

**THE EFFECT OF SELECTED DETERMINANTS ON PUBLIC DEBT
IN KENYA**

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DECLARATION

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

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

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DEDICATION

I dedicate this work to my beloved sisters Mary and Josephine, my friend Gladys Nzive, my dear parents Matiti and Francisca and all those who supported me in the completion of this project.

ABSTRACT

Public debt refers to the total of the nation's debts which covers debts of local and state and national governments indicating how much public spending is financed by borrowing instead of taxation. A prudent public debt management helps economic growth and stability through mobilizing resources with low borrowing cost and limiting financial risk exposure. Budget deficit is a key component of Government borrowing. Governments borrow so as to help bridge the gap between the budgeted expenditure and the budgeted revenue. The recorded deficit is what will determine how much money Government will need to borrow in order to meet its budgetary allocations. The general prices of imported commodities have a great impact on the level of borrowing that a government can get into. The objective of the study was to establish the effect of selected determinants on public debt in Kenya.

This study made use of descriptive study design and used secondary data. Annual data was used in the computations. The study covered ten years starting 2003 to the year 2012. The Data analysis was done using Statistical Package for Social Science (SPSS) and the presentations made using tables and figures. The findings established that there was a direct relationship between public debt and exchange rates, balance of payments and budget deficit. The policy makers need to evaluate the best exchange rate policy for optimal economic development. The study findings further established that debts and exchange rates had been increasing; grants had been decreasing over years, while budget deficits remained high in the country.

This study recommends that budgeting process be controlled in order to reduce the debts which are leading to increasing public debts in Kenya. The study further recommends that the government should take measures to ensure that the decline in the grants being received is reversed. This will help in stabilizing the economy and enhancing economic growth while making sure that public debt is at manageable levels to avoid budget deficit.

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ABBREVIATIONS

BOP	Balance of Payment
CBK	Central Bank of
ECM	Error Correction Modeling
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HIPCs	Highly Indebted Poor Countries
IMF	International Monetary Fund
KNBS	Kenya National Bureau of Statistics
LICs	Low-Income Countries
MOF	Ministry of Finance
OLS	Ordinary least Square
RER	Real Exchange rates
SPSS	Statistical Package for Social Science
USA	United States of America
USD	United States Dollar

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Public debt is one of the main macroeconomic indicators, which forms countries' image in international markets (Abbas, 2007). It is one of the inward foreign direct investment flow determinants. Moreover, since governments borrow mainly by issuing securities, their term, interest rates and overall costs of debt financing has significant impact on economy, future of the enterprises and social welfare for not only present, but also future generations. According to Martin (2009), public debt can also serve as means of delaying taxation that way reducing current distortions. Thus, government has two choices for covering financial needs (budget deficit). First one implies taxation system. Higher taxes results in lower present consumption, which may mean slowdown of the economic growth (Abbas, 2007). Meanwhile, debt financing puts more pressure on future generations and their ability to maintain economic and financial stability. They not only will have to pay the amount borrowed, but also cover the costs related to debt financing, which includes interest and costs of debt management. Such a debt is sustainable if it is used to generate economic growth and benefits higher than initial costs, otherwise serious public finance issues are about to appear. Taking these two factors into account, government has to maintain the equilibrium between taxation and debt financing in order to maintain economic and financial stability in a long run.

Public debt remains one of the major economic policy issues confronting the governments of poor countries globally because the debt levels, particularly among the Highly Indebted Poor Countries (HIPC), and Low-Income Countries (LICs) generally,

have for a long time raised major concerns among international financial institutions and bilateral lenders, resulting in several initiatives from the developed countries and from the international financial institutions to ease the debt burden that was threatening to cripple the economies of HIPC's (Adofu and Abula, 2010). The initiatives range from measures to ease the debt burden through debt rescheduling to outright debt forgiveness. Large public debt which refers to a total of both external and domestic has been the most critical economic crisis faced by a majority of the developing countries since their political independence after the World War II.

Many developing countries have been unable to constrain the growth of their public debt to ensure that sufficient revenues remain available after debt service payments to finance other vital government recurrent and development expenditures (Maana, Owino and Mutai, 2008). Stagnating real revenue receipts, unending expenditure pressures and reduced external donor support especially in the 1990s among other factors, have resulted in accumulation of high stocks of domestic debt in developing countries. According to the IMF (2007), domestic debt accounted for 23 percent of total debt in sub-Saharan Africa between 1995 and 2000, up from an average of 20 percent between 1990 and 1994.

1.1.1 Public Debt

Public debt refers to the total of the nation's debts which covers debts of local and state and national governments indicating how much public spending is financed by borrowing instead of taxation (Makau, 2008). Government debt is one method of financing government operations, though not the only method as Governments can also create money to monetize their debts, thereby removing the need to pay interest (Martin, 2009).

But this practice simply reduces government interest costs rather than truly canceling government debt and can result in hyperinflation if used unsparingly. Government debt is created through various instruments including bonds, treasury bills, borrowing from commercial banks and overdraft from the Central Bank.

Klein (1994) and Ariyo (1997) noted that a fundamental factor causing debt to rise is the reliance on external resources to complement capital formation in the domestic economy. The higher the interest payment and the heavier the deficit on the current account, the heavier the debt burden. A debt sourced finance represents funds with fixed contractual obligations which will require pledging future resources of the nation as collateral. In order to cope adequately in the long run, with servicing requirement, a nation's debt service capacity must grow at a rate higher than that of its financial risk exposure. The non-debt resources on the other hand represent funds flow without fixed or compulsory servicing obligations on the government. The magnitude and regularity of such resources however, depend on foreign investors' perception of the investment environment in the recipient country.

1.1.2 Determinants of Public Debt

A prudent public debt management helps economic growth and stability through mobilizing resources with low borrowing cost and limiting financial risk exposure. One of the important corner stone of public debt management is sound management of the financial risk; such risk exposure may include currency risk, interest rate risk, liquidity risk, refinancing risk and credit risk. The level of grants for projects and different programmes channeled through the Government affects the level of borrowing that the Government may need to engage in to deliver services to its citizens. Public debt

management committees look at the taxes raised to finance government budget then complement this with the different grants that are pledged by various agencies so as to arrive at its Budget deficit.

Budget deficit is a key component of Government borrowing. Governments borrow so as to help bridge the gap between the budgeted expenditure and the budgeted revenue. The recorded deficit is what will determine how much money Government will need to borrow in order to meet its budgetary allocations. If the Government is able to cover all its expenditures from taxes, it will then have little reasons if any to warrant borrowing unless for macroeconomic purposes of controlling the amount of money in circulation. Economists such as Colander and Gamber (2002), Dornbusch and Fisher (1990), Gordon (2003) and Gartner (2003) confirmed the important role of budget deficit in public debt accumulation.

The level of foreign direct investment has an impact on the amount of borrowing that the Government may engage itself in. If the foreign direct investment takes up huge projects that the Government had budgeted to undertake in order to provide basic needs to its citizens, the level of government borrowing would reduce. Tendency towards investment to stimulate economic and social development, inefficient utilization of loans, capital flight, and Balance of Payment (BOP) deficit are the main internal factors (Dornbusch and Fisher, 1990). Other determinants of public debt include the real exchange rate which may influence the amount of currency available to fulfill the budget especially when the Government borrows in foreign currency.

1.1.3 Relationship between Public Debt and the Selected Determinants

The general prices of imported commodities have a great impact on the level of borrowing that a government can get into. For example general price increases of imported basic commodities like oil for non oil producing countries may lead to deterioration in terms of trade leading to balance of payment deficits. This is largely because high price on imported basic commodity encourages importing developing countries to borrow abroad to pay the higher basic commodity bills (Sachs and Larrain, 1995). In such scenarios, one would find higher government to government bilateral loans forming a higher proportion of the debt (Missale and Blanchard, 1994).

