

**THE EFFECT OF DOMESTIC PUBLIC DEBT ON FINANCIAL MARKET
DEVELOPMENT IN THE EAST AFRICAN COMMUNITY**

BY:

EDNA NYAMUSI MOGAKA

**A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILMENT OF
THE REQUIREMENT FOR THE AWARD OF MASTER OF SCIENCE
DEGREE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF
NAIROBI**

NOVEMBER, 2017

DECLARATION

This research project is my original work and has not been submitted in any other university.

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

Edna Nyamusi Mogaka

D63/85850/2016

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

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

Supervisor: Dr. Duncan Elly Ochieng' (PHD, CIFA)

Lecturer, Department of Finance and Accounting,

School of Business, University of Nairobi

ACKNOWLEDGEMENTS

I thank my God for keeping me in good health and providing all the requirements needed throughout my study period and for financial provision which made the course to materialize from the start up to the end.

Special appreciation goes to my supervisor Dr. Duncan Elly. I acknowledge your professional guide, advice and criticism in this project. I would like to thank my family for the support that they gave me throughout the period both emotional support and financial. I also recognize Nelson Nyabwari for being there for me throughout the journey both in prayers and with encouragements. I would like to also thank my colleagues and friends; Stella Sefu, Stephen Obondi, Ann Musyoka and Eclay Ingutia. I am so grateful for your support throughout my journey at school and at work handling both is a challenge but with you around it was a great blessing. To all of you, kindly accept my appreciation for your great support. May God Bless you abundantly

DEDICATION

I dedicate this paper to my family. Words cannot express how humbled I am to be blessed with them as my life pillar.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENTS	iii
DEDICATION	iv
LIST OF FIGURES	ix
LIST OF TABLES	x
ABBREVIATIONS	xii
ABSTRACT	xiii
CHAPTER ONE: INTRODUCTION	1
1.1 Background of Study	1
1.1.1 Domestic Public Debt.....	2
1.1.2 Financial Market Development.....	3
1.1.3 Domestic Public Debt and Financial Market Development.....	4
1.1.4 East African Community.....	5
1.2 The Research Problem	8
1.3 Research Objective.....	11
1.4 Value of the Study.....	11
CHAPTER TWO: LITERATURE REVIEW	12
2.1 Introduction	12
2.2 Theoretical Review	12
2.2.1 Debt Overhang Theory.....	13
2.2.2 Ricardian View on Public Debt.....	14

2.2.3 Keynesian Model.....	14
2.3 Determinants of Financial Market Development.....	17
2.3.1 Interest rate.....	17
2.3.2 Inflation.....	18
2.3.3 Government Policies.....	19
2.4 Empirical Review.....	19
2.5 Conceptual Framework.....	22
2.6 Summary of the Literature Review.....	22
CHAPTER THREE: RESEARCH METHODOLOGY.....	25
3.1 Introduction.....	25
3.2 Research Design.....	25
3.3 Population.....	25
3.4 Data Collection.....	25
3.5 Diagnostic Tests.....	26
3.5.1 Tests of Normality.....	26
3.5.2 Multicollinearity Tests.....	26
3.5.3 Homoscedasticity.....	26
3.6 Data Analysis.....	27
3.6.1 Test of Significance.....	27
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND INTERPRETATION	28
4.1 Introduction.....	28

4.2 Response Rate	28
4.3 Data Validity	28
4.4 Descriptive Statistics	29
4.4.1 Descriptive Statistics for FMD, DD, IfR and InR (Kenya).....	29
4.4.2 Descriptive Statistics for Uganda.....	30
4.4.6 Descriptive Statistics for East African Community	33
4.5 Correlation Analysis.....	34
4.5.1 Correlation Analysis for FMD, DD, IfR and InR (Kenya)	34
4.5.2 Correlation Analysis for Uganda	36
4.5.3 Correlation Analysis for Tanzania	37
4.5.6 Correlation Analysis for Rwanda.....	39
4.5.7 Correlation Analysis for Burundi.....	40
4.5.5 Correlation Analysis for East African Community.....	41
4.6 Regression Analysis	42
4.6.2 Regression Analysis for Uganda.....	45
4.6.3 Regression Analysis for Tanzania.....	47
4.6.4 Regression Analysis for Rwanda	48
4.6.5 Regression Analysis for DD, IfR, Int.R and FMD (Burundi).....	50
4.6.7 Regression Analysis for DD, IfR, Int.R and FMD (EAC)	52
4.7 Discussion of Research Findings	54
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND	
RECOMMENDATIONS.....	56

5.1 Introduction	56
5.2 Summary of Findings	56
5.3 Conclusion.....	57
5.4 Recommendations	58
5.5 Limitations of the study.....	59
5.6 Suggestions for Further Research	59
References	61
LIST OF APPENDICES	63
Appendix 1: Summary of Variables - Kenya	63
Appendix 2: Summary of Variables - Uganda	64
Appendix 3: Summary of Variables - Tanzania.....	65
Appendix 4: Summary of Variables - Rwanda	66
Appendix 5: Summary of Variables - Burundi	67
Appendix 6: Summary of Variables – Average of EAC Countries	68

LIST OF FIGURES

Figure 2.1: Conceptual Framework	22
--	----

LIST OF TABLES

Table 2.1 Summary of Literature Review.....	23
Table 4.1 Descriptive Statistics for FMD, DD, IfR and InR (Kenya)	29
Table 4.2 Descriptive Statistics for FMD, DD, IfR and InR (Uganda)	30
Table 4.3 Descriptive Statistics for FMD, DD, IfR and InR (Tanzania).....	31
Table 4.4 Descriptive Statistics for FMD, DD, IfR and InR (Rwanda).....	32
Table 4.5 Descriptive Statistics for FMD, DD, IfR and InR (Burundi).....	33
Table 4.6 Descriptive Statistics for FMD, DD, IfR and InR (EAC).....	34
Table 4.7 Correlation Analysis for FMD, DD, IfR and InR (Kenya)	35
Table 4.8 Correlation Analysis for FMD, DD, IfR and InR (Uganda)	36
Table 4.9 Correlation Analysis for FMD, DD, IfR and InR (Tanzania).....	38
Table 4.10 Correlation Analysis for FMD, DD, IfR and InR (Rwanda)	39
Table 4.11 Correlation Analysis for FMD, DD, IfR and InR (Burundi)	40
Table 4.12 Correlation Analysis for FMD, DD, IfR and InR (EAC)	41
Table 4.13 Model Summary for FMD, DD, IfR and InR (Kenya)	43
Table 4.14 Analysis of Variance for FMD, DD, IfR and InR (Kenya)	43
Table 4.15 Regression Model Coefficients for FMD, DD, IfR and InR (Kenya)	44
Table 4.16 Model Summary for FMD, DD, IfR and InR (Uganda)	45
Table 4.17 Analysis of Variance for FMD, DD, IfR and InR (Uganda)	45
Table 4.18 Regression Coefficients for FMD, DD, IfR and InR (Uganda).....	46
Table 4.19 Model Summary for FMD, DD, IfR and InR (Tanzania)	47
Table 4.20 Analysis of Variance for FMD, DD, IfR and InR (Tanzania)	47
Table 4.21 Regression Coefficients for FMD, DD, IfR and InR (Tanzania).....	48
Table 4.22 Model Summary for FMD, DD, IfR and InR (Rwanda)	48
Table 4.23 Analysis of Variance for FMD, DD, IfR and InR (Rwanda).....	49

Table 4.24 Regression Coefficients for FMD, DD, IfR and InR (Rwanda)	49
Table 4.25 Model Summary for DD, IfR, Int.R and FMD (Burundi)	50
Table 4.26 Analysis of Variance for DD, IfR, Int.R and FMD (Burundi).....	51
Table 4.27 Regression Coefficients for DD, IfR, Int.R and FMD (Burundi)	51
Table 4.28 Model Summary for DD, IfR, Int.R and FMD (EAC)	52
Table 4.29 Analysis of Variance for DD, IfR, Int.R and FMD (EAC).....	52
Table 4.30 Regression Coefficients for DD, IfR, Int.R and FMD (EAC).....	53

ABBREVIATIONS

ANOVA	Analysis of Variance
CBK	Central Bank of Kenya
CSD	Central Securities Depository
DD	Domestic Demand
EAC	East Africa Community
FMD	Financial Market Development
GDP	Gross Domestic Product
GNP	Gross National Product
HIPC	Highly Indebted Poor Countries
IfR	Inflation Rate
InR	Interest Rate
NSSF	National Social Security Fund
UNCTAD	United Nations Conference on Trade and Development

ABSTRACT

Public debt is one of the main macroeconomic indicators of how the country's economic growth is performing and it forms the image of the country to the International markets. Public Debt management assists in economic growth and stability through resources mobilization. The objective of this Study was to examine the effects that Domestic Public debt has on the Development of Financial Markets in the East African Community Countries. The study used Secondary Data collected from the various sources; the World Bank website, East African Community website, the National Treasury, Central Bank of Kenya and the Kenya National Bureau of Statistics. The study period was between the financial years 2007-2016. The data was collected using data collection sheets and analyzed using SPSS for the ten years under review for five EAC Community Countries. Domestic debt is found to have a positive effect on the financial market development in East African Community. Inflation rate had a negative relationship with development of financial markets thus it was found that an increase in inflation rates leads to a low financial market development. Interest rates had a strong but positive relationship with financial markets development. This means that an increase in interest rate lead to an increase in financial markets development. Domestic debt should be encouraged so as to enhance financial markets development in the East African Community. Investments and government borrowing should be acquired from within. This will lead to reduction of external foreign debt and will lead to stabilization of the EAC economies and competitiveness with the rest of the Africa's community countries. The government should develop a framework and policies that monitor, manage and encourage domestic public debt since it helps in reducing foreign debt that affects inflation rates of the countries. Reliance on public domestic debt makes the EAC to be independent and leads to reduction of external borrowings that have stringent requirements that derail the development of financial markets. Further research study is recommended due to limited time and resources. The study did not fully explore other factors that have an effect to Financial Markets development. More studies are also encouraged on independent variables like Domestic debt, Interest rates and Inflation which were not exhaustively discuss in this study.

CHAPTER ONE: INTRODUCTION

1.1 Background of Study

East African Community Governments use both domestic and international public debts to finance their yearly budgets and expenditures that help in economic development at large through capital accumulation and productivity growth (Babu, 2015). It also uses taxes collected from the individuals and organizations to increase on its revenue collection and whenever a deficit exists after revenue collection it prompts the government to consider other sources of funding. Domestic debt can have severe implications on the economy if not well balanced with the levels of anticipated economic development. Domestic debt absorbs a major part of government revenues which would have been used in development projects to boost economic growth. Compared to the stock of internal debt, domestic public debt can be more harmful to the economy of any government. This is due to the shrinking resources to fund development projects (Abbas & Christenses, 2007).

In the Barro's theory of neutrality, Barro and Grilli (1994) argued that the issuance of debt does not affect the wealth aggregate demand, interest rates and capital formation. They further observed that the only function of the neutrality theory is the provision flexibility for the government to balance public revenues and expenditures. Muth (1961) noted in the Expectations Hypothesis that forward interest rates are determined by the expectations of the market participants on future development in short-run interest rates and premium. Sachs (2002) argued that the growth of the economy cannot be sustained and maintained when the level of capital is below a specific threshold. He further noted that the economic growth can utilize the dual gap theory to borrow in order to fund deficits in existence.

The public debt has reached 52.8 percent of GDP in 2015 from 44.2 percent (IMF, 2016). There is a concern among policymakers that rapid increase in external debt in developing countries like Kenya has the potential of eroding the country's sovereign rating (Nord, Harris & Giugale, 2013).

