3	2833.4	3249.5	3929.1	5121.9
of which: General Government	1044.3	1551.8	1754.6	2056.6	2352.6	2832.7	3248.8	3928.5	5121.2
Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	552	621	1010	1271.7	1535.5	1645.4	1769.5	1936.8	2173.1
Short-term external debt	86	11.1	25	11.3	226.6	306.6	354.3	343.4	378.2
Disbursements (long-term)	455.7	657.6	776.8	659.4	774.9	717.7	851.8	1044.4	1368
Public and publicly guaranteed sector	93.7	526.6	286.8	375.7	368.1	411.4	496.7	726.9	1086.2
Public sector	93.7	526.6	286.8	375.7	368.1	411.4	496.7	726.9	1086.2
of which: General Government	93.7	526.6	286.8	375.7	368.1	411.4	496.7	726.9	1086.2

36

Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	362	131	490	283.8	406.8	306.3	355.1	317.5	281.8
Principal repayments (long-term)	67.9	75.5	116.2	125.7	148.2	155.4	155.5	185.4	102.3
Public and publicly guaranteed sector	12.9	13.5	15.2	17.4	23	27.7	29.2	31.5	52.4
Public sector	12.9	13.5	15.2	17.4	23	27.7	29.2	31.5	52.4
of which: General Government	12.9	13.5	15.2	17.4	22.9	27.6	29.2	31.5	52.4
Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	55	62	101	108.4	125.2	127.8	126.3	153.9	49.9
Interest payments (long-term)	15.6	31.7	50.1	56.1	68.8	83.3	101.3	133.2	147.9
Public and publicly guaranteed sector	7.7	23.9	37.7	39.2	41.8	45.7	51.1	55.7	60.9
Public sector	7.7	23.9	37.7	39.2	41.8	45.7	51.1	55.7	60.9
of which: General Government	7.7	23.9	37.7	39.2	41.8	45.7	51.1	55.7	60.9
Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	7.9	7.9	12.5	16.9	27	37.6	50.2	77.5	87
Summary external debt stock by creditor type	0	0	0	0	0	0	0	0	0
Long-term External debt stocks	1597.2	2173.7	2765.4	3329.1	3888.8	4478.8	5019	5865.9	7295
Public and publicly guaranteed debt from:	1045.2	1552.7	1755.4	2057.3	2353.3	2833.4	3249.5	3929.1	5121.9
Official creditors	1045.2	1152.7	1355.4	1657.3	1953.3	2433.4	2849.5	3465	4376.8
Multilateral	876.5	935.5	1101.9	1362.8	1645.5	2080.9	2467.4	2978.8	3737.3
of which: World Bank	0	0	0	0	0	0	0	0	0

Summary external debt data by debtor type

Total External debt stocks	3776.1	8559.9	8651.4	9570.7	10086.2	11672.7	12315.1	13971.1	17206.8
Use of IMF Credit	271.5	270.2	252.5	240.1	232.7	246.5	240.7	239.3	769.2
Long-term external debt	3478.4	7820.3	7866	8776.3	9351.6	10953.1	11565.6	12780.2	15246.4
Public and publicly guaranteed sector	3478.4	4064.5	4212.8	4869.3	5445.7	6889.6	7700.5	8637.9	11334.9
Public sector	3473.8	4059.6	4208.3	4865.2	5442.1	6885.8	7696.9	8634.5	11331.9
of which: General Government	3472.8	4058.7	4207.6	4864.5	5441.4	6885.1	7696.2	8633.8	11326.3
Private sector guaranteed by public sector	4.6	4.9	4.5	4.1	3.6	3.7	3.6	3.4	3
Private sector not guaranteed	0	3755.8	3653.2	3907	3905.9	4063.6	3865	4142.4	3911.4
Short-term external debt	26.2	469.4	532.9	554.3	501.9	473.1	508.8	951.6	1191.2
Disbursements (long-term)	559.3	4385.9	461.9	1135.2	935.9	1568.4	1167.5	1411.1	2486.4
Public and publicly guaranteed sector	559.3	630.2	461.9	881.5	784.5	1259.3	1167.5	1133.8	2486.4
Public sector	559.3	629.5	461.9	881.5	784.5	1259.3	1167.5	1133.8	2486.4
of which: General Government	559.3	629.5	461.9	881.5	784.5	1259.3	1167.5	1133.8	2481.2
Private sector guaranteed by public sector	0	0.7	0	0	0	0	0	0	0