Overly expansionary fiscal policies and highly distorted trade policies especially policies that create a heavy bias against exports increase a country's indebtedness. Borrowing to finance public expenditures partly account for the big rise in growth of external debt (Paesani, Strauch and Kremer, 2006). An increase in budgetary deficit means that the Government needs to borrow more if it is to meet its promises to its citizens. Increases in the level of budget deficits means that in order for the Government to deliver the budgeted services, it has to rely more on borrowed resources. As such, the levels of budgetary deficits play a key role in determining the level of borrowing for a government.

Another key determinant of public debt is the real interest rate. As the stock of debt increase due to sterilization or as there is an increase in interest rate on existing debt, a significant share of government revenues will be absorbed. Therefore, shocks to the real interest rates or to economic growth threaten to launch debt-income ratios on an

explosive path (Paesani, Strauch and Kremer, 2006). This has affected so many governments in the world and it is not easy to control its occurrence but it is manageable. Inflation affects the levels of an economy's public debt. The connection stems from the fact that unanticipated high inflation can reduce the real cost of servicing the debt. This is largely because the efficacy of the inflation channel is quite sensitive to the maturity structure of the debt. Long-term nominal government debt is extremely vulnerable to inflation, short term debt is far less so. Any government that attempts to inflate away the real value of short term debt will soon find itself paying much higher interest rates when it comes time to refinance.

1.1.4 Public Debt in Kenya

The Internal Loans Act (Cap 420) provides the legal framework for the Minister for Finance (cabinet secretary to finance) to borrow on behalf of the government from the domestic market through issuance of Treasury bills and Treasury bonds. The government overdraft at the Central Bank of Kenya is the only aspect of domestic debt borrowing that seems to be limited by law. Domestic borrowing through Treasury bills and bonds do not seem to have a limit in law. This is different from external borrowing where the External Loans and Credit Act, CAP. 422 of the laws of Kenya limits the total indebtedness in respect of principal amount to Ksh 500 billion or such higher sum as the National Assembly may by resolution approve. Despite the lack of legal limit on domestic borrowing, the Minister is required by provisions of the Internal Loans Act to “report to the National Assembly in writing, the amount of indebtedness outstanding at the end of each financial year in respect of each manner of borrowing specified in section 3” of the Internal Loans Act.

In the 1980s and the years preceding, Kenya was among the major aid recipients in Africa, largely to put up infrastructure so as to integrate the large rural economy into the then emerging import substitution Kenyan economy (Putunoi and Mutuku, 2013). The 1990s witnessed a steady decline in development assistance to Kenya occasioned by a perception of poor governance and mismanagement of public resources and development assistance. Other factors include the end of the cold war and the collapse of the Soviet Union. These led to a debt crisis in the country in the early 1990s which turned Kenya into a highly indebted nation. The debt problem was exacerbated by macroeconomic mismanagement in the 1990s such as the Goldenberg scandal which fleeced Kenyans billions of shillings 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. The details of Kenya's debt burden continue to be disheartening, as of August 2008 the public debt stood at Kshs 867 billion in a country with a population of 36 million people with numerous challenges. Debt composition in government securities since 2003 has been skewed in favour of long term borrowing through Treasury bonds. Interest rates within the period were sticky below 13% (Putunoi and Mutuku, 2013).

1.2 Research Problem

The general prices of imported commodities have a great impact on the level of borrowing that a government can get into. General price increases of imported basic commodities like oil for non-oil producing countries may lead to deterioration in terms of trade leading to balance of payment deficits. Overly expansionary fiscal policies and

highly distorted trade policies especially policies that create a heavy bias against exports increase a country's indebtedness. An increase in budgetary deficit means that the Government needs to borrow more if it is to meet its promises to its citizens. Inflation affects the levels of an economy's public debt. Long-term nominal government debt is extremely vulnerable to inflation, short term debt is far less so. Any government that attempts to inflate away the real value of short term debt will soon find itself paying much higher interest rates when it comes time to refinance.

Globally, Pankaj, Varun and Vishakha (2011) evaluated the determinants of public debt for middle income and high income group countries using Panel Data regression. According to them, the most important determinant of debt situation is GDP growth rate for both high and middle income group countries. Süssmuth and Weizsäcker (2006) while studying the institutional determinants of public debt from a political economy perspective found interest rates, balance of payment and budget deficits as key determinants of public debt. Ribeiro, Vaicekauskas and Lakštutiene (2012) while studying the effect of public debt and other determinants on the economic growth of selected European countries found out that country determinants influence the efficiency of public borrowing and its effect on GDP.

Several scholars and researchers have reviewed the concept of government debt and its effects on the economy. Harmon (2012) looked at the impact of public debt on inflation, GDP growth and Interest rates in Kenya. The study concluded that the public debt inflation GDP growth and Interest rates link could not be found in a single analysis. Moki (2012) did an analysis of the relationship between public debt and economic growth in Africa. Moki (2012) study findings indicate public debt has a significant positive

relationship on economic growth. Investment however, is not a significant predictor of economic growth. Makau (2008) did an empirical analysis on external public debt servicing and economic growth in Kenya. The empirical results in the short run estimated model indicated that the coefficients of external debt to GDP, savings to GDP and debt service to GDP had the correct sign and significant while the coefficients of interest to GDP and growth in labour force were insignificant. Koka (2012) reviewed the relationship between the government bond issues and economic growth in Kenya. The results show that the issuance of Government bonds has a positive effect on the level of economic growth in Kenya.

From the above discussions, there is no known study that has focused on the effect of selected determinants on public debt in Kenya. This study therefore seeks to fill this research gap by investigating the effect of selected determinants on public debt in Kenya.

1.3 Research Objective

To establish the effect of selected determinants on public debt in Kenya

1.4 Value of the Study

This study will be significant to several stakeholders:

To scholars and academicians, this study will increase body of knowledge to the scholars of the effect of selected determinants on public debt in the Kenyan economy. It will also suggest areas for further research so that future scholars can pick up these areas and study further to enhance the body of knowledge.

The study will be important to the government especially the Ministry of Finance for making policy decisions. The overall objective is to influence the level of economic

activity and manage public debt in Kenya as well as advising the government on the effect of the selected determinants on public debt in Kenya so that sound investment decisions can be made regarding the subject matter.

Finally, investors in the bond market, the findings of this study will inform them on the factors leading to the floatation of government bonds and how it affects economic growth of the country. This will help the investors to make decisions on when and where to invest in thereby enhancing economic growth.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature covers the work of other scholars on the concept of determinants of public debt in countries. Specifically, this chapter covers the theoretical framework where it discusses the theories governing the study; it also covers empirical review and chapter summary.

2.2 Theoretical Review

Taxes, bankruptcy costs, transactions costs, adverse selection, and agency conflicts have all been advocated as major explanations for the corporate use of debt financing (Frank and Goyal, 2005). This study is found on the public choice theory and dynamic theory of public spending, taxation and debt.

2.2.1 Public Choice Theory

Public choice theory is a branch of economics that developed from the study of taxation and public spending. Public choice takes the same principles that economists use to analyze people's actions in the marketplace and applies them to people's actions in collective decision making (Buchanan, 1967). Economists who study behavior in the private marketplace assume that people are motivated mainly by self-interest. Although most people base some of their actions on their concern for others, the dominant motive in people's actions in the marketplace whether they are employers, employees, or consumers is a concern for themselves (Buchanan and Gordon, 1962). Public choice economists make the same assumption that although people acting in the political

marketplace have some concern for others, their main motive, whether they are voters, politicians, lobbyists, or bureaucrats, is self-interest.

Public choice economists point out that there also is such a thing as "government failure." That is, there are reasons why government intervention does not achieve the desired effect. One of the chief underpinnings of public choice theory is the lack of incentives for voters to monitor government effectively (Buchanan, 1967). Anthony Downs, in one of the earliest public choice books, *An Economic Theory of Democracy*, pointed out that the voter is largely ignorant of political issues and that this ignorance is rational. Even though the result of an election may be very important, an individual's vote rarely decides an election (Buchanan and Gordon, 1962). Public choice economists point out that this incentive to be ignorant is rare in the private sector.