1.1.1 Domestic Public Debt

Domestic public debt refers to the debt owed by a government to the holders of government securities. It is divided into public debt receipts and public debt disbursements. The difference between the receipts and disbursements is the net acceleration to the public debt. Public debt can be acquired internally or externally. Government domestic debt comprises of stock of securities and overdrafts at the CBK. Government securities consist of T-Bills, T-Bonds, Infrastructure bonds and the Pre-1997 government debt. In the 2011/2012 financial year, the government of Kenya raised KSh. 79.2 billion as net proceeds through borrowing. This borrowing was from the domestic market through the sale of T-bills, T-bonds and Infrastructure bonds (Babu, Kiprop & Kalio, 2015).

On behalf of the CBK, the National Treasuries auctions and administers the government's domestic debt. When each financial year starts, it decides on the budgetary gap that is to be financed through domestic debt. The National Treasury then formulates a borrowing plan which is implemented by auctioning T-bills and T-bonds. Additionally, the CBK manages the central securities depository and the domestic debt. It also contributes to the development of the secondary market for the government security. To moderate budget deficits, commercial banks, pension funds, insurance companies and corporate entities, individuals or retail market invest to raise funds (Central Bank of Kenya, 2017).

According to Kandie (2015), domestic debt is borrowed in local currency and it is protected from the foreign exchange risk while external debt is borrowed in foreign currency. External debt exposes a country to foreign exchange risks. This is because the repayment is done in foreign currency and in the event that the local currency depreciates, the debt levels will rise.

1.1.2 Financial Market Development

Financial market means a market in which people and entities can trade financial securities and commodities at prices that are determined by pure supply and demand principles. Financial markets is a channel that helps in the flow of loanable funds from the side that has excess assets towards the side where there is a demand and is facing a deficit of funds. Financial market development is key in achieving a stable economic growth. A Stable and efficient financial market assists in channeling savings of a country into investments in an effective way. When the financial markets are efficient it allows Individuals and companies to access long-term loans that help in boosting investment in a more stable way and allows financial systems to enhance in capital and transformation of maturities (Managing Public Debt and Its Financial Stability Implications, December 2010).

Financial markets forms part of the economy and thus it is a section that affects the economic growth of a country at large. Financial markets gives a credible assurance to growth and stability, they affect the economy through declining assets prices and tightening financial conditions with the re-pricing of risk. Strong local markets emerge as a result of savings and productive investment. Building strong Financial Markets the East African community will need to apply a regularity framework to maintain strong financial supervision. The governments and regulators can deal with a number of steps

to increase the demand for the supply of bonds that improve financial markets development (IMF, 2007).

1.1.3 Domestic Public Debt and Financial Market Development

Instruments of debt are important in development of financial market. The growth of Public domestic debt leads to an increase in debt servicing costs. The Government of Kenya relies on Treasury Bonds issued to the financial markets for funding of Long term loans that are used to supplement the deficit in the existing financial year Approved Budget expenditures. Kenyan Government, finances its development plans through public debt which is an important source of fund as the budgetary situation of the government has always been a deficit. Some portion of the deficit is met through domestic debt. As a result, the volume of the debt has also increased quite sharply in recent years. Public debt being an effective way of raising funds to sustain economic growth has its own limitation in case of failure to meet the debt obligation it can lead to a serious economic sabotage (Maana, Owino & Mutai, 2008).

Allen (2002) proposes a framework that will examine the impact of alternative combinations that explores the debt portfolio management and Macroeconomic-financial stability. Financial Markets are developed when a wide range of instruments traded are in a steady supply. Increased demand for financial resources that are limited from financial markets investors drives the interest rate upwards. When interest rates increase it in turn increases the borrowing cost and hence reduces the credit given to private sector for investment. Ngugi (2017) argued that domestic debt is advantageous since it is easy to administrate, the challenge that arise is that the private sector also competes for the funds being lent from the banks, which forces the private sector to

crowd out and hence slowing down the economic growth since the private sector contribution to the economy reduces.

Debt management affects stability of financial markets, stock of public debt through shocks, affects financial stability. Since it affects factors that influence the debt instrument value, when the level of debt is increasing it should trigger policies that will control possible higher inflation rates which should be mitigated through monetary and fiscal policies. Efficient financial markets is built by a well-functioning government debt market and a sound market allows savings of a country to be channeled into investment, individuals and companies are allowed to access long-term loans when the financial markets are efficient and effective. Banks hold adequate quantity of government paper to conserve on equity capital funding cost this shows the link between government finances and financial stability is symmetrical (IMF, 2010).

1.1.4 East African Community

The East Africa community EAC is one of the developed regions in Africa, The development rate has picked up positively and strongly in the EAC countries over the two decades hence performing better than the sub-Saharan Africa since the year 2000. However the EAC growth has been uneven since the Ugandan growth acceleration started earlier than in the other countries with a per capita income growth averaging 3.4 percent, since early 2000 the growth in Rwanda and Tanzania has been strong and despite Kenya's growth stagnating for a certain period it has picked up.

Developing country like Kenya tends to use export of primary commodities to complement its revenue. Ochiel (2013) concentrated on the effects of domestic debt owing to the shifting composition of public debt in favor of domestic debt in

Kenya. Levine and Zervos (1998), argued that financial markets promotes economic growth, since development in stock markets affects growth through capital accumulation and improvement in productivity.

Kenya has undertaken development activities to meet the sustainable development goals that improve the citizens' wellbeing and promote economic growth. To Fund these activities the country has had to acquire public debt to supplement domestic savings due to scarcity of capital. It has over the years relied heavily on public debts, grants and foreign aid (Were, Ngugi & Makau, 2006). Most developing countries are facing a challenge and a great concern is raised on the impact that would be brought about by increasing the public debt on economic growth (Thugge, Heller & Kiringai, 2008).

An economic theory suggests developing countries enhance economic growth through reasonable borrowing (Patillo, Poirson & Ricci, 2002). Stieglitz (2000) stated that Future output and wages will be reduced if government borrowing forces investment crowding out. Citizen's welfare is affected and will be made vulnerable if the wages and salaries are not stable and if they keep on fluctuating. These claims deserve serious attention in the country's that want to meet the millennium development goals and achieving the Vision 2030 (Achieng, 2010).

The EAC countries have used public debt and loans to finance the Infrastructure project. Burundi has financed its hydropower project through concessional lending and budget resources. In a lesser extent, the project is worth US \$270 million. Kenya's project is worth US \$47 Billion the fund is a semi concessional loan from China amounting to US \$3 billion. The rest of the balance will be financed through development partners.

Rwanda has borrowed US\$ 880. The amount will be financed through concessional, non-concessional borrowing and grants from donors. Tanzania's non-concessional borrowing is used for road projects and finally Uganda will finance its US \$9.2 billion through concessional and non-concessional loans (IMF, 2014).

The EAC treaty clearly states that the countries infrastructures need to be improved, Through the monetary and fiscal policies it will gauge how the invested money will be utilized in article 132,133 it shows that organizations require to have a budget in place in case of a deficit other budgetary resources are added to fill the deficit through grants, donations, funds for projects and programmes (East African Community, 2007).

Lumu (2017) found out that Uganda's domestic and external debt has hit US \$ 8.7 billion in the year 2017. The country's debt is equivalent to its GDP of 33.8 percent and the growth of the economy is higher than that of sub Saharan Africa by 3.9%. Urn, (2017) also found out that, Uganda in the last two years 2015, 2016 has borrowed at the rate of 17 percent annually from the National Social Security fund (NSSF) yet some of the banks in Uganda also borrowed from the same source this made the interest rate to remain at 23 percent. Uganda's government decided to reduce domestic borrowing through creation of more resources available to commercial banks so as to reduce the level of interest rate in the future.

Tanzania's public debt in the year 2015 was US\$ 18.9billion which is 39 percent of the GDP while the external debt was at US \$ 2.7billion this is 5.6 percent of its GDP. The public debt consisted of US \$ 6 billion of domestic debt. International Monetary Fund (IMF, 2017) found that Tanzania maintained a sustainable debt since the external

and domestic debt distress have low risk to the country's economic growth. Tanzania's domestic debt grew from US dollar 2billion in 2010 up to US dollar 4billion in 2014 and US dollar 6billion in the year 2015, the domestic debt was made up of marketable securities and non-marketable securities. United Nations Conference on Trade and Development (UNCTAD) argues that a higher level of domestic debt in Tanzania can be sustained without compromising the country's economic growth (UNCTAD, 2017).

The National Bank of Rwanda maintains the public debt of the country and the current state of its public debt is not worrying because it's debt to GDP Ratio is below the radar and also provides room for more borrowing. Public debt in the fiscal year 2013/14 increased to US\$ 2.295 billion from 2013 June to June 2014. The domestic debt was at \$ 541.3 million while the external debt was at 23.3 percent of the GDP. The main source of Rwanda's domestic debt is from the treasury bills (Agutamba, 2016)

The Kenyan government domestic debt has grown due to treasury bills and treasury bonds, Kenya's budget grew to Kenya shillings 2.6 billion and this made the country's public debt to grow more (CBK, 2017). Ngugi (2017) noted that public debt was at kshs.3.327 Trillion which is 51.50 percent of the GDP in December 2016. The World Bank warning came when the rate of debt is mounting while the IMF urged Kenya to lower her Budget deficit which was becoming unsustainable.

1.2 The Research Problem

The study focused on the understanding the relationship and effects of Domestic Public debt and the financial markets development in the East African Community. The Financial Market development is symmetrical to the country's public debt, Government

gets its Bonds and treasury bills from the financial market this has a great impact on the circulation of money in the economy this in turn affects the interest rates for borrowing money from financial intermediaries and the inflation rate of the country thus it is through a debt management policy that the countries can control the growing levels of debt that are negatively or positively affecting the financial market development.

A well-managed public debt leads to growth in the economy and stability through mobilization of resources that require low borrowing costs and reduced financial risk exposure. Public Debt in some countries of EAC are sustainable while other countries like Kenya has gone beyond the radar making the rate of debt be higher it has an impact on the financial markets of the country. Growth of public debt makes the financial markets to develop but at some instances when the debt goes beyond the sustainable amount it starts having a negative impact on financial market and the economy at large due to increase in the interest rates that discourage borrowing by investors.

Abbas and Christensen, (2007) increase in real interest rates lead to financial liberalization and other related reforms that were adopted since 1980, concerns have raised about instability in Africa economy and high interest burdens are linked to the domestic borrowing effects on macro-economic elements, which absorb the government revenue and leads to crowding out development enhancing spending

UNCTAD (2016) Africa's domestic debt is increasing gradually and consist marketable debt, Interest rates have also grown since international investors have increased their lending to domestic capital markets. Depending on resources acquired domestically will give countries more policy space to implement their development priorities, domestic debt play an important role countries may face new risks as the range of creditors and debt instrument continues to expand.

World Bank (2012) found that Africa infrastructure required \$93 billion yearly as an investment. The future development of a country relies on the important role of domestic markets in funding the investments. Most African countries have a single digit and they also have a low and stable inflation. Domestic debt assist in reducing the level of poverty and facilitate growth facility programs with some limiting the domestic financing (IMF, 2007).

The central Bank manages Government's domestic debt at the start of every financial year the National treasury comes up with the budget deficit that requires financing from domestic market. Borrowing plan is prepared by the central bank and it is implemented through the auctions of Treasury bonds and treasury bills. A central securities depository is a registry being managed by the central bank. It also has a database for domestic debt (CBK, 2017).

Due to limited studies on effects of Domestic public Debt on the development of financial Market it paused a challenge in the getting studies done by other scholars on this issue it thus created a research problem that needs to be understood on whether the Domestic public debt positively or negatively affect the development of the financial markets in the country.