Private sector not guaranteed	0	3755.8	0	253.8	151.4	309.1	0	277.3	0
Principal repayments (long-term)	37.7	44.2	154.3	45.3	779.1	97.3	422.3	165.8	402.1
Public and publicly guaranteed sector	37.7	44.2	51.7	45.3	46.1	97.3	223.8	165.8	171.2
Public sector	37.7	43.8	51.6	45.1	45.8	97.2	223.8	165.6	170.7
of which: General Government	37.6	43.8	51.5	45.1	45.8	97.1	223.7	165.6	170.7
Private sector guaranteed by public sector	0	0.4	0.1	0.2	0.3	0.1	0	0.2	0.5
Private sector not guaranteed	0	0	102.6	0	733	0	198.5	0	230.9
Interest payments (long-term)	28.4	35.6	43.9	41	56.6	80.2	97.9	115.2	265.9
Public and publicly guaranteed sector	28.4	35.6	43.9	41	55.4	80.2	97.9	115.2	140.7
Public sector	28.4	35.5	43.9	41	55.4	80.2	97.9	115.2	140.7
of which: General Government	28.4	35.5	43.9	41	55.4	80.2	97.9	115.2	140.6
Private sector guaranteed by public sector	0	0.1	0	0	0	0	0	0	0
Private sector not guaranteed	0	0	0	0	1.2	0	0	0	125.2
Summary external debt stock by creditor type	0	0	0	0	0	0	0	0	0
Long-term External debt stocks	3478.4	7820.3	7866	8776.3	9351.6	10953.1	11565.6	12780.2	15246.4
Public and publicly guaranteed debt from:	3478.4	4064.5	4212.8	4869.3	5445.7	6889.6	7700.5	8637.9	11334.9
Official creditors	3478.4	4064.5	4212.8	4869.3	5445.2	6881.1	7650.3	8554.5	10815.6

Multilateral	3040.9	3566.7	3648	3884.1	4077.2	4866.8	5038.6	5653.7	7215.1
of which: World Bank	0	0	0	0	0	0	0	0	0

Burundi

Summary external debt data by debtor type

Total External debt stocks	667.3	683.6	690.2	626	602.8	606.8	585	593.9	626
Use of IMF Credit	248.7	254.2	238.3	217.6	193.6	188.1	166.4	149.1	132.4
Long-term external debt	411.4	398.1	403.6	408.1	408.9	418.5	418.4	444.5	493.3
Public and publicly guaranteed sector	411.4	398.1	403.6	408.1	408.9	418.5	418.4	444.5	493.3
Public sector	411.4	398.1	403.6	408.1	408.9	418.5	418.4	444.5	493.3
of which: General Government	411.4	398.1	403.6	408.1	397.6	407.3	407.1	411	458.3
Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	0	0	0	0	0	0	0	0	0
Short-term external debt	7.3	31.3	48.3	0.3	0.3	0.3	0.3	0.3	0.3
Disbursements (long-term)	60.2	6.9	39.9	21	19	5.2	14.2	45.2	48
Public and publicly guaranteed sector	60.2	6.9	39.9	21	19	5.2	14.2	45.2	48
Public sector	60.2	6.9	39.9	21	19	5.2	14.2	45.2	48
of which: General Government	60.2	6.9	39.9	21	7.8	5.2	14.2	22.8	48
Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	0	0	0	0	0	0	0	0	0
Principal repayments (long-term)	10.2	18.3	9.6	5.7	11.5	8	9.1	18.3	10.3

Public and publicly guaranteed sector	10.2	18.3	9.6	5.7	11.5	8	9.1	18.3	10.3
Public sector	10.2	18.3	9.6	5.7	11.5	8	9.1	18.3	10.3
of which: General Government	10.2	18.3	9.6	5.7	11.5	8	9.1	18.1	9.8
Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	0	0	0	0	0	0	0	0	0
Interest payments (long-term)	3	3.2	3.8	3.7	3.7	2.4	3.1	4.2	3.3
Public and publicly guaranteed sector	3	3.2	3.8	3.7	3.7	2.4	3.1	4.2	3.3
Public sector	3	3.2	3.8	3.7	3.7	2.4	3.1	4.2	3.3
of which: General Government	3	3.2	3.8	3.7	3.7	2.4	3	4.1	3.1
Private sector guaranteed by public sector	0	0	0	0	0	0	0	0	0
Private sector not guaranteed	0	0	0	0	0	0	0	0	0
Summary external debt stock by creditor type	0	0	0	0	0	0	0	0	0
Long-term External debt stocks	411.4	398.1	403.6	408.1	408.9	418.5	418.4	444.5	493.3
Public and publicly guaranteed debt from:	411.4	398.1	403.6	408.1	408.9	418.5	418.4	444.5	493.3
Official creditors	411.4	398.1	403.6	408.1	408.9	418.5	418.4	444.5	493.3
Multilateral	336.4	322.6	313.8	307.2	310.6	319.2	313.7	342.2	353.2
of which: World Bank	0	0	0	0	0	0	0	0	0