Public choice economists also examine the actions of legislators. Although legislators are expected to pursue the "public interest," they make decisions on how to use other people's resources, not their own ([Gordon, 2008](#)). Furthermore, these resources must be provided by taxpayers and by those hurt by regulations whether they want to provide them or not. Politicians may intend to spend taxpayer money wisely. Efficient decisions, however, will neither save their own money nor give them any proportion of the wealth they save for citizens. There is no direct reward for fighting powerful interest groups in order to confer benefits on a public that is not even aware of the benefits or of who conferred them (Buchanan, 1967).

2.2.2 Dynamic Theory of Public Spending, Taxation, and Debt

The theory builds on the well-known tax smoothing approach to fiscal policy pioneered by Barro (1979). This approach predicts that governments will use budget surpluses and deficits as a buffer to prevent tax rates from changing too sharply (Battaglini and Coate, 2008). Thus, governments will run deficits in times of high government spending needs and surpluses when needs are low. Underlying the approach are the assumptions that governments are benevolent, that government spending needs fluctuate over time, and that the deadweight costs of income taxes are a convex function of the tax rate (Battaglini, 2006). The economic environment underlying this theory is similar to that in the tax smoothing literature. However, the key departure is that policy decisions are made by a legislature rather than a benevolent planner. Moreover, this theory introduces the friction that legislators can distribute revenues back to their districts via pork-barrel spending (Bohn, 1998).

The theory considers a political jurisdiction in which policy choices are made by a legislature comprised of representatives elected by single-member, geographically-defined districts. The legislature can raise revenues in two ways: via a proportional tax on labor income and by borrowing in the capital market. Borrowing takes the form of issuing one period bonds. The legislature can also purchase bonds and use the interest earnings to help finance future public spending if it so chooses. Public revenues are used to finance the provision of a public good that benefits all citizens and to provide targeted district-specific transfers, which are interpreted as pork-barrel spending. The value of the public good to citizens is stochastic, reflecting shocks such as wars or natural disasters. The legislature makes policy decisions by majority (or super-majority) rule and

legislative policy-making in each period is modeled using the legislative bargaining approach of Baron and Ferejohn (1989). The level of public debt acts as a state variable, creating a dynamic linkage across policy-making periods.

2.3 Empirical Review

Different scholars and researchers have reviewed the determinants of public debt in different countries. For example, Lucas and Stokey (1983) showed that the government can issue debt instruments of any maturity, contingent on the outcome for government spending. Because markets are complete, it can issue a full set of instruments to insure against any possible shock. This means that whatever the shock to government spending in future periods, the government can always meet its inter-temporal budget constraint. If state-contingent debt were available, then debt (and taxes) wouldn't need to change significantly in response to fiscal shocks. It means that debt management could provide full fiscal insurance.

Ribeiro, Vaicekauskas and lakštutiene (2012) did a study on the effect of public debt and other determinants on the economic growth of selected European countries. Their findings confirmed the hypotheses that the public debt level may have a significant impact on GDP, something which is worrying as in some cases it has a negative impact. Nevertheless, this varied from country to country because of specific country differences. Sweden, Germany, Hungary and Portugal were affected positively by public debt and the results are significant. Conversely, Belgium and Estonia experienced significant negative effect. No significant evidence was found on relation between debt crisis or debt level and public debt effect to GDP.

Paesani, Strauch and Kremer (2006) did study public debt and long-term interest rates using the case of Germany Italy and the USA over the 1983-2003 period, the central issue addressed in this study was how the accumulation of government debt affects long-term interest rates, both nationally and a cross borders. The analysis was based on a small, multivariate econometric model, which allowed them to disentangle the more permanent and transitory components of interest rate developments. Empirical evidence shows that in all cases a more sustained debt accumulation leads at least temporarily to higher long-term interest rates. This transitory impact also spills-over into other countries, mainly from the U S to the two European countries.

Marattin, Paesani and Salotti (2011) looked at the fiscal shocks, public debt, and long-term interest rate dynamics focusing on the USA, Germany and Italy over the 1983-2009 periods and studies the effects of government debt accumulation on long-term interest rate. Bader and Magableh (2009) did an econometric enquiry into the main determinants of public debt in Jordan. Their conclusions showed that the high and increasing public debt, along with its servicing burden, was clearly hindering the country's big efforts to achieve higher and sustained economic growth rates. This burden implied the necessity to studying the assumed determinants of this high public debt in Jordan. They examined how external debt, and domestic debt, responded to changes in some explanatory variables. It was found that real exchange rate, the financial position of the government

and the size of foreign aids significantly affect the outstanding balance of external debt, but real exchange rate was the most effective among all explanatory variables. The significant effect of Real Exchange rates (RER) was expected, especially after the depreciation of the local currency caused by the economic crisis of 1988. The chronic government deficit has two effects. It doesn't only decrease the government's ability to repay the debt service of the outstanding loans but also creates additional demand for new public loans. This study also shows that the increase in savings gap plays a key role in domestic debt accumulation since the government resorts to borrow to finance it.

Medeiros, Cabral, Baghdassarian and Almeida (2005) looked at public debt strategic planning and benchmark composition at the Ministry of Finance Brasilia – Brazil. They showed that the primary objective of Brazilian debt management was to minimize long-term financing costs, while maintaining risks at prudent levels and contributing to the favorable performance of the public securities market. They also concluded that the Brazilian market was volatile and therefore long-term financing costs kept on changing overtime and this affected the economic growth negatively.

Makau (2008) did an empirical analysis on the external public debt servicing and economic growth in Kenya. The study used a single growth equation model estimated using Ordinary least Square (OLS) method with annual time series data covering the period 1970 - 2003. The findings of the study indicated that Kenya's external debt is mainly official, of which a bigger proportion is from multilateral sources. External debt accumulation has been rising over the years with debt burden indicators increasing steadily in the early 1990s. A “specification associated with error correction modeling (ECM) was applied. By using Cointegration and error correction model, the study

established both the short run and long run equilibrium. The estimated model was a single regression equation with the growth rate of Gross Domestic Product as the dependent variable and explanatory variables were savings as-a ratio of GDP, stock of external debt as a ratio of GDP, debt service as a ratio of GDP, interest payment as a ratio of GDP and the annual growth rate of labour force. The empirical results in the short run estimated model indicated that the coefficients of external debt to GDP, savings to GDP and debt service to GDP had the correct sign and significant while the coefficients of interest to GDP and growth in labour force were insignificant. In the long run estimated model, the coefficients of debt to GDP, debt service to GDP and savings to GDP were significant while the coefficient for growth in labour force and interest to GDP were insignificant.

Harmon (2012) studied the impact of public debt on inflation, GDP growth and Interest rates in Kenya by looking at the impact of public debt on the major economic indicators like Inflation, GDP growth and Interest rates) in Kenya. The study drew upon secondary data on the mentioned variables by the government of Kenya covering the period 1996-2011. Findings from these studies vary across variables. Some studies show positive relationships, others negative relationships while others show relationships at all. Using three simple linear regression models, the study finds out that there is a weak positive relationship on the public debt inflation GDP growth link with the public debt GDP growth link being the highest. A negative strong relationship is observed along the public debt - interest rates link. On a general note, the study concludes that the Public Debt Inflation GDP growth Interest rates link cannot be found in a single analysis. The relationship varies across variables. While other variables show a weak relationship others portray

a strong one. For instance, of the variables compared in this study public debt and interest rates show the strongest relationship.

Chironga (2003) examined the structure, magnitude, level, and determinants of public domestic debt in Kenya for the period 1990-2001. This study further examined the trend and impact of domestic debt directly on the economic growth, and indirectly on capital formation and private cum public sector investment. The study employed the use of time series data for the period 1990 to 2001. The statistics showed that a major proportion of Kenya's outstanding stock of public domestic debt of Kshs 222.0 billion (or 36.6% of the total stock of debt) as at the end of December 2001 was short-term. This was in the form of Treasury bills whose tenor was below one year. This made repayment very expensive and detriment to the economy. The study established that the increment in public domestic debt over the period under study could be attributed to a number of factors including; diminishing inflow of external grants and concessional loans, use of government securities to mop up excess money supply following the excessive liquidity released in the economy in 1992 and 1993, frequent net repayments of external debt, budgetary support to inefficient parastatals, loose fiscal policy, and the need to sterilize large short-term capital inflows attracted by the high interest rates.