The domestic debt is inevitable and it helps in promoting economic growth and when there is economic growth it in turn promotes financial markets development. Domestic debt has a positive impact to the financial market development and the economy growth at large since domestic debt can be sustained it assists in financial market development through interest earned and even the competitive chances of lending loans to the government of Kenya. Most of the studies done both Locally and internationally focus on external Borrowing and its effect on economic growth in general thus living a gap

to be researched on how the Domestic borrowing which are internal sources of finances affect the financial markets development since this affects the circulation of cash in the economy and even the capability of the financial markets to sustain their lending power and even the ability to grow in the long run and the short run (Owino & Mutai, 2008).

Servicing of Domestic and external debt has led to crowded –out the finances supporting the social and capital expenditures in EAC, after Debt repayment and salaries remunerations are done, there is little left for other government activities. In 1989 Kenya’s debt service was more than third of its export earnings, on the other hand Tanzania’s debt payment was 86 percent of export earnings in 1987 (Kiringai,2002) .EAC member countries are striving for sustainable economic growth, they need to manage fiscal deficit hence public debt. The study was intended to find out whether there is any relationship between domestic public debts on financial market development in East African Community.

1.3 Research Objective

The main objective of the study was to investigate the effects of domestic public debt on financial market development in the East African Community Countries.

1.4 Value of the Study

The study is of great impact to the financial market sectors stakeholders they would find the information of importance since they would clearly understand the major role they play in assisting the development of the country and how the domestic debt

increases financial market development and reduces external public debt that tends to affect the country's interest rates.

The academicians and scholars, would get more information and even make them appreciate domestic debt and financial markets role in the economy of the country and it would also give them an opportunity to do more study to fill the existing research gaps thus they can Identify further studies that need to be done in the future. The government of Kenya being the main beneficiary of the domestic Public debt will clearly see and align their internal debt borrowings from the financial markets institutions to promote development in the financial markets.

The investors in the Bond Markets and Financial Institutions would inform them the factors that lead to Government issuance of Treasury Bonds and Treasury Bills to the market and the impact it has on financial markets development and the economy at large.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Chapter two looks at the theoretical framework, the determinants of financial market development, review of empirical literature, and summary of the literature review in order to identify the study gap that exist. The literature review examined is global, regional and local.

2.2 Theoretical Review

There is no specific theory that exclusively deals with domestic public debt and financial market development. Most of the available theories focus on public debt and few on financial intermediaries. For that reason, this section will cover theories supporting the relationship between overall financial market development and domestic public debt.

2.2.1 Debt Overhang Theory

The theory of debt overhang was developed by Krugman 1988. He came up with various negative relationships between investment and foreign debt which consequently lead to lower capital turnover. Effects of Public Debt Stock on economic prosperity have been explained by debt overhang hypothesis. Studies on Debt overhang theory has been evaluated by a number of scholars who supported the theoretical study for debt overhang. In countries that have heavy indebtedness, Debt overhang is regarded as a major cause of slow economic growth and distortion (Sachs, 1989 & Rogoff, 1990; Checherita-Westphal & Rother (2012) & Baum; Checherita-Westphal & Rother (2013). This theory supports the study because it proved that the ratio of Public Debts to GDP does not have substantial impact on a country's economic development.

Economic growth slows down because servicing of debts exhausts up the country's resources to the extent that the potential of returning to growth is challenged (Levy-Livermore & Chowdhury, 1998). Debt overhang does not occur because a country has accumulated debt; it occurs when the country's environment change, and makes it difficult to manage and discharge its debts (Arslanalp & Henry, 2004). Debt overhang has other effects of accumulation of debts on economic growth which reduces the economy's macroeconomic performance

2.2.2 Ricardian View on Public Debt

The theory was developed by David Ricardo an English political economist. According to the Ricardian equivalence theorem, the society's burden from the government spending is brought about by the wastage use rather the source of financing the expenditure. Therefore, it does not matter how the funds are raised through taxation or by borrowing loans. If the current expenditure is financed through borrowing, this reduces the amount of taxes to be paid by the current generation. Future taxation of generations is much higher to repay, this means that the disposable income in future will reduce (Contessi, 2012).

In this hypothesis it holds that consumers adopt the government's budget constraint when they make their decisions regarding consumption pattern. This means that for a given pattern of government spending, the source of funding does not affect agents' consumption decisions, hence, no change in the overall demand. Thus, this theorem is used as an argument against tax cuts and spending increases aimed to boost aggregate demand (Brue, Flynn & McConnell, 2009).

National government finances its expenditures through taxes and issuance of bonds. Bonds are Loans that are issued to the Government; this is repaid by raising adequate taxes in future. The government finances extra spending through deficits that is borrowing from Domestic and Foreign markets, the tax payers will prospect of having to pay higher taxes in the future. This will boost their savings, to make pay for future tax increases this mitigates their current consumption (Cameron & Trivedi, 2005).

2.2.3 Keynesian Model

John Maynard Keynes, an economist in (1930s) developed Keynesian model in an attempt to understand the great depression. This theory helps in understanding the government's total spending and its effect on outputs and inflation. The government overdraft at the Central bank of Kenya is the only aspect of Domestic debt borrowing that seems to be limited by law, The Debt composition in government securities since 2003 has been skewed in favour of long term borrowing through Treasury Bonds. Interest rates within this period were below 13 % (Putunoi & Mutuku, 2013).

Keynesian model is a macroeconomic model based on Keynesian economic principles that identify the level of equilibrium, and analyzes disruptions to the aggregate income and production (King, 1993). The model explains equilibrium aggregate income and production as an intersection of the aggregate expenditures line and the 45-degree line. There are three basic variations of Keynesian model that are designated by the number of macroeconomic sectors which include; two-sector, three-sector, and four-sector. In addition the Keynesian model is commonly given in the form of injections and leakages. This is in addition to the standard aggregate expenditures format. It is used to analyze various important issues and topics such as business cycles, monetary policy, and fiscal policy.

Keynesian model shows that there is no direct burden associated with public debt, hence, no effect on economic growth (Metwally & Tamaschke, 1994). The real burden occurs at the time when expenditure is incurred. Internal public debt is that debt that the government owes itself. It does not contribute anything to our resources. External debt is different because it does add real resources to the economy. These resources will be repaid back after sometime. The impact of substituting public debt for current taxation on macro-expansionary is immediate. This means that an increase in public

expenditure funded by an increase in tax will invoke a lower multiplier than debt-financed public expenditure (Savvides, 1992).

According to the model, when the government enters the financial market to borrow money, it finds the banks have surpluses and because of the depressed state of the economy, businesses, which are the banks' regular customers, are reluctant to borrow money for plant and equipment investments due to the existence of excess capacity. They cannot sell what they can produce now with existing capacity so they do not need to borrow money to build newer factories. Because of this lack of private sector demand for investment funds, bankers will readily lend money to finance the increase in government spending without any upward pressure on interest rates. Interest rates will not rise when the government borrows the money and as a result there should be no crowding-out of private sector demand. The increase in G will not be offset by equivalent declines in investments (I) and Consumption (C) as suggested in the Classical model, and thus an increase in government expenditure (G) increases aggregate demand and shifts the Aggregate demand (AD) curve to the right (Lucas, 1976).

Njiru (2012) analyzed the impact of fiscal policy on private investment in Kenya and noted that fiscal policy design mattered to private investment and Ochieng (2013) who studied the relationship between public debt and economic growth using the Harrod Domar Growth model and found that domestic debt can be sustained. Achieng (2010) carried out a study on the impact of domestic debt on the private investment in Kenya from 1963-2009 indicated that the debt service ratio and domestic debt was significant at 5%. Kibui (2009) did a study on the effect of external debt on public investment and economic growth in Kenya from 1970-2007. The study indicated that the debt service ratio was significant in explaining GDP growth in Kenya.

Greenwood and Jovanovic (1990) and Saint-Paul (1992) are examples of the few models that explain how growth and financial development are jointly determined. In both models, financial intermediation contains direct resource costs that are equal or less than proportional to the volume of funds intermediated. This means that as the economy grows, each incentive to participate in financial markets increases, and the benefits increases with the scale of the funds invested. This also leads to rise in costs. Financial development also depends on public policy.

Roubini and Sala-i-Martin (1992) argue that governments may pursue financial repression to raise tax revenue, even while they recognize its detrimental growth effects. Where collecting income taxes is costly, the financial sector is a comparatively easy source of government revenue, especially via seignior age.

2.3 Determinants of Financial Market Development

Financial markets development can be influenced by various factors in the economy, they affect the market development positively or negatively. The factors include Interest rates, inflation rates, Political stability, government policies reforms and other public finance management regulations.

2.3.1 Interest rate

Investments in developing countries are mainly done and spearheaded by the government and the main factor that affects investment is the Real Interest rate. Financial growth may be affected by interest rates which in turn lowers the growth rate,

when the rate of interest in the financial markets is high it discourages many people from acquiring loans for investments and other development activities will be at a standstill. The main reasons why Kenyan government borrowed domestically despite high interest rates is due to the rising external indebtedness, which required foreign exchange to service its amortization, greatly increased the vulnerability of the country. Kariuki (2003) did a study on gross fixed capital formation in Kenya and found that an increase in real interest rates do not deter private investment. Matwang'a (2000) found that debt service ratio negatively influence private investment.

Muhdi and Sasaki (2009) found that the economic growth of a country may affect the interest rate levels directly or indirectly, When the GDP growth rate is high it is considered to be inflationary forcing the central bank to raise the interest rate in order to slow down the growth. When Real interest rates reduce it increases the economic growth since many investors will be able to go the financial market and acquire loans for investments and Development. According to the Expectation Hypothesis Theory forward interest rates are determined by the expectations of the market participants concerning the future development in the short term interest.

2.3.2 Inflation

Effective allocation of financial resources is affected by inflation. A negative relationship exists between inflation and both equity and development markets. In low inflation countries having a great nominal equity return does not imply more Inflation (Boyd, 2001). Huybensa (1999) found out that inflation is negatively correlated with the financial markets activities. Economies with high rates of inflation also face the negative relationship in the long run.

2.3.3 Government Policies

Financial crisis are a fact of modern economies, government actions to restore the economy are also all but inevitable the government through Fiscal and Monetary policies it guides such changes. Through the power it is given governments have the ability to tax and regulate financial markets.

2.4 Empirical Review

The Empirical Review on the effects of domestic public debt on financial markets development is limited since majority of the researchers focus on the effects of domestic public debt on the economy, the Empirical Review will include both Local and international studies;

IMF (2016) Kenya's public debt has been increasing rapidly due to infrastructure related borrowing, public debt increased from 44.2 percent in 2014, 39.8 percent in 2013 up to 52.8 percent of the GDP in 2015 while in the present Value terms the Debt to GDP ratio was at 49 percent in financial year 2015-2016. IMF, (2015)The increase was greatly influenced by the issuance of \$2.75 billion sovereign bond in June and December 2015, and the initial disbursement of the SGR-loan from China, overall public debt was projected to rise to 56 percent of the GDP.

The Debt crisis of 1980s made Kenya to be a highly indebted nation the debt problem was incurred due to the macroeconomic mismanagement in the 1990s, leading to a reduction of donor inflows. The government thus resorted to occasional debt rescheduling and expensive short-term domestic borrowing to finance its expenditures. As a result, Kenya today is regarded as one of the highly indebted

countries in Africa even though she has not qualified for debt relief under the highly indebted poor countries (HIPC) initiative (King'wara, 2014).