Gikandu (2012) did a study on the relationship between domestic debt and economic growth in Kenya. The study sought to establish whether there existed a relationship between domestic debt and economic growth in Kenya. The study utilised data on volume of domestic debt as well as domestic debt by instrument, real GDP and real GDP growth, for a twelve year period from 1999/2000 to 2010/2011 financial years to establish the relationship between the two variables. The research methodology adopted

was descriptive design with use of secondary data from the CBK, MOF and annual economic surveys. The analysis of data was done using Spearman's rank correlation to establish the relationship that exists between domestic debt and economic growth in Kenya. The results are presented in tables and graphs. The analysis performed revealed a weak positive relationship between the two variables. This means that the use of domestic debt has some slight contribution to economic growth. The study recommends that though the relationship is positive, the government needs to use domestic debt with care so that the interest bill therein does not have a negative impact on economic growth.

Kibui (2009) studied the impact of external debt on public investment and economic growth in Kenya (1970-2007). The study used time series data for the period 1970-2007 and reduced form growth model augmented with debt variables to examine the impact of external debt on public investments and economic growth in Kenya. The findings of the study indicate that the key debt indicators have been above the critical level since 1982. The Empirical results of the time series data analysis for the period 1970-2007 indicate that debt service ratio is significant at explaining the GDP growth in Kenya. Public investment has a negative relationship with both the stock of external debt expressed as a percentage of GDP and debt service ratio. The results indicate that debt relief could act as a catalyst for investment recovery and economic growth in Kenya. The Kenyan government should also embark on an aggressive poverty reduction drive, focus on growth enhancing policies that will lead to increased export earnings, provide a stable environment for investments and implement measures that will increase investor confidence in local investments.

2.4 Chapter Summary

Tracking, monitoring and steering the evolution of public debt is a major policy challenge for almost all governments all over the world. Effective public debt management is the cornerstone of financial stability and sustainable fiscal policy. A government's debt portfolio is often the largest in the country and can generate substantial risk to its balance sheet, with potential to undermine key development objectives. This study is guided by two theories which include the public choice theory and dynamic theory of public spending, Taxation, and debt. Several scholars and their work is presented under empirical review. Ribeiro, Vaicekauskas and lakštutiene (2012) did a study on the effect of public debt and other determinants on the economic growth of selected European countries. Paesani, Strauch and Kremer (2006) did study public debt and long-term interest rates using the case of Germany Italy and the USA over the 1983-2003 period, the central issue addressed in this study was how the accumulation of government debt affects long-term interest rates, both nationally and a cross borders. Bader and Magableh (2009) did an econometric enquiry into the main determinants of public debt in Jordan. Medeiros, Cabral, Baghdassarian and Almeida (2005) looked at public debt strategic planning and benchmark composition at the Ministry of Finance Brasilia – Brazil. Chironga (2003) examined the structure, magnitude, level, and determinants of public domestic debt in Kenya for the period 1990-2001. Gikandu (2012) did a study on the relationship between domestic debt and economic growth in Kenya. Kibui (2009) studied the impact of external debt on public investment and economic growth in Kenya (1970-2007). From the above discussion, no known study has evaluated the effect of selected determinants on public debt in Kenya. This study therefore seeks to fill this research gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explores the methodology used in this study clearly explaining the research design that the study has used the population of interest, data collection and data analysis. It explains sources of the data that was used, methods of data collection that were employed, and the techniques that have been used to analyze the collected data. It also explains the model that has been used as well as clearly elaborating all the variables of interest.

3.2 Research Design

This study has made use of descriptive study design. A descriptive study attempts to describe or define a subject, often by creating a profile of a group of problems, people, or events, through the collection of data and tabulation of the frequencies on research variables or their interaction as indicated by Cooper and Schindler (2003). Descriptive research is more rigid than an exploratory research and seeks to describe the uses of a product, determine the proportion of the population that uses a product, or predict future demand for a product. This study chose descriptive as its design because it seeks to explain the effect of selected determinants on public debt within the Kenyan context. Orodho (2002) notes that the choice of the descriptive survey research design is made based on the fact that in the study, the research is interested on the state of affairs already

existing in the field and no variable would be manipulated. This study was also a case study of Kenya hence no population and sampling.

3.3 Data Collection

The main source of data was secondary data from the Central Bank of Kenya and Kenya National Bureau of Statistics. Information and data was collected from the official website of the Central Bank of Kenya and KNBS offices. The study collected data necessary for completion of the study. The study covered ten years starting 2003 to the year 2012. Annual data was used in the computations.

3.4 Data Analysis

This study employed multiple regression analysis to establish the effect of selected determinants on public debt in Kenya. To analyze the effect of determinants on public debt in Kenya, the study made use of the following regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where;

Y = Public Debt (Total of Domestic and external Debt) expressed as % of GDP

X₁ = Budget Deficit (Difference between Total Revenue and Total Expenditure)
expressed as % of GDP

X₂ = Total Grants (Programme and Project grants) expressed as % of GDP

X₃ = Balance of Payments expressed as % of GDP

X₄ = Exchange rates (For USD Currency) expressed as % of GDP

ε = the Error term

β_0 = the Constant term

and $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$, are Co-efficients

Data was analyzed using Statistical Package for Social Science (SPSS). This particular package was chosen because of its user-friendliness. Data has been presented in figures and tables, summary statistics of the mean, and standard deviation. In addition, the correlation matrix of the independent variables has been carried out. The result of the regression model has been developed and tables used to show the regression results for the Country's performance.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

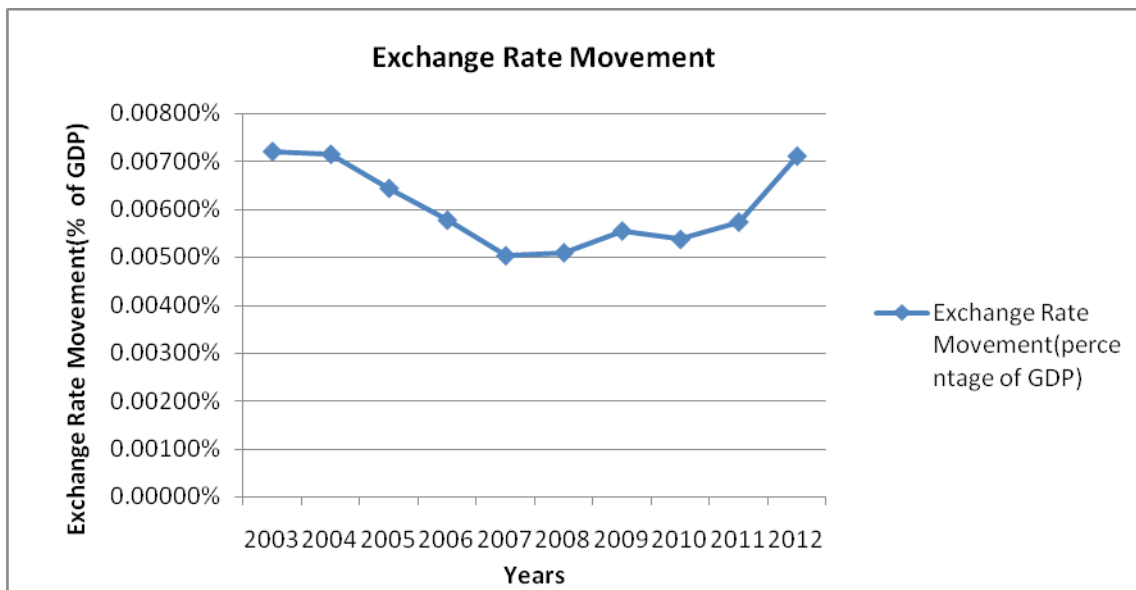
This chapter presents analysis and findings of the study as set out in the research objective and research methodology. The study findings are presented on the effect of selected determinants on public debt in Kenya. The data was gathered exclusively from the secondary source which included the records at Kenya National Bureau of Statistics.

4.2 Data Analysis and Findings

4.2.1 Exchange Rate Movement (USD)

The study sought to establish the trend in the movement of exchange rates in Kenya with reference to the mostly used foreign currency which was United States Dollar. The exchange rates were standardised by expressing them as percentage of Gross Domestic Product. The findings were as shown in the figure 4.1 below and appendix I:

Figure 4.1: Exchange rate movement (USD)



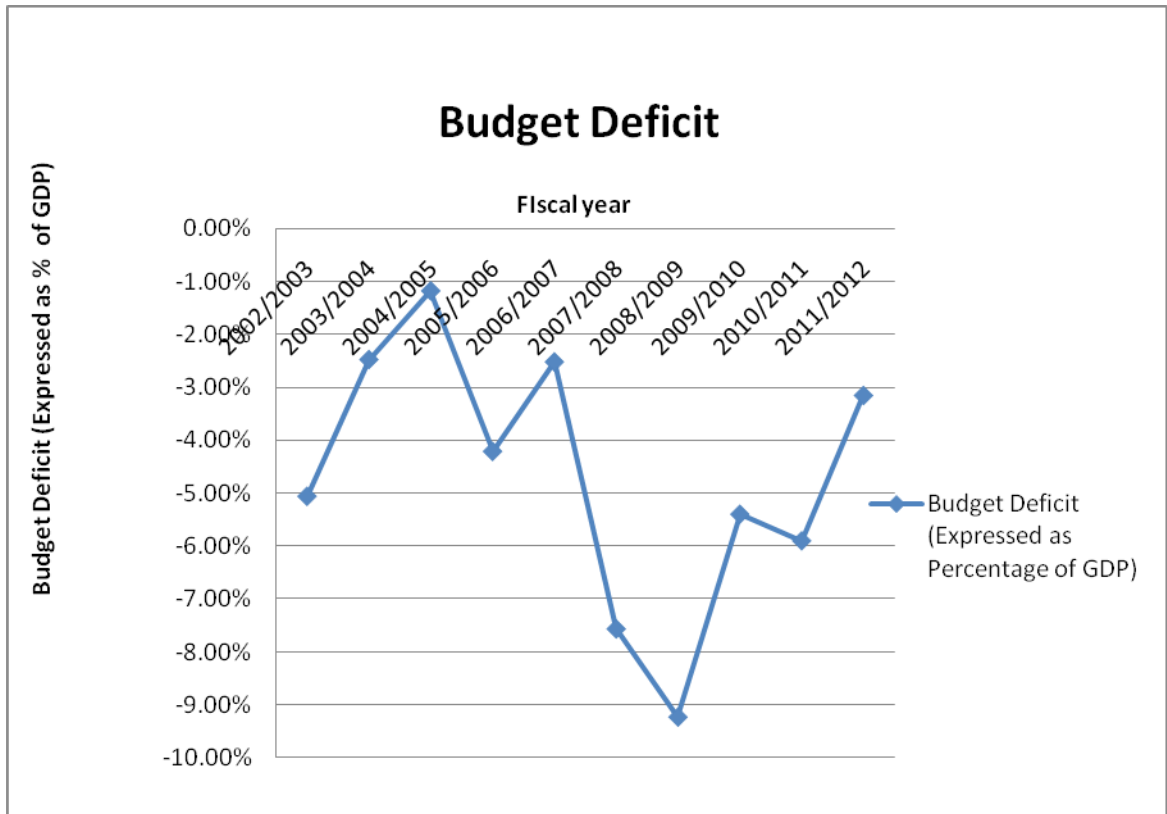
Author: Research data (2013).

The results obtained above were standardised by expressing them as a percentage of the Kenyan GDP . From the findings presented above, the study established that in the inception year 2003, the amount at which Kenya shillings exchanged for a United States Dollar expressed as a percentage of GDP was 0.00719%. This exchange rate reduced to 0.00714% in 2004, followed by a further decline to 0.00643% in 2005, and further to 0.0057% in 2006 and then to 0.00504% in 2007. Over these years, the Kenyan shilling had been continuously appreciating against United State Dollar. However, for the rest of the study period , the Kenyan shilling continued to lose value against the United State Dollar. In 2008, the exchange rate of Kenyan shilling against the US dolar when expressed as a percentage of GDP was 0.0051%. This percentage increased to 0.00555% in 2009 before a slight decrease to 0.00537% in 2010. As at 2011, Kenya shillings exchanged for a United States Dollar at 0.00573% which further increased to 0.0071% in 2012. From the observed trend, kenyan shillings had been continuasly loosing value against United States Dollar since 2007.

4.2.2 Budget Deficit

The study also sought to establish the distribution of the budget deficit for the study period. Budget deficit was standardised by expressing it as a percentage of the GDP. The findings were as presented below in millions of kenyan shillings in Figure 4.2 and appendix II below.

Figure 4.2: Budget Deficit



Author: Research data (2013).

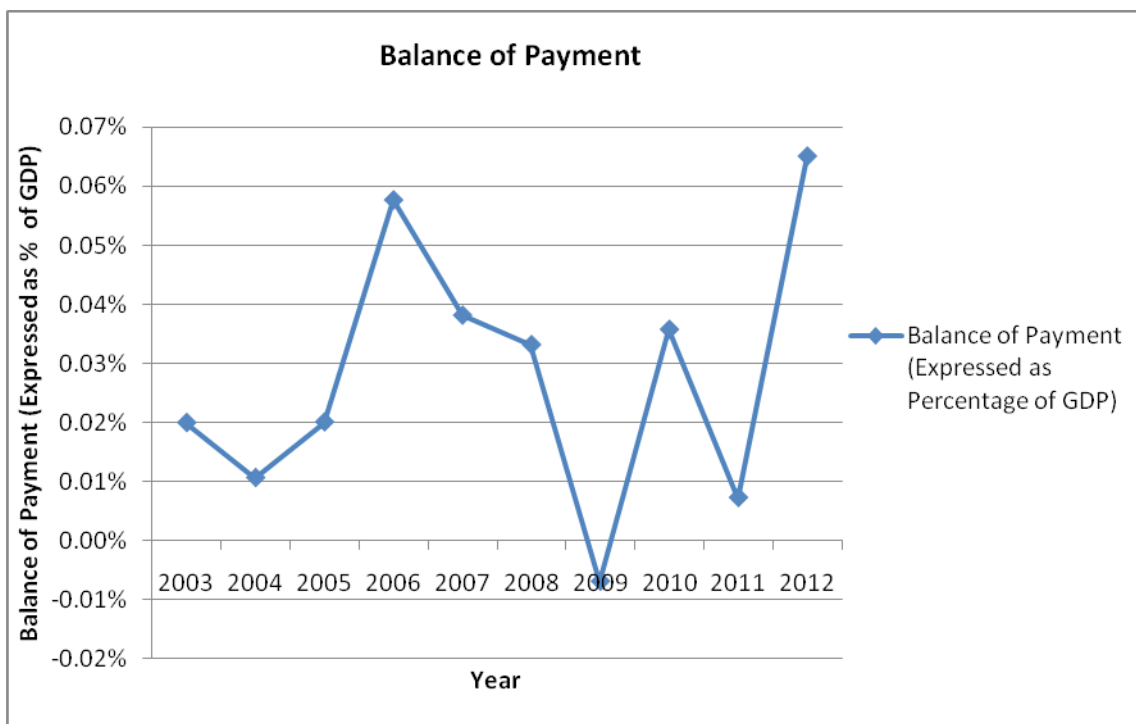
From the findings of the study shown in Figure 4.2 above and appendix II, the budget deficit, expressed as a percentage of GDP was -5.06% in the financial year 2002/2003 after which this percentage increased to -2.48% in 2003/2004 and further to -1.18% in 2004/2005 financial year indicating a decrease in the budget deficit. This trend however changed whereby in 2005/2006 fiscal year, the percentage obtained was -4.21%. which indicated an increase in budget deficit compared to the previous year. The budget deficit however reduced in 2006/2007 as the percentage increased to -2.52% in 2008/2009 and 2009/2010 fiscal year the percentages of budget deficit obtained when expressed as a

percentage of GDP were -7.56% and -9.22% respectively which showed that the budget deficit had been increasing over the years. In 2010/2011, the budget deficit amounted to -5.40% of the GDP which was a reduction in the budget deficit compared to the previous year and at the end of the study period, budget deficit reduced further as it amounted to -3.16% of the GDP.