Adofu and Abula (2010) investigated the relationship between domestic and economic growth in Nigeria for the period 1986-2005. Their findings showed that domestic debt has affected the growth of the Nigerian economy negatively and recommended that it be discouraged. They suggested that the Nigerian economy should instead concentrate on widening the tax revenue base.

Maana et al. (2010) explores the impact of domestic public debt on economic growth in Kenya between 1996 and 2007 using a modified Barro growth regression model. The study established that domestic debt expansion had a positive but not significant effect on economic growth during the period. However the study found no evidence that the growth in domestic debt crowds out private sector lending in Kenya. Adofu and Abula (2010) investigated the relationship between domestic and economic growth in Nigeria for the period 1986-2005. Their findings showed that domestic debt has affected the growth of the Nigerian economy negatively and recommended that it be discouraged. They suggested that the Nigerian economy should instead concentrate on widening the tax revenue base.

Heavy reliance on domestic public financing may reduce the economy's and public sector's foreign exchange risk but will probably imply larger market risks, if the central bank tries to avoid the realization of market risks, it must assume an inflation risk. The increase in Domestic public debt holdings by financial institutions is probably the major change Colombian banks have suffered during the last Five years. By 1997 securities holdings by credit institutions represented around 12% of their assets. By 2005 holdings increased to 32%. This dramatic change in the balance sheet structure implies that

market risk issues have increased their importance in the financial system used to manage almost entirely credit risk (Hernando, 2005).

Charan (1999) investigated the relationship between domestic debt and economic growth for India using the co-integration and Granger causality tests for India for the period 1959-95. Co-integration and Granger causality tests support the Ricardian equivalence hypothesis between domestic debt and economic growth. Ricardian equivalence suggests that it does not matter whether a government finances its spending with debt or a tax increase; the effect on total level of demand in an economy is the same.

Bencivenga and Smith (1991) and Levine (1991) acknowledged that not much work had been done of the role of financial intermediaries on economic growth and therefore they formulated a model in which equilibrium behavior of the competitive intermediaries such as banks affected resource allocation, financial markets diversity, liquidity and investment risk to attract more savings that go into productive sectors. King and Levine (1993) termed financial development as consisting of financial depth (overall size of the financial system), institutions (mainly bank deposits) and distribution of assets which would bring economic growth through rate of physical capital accumulation and increase in efficiency with which capital is allocated.

Alshara, Khateeb and Majd (1991) analyzed the size and composition of external public debt and examined its effect on specific economic variables such as private consumption, public consumption, gross investment, gross tax revenues, direct tax revenues, indirect tax revenues, imports, Gross National Product

(GNP), and disposable income. They reported that external loans positively affect consumption, investment, imports and GNP.

2.5 Conceptual Framework

Figure 2.1: Conceptual Framework

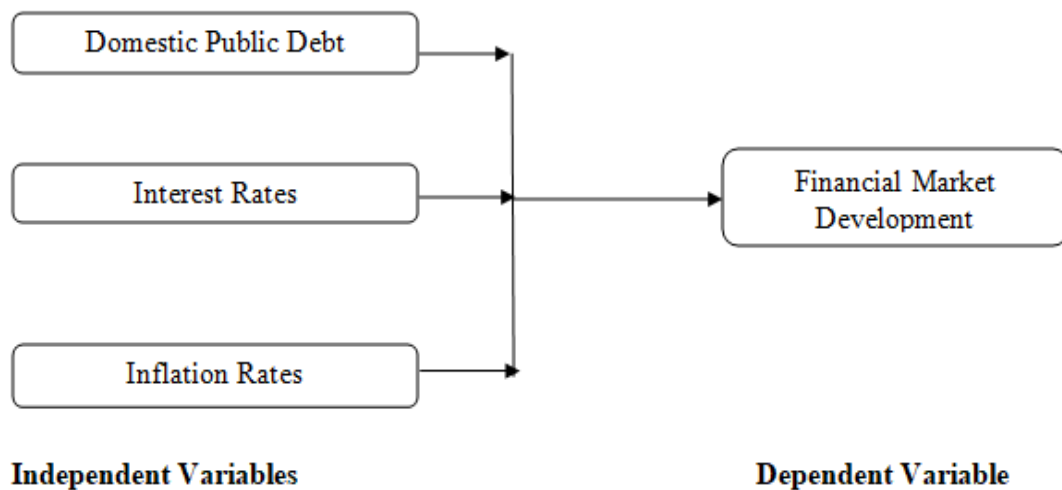


Figure 2.1 shows the conceptual framework used in the study. The dependent variable includes various financial markets that exist in the economy. Performance of these markets is affected by how the independent variables shift. When the domestic public debt market is high, they influence the factors that cause distress to the financial markets performance.

2.6 Summary of the Literature Review

From the empirical review, a research gap found in the domestic public debt effects on financial markets which forms part of the economic growth or decline. The financial intermediary and a big player in financing domestic debt in the country less focus has been given to this area.

The GDP of Kenya since the financial years from 2014 to 2016 kept decreasing as the country's debt increased. The overall public debt was projected to rise to 56 percent of the GDP. We also learn from Nigeria after they noted that their domestic debt has affected the growth of the Nigerian economy negatively they recommended that it be discouraged and should instead concentrate on widening the tax revenue base

Table 2.0.1 Summary of Literature Review

Author	Focus of Study	Methodology	Findings	Research gaps
King'wara (2014)	The impact of domestic public debt on private investment in Kenya	Analysis of unit root test and co-integration tests Analysis of debt ratios	Inflation and the volume of financial market activity are strongly negatively correlated in the long-term particularly for economies with relatively high rate of inflation	Scope of study not exhausted
Adofu and Abula (2010)	Domestic public debt on the Nigerian Economy	Regression analysis Time series(trend analysis) Descriptive analysis	Domestic debt negatively affects economic growth	Limited scope for studies done
International Monetary Fund (2010)	Managing public debt and it's financial stability implications	Trend analysis	Implication of debt management and policy makers in terms of their impact on the governments balance sheet, Macro economic development and their financial system	Limited scope for East Africa community
Mundi and Sasaki (2009)	Roles of external and domestic debt economy	Analysis of financial ratios	External and domestic debt has positive effects on both investment	Policy simulation analysis for improving primary

	Analysis of a Macro econometric model for Indonesia	Trend analysis Simulation analysis	and economic growth External and domestic currency depreciation	balance was not considered
Kariuki(2003)	Determinants of gross fixed capital formation in Kenya	Analysis of Financial ratio	Public investment positively affects private investment Output growth do not affect private investment	Limited scope of sample size
Hybens & Smith (1999)	Inflation, financial markets and long run real activity	Analysis of financial ratios Correlation of debt ratios	Inflation and the volume of financial market activity are strongly negatively correlated in the long run particularly for economies with relatively high rates of inflation	Shorter time period

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter analyzes the research methodology that will be used in conducting the study. It consists of the research design, population, data collection and data analysis.

3.2 Research Design

The study used descriptive study design that was intended to explain a characteristic behavior of one variable because of another variable. Kothari (2005) indicates that a descriptive survey explains the relationship between variables. This is because the study sought to establish the effects of domestic public debt on the financial market development.

3.3 Population

The study used the Five East African Community financial markets as the population since they share similar regulations and legislatives when it comes to Domestic public debt, factors and information on how Debt affects financial markets Development in EAC can be clearly understood from the study. The study has a small population size thus no sampling will be done

3.4 Data Collection

Secondary data for 10 years was used and obtained from the Central Banks of the East African Community, the World Bank, the National Treasury Public Debt Department and the Kenya bureau of statistics since they are major players of the initiators of Public

Debt and the Managers of the level of Public debt in the country. The data for 5 years (2012-2016) will be collected.

3.5 Diagnostic Tests

3.5.1 Tests of Normality

To test for normality, the study examined methods like skewness and kurtosis. The rule of thumb is that a variable is reasonably close to normal if its skewness and kurtosis is within the range of -2 to +2 or -1 to +1 as more stringent criterion when normality is critical.

3.5.2 Multicollinearity Tests

With the use of multiple regression analysis in the study, multicollinearity test was examined to test whether there was correlation between variables. The main way of testing for multicollinearity is to check the t-statistic and R-Squared statistic. If the regression analysis produces a high R-squared statistic but low t-statistics which are not significant, then multicollinearity could be a problem.

3.5.3 Homoscedasticity

The study examined whether the dependent variable exhibited similar amounts of variance across the range of values for the independent variables. Homoscedasticity was tested by plotting the residuals for some portions of the range compared to others. When it is met, the residuals will form a pattern-less cloud of dots.

3.6 Data Analysis

The study used a multiple regression model to establish effects of Domestic debt on the financial markets development in the East African Community. The study sought to extend the model that was adopted by (Bulle, 2014). The model is listed below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Financial Market Development (Measured by Market Capitalization/GDP).

X₁ = Domestic Debt (Measured by log of total value in US \$).

X₂ = Inflation Rates

X₃ = Interest Rates

ε = Error Term

3.6.1 Test of Significance

P-values were used to test the statistical significance. The a priori significance level set for the study was 95%. If the p-value is greater than or equal to 0.05, then the null hypothesis is true since this means that there is no statistically significant relationship between national debt and economic growth. Similarly, if the p-value is less than 0.05, then the alternative hypothesis is considered true since this means that there is a statistically significant relationship between the dependent and the independent variables. Coefficient of determination (R²) was used to provide a measure of how well the observed outcomes is replicated by the model, as the proportion of total variation of outcomes explained by the model.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

This chapter contains data analysis that was done in the study. It also gives the findings and interpretation of the results. The research focused on finding the effects of Domestic public debt on Financial Market Development in the East African Community. A multiple Regression analysis was conducted with Financial market Development as the dependent variable. This was done using SPSS 22 and with the aid of Excel. The results of the Regression Analysis output and analysis are detailed in this section.

4.2 Response Rate

The study sought to collect data financial market development, domestic debt, inflation rate and interest rate from all the East African Community countries. All the data required for the study was collected through secondary method; hence the response rate was 100%. This was considered adequate for analyzing the variables in the Regression Analysis.

4.3 Data Validity

According to the multiple regression data analysis model adopted in the previous chapter, the data collected was found to be valid analysis to aid in understanding whether domestic public debt has any effect on the financial markets development in the East African Community countries.

4.4 Descriptive Statistics

The descriptive statistics results are shown in the following tables. The five East African Community countries are considered and the descriptive statistics for each country is presented with consideration to each variable used in the study.

4.4.1 Descriptive Statistics for FMD, DD, IfR and InR (Kenya)

Table 4.1 Descriptive Statistics for FMD, DD, IfR and InR (Kenya)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
N	Valid	10	10	10	10
	Missing	0	0	0	0
Mean		40.1595	10.2745	8.2532	9.3752
Median		41.9576	10.2855	6.6933	8.8421
Mode		44.75	10.00 ^a	4.77 ^a	6.42 ^a
Std. Deviation		4.84982	.16916	3.48042	2.56385
Skewness		-.993	-.334	1.103	1.903
Std. Error of Skewness		.687	.687	.687	.687
Kurtosis		-.451	-1.274	-.202	4.757
Std. Error of Kurtosis		1.334	1.334	1.334	1.334
Minimum		31.09	10.00	4.77	6.42
Maximum		44.75	10.48	14.28	15.80

a. Multiple modes exist. The smallest value is shown

Table 4.1 indicates the descriptive statistics results for Kenya. From the table, financial market development has a mean, median, mode and standard deviation of 40.1595, 41.9576, 44.75 and 4.84982 respectively. It also indicates a maximum and minimum of 31.09 and 44.75 respectively. Skewness and Kurtosis as indicated in the table are -0.993 and -0.451 respectively. Domestic debt has a mean, median, mode and standard deviation of 10.2745, 10.2855, 10.00 and 0.16916 respectively. It also has a maximum and minimum of 10.00 and 10.48 respectively. Inflation rate has mean, median, mode and standard deviation of 8.2532, 6.6933, 4.77 and 3.48042 respectively. Interest rate indicates a mean, median, mode and standard deviation of 9.3752, 8.8421, 6.42 and 2.56385 respectively.