4.2.3 Balance of Payments

The study also sought to establish the distribution of the overall balance of payment for the study period. the reseach data was standardised by expressing it as a percentage of GDP. The findings were as presented below and in Figure 4.3 and appendix I:

Figure 4.3: Balance of Payments



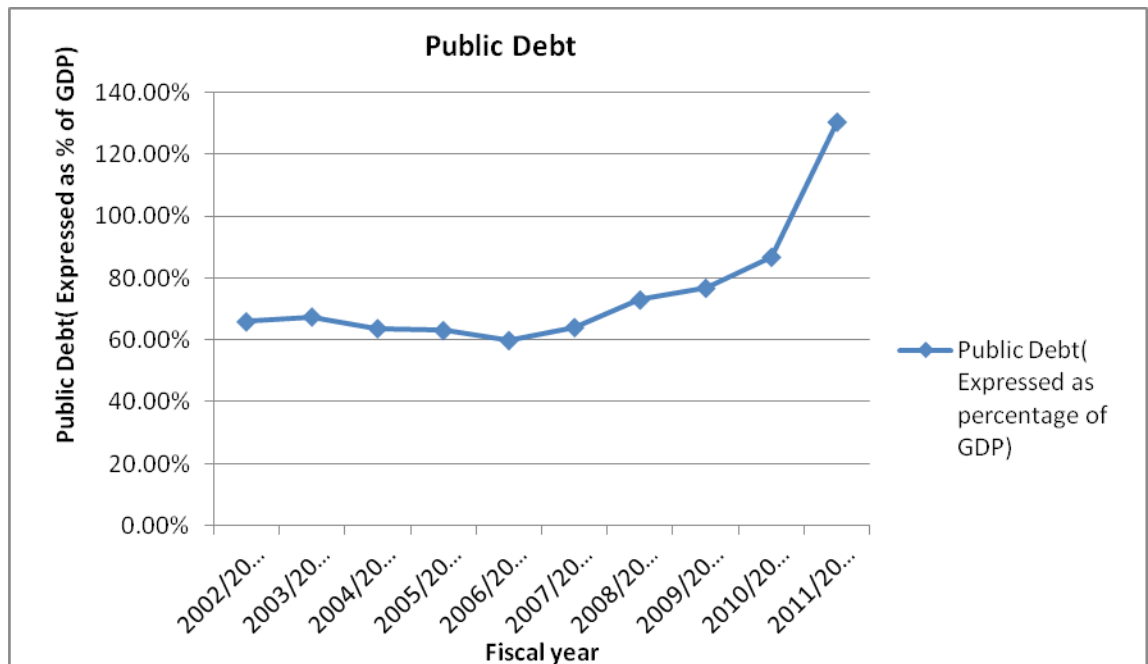
Author: Researcher data (2013).

From the findings of the study shown in Figure 4.3 above and appendix I, the Balance of Payments amounted to 0.02% of the GDP in the year 2003 after which it reduced to 0.01% in 2004. The BoP started increasing whereby by the end of 2005, it was 0.02% after which it increased further to amount to 0.06% in the year 2006. However over the following years this percentage reduced continuously as it reduced 0.04% in 2007, then to 0.03% in 2008. and further to -0.01% in 2009. In 2010, the balance of payment increased to 0.04% then to 0.01% in 2011 before increasing to 0.06% by 2012.

4.2.4 Public Debt

The study also sought to establish the distribution of the public debt over the period of study. For the purposes of standardisation, the public debt was expressed as a percentage of GDP. The findings were as presented below as percentage of GDP in Figure 4.4 and appendix II below.

Figure 4.4: Public Debt



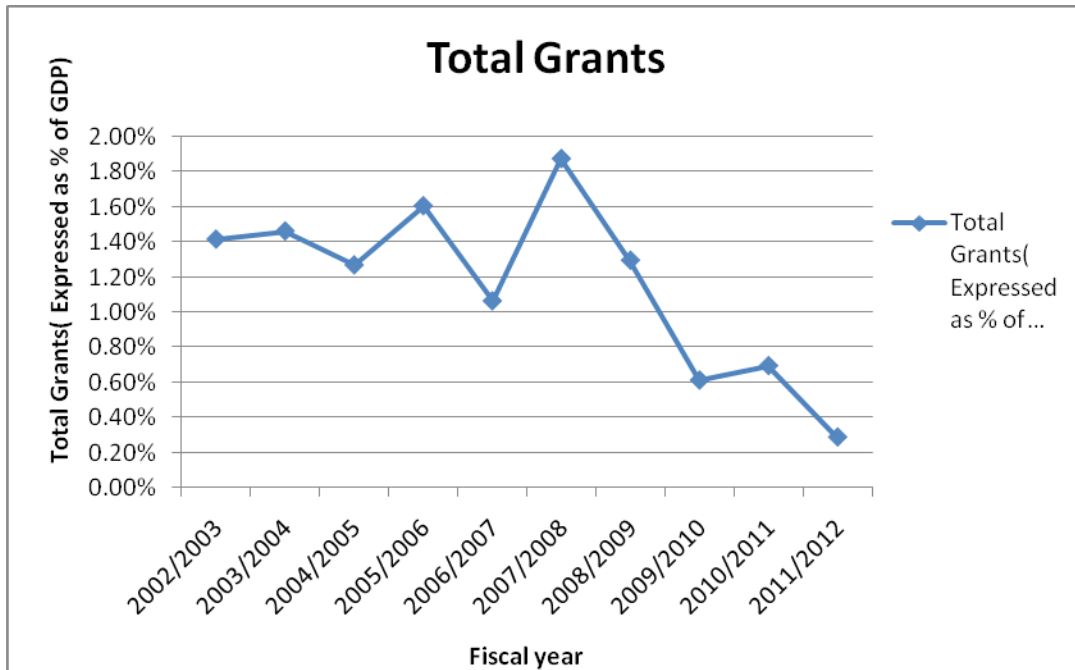
Author: Research data (2013)

From the findings, the study established that the public debts had continuously increased over the study period. As at the financial year 2002/2003, public debt amounted to 65.97% of the GDP. The debts increased gradually to 67.54% in 2003/2004 followed by a decrease to 63.78% in the fiscal year 2004/2005. Public debt in 2005/2006 financial year was 63.15% which is a decrease compared to the previous year. In 2006/2007 fiscal year, public debts amounted to 59.94% and increased to 64.14% in 2007/2008, and then further increased to 73.03% in 2008/2009. Over the rest of the study period, the Public debts kept on increasing at an alarming rate whereby in 2009/2010 it was 76.82% which further increased to 86.85% in 2010/2011 and then to 130.51% of the GDP in 2011/2012.

4.2.5 Total Grants

The study also sought to find out the trend of grants over the period of study. The findings were as presented below as percentage of GDP in Figure 4.3 and appendix II below.

Figure 4.5: Grants



Author: Research data (2013)

From the data findings, the grants amounted to 1.42% of the GDP in the financial year 2002/2003 which was followed by an increase to 1.46% in the financial year 2003/2004. In 2004/2005 financial year, the grants decreased to 1.27% before rapid increase to 1.61% in the financial year 2005/2006. 2006/2007 financial year witnessed a rapid decline in total grants to 1.06% before a rapid increase to 1.87% in the year 2007/2008. In 2008/2009, the grants decreased to 1.30% followed by a further decrease to 0.61% in the financial year 2009/2010. Grants increased again to 0.69% in 2010/2011 fiscal year followed by a rapid decrease in the year 2011/2012 financial year which recorded grants amounting to 0.29% of the GDP.