Skewness and Kurtosis measure the normal distribution or statistical data, the skewness is the tilt or lack of it in a distribution while kurtosis is the peakness of the distribution both kurtosis and skewness should be within the +2 to -2 range when the data has a normal distribution, from the descriptive analysis table it indicates that the data is normally distributed since the skewness of all the variables is within the range of +2 to -2.

4.4.2 Descriptive Statistics for Uganda

Table 4.2 Descriptive Statistics for FMD, DD, IfR and InR (Uganda)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
N	Valid	10	10	10	10
	Missing	0	0	0	0
Mean		13.3977	5.6736	11.3117	11.4318
Median		14.3145	5.7367	6.3541	15.1988
Mode		5.49 ^a	1.34 ^a	-5.32 ^a	-22.71 ^a
Std. Deviation		3.71221	4.14226	17.15144	13.34449
Skewness		-1.330	-.005	2.405	-2.089
Std. Error of Skewness		.687	.687	.687	.687
Kurtosis		1.114	-2.559	6.421	5.471
Std. Error of Kurtosis		1.334	1.334	1.334	1.334
Minimum		5.49	1.34	-5.32	-22.71
Maximum		16.92	9.67	56.50	26.92

a. Multiple modes exist. The smallest value is shown

Table 4.2 indicates the descriptive statistics for Uganda, from the table the financial market development has a mean, median, mode and standard deviation of 13.3977, 14.3145, 5.49 and 3.71221 respectively. It also indicates the minimum and maximum of 5.49 and 16.92 respectively, the skewness and kurtosis is -1.330 and 1.114 respectively. In the domestic data the mean, median, mode and standard deviation is 5.6736, 5.7367, 1.34 and 4.14226 respectively. The minimum and maximum is 1.34 and 9.67 respectively while the skewness and kurtosis is -0.005 and -2.559 respectively. Inflation rate has the mean, median, mode and standard deviation of 11.3117, 6.3541,-

5.32 and 17.15144 respectively, Inflation has a minimum and maximum of -5.32 and 56.50 respectively its Skewness and kurtosis is 2.405 and 6.421 respectively.

4.4.3 Descriptive Statistics for Tanzania

Table 4.3 Descriptive Statistics for FMD, DD, IfR and InR (Tanzania)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
N	Valid	10	10	10	10
	Missing	0	0	0	0
Mean		16.8674	9.7678	8.8902	6.1968
Median		17.6072	9.8066	8.4603	6.4411
Mode		10.58 ^a	9.36 ^a	5.04 ^a	-.82 ^a
Std. Deviation		3.70458	.21946	3.24273	3.51915
Skewness		-.289	-.643	1.103	-.706
Std. Error of Skewness		.687	.687	.687	.687
Kurtosis		-.721	-.562	1.329	.177
Std. Error of Kurtosis		1.334	1.334	1.334	1.334
Minimum		10.58	9.36	5.04	-.82
Maximum		22.42	10.01	15.94	10.71

a. Multiple modes exist. The smallest value is shown

Table 4.3 has the descriptive statistics for Tanzania, the financial market development has a mean, median, mode and standard deviation of 16.8674, 17.6072, 10.58 and 3.70458 respectively, the minimum and maximum is 10.58 and 22, 42 respectively while the skewness and kurtosis is -0.289 and -0.562 respectively. Tanzania's domestic debt has a mean, median, mode and standard deviation of 9.7678, 9.8066, 9.36 and 0.21946 respectively the minimum and maximum are 9.36 and 10.01 respectively while the skewness and kurtosis has -0.643 and -0.562. Inflation rate has a mean, median, mode and standard deviation of 8.8902, 8.4603, 5.04 and 3.24273 respectively, the minimum and maximum are 10.58 and 22.42 respectively while the skewness and kurtosis is 1.103 and 1.329 respectively. Interest rate has a mean, median, mode and standard deviation of 6.1968, 6.4411, -0.82 and 3.51915 respectively. Minimum and

maximum is -0.82 and 10.71 respectively, skewness and kurtosis are -0.706 and 0.177 respectively.

4.4.4 Descriptive Statistics for Rwanda

Table 4.4 Descriptive Statistics for FMD, DD, IfR and InR (Rwanda)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
N	Valid	10	10	10	10
	Missing	0	0	0	0
Mean		16.8674	9.7678	8.8902	6.1968
Median		17.6072	9.8066	8.4603	6.4411
Mode		10.58 ^a	9.36 ^a	5.04 ^a	-.82 ^a
Std. Deviation		3.70458	.21946	3.24273	3.51915
Skewness		-.289	-.643	1.103	-.706
Std. Error of Skewness		.687	.687	.687	.687
Kurtosis		-.721	-.562	1.329	.177
Std. Error of Kurtosis		1.334	1.334	1.334	1.334
Minimum		10.58	9.36	5.04	-.82
Maximum		22.42	10.01	15.94	10.71

a. Multiple modes exist. The smallest value is shown

Table 4.4 has the descriptive statistics for Rwanda, the financial market development has a mean, median, mode and standard deviation of 12.3810, 10.8645, 7.18 and 4.67120 respectively, the minimum and maximum is 7.18 and 19.20 respectively while the skewness and kurtosis is 0.556 and -1.489 respectively. Rwanda's domestic debt has a mean, median, mode and standard deviation of 8.8720, 8.8784, 8.52 and 0.26345 respectively the minimum and maximum are 8.52 and 9.20 respectively while the skewness and kurtosis has 0.043 and -1.775. Inflation rate has a mean, median, mode and standard deviation of 6.2979, 5.4230, 0.08 and 4.28242 respectively, the minimum and maximum are 0.08 and 14.30 respectively while the skewness and kurtosis is 0.619 and 0.048 respectively. Interest rate has a mean, median, mode and standard deviation of 9.4670, 9.3265, 1.93 and 4.77772 respectively. Minimum and maximum is 1.93 and 16.93 respectively, skewness and kurtosis are -0.024 and -0.870 respectively.

4.4.5 Descriptive Statistics for Burundi

Table 4.5 Descriptive Statistics for FMD, DD, IfR and InR (Burundi)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
N	Valid	10	10	10	10
	Missing	0	0	0	0
Mean		26.3832	1.8091	11.1303	3.5487
Median		26.0545	1.8480	10.3033	3.5689
Mode		19.77 ^a	1.59 ^a	2.80 ^a	-6.02 ^a
Std. Deviation		4.17935	.14197	6.05934	5.58147
Skewness		.683	-.439	.875	-.226
Std. Error of Skewness		.687	.687	.687	.687
Kurtosis		1.224	-.985	1.141	-1.029
Std. Error of Kurtosis		1.334	1.334	1.334	1.334
Minimum		19.77	1.59	2.80	-6.02
Maximum		34.97	2.00	23.99	11.13

a. Multiple modes exist. The smallest value is shown

Table 4.5 has the descriptive statistics for Burundi's financial market development with a mean, median, mode and standard deviation of 26.3832, 26.0545, 19.77 and 4.17935 respectively, the minimum and maximum is 19.77 and 34.97 respectively while the skewness and kurtosis is 0.683 and 1.224 respectively. Burundi's domestic debt has a mean, median, mode and standard deviation of 1.8091, 1.8480, 1.59 and 0.14197 respectively the minimum and maximum are 1.59 and 2.00 respectively while the skewness and kurtosis has -0.439 and -0.985. Inflation rate has a mean, median, mode and standard deviation of 11.1303, 10.303, 2.80 and 6.05934 respectively, the minimum and maximum are 2.80 and 23.99 respectively while the skewness and kurtosis is 0.875 and 1.141 respectively. Interest rate has a mean, median, mode and standard deviation of 3.5487, 3.5689, -6.02 and 5.58147 respectively. Minimum and maximum is -6.02 and 11.13 respectively. Skewness and kurtosis are -0.226 and -1.029 respectively.

4.4.6 Descriptive Statistics for East African Community

Table 4.6 Descriptive Statistics for FMD, DD, IfR and InR (EAC)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
N	Valid	10	10	10	10
	Missing	0	0	0	0
Mean		21.8378	7.2794	9.1766	8.0039
Median		22.5061	7.3148	7.1286	9.1939
Mode		15.91 ^a	6.16 ^a	4.90 ^a	.56 ^a
Std. Deviation		3.79739	.97170	4.90998	3.71848
Skewness		-.266	-.024	1.141	-.995
Std. Error of Skewness		.687	.687	.687	.687
Kurtosis		-1.097	-2.488	.314	.242
Std. Error of Kurtosis		1.334	1.334	1.334	1.334
Minimum		15.91	6.16	4.90	.56
Maximum		26.74	8.26	19.27	12.15

a. Multiple modes exist. The smallest value is shown

Table 4.6 has the descriptive statistics for the East African Community, financial market development with a mean, median, mode and standard deviation of 21.8378,22.5061,,15.91 and 3.70739 respectively, the minimum and maximum is 15.91 and 26.74 respectively while the skewness and kurtosis is -0.266 and -1.097 respectively. Burundi's domestic debt has a mean, median, mode and standard deviation of 7.2794, 7.3148, 6.16 and 0.97170 respectively the minimum and maximum are 6.16 and 8.26 respectively while the skewness and kurtosis -0.24 and -2.488.Inflation rate has a mean, median, mode and standard deviation of 9.1766, 7.1286, 4.90 and 4.90998 respectively, the minimum and maximum 4.90 and 19.27 respectively while the skewness and kurtosis is 1.141 and 0.314 respectively. Interest rate has a mean, median, mode and standard deviation of 8.0039, 9.1939, 0.56 and 3.71848 respectively. Minimum and maximum is 0.56 and 12.15 respectively. Skewness and kurtosis are -0.995and 0.242 respectively.

4.5 Correlation Analysis

4.5.1 Correlation Analysis for FMD, DD, IfR and InR (Kenya)

Table 4.7 Correlation Analysis for FMD, DD, IfR and InR (Kenya)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
Financial Market Development	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	10			
Domestic Debt	Pearson Correlation	.938**	1		
	Sig. (2-tailed)	.000			
	N	10	10		
Inflation Rate	Pearson Correlation	-.176	-.192	1	
	Sig. (2-tailed)	.626	.594		
	N	10	10	10	
Interest Rate	Pearson Correlation	.178	.291	.461	1
	Sig. (2-tailed)	.623	.415	.180	
	N	10	10	10	10

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

Table 4.7 shows the correlation analysis for domestic debt, inflation rate, interest rate and financial market development for Kenya. From the table, the correlation coefficient between domestic debt and financial market development is +0.938. This implies that the relationship between domestic debt and financial market development is very strong but positive. This also means that when the level of domestic debt increases, financial market development also increases. The correlation coefficient between inflation rate and financial market development is weak but negative ($r=-0.176$). This means that financial market development decreases with the increase of the rate of inflation. The correlation coefficient between interest rate and financial market development is very weak but positive ($r=0.178$). This means that when interest rates increase, financial market development also increases.

From the analysis above it clearly shows that domestic debt has an effect on the financial markets development, an increase in domestic public debt lead to development in the financial sector. Financial market developments decrease when the rate of inflation increase while an increase in the interest rates also increases the financial market development in Kenya

4.5.2 Correlation Analysis for Uganda

Table 4.8 Correlation Analysis for FMD, DD, IfR and InR (Uganda)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
Financial Market Development	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	10			
Domestic Debt	Pearson Correlation	.610	1		
	Sig. (2-tailed)	.061			
	N	10	10		
Inflation Rate	Pearson Correlation	-.460	-.186	1	
	Sig. (2-tailed)	.181	.607		
	N	10	10	10	
Interest Rate	Pearson Correlation	.529	.233	-.991**	1
	Sig. (2-tailed)	.116	.517	.000	
	N	10	10	10	10

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

Table 4.8 shows the correlation analysis for domestic debt, inflation rate, interest rate and financial market development in Uganda. From the table, the correlation coefficient between domestic debt and financial market development is +0.610. This implies that the relationship domestic debt and financial market development is very strong but positive. This also means that when the level of domestic debt increases, financial

markets development also increases. The correlation coefficient between inflation rate and financial market development is weak but a negative ($r=-0.460$). This means that financial market development decreases with the increase of the rate of inflation. The correlation coefficient between interest rate and financial market development is strong but positive ($r=0.529$). This means that when interest rate increases, financial market development also increases.

From the analysis above it clearly shows that domestic debt has an effect on the financial markets development, an increase in domestic public debt lead to development in the financial sector. Financial market developments decrease when the rate of inflation increase and when interest rates increase financial market development also increases.

4.5.3 Correlation Analysis for Tanzania

Table 4.9 Correlation Analysis for FMD, DD, IfR and InR (Tanzania)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
Financial Market Development	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	10			
Domestic Debt	Pearson Correlation	.983**	1		
	Sig. (2-tailed)	.000			
	N	10	10		
Inflation Rate	Pearson Correlation	-.385	-.356	1	
	Sig. (2-tailed)	.271	.312		
	N	10	10	10	
Interest Rate	Pearson Correlation	.406	.377	-.992**	1
	Sig. (2-tailed)	.244	.283	.000	
	N	10	10	10	10

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

Table 4.9 shows the correlation analysis for domestic debt, inflation rate, interest rate and financial market development for Tanzania. From the table, the correlation coefficient between domestic debt and financial market development is +0.983. This implies that the relationship domestic debt and financial market development is very strong but positive. This also means that when the level of domestic debt increases, financial markets development also increases. The correlation coefficient between inflation rate and financial market development is weak but a negative ($r=-0.385$). This means that financial market development decreases with the increase of the rate of inflation. The correlation coefficient between interest rate and financial market development is strong but positive ($r=0.406$). This means that when interest rate increases, financial market development also increases.

From the analysis above it clearly shows that domestic debt has an effect on the financial markets development, an increase in domestic public debt lead to development in the financial sector. Financial market developments decrease when the rate of inflation increase and when interest rates increase financial market development also increases.

4.5.6 Correlation Analysis for Rwanda

Table 4.10 Correlation Analysis for FMD, DD, IfR and InR (Rwanda)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
Financial Market Development	Pearson Correlation	1			
	Sig. (2-tailed)				
Domestic Debt	Pearson Correlation	.961**	1		
	Sig. (2-tailed)	.000			
Inflation Rate	Pearson Correlation	-.644*	-.728*	1	
	Sig. (2-tailed)	.044	.017		
Interest Rate	Pearson Correlation	.499	.595	-.939**	1
	Sig. (2-tailed)	.142	.070	.000	

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

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

Table 4.10 shows the correlation analysis for domestic debt, inflation rate, interest rate and financial market development for Rwanda. From the table, the correlation coefficient between domestic debt and financial market development is +0.961. This implies that the relationship domestic debt and financial market development is very strong but positive. This also means that when the level of domestic debt increases, financial markets development also increases. The correlation coefficient between inflation rate and financial market development is weak but a negative ($r = -0.644$). This means that financial market development decreases with the increase of the rate of

inflation. The correlation coefficient between interest rate and financial market development is strong but positive ($r=0.499$). This means that when interest rate increases, financial market development also increases.

From the analysis above it clearly shows that domestic debt has an effect on the financial markets development, an increase in domestic public debt lead to development in the financial sector. Financial market developments decrease when the rate of inflation increase and when interest rates increase financial market development also increases.

4.5.7 Correlation Analysis for Burundi

Table 4.11 Correlation Analysis for FMD, DD, IfR and InR (Burundi)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
Financial Market Development	Pearson Correlation Sig. (2-tailed)	1			
Domestic Debt	Pearson Correlation Sig. (2-tailed)	.864** .001	1		
Inflation Rate	Pearson Correlation Sig. (2-tailed)	-.664* .036	-.501 .140	1	
Interest Rate	Pearson Correlation Sig. (2-tailed)	.570 .085	.403 .248	-.967** .000	1

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

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

Table 4.11 shows the correlation analysis for domestic debt, inflation rate, interest rate and financial market development for Burundi. From the table, the correlation coefficient between domestic debt and financial market development is +0.864. This implies that the relationship domestic debt and financial market development is very

strong but positive. This also means that when the level of domestic debt increases, financial markets development also increases. The correlation coefficient between inflation rate and financial market development is weak but a negative ($r=-0.664$). This means that financial market development decreases with the increase of the rate of inflation. The correlation coefficient between interest rate and financial market development is strong but positive ($r=0.570$). This means that when interest rate increases, financial market development also increases.

From the analysis above it clearly shows that domestic debt has an effect on the financial markets development, an increase in domestic public debt lead to development in the financial sector. Financial market developments decrease when the rate of inflation increase and when interest rates increase financial market development also increases.

4.5.5 Correlation Analysis for East African Community

Table 4.12 Correlation Analysis for FMD, DD, IfR and InR (EAC)

		Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
Financial Market Development	Pearson Correlation Sig. (2-tailed)	1			
Domestic Debt	Pearson Correlation Sig. (2-tailed)	.860** .001	1		
Inflation Rate	Pearson Correlation Sig. (2-tailed)	-.572 .084	-.426	1	
Interest Rate	Pearson Correlation Sig. (2-tailed)	.688* .028	.609 .061	-.967** .000	1

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

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

Table 4.12 shows the correlation analysis for domestic debt, inflation rate, interest rate and financial market development for East African Community. From the table, the correlation coefficient between domestic debt and financial market development is +0.860. This implies that the relationship domestic debt and financial market development is very strong but positive in all the East African Community. This also means that when the level of domestic debt increases, financial markets development also increases. The correlation coefficient between inflation rate and financial market development is weak but a negative ($r=-0.572$). This means that financial market development decreases with the increase of the rate of inflation. The correlation coefficient between interest rate and financial market development is strong but positive ($r=0.688$). This means that when interest rate increases, financial market development also increases.

From the analysis above it clearly shows that domestic debt has an effect on the financial markets development, an increase in domestic public debt lead to development in the financial sector. Financial market developments decrease when the rate of inflation increase and when interest rates increase financial market development also increases.

4.6 Regression Analysis

Regression analysis was conducted in order to examine the coefficient of determination, the statistical significance of the model used and the regression model. The results of the regression analysis are presented in the following tables.

4.6.1 Regression Analysis for Kenya

Table 4.13 Model Summary for FMD, DD, IfR and InR (Kenya)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946 ^a	.895	.842	1.92730

a. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

b. Dependent Variable: Financial Market Development

Table 4.13 indicates that the R Square is 0.895. This means that 89.5% of variation in financial market development is explained by variations in domestic debt, inflation rate and interest rate. It also implies that 10.5% of variation in financial market development is explained by other factors not considered in this model.

Table 4.14 Analysis of Variance for FMD, DD, IfR and InR (Kenya)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	189.400	3	63.133	16.996	.002 ^b
	Residual	22.287	6	3.714		
	Total	211.687	9			

a. Dependent Variable: Financial Market Development

b. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

Table 4.14 indicates the results of the analysis of variance (ANOVA) of domestic debt, inflation rate, interest rate and financial market development. From the table, the p-value obtained from the regression is 0.002 which is less than 0.05. We reject the null hypothesis at 95% confidence level and conclude that there is a statistically significant relationship between domestic public debt and financial market development.

Table 4.15 Regression Model Coefficients for FMD, DD, IfR and InR (Kenya)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-252.336	43.681		-5.777	.001		
1 Domestic Debt	28.634	4.300	.999	6.660	.001	.780	1.282
Inflation Rate	.120	.225	.086	.530	.615	.671	1.491
Interest Rate	-.288	.314	-.152	-.917	.395	.638	1.568

a. Dependent Variable: Financial Market Development

Table 4.15 indicates the regression model coefficients and the individual variable statistical significance. From the table, it is clear that domestic debt is individually statistically significant ($p < 0.05$), inflation rate and interest rate are not individually statistical significance ($p > 0.05$). The table also indicates that the regression constant is -252.336. The regression coefficients for domestic debt, inflation rate and interest rates are 28.634, 0.120 and -0.288 respectively. This can be summarized by the equation (1) below.

$$Y = -252.336 + 28.634X_1 + 0.12X_2 - 0.288X_3 \dots\dots\dots (1)$$

From Table 4.13, the results of diagnostic test of Collinearity for the independent variables are also shown. These include tolerance and variance inflation factor (VIF). According to Garson (2012), if the tolerance value is less than a cutoff value of 0.20, the independent variable should be dropped from the analysis due to multicollineality. Additionally, the rule of thumb is that $VIF > 4.0$ when multicollineality is a problem. The results from the table indicate that the tolerance value and the VIF for domestic debt is 0.78 and 1.282 respectively. The Tolerance value and VIF for inflation rate is 0.671 and 1.491 respectively. Interest rate has a tolerance value and VIF of 0.638 and 1.568 respectively. The results of the two diagnostic tests for multicollineality indicate

that there is some level of intercorrelation among the independent variables considered in this study.

4.6.2 Regression Analysis for Uganda

Table 4.16 Model Summary for FMD, DD, IfR and InR (Uganda)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799 ^a	.639	.458	2.73285

a. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

b. Dependent Variable: Financial Market Development

Table 4.16 shows the results of the regression model summary for interest rate, domestic debt and inflation rate as the predictors and financial market development as the dependent variable. From the table, the value of the coefficient of determination (R-Squared) is 0.639. This means that 63.9% variations in financial market development is explained by domestic debt, interest factor and inflation rate. Only 63.1% of the variation in financial market development is explained by other factors not considered in the study.

Table 4.17 Analysis of Variance for FMD, DD, IfR and InR (Uganda)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79.214	3	26.405	3.535	.088 ^b
	Residual	44.811	6	7.468		
	Total	124.025	9			

a. Dependent Variable: Financial Market Development

b. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

Table 4.17 provides the results of the analysis of variance for domestic debt, inflation rate, interest rate and financial market development. The statistical significance indicated by the results is 0.088 which is less than Alpha of 0.05. This implies that there is no statistically significant relationship between domestic public debt and financial market development.

Table 4.18 Regression Coefficients for FMD, DD, IfR and InR (Uganda)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
	(Constant)	-4.629	10.648				-.435
1 Domestic Debt	.350	.241	.391	1.454	.196	.834	1.199
Inflation Rate	.566	.422	2.616	1.340	.229	.016	63.252
Interest Rate	.843	.549	3.030	1.537	.175	.015	64.568

a. Dependent Variable: Financial Market Development

The regression coefficients for domestic debt, inflation rate, interest rate and financial market development are shown in Table 4.16. From the table, the regression constant is -4.629. The coefficient for domestic debt, inflation rate and interest rate are 0.35, 0.566 and 0.843 respectively. This can be summarized by equation (2) below.

$$Y = -4.629 + 0.35X_1 + 0.566X_2 + 0.843X_3 \dots\dots\dots (2)$$

Table 4.18 also provides the results of the Collinearity tests; Tolerance values and Variance Inflation Factors (VIFs) for each individual independent variable. The tolerance value and VIF for domestic debt is 0.834 and 1.199 respectively. The tolerance value and VIF for inflation rate is 0.016 and 63.252 respectively. The tolerance value and VIF for interest rate is 0.015 and 64.568 respectively. The multicollineality results for the tolerance values indicate that there is some level of intercorrelation between the independent variables since the values are greater than the cutoff value of 0.20.