4.2.6 Regression Analysis

In order to establish the relationship and the effect between public debt and the independent variables which include; budget deficit, total grants, balance of payments

and exchange rate. The study conducted a multiple regression analysis. The findings were as shown in the table 4.1 below:

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.909 ^a	.826	.688	11.91149
a. Predictors: (Constant), Exchange rates (For USD Currency), Balance of Payments , Total Grants (Programme and Project grants) , Budget Deficit (Difference between Total Revenue and Total Expenditure)				

Author: Research data (2013)

Coefficient of determination explains the extent to which changes in the dependent variable (Public Debt) can be explained by the change in the independent variables or the percentage of variation in the dependent variable that is explained by the independent variables.

From the analysis, the independent variable studied here had a strong relationship with balance of payment as explained by adjusted R^2 of 0.826. Therefore it can be deduced that the relationship between Public Debt and the independent variables (Budget Deficit, Total Grants, Balance of Payments and Exchange rates) is strong.

In order to test the significance of the model, the study conducted an Analysis of Variance. The findings were as shown below:

Table 4.2: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3379.079	4	844.770	5.954	.038 ^a
	Residual	709.418	5	141.884		
	Total	4088.497	9			
a. Predictors: (Constant), Exchange rates (For USD Currency) , Balance of Payments , Total Grants (Programme and Project grants) , Budget Deficit (Difference between Total Revenue and Total Expenditure)						
b. Dependent Variable: Public Debt (Total of Domestic and external Debt)						

Author: Research data (2013)

From the ANOVAs results, the probability value of 0.38 was obtained which indicates that the regression model was significant in predicting the relationship between Public Debt and the predictor variables as it was less than $\alpha=0.05$. Also, the F calculated at 5% level of significance was 5.954 which was less than F critical = 5.1922.

Table 4.3: Coefficients of determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.787	42.149		.280	.791
	Budget Deficit (Difference between Total Revenue and Total Expenditure)	-3.722	1.993	-.433	-1.868	.121
	Total Grants (Programme and Project grants)	-30.806	8.410	-.712	-3.663	.015
	Balance of Payments	317.787	203.598	.336	1.561	.179
	Exchange rates (For USD Currency)	12066.789	5350.524	.480	2.255	.034

a. Dependent Variable: Public Debt (Total of Domestic and external Debt)

Author: Research data (2013)

The researcher conducted a regression analysis so as to determine the relationship between public debt and the predictor variables which included budget deficit, total grants, balance of payments and exchange rates. The following regression equation was obtained:

$$Y = 11.787 - 3.722X_1 - 30.806X_2 + 317.787X_3 + 12066.789X_4 + \epsilon$$

From the regression model obtained above, holding all the other factors constant, public debt will be 11.787% of the total GDP. A unit change in budget deficit holding the other factors constant will lead to change of public debt by -3.722% of the GDP; A unit change in investments in total grants holding the other factors constant will change the public debt by -30.806% of the GDP. A unit change in balance of payments holding the other factors constant will change the public debt by 317.787 while a unit changes in exchange rates holding the other factors constant will change the public debt amount worth by 12066.789 % of the GDP. This implied that exchange rates had the highest influence on

the public debt, followed by balance of payments, then budget deficit and finally total grants.

The obtained regression equation further implied that there was a direct relationship between public debts and exchange rates, balance of payments and budget deficit while there was an inverse relationship between public debts and total grants.

The analysis was undertaken at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was through comparing the obtained probability value and $\alpha=0.05$. If the probability value was less than α , then the predictor variable was significant otherwise it wasn't. The predictor variables which were significant in the model include; exchange rates and total grants their probability values were which was less than $\alpha=0.05$ as they were 0.034 and 0.015 respectively. Balance of payments and budget deficit were insignificant in the model as its probability value was 0.179 and 0.121 which was greater than $\alpha=0.05$

4.3 Summary and Interpretation of Findings

With increase in the economic interdependence among countries around the world increases and challenges occurring to growing economies, it becomes increasingly important to understand the nature and significance of selected determinants on public debt in countries. Exchange rates play an important role in international trade and investment as they affect the price of internationally traded goods and services. An exchange rate is a price, the price of one currency in terms of another (International Monetary Fund, 1993). Exchange rate movements reflect the economy-wide effects of changes in trade flows, world commodity prices, and capital flows between economies

that are highly integrated, both with each other and with global goods, services, and financial markets. Exchange rate fluctuations therefore affect consumers and producers of internationally traded goods and services and firms with assets and liabilities denominated in foreign currencies. Since exchange rates are shared macroeconomic variables, such fluctuations for any internationally integrated economy have counterpart effects in its trading partners.

With many Governments experiencing budget deficits due to borrowings so as to help bridge the gap between the budgeted expenditure and the budgeted revenue. From the finding of the study, the budget deficits have increased at recent years compared to all the earlier years of the study. The study established that in Kenya, there had been budget deficits over the study periods. Budget deficit at the inception year, expressed as a percentage of GDP, amounted to -5.06% after which this percentage increased upto -1.18% in 2004/2005 financial year indicating a decrease in the budget deficit. This trend however changed whereby in as at 2009/2010 fiscal year the percentages of budget deficit obtained when expressed as a percentage of GDP had decreased to -9.22% showing that the budget deficit had been increasing over the years. by the end of 2011/2012 the end of the study period, budget deficit reduced further as it amounted to -3.16% of the GDP.

The balance of payments accounts provide a detailed record of any economy's international economic transactions, and these accounts are central to understanding the degree of an economy's integration with the rest of the world. Balance of payments accounts record monetary settlements between residents of an economy and foreigners, and are often referred to as the external accounts. However, in addition to monetary settlements, they also record transactions where goods only may be transferred, as is the

case with some forms of foreign aid. From the findings of the study, the balance of payments grew with few reductions since the year of inception for this study to reach high positive figures towards the end of the study period. These findings are consistent with those of Kandil and Ida (2002), who established that exchange rate fluctuations and disaggregated economic activity affects an economies level of trade with others.

Public debt is the major economic policy issues confronting the governments of poor countries globally because the debt levels, particularly among the Highly Indebted Poor Countries, and Low-Income Countries generally, have for a long time raised. Large public debt which refers to a total of both external and domestic has been the most critical economic crisis faced by a majority of the developing countries since their political independence after the World War II. From the findings of the study, public debt increased steadily over the period of the study. The study established that in early and in the recent years, public debt has increased by an high rate compared to the past years.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of key data findings, conclusions drawn from the findings highlighted and policy recommendations that were made. The conclusions and Recommendations drawn were in quest of addressing research objectives of establishing the effect of selected determinants on public debt in Kenya.

5.2 Summary

Exchange rates deal with the value of one currency in terms of another. Devaluation in the currency lowers one currency's value in terms of the other. From the findings the study established that in the inception year 2003, the exchange rate of Kenya shillings against United States Dollar was 0.00719% of GDP. This exchange rate reduced slightly to 0.00714% in 2004, followed by a further decrease to 0.00504% in 2007. The Kenyan shilling had been appreciating against United State Dollar over this study period. For the rest of the study period, the Kenya shilling continued to depreciate against the United State Dollar. In 2008, the exchange rate of Kenyan shilling against the US dollar was 0.0051%. This percentage increased to 0.00555% in 2009 before a slight decrease to 0.00537% in 2010. By 2012, the average rate at which the Kenya shillings exchanged for a United States dollar was 0.0071% implying a further depreciation of the Kenyan shilling.