4.6.3 Regression Analysis for Tanzania

Table 4.19 Model Summary for FMD, DD, IfR and InR (Tanzania)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.984 ^a	.968	.952	.81242

a. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

b. Dependent Variable: Financial Market Development

The regression model summary in Table 4.19 provides the value of the R-Squared as 0.968. This means that 96.8% of the variations in financial market development is explained by the predictors (domestic debt, inflation rate and interest rate) considered in this study. It therefore implies that only 3.2% of the variations in financial market development is explained by other factors not considered in this study.

Table 4.20 Analysis of Variance for FMD, DD, IfR and InR (Tanzania)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119.555	3	39.852	60.378	.000 ^b
	Residual	3.960	6	.660		
	Total	123.515	9			

a. Dependent Variable: Financial Market Development

b. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

Table 4.20 shows the results of the analysis of variance for domestic debt, inflation rate, interest rate and financial market development. From the table, the significance indicated is 0.000 which is less than the alpha of 0.05. This means that there is a statistically significant relationship between domestic public debt and financial market development.

Table 4.21 Regression Coefficients for FMD, DD, IfR and InR (Tanzania)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
	(Constant)	-143.326	14.905				-9.616
1 Domestic Debt	16.318	1.347	.967	12.118	.000	.840	1.191
Inflation Rate	.036	.651	.032	.056	.957	.016	60.741
Interest Rate	.078	.605	.074	.128	.902	.016	61.813

a. Dependent Variable: Financial Market Development

The regression coefficients for domestic debt, inflation rate, interest rate and financial market development are shown in Table 4.21. From the table, the regression constant is -143.326. The coefficients of domestic debt, inflation rate and interest rate are 16.318, 0.036 and 0.078 respectively. The regression coefficients can be summarized by equation (3) as follows.

$$Y = -143.326 + 16.318X_1 + 0.036X_2 + 0.078X_3 \dots\dots\dots (3)$$

Table 4.21 shows the results of the diagnostic tests on Collinearity. The table shows that the tolerance value and VIF for domestic debt is 0.84 and 1.191 respectively. The tolerance value and VIF for inflation rate is 0.016 and 60.741 respectively. The tolerance value and VIF for interest rate is 0.016 and 61.813 respectively.

4.6.4 Regression Analysis for Rwanda

Table 4.22 Model Summary for FMD, DD, IfR and InR (Rwanda)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.965 ^a	.931	.897	1.50276

a. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

b. Dependent Variable: Financial Market Development

The regression model summary in Table 4.22 shows the results of coefficient of determination for domestic debt, inflation rate, interest rate and financial market development for Rwanda. The table indicates that the R-Squared is 0.931. This implies that 93.1% of the variations in financial market development is explained by domestic debt, inflation rate and interest rate. This means that only 6.9% of the variations in financial market development are explained by other factors not considered in the study.

Table 4.23 Analysis of Variance for FMD, DD, IfR and InR (Rwanda)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	182.832	3	60.944	26.987	.001 ^b
	Residual	13.550	6	2.258		
	Total	196.381	9			

a. Dependent Variable: Financial Market Development

b. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

Table 4.23 provides the results of the analysis of variance for measures of domestic public debt and financial market development for Rwanda. The significance result indicated in the table is 0.001 ($p < 0.05$). This implies that there is a statistically significant relationship between domestic public debt and financial market development.

Table 4.24 Regression Coefficients for FMD, DD, IfR and InR (Rwanda)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-146.606	29.832		-4.914	.003	
	Domestic Debt	18.085	2.994	1.020	6.040	.001	.403
	Inflation Rate	-.032	.432	-.029	-.074	.943	.073
	Interest Rate	-.133	.330	-.136	-.402	.701	.101

a. Dependent Variable: Financial Market Development

The results for the regression coefficients for domestic debt, inflation rate, interest rate and financial market development are indicated in Table 4.24. From the table, the regression constant is -146.606. The coefficient for domestic debt, inflation rate and interest rate is 18.085, -0.032 and 0.133 respectively. The results can be presented in the regression equation (4) below.

$$Y = -146.326 + 18.085X_1 - 0.032X_2 - 0.33X_3 \dots\dots\dots (4)$$

Table 4.24 also presents the results of the diagnostic tests for multicollineality. The table indicates the tolerance value for domestic debt, inflation rate and interest rate is 0.403, 0.073 and 0.101 respectively. The Variance Inflation Factor for domestic debt, inflation rate and interest rate is 2.48, 13.634 and 9.634 respectively. This means that the independent variables (inflation rate and interest rate) fail the tests of multicollineality. On the hand, domestic debt passes the test of multicollineality. This implies that there is no intercorrelation among the independent variables considered in the study.

4.6.5 Regression Analysis for DD, IfR, Int.R and FMD (Burundi)

Table 4.25 Model Summary for DD, IfR, Int.R and FMD (Burundi)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.907 ^a	.823	.734	2.15572

a. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate
 b. Dependent Variable: Financial Market Development

Table 4.25 presents the results of the coefficient of determination (R-Squared). From the table, the coefficient of determination is 0.823. This means that 82.3% of the variations in financial market development is explained by domestic debt, inflation rate

and interest rate. It implies that 17.7% of the variation in financial market development is explained by other factors not considered in this study.

Table 4.26 Analysis of Variance for DD, IfR, Int.R and FMD (Burundi)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.320	3	43.107	9.276	.011 ^b
	Residual	27.883	6	4.647		
	Total	157.202	9			

a. Dependent Variable: Financial Market Development

b. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

Table 4.26 shows the results of the analysis of variance for domestic debt, inflation rate, interest rate and financial market development. From the table, the significance is 0.011 which is less than the alpha (0.05). This implies that there is a statistically significant relationship between domestic public debt and financial market development.

Table 4.27 Regression Coefficients for DD, IfR, Int.R and FMD (Burundi)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-4.605	16.473		-.280	.789	
	Domestic Debt	20.022	6.291	.680	3.182	.019	.647
	Inflation Rate	-.405	.532	-.587	-.762	.475	.050
	Interest Rate	-.204	.546	-.273	-.374	.721	.056

a. Dependent Variable: Financial Market Development

The results of regression coefficients are presented in Table 4.27. From the table, the regression constant is -4.605. The regression coefficients for domestic debt, inflation rate and interest rate are 20.022, -0.405 and -0.204 respectively. This can be summarized by the regression equation (5) as follows.

$$Y = -4.605 + 20.022X_1 - 0.405X_2 - 0.204X_3 \dots\dots\dots (5)$$

Table 4.27 provides the results of diagnostic tests for multicollineality. From the table, tolerance values for domestic debt, inflation rate and interest rate are 0.647, 0.5 and 0.56 respectively. The VIF values for domestic debt, inflation rate and interest rate are 1.545, 20.099 and 17.985 respectively. Only the tolerance and VIF values for domestic debt pass the tests for multicollineality. The other two independent variables (inflation rate and interest rate) do not pass the multicollineality tests. This implies that there is no intercorrelation level among the independent variables considered in this study.

4.6.7 Regression Analysis for DD, IfR, Int.R and FMD (EAC)

The data analysis has considered the regression results for the averages of all the variables under study within the East African Community countries and generated a regression analysis results for the overall model.

Table 4.28 Model Summary for DD, IfR, Int.R and FMD (EAC)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.896 ^a	.803	.704	2.06675

a. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

b. Dependent Variable: Financial Market Development

Table 4.28 presents the results of the overall regression model summary for the averages of the variables. The R-Squared indicated in the table is 0.803. This implies that 80.3% of the variations in financial market development is explained by domestic debt, inflation rate and interest rate. This means that only 19.7% of the variations in financial market development are explained by other factors not considered in the study.

Table 4.29 Analysis of Variance for DD, IfR, Int.R and FMD (EAC)

Model	Sum of Squares	df	Mean Square	F	Sig.
-------	----------------	----	-------------	---	------

1	Regression	104.153	3	34.718	8.128	.016 ^b
	Residual	25.629	6	4.271		
	Total	129.782	9			

- a. Dependent Variable: Financial Market Development
b. Predictors: (Constant), Interest Rate, Domestic Debt, Inflation Rate

The analysis of variance results presented in Table 4.29 indicates that the significance is 0.016. The p-value of 0.015 is less than the alpha of 0.05. This implies that there is a statistically significant relationship between domestic public debt and financial market development in the East African Community.

Table 4.30 Regression Coefficients for DD, IfR, Int.R and FMD (EAC)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
								(Constant)
1	Domestic Debt	3.682	1.506	.942	2.445	.050	.222	4.512
	Inflation Rate	-.719	.926	-.930	-.777	.467	.023	43.543
	Interest Rate	-.801	1.395	-.785	-.575	.586	.018	56.671

- a. Dependent Variable: Financial Market Development

Table 4.30 presents the results of the regression coefficients for domestic public debt variables (domestic debt, inflation rate and interest rate) and financial market development. From the table, the regression constant has a coefficient of 8.051. The regression coefficients for domestic debt, inflation rate and interest rates are 3.682, -0.719 and -0.801 respectively. The results of the regression coefficients can be summarized by equation (6) below.

$$Y = -8.051 + 3.682X_1 - 0.719X_2 - 0.801X_3 \dots\dots\dots (6)$$

The table also presents the results of diagnostic tests of multicollineality. The Tolerance value for domestic debt, inflation rate and interest rate is 0.222, 0.023 and 0.018

respectively. Domestic debt passes the test of multicollineality while inflation rate and interest rate fails the test of multicollineality.

4.7 Discussion of Research Findings

The research findings after data analysis confirm that there is a positive relationship between Domestic public debt and the financial market development. The skewness and Kurtosis in the descriptive analysis confirmed that the data was normally distributed. Domestic debt should be encouraged since it has a positive effect on financial market development in all the East African Countries this will promote stability and financial independence in the economy, inflation should be well managed since it's increase could harm the development of financial markets this can clearly be seen in the correlation coefficients where inflation rates have a negative relationship with financial markets development this means that the higher the rate of inflation the lower the rate of financial development.

Domestic debts should be encouraged and external debt be discouraged so as to be able to manage the level of inflation in the EAC, this would promote financial markets the stability they require since they will confidently compete with other local lenders who loan the government funds for investment and filling the deficit budget.

The findings of the study support the theories of Keynesian model and Debt Overhang by Krugman. He defined the negative relationship between foreign debt and investment. The study found that there is a very weak effect of domestic public debt on financial market development. Domestic debt pass the test of multicollineality while inflation rate and interest rate fails the test of multicollineality, this clearly indicates that the independent variable of domestic debt has a great effect on the development and growth

of the financial markets. In the regression analysis it clearly shows that domestic debt explains 89.5% of the financial markets variations while other factors explain only 10.5%.

ANOVA found that there is a statistically significant relationship between domestic public debt and financial market development in the East African Community. From the literature review in this study, it was noted that Inflation has a negative relationship to financial market development. Huybensa (1999) found that inflation is negatively correlated with the financial markets activities. Maana et al (2010) study found that domestic debt expansion had a positive but no significant effect on economic growth, the study's finding is similar to Maana's finding since the domestic debt has a positive relationship with financial markets development.

The scope of the study is not exhausted thus further research studies are recommended for this study in the future, due to limited scope and shorter time period the study recommends other scholars and researchers to further research on the effects of domestic public debt on financial markets developments.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the results of the study and the main conclusions drawn from the analysis of the data in chapter Four. This chapter contains the summary of findings, conclusion, recommendations, limitations of the study and finally recommendation for further studies in the gaps that still exist in the area.

5.2 Summary of Findings

The objective of the study was to determine the effect of Domestic public debt on Financial markets development in East African community. The study was conducted for five East African Countries with a 10 year period with secondary data from the period of 2007 to 2016 was used in the analysis. Regression analysis was used in analysis of the data. The study had sought to understand the effects of Domestic public debt on Financial markets development in East African community.

The study revealed high variation on domestic debts due to various policies of debt management, Political instability, external debts and grants received from foreign donors, in the various countries in EAC community. Most countries depend on external borrowings for their development projects and minimal domestic borrowings are acquired from the domestic market. The study found out a positive relationship between domestic debt and financial markets development and there was a weak relationship between inflation rate and financial markets development.

Understanding the effect of domestic public debt on financial markets development is important to Investors, financial market players and participants, policy makers and

researchers as it has an implication on various financial models and debt management practices. The study focused on determining the relationship between Domestic public debts on financial markets so as to clearly understand the impact it has on the development of financial markets which are key players in the determination of growth in the economy in the long run. Correlation coefficients indicated that there is a strong positive relationship between domestic public debt and financial markets development in Kenya the correlation coefficient is +0.938, this implies an increase in domestic public debt also leads to an increase in financial markets development.

In Uganda the correlation coefficient is +0.610 which also confirms the positive relationship between domestic debt and financial markets development. In Tanzania the correlation coefficient is +0.983, Rwanda also has a strong relationship between domestic debt and financial markets development with a correlation coefficient of +0.961, Burundi has a correlation coefficient of +0.864 which is a positive relationship between domestic debt and financial markets development, an increase in domestic debt has an increase effect on financial markets development.

The relationship between domestic public debt and financial market development was explored by the means of regression model. It indicated that only 25.3 % of financial market development is explained by domestic debt. The study also found that we fail to reject the null hypothesis that there is no statistically significant relationship between Domestic public debts and financially market development since the p-value obtained was 0.941 which was greater than the 5% level of significance.

5.3 Conclusion

The study concluded that there is a positive relationship between domestic public debt and financial market development, an increase in Domestic debt causes the financial

market development to increase. When a country borrows more domestic debt and less external debt it promotes financial markets development in the long run. The regression model used in the study was statistically significant in explaining the effect of domestic public debt on financial markets development in East African Community. The study further concluded that Inflation rate has a negative impact on financial market development this implies that inflation does not have any impact on financial markets development. It also conclude that an increase in Interest rate impact positively the financial markets development.

5.4 Recommendations

The main objective of the study was to establish the effects of domestic public debt on financial markets development. Given that there exists a weak but significant relationship between variables, the research recommends that the financial markets participants and investors should not use the domestic public debt as the determinant of financial markets development; rather they should develop a more comprehensive model using other independent variables not considered in the study to get a more clear understanding on how they can affect the financial markets development.

Financial markets development has not been exhausted fully by the independent variables under analysis they were able to cover the effect on the development up to 25.3% leaving other factors a big percentage of 74.7%. For this reason, the study recommends that other factors be considered in future when measuring financial markets developments.

5.5 Limitations of the study

The study was to examine the effects of domestic public debt on financial markets development in the EAC Countries. The research relied on data from the World Bank that had been recorded for the entire period under survey. The independent variables analyzed only managed to cover 25.3 % of the effects of Domestic public debt on Financial markets development in EAC Community.

The scope of the study focused on listed firms' market capitalization and GDP to acquire financial markets development in each country. The study did not manage to go into the analysis of market capitalizations owing to limited information in the other East African Countries. The study data was used as obtained and the researcher had no means of independently verifying the validity of the data which was assumed to be accurate for the purpose of the study. The study findings are, therefore, partly subject to the validity of the secondary data used.

The study could not control other factors like markets behavior, Legal restrictions, holiday effects, stocks traded, volatility and other macroeconomic variables. This includes factors other than those captured in the study such as financial markets participants and market behavior. All this factors need to be considered in order to develop a comprehensive model.

5.6 Suggestions for Further Research

The study independent variables were only able to cover 25.3% of the effect on financial markets development as shown in the regression model. This therefore means that the other factors not included in study contribute to the 74.7% effect on the dependent variable. Therefore, further research should be conducted to investigate the other factors that affect the financial markets development.

The study recommends further research on the factors that formulate the financial markets development i.e. market capitalization since the listed companies may vary from year to year in performance which in turn affects the market capitalization of the country per annum, GDP and other factors in the Economy that affect the development of financial markets development.

References

- Abdullahi, M. M. (2016). Debt overhang versus Crowding out effects. *International Journal of Economics and Financial issues*, 271-278.
- al, J. B. (2015). Effects of Domestic Debt on Economic Growth in the East African Community. *American journal on research communication*.
- AMO, M. A. (2009). Understanding the growth of African Financial Markets. *IMF Working paper wp/09/182*.
- Bank, D. a. (2016). *NSE 2008-2016*.
- Bank, W. (n.d.). World development indicators data. <https://data.worldbank.org/data>.
- Beck, T. (2003-2004). Private sector Development. *Financial Development and Economic Growth*.
- Finance, M. o. (July 2011-June 2016). Annual Public Debt Report.
- Garson, G. D. (2012). Testing Statistical Assumptions, Statistical Associates Publishing. North Carolina Publishing.
- Gnan, M. B. (n.d.). The Development of Financial Markets and Financial Theory. *50 years of Money and Finance*.
- H., H. V. (n.d.). Public Debt Market Risk. *The effects o the financial System and Monetary policy-case of Colombia*.
- Kenya, C. B. (2017). Public Debt and Financial Markets report.
- Meensel, N. M. (2012). Impact of Public Debt . *Economic Freedom and Growth*.
- mishran, L. P. (2016). stock markets development & economic growth: from China.

- Moreno, P. C. (2011). Debt Interest rates & intergration of financial markets. *Economic Modelling*.
- Nasieku, G. G. (October 2016). The effects of Public Debt on Economic growth in Kenya. *Epra International Journal of Economic and Business review*.
- Ochiel, O. (2013). The relationship Between Public debt and Economic Growth in Kenya.
- Peter Claeys, R. M. (2012). Debt, Interest rates and intergration of Financial Markets. *Economic Modelling*.
- Raphael Owino, I. M. (June 2008). Domestic Debt and its impact on the Economy-The case study of Kenya.
- Rother, C. C. (August 2010). The Impact of High and growing government debt on economic growth. *Working paper series*.
- Rundu, M. (2016). Factors that inhibit development of financial derivatives in Kenya financial sector.
- Svaljek, S. (1996-1999). Public debt Boundaries. *Croatian Economic Survey*.
- T.Mweni, F. (2016). The relationship between Public investment to GDP ratio and External Debt stocks in Kenya. *International Journal of management and economics*.
- Treasury, T. N. (Jan 2016). Annual Public debt management report 2014-2015.
- Udaibir s.Das & Michael, F. A. (2010). Managing Public debt and its financial stability impact. *IMF WORKING PAPER WP/10/280*.

LIST OF APPENDICES

Appendix 1: Summary of Variables - Kenya

Years	Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
2007	31.09304545	9.997245506	4.765	9.229
2008	33.90252293	10.08526783	10.2866	8.8541
2009	35.57696343	10.11962303	14.111	7.875
2010	41.08090894	10.21569634	5.614	6.4166
2011	41.6782173	10.24267665	7.991	7.522
2012	42.23700281	10.32823352	14.2775	15.8
2013	43.75456282	10.38215401	5.5625	8.83
2014	44.74630522	10.43924617	6.810833	8.5
2015	44.74630522	10.45535684	6.5375	10.1
2016	42.77935419	10.47960204	6.575833	10.625

Appendix 2: Summary of Variables - Uganda

Years	Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
2007	5.492492409	1.343834371	7.321247318	10.98058255
2008	12.12185623	1.73648508	6.364276547	13.2429703
2009	8.678891765	1.749375784	56.50247773	-22.71357774
2010	14.57796139	1.938211758	-5.315356221	26.92092966
2011	15.92669945	1.968833178	6.344023302	14.56526702
2012	13.58685031	9.504483792	21.5	3.809634006
2013	14.05106625	9.543543143	3.5	19.11228949
2014	16.23669087	9.656535419	4.5	16.37838807
2015	16.91905455	9.67330077	5.8	15.83230234
2016	16.38535992	9.621471247	6.6	16.1895168

Appendix 3: Summary of Variables - Tanzania

Years	Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
2007	10.57646941	9.356814359	5.935489657	9.567026618
2008	12.88328501	9.547275807	15.93844677	-0.824844663
2009	13.57189568	9.588608165	9.262971648	5.278558774
2010	15.50878198	9.687616709	9.246385045	4.849963643
2011	17.23488888	9.766334349	11.54634567	3.062925988
2012	17.97941497	9.846816208	10.74193679	4.346971388
2013	18.24753839	9.907935876	7.674203125	7.603713844
2014	20.15082484	9.987314802	5.037474122	10.71208159
2015	22.42300063	10.00992752	6.564563839	8.95227886
2016	20.09819656	9.979219727	6.953918335	8.418907831

Appendix 4: Summary of Variables - Rwanda

Years	Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
2007	8.57115956	8.515649663	11.70623511	3.942273128
2008	8.863075558	8.634272244	14.30084824	1.932751851
2009	7.184661561	8.587138389	8.207297745	6.98908707
2010	8.409443184	8.686244302	2.65589036	13.91455433
2011	9.259978109	8.77896732	7.379201276	8.708202904
2012	13.45130436	8.993020416	5.953186323	9.94478226
2013	12.46902444	8.977931415	4.755977058	11.62131583
2014	17.31153272	9.142308851	3.043213634	14.18510337
2015	19.20394214	9.200424812	0.084019493	16.93175453
2016	19.08612173	9.203756894	4.89283404	6.5

Appendix 5: Summary of Variables - Burundi

Years	Financial Market Development	Domestic Debt	Inflation Rate	Interest Rate
2007	23.81862859	1.609404366	6.90187529	9.299610523
2008	19.76819823	1.588770696	23.99094327	-6.024722239
2009	23.27377779	1.67850347	8.247352888	5.384409216
2010	26.55050991	1.788050037	12.30329598	0.103918608
2011	27.96366788	1.862368364	14.2943384	-0.929038495
2012	27.05194412	1.855912167	15.41650116	-0.950038464
2013	24.47530689	1.840139246	13.16338004	1.753323345
2014	25.55853682	1.902731889	8.303402297	6.800276704
2015	30.39764736	1.965257625	5.886775972	8.917440925
2016	34.97329313	1.999688481	2.795098014	11.1320827

Appendix 6: Summary of Variables – Average of EAC Countries

Year	FINANCIAL MARKET DEVELOPMENT	DOMESTIC DEBT	INFLATION RATE	INFLATION TARE
2007	15.91035908	6.164589653	7.325969475	8.603698565
2008	17.50778759	6.318414332	14.17622296	3.436051049
2009	17.65723805	6.344649767	19.26622	0.562695463
2010	21.22552108	6.463163828	4.900843033	10.44119325
2011	22.41269032	6.523835971	9.510981729	6.585871484
2012	22.86130331	8.105693221	13.57782485	6.590269838
2013	22.59949976	8.130340738	6.931212045	9.784128501
2014	24.80077809	8.225627427	5.538984611	11.31516995
2015	26.73798998	8.260853513	4.974571861	12.14675533
2016	26.66446511	8.256747678	5.563536678	10.57310147