With many Governments experiencing budget deficits due to borrowings so as to help bridge the gap between the budgeted expenditure and the budgeted revenue. From the

findings of the study, the budget deficits have increased at recent years compared to all the earlier years of the study. The study established that in Kenya, there had been budget deficits over the study periods. Budget deficit at the inception year, expressed as a percentage of GDP, amounted to -5.06% after which this percentage increased upto -1.18% in 2004/2005 financial year indicating a decrease in the budget deficit. This trend however changed whereby in 2009/2010 fiscal year the percentages of budget deficit obtained when expressed as a percentage of GDP had decreased to -9.22% showing that the budget deficit had been increasing over the years. by the end of 2011/2012 the end of the study period, budget deficit reduced further as it amounted to -3.16% of the GDP.

The study findings established that balance of payment amounted to 0.02% of the GDP in the year 2003 after which it reduced to 0.01% 2004, the BoP started increasing whereby by the end of 2006, it had increased to 0.06%. However over the following years this percentage reduced continuously to -0.01% in 2009. In 2010, the balance of payment increased to 0.04% then it reduced to 0.01% in 2011 before increasing to 0.06% in 2012.

With regard to public debt, the study found out that public debts had continuously increased over the study period. In financial year 2002/2003, public debt amounted to 65.97% of the GDP. The debts increased gradually to 67.54% in 2003/2004 followed by a continuous decrease to 59.94% by the end of 2006/2007 fiscal year. Public debt increased gradually over the following years to amount to 86.85% in 2010/2011 and then to 130.51% of the GDP in 2011/2012.

From the data findings, the grants amounted to 1.42% of the GDP in the financial year 2002/2003 which was followed by an increase to 1.46% in the financial year 2003/2004. In 2004/2005 financial year, the grants decreased to 1.27%. by 2007/2008, total grants

were at 1.87% which was the highest amount of grants received over the study period. Since, they declined to 0.29% by the end of 2011/2012 fiscal year.

5.3 Conclusions

From the findings, the study concludes that there is a direct relationship between foreign exchange rates depreciation and public debts. As the Kenyan currency, depreciates the public debts in Kenya increases. The exchange rate affects the prices at which a country trades with the rest of the world and is integral to open economy analysis and policy formulation.

The study established that budget deficits in Kenya have been on increase at a high rate over the past years despite the increase and decreases observed over the study period. The study concludes that an increase in budget deficit leads to increase in the public debts. This will definitely affect the country's public debt. Budget deficits occur when government expenditure exceeds its revenue as observed in the analysis.

The study concludes that there is an inverse relationship between public debt and the total grants. With an increase in public debts in Kenya, there is a proportionate decline in total grants received. The study further concludes that there is a great reduction in the total grants being received in recent years compared to past years despite increase and reductions observed over different years. This has helped to manage public debt in some periods.

On the balance of payment status, the study concludes that balance of payment status in Kenya has been growing despite occasional fluctuations during the study period despite the increases and decreases registered in the country during the study period. In addition,

increases in the balance of payments indicate that the country was importing more than it was exporting. This brought about unfavorable balance of payments in the country.

The study found out that public debts in Kenya are on an increase as observed over the study period. The study further concludes that in the recent years public debts have increased at a higher rate compared to the past. On the relationship between public debt and its determinants, the study concludes that there is a strong relationship between the public debts and the determinants which include Budget Deficit, Total Grants, Balance of Payments and Exchange rates. The study concludes that these factors attribute to 0.826% variation in public debt as reflected by the coefficient of determination.

5.4 Policy Recommendations

The study recommends that the policy makers should take keen interest in ensuring stable equilibrium for the exchange rates as they play an important role in determining the demand for and supply of both imports and exports. The policy makers need to evaluate the best exchange rate policy for optimal economic development.

The study further recommends that policy makers should come up with policies that will regulate and control budget deficits as they are on increase in Kenya. With public debts leading to increased government borrowing in order to finance the budget deficit, the study recommends that there is need to control the budgeting process in order to reduce the government debts which are leading to increasing public debts in Kenya.

Balance of payments is an important component of development in Kenya because the Country is a net importer hence requires capital equipment which consumes a

considerable amount of foreign currency compared to her exports. This study therefore recommends that the government needs to increase marketing of its exports and encourage local industries producing export substitutes so as to encourage consumption of locally produced commodities which not only improve the country's balance of payment but also contributes to economic development through creation of employment.

With a continuous increase in public debts, the study recommends that policy makers need to enact legislations which will control the rate of public borrowing in order to enhance economic development of the Kenyan economy. The study further recommends that government take measures to ensure that the decline in the grants being received is reversed.

5.5 Limitations of the Study

The main limitations of this study were: the data used in this study comprised of secondary data collected for other purposes. In addition, the level of debt in Kenya may be greatly influenced by political influence which may not have been captured by the data used. The study faced both time and financial limitations. The duration that the study was to be conducted was limited hence exhaustive and extremely comprehensive research could not be carried on the effects of selected determinants on public debt in Kenya.

Another limitation of the study includes the fact that the inflation rates existing in the country forced the Central Bank to review the basket of goods used to compute inflation. This may have greatly affected the levels of public debt. The exchange rates have also fluctuated very much during the study period. This could affect the worth of foreign currency denominated debts.

5.6 Suggestions for Further Studies

The study suggests that further research be carried out on the relationship between public debt and economic growth in Kenya. There are several factors affecting the level of economic growth in the country. This study therefore suggests that future researchers review the relationship between these determinants and the level of economic growth registered in Kenya. Researchers should also find out the interrelationships of other factors not included in the study with public debt.

This study further suggests that future research be carried out on the determinants of public debt within East African Member states. The current study only restricted itself within Kenya. However, there have been talks to open up borders so that there can be free flow of human capital among other factors of production within the East African Community. Other studies will also be able to assist policy makers in benchmarking in terms of the public debt other East African member states have and the level of economic growth and deal with the discrepancies accordingly.

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APPENDICES

Appendix I: Data on GDP, Balance of Payment and Exchange Rate against USD

	GDP	Balance of Payment (Million Ksh)	Balance of Payment (Expressed as % of GDP)	Exchange Rates For USD Currency	Exchange Rates For USD Currency (Expressed as % of GDP)
2003	1,055,658	210.42	0.02%	75.94	0.00719%
2004	1,109,541	117.92	0.01%	79.17	0.00714%
2005	1,175,133	235.58	0.02%	75.55	0.00643%
2006	1,249,470	719.50	0.06%	72.10	0.00577%
2007	1,336,846	509.25	0.04%	67.32	0.00504%
2008	1,357,263	449.42	0.03%	69.19	0.00510%
2009	1,394,387	-96.17	-0.01%	77.35	0.00555%
2010	1,474,763	526.42	0.04%	79.23	0.00537%
2011	1,539,306	111.83	0.01%	88.23	0.00573%
2012	1,185,375	770.42	0.06%	84.13	0.00710%

Source: (Central Bank of Kenya, 2013)

Appendix II: Data on Total grants, Public Debt and Budget Deficit

Fiscal Year	Total grants (Million Ksh)	Total Grants(Expressed as % of GDP)	Public Debt (Million Ksh)	Public Debt(Expressed as percentage of GDP)	Budget Deficit (Million Ksh)	Budget Deficit (Expressed as Percentage of GDP)
2002/2003	14942	1.42%	696429.97	65.97%	-53394	-5.06%
2003/2004	16224	1.46%	749392.09	67.54%	-27506	-2.48%
2004/2005	14905	1.27%	749548.15	63.78%	-13903	-1.18%
2005/2006	20070	1.61%	789075.78	63.15%	-52620	-4.21%
2006/2007	14220	1.06%	801270.35	59.94%	-33722	-2.52%
2007/2008	25448	1.87%	870578.73	64.14%	-102621	-7.56%
2008/2009	18065	1.30%	1018326.77	73.03%	-128619	-9.22%
2009/2010	9020	0.61%	1132882.53	76.82%	-79576	-5.40%
2010/2011	10689	0.69%	1336878.13	86.85%	-90804	-5.90%
2011/2012	3400	0.29%	1547017.01	130.51%	-37416.17	-3.16%

Source: (Central Bank of Kenya, 2013)