THE RELATIONSHIP BETWEEN DOMESTIC DEBT AND ECONOMIC GROWTH IN KENYA

BY

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DECLARATION

This management research project is my original work and has not been presented for examination 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

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ABSTRACT

This study sought to establish the relationship that exists between domestic debt and economic growth in Kenya. The government has been increasing its reliance on domestic debt to fund its budget deficit. The major instruments of government borrowing, treasury bonds have been made accessible to the citizens through the Nairobi Securities Exchange and the bonds issued by the government increased from KShs 36,851 Million in June 2000 to KShs 595.661 Million in June 2011. The country's economy has also recorded notable growth from 0.6% in 2000 to 4.4% in 2011 though some years recorded more growth than others. This brought about the need to carry out a research on the possible relationship between use of 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.
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LIST OF ABBREVIATIONS

CBK  -  Central Bank of Kenya
GDP  -  Gross Domestic Product
MOF  -  Ministry of Finance
KShs -  Kenya Shillings
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

The global economy has been experiencing recessionary pressures since 2007 (European Commission, 2009). This has not only led to near collapse of economies such as Greece and Scotland but has also led to many countries being unable to manage their public debt with spiraling negative effects on the economic growth. Public debt is among the major economic policy issues in most developing countries. Governments have to often borrow in order to finance their budget deficits. According to Buchanan (1968), Public debt is an obligation on the part of a governmental unit to pay specific monetary sums to holders of legally designated claims at particular points in time. The borrowings are either externally where a government borrows from other countries, usually called external debt or internally from its citizens and the private institutions within the country, usually called domestic debt.

Kumar and Woo (2010) studied a panel of advanced and emerging economies over the period 1970-2007. They addressed the issue of causality by regressing per capita real GDP growth against lagged values of the debt-to-GDP ratio. Their empirical results suggest an inverse relationship between initial debt and subsequent growth. Schclarek (2004) also investigated the relationship between gross government debt and per capita GDP growth in developed countries and found no robust evidence of a statistically significant relationship for a sample of 24 industrial countries between 1970 and 2002. In
contrast, a recent study by Reinhart and Rogoff (2010), which analyses (through simple correlation statistics) the developments of public (gross central government) debt and the long-term real GDP growth rate in a sample of 20 developed countries between 1790 and 2009, finds that: (i) the relationship between government debt and long-term growth is weak for debt/GDP ratios below a threshold of 90% of GDP; (ii) above 90%, the median growth rate falls by 1% and the average by considerably more.

1.1.1 Domestic Debt

Debt is the entire stock of direct government fixed-term contractual obligations to others outstanding on a particular date. It includes domestic and foreign liabilities such as currency and money deposits, securities other than shares, and loans. Because debt is a stock rather than a flow, it is measured as of a given date, usually the last day of the fiscal year.

1.1.2 Economic Growth

Economic growth is the quantitative change or expansion in a country's economy (World Bank, 2000). Economic growth is conventionally measured as the percentage increase in Gross Domestic Product or Gross National Product during one year. The level of domestic debt has an effect on a country's economic growth. According to Christensen (2005), extensive use of domestic borrowing can have severe repercussions on the economy. Domestic debt service can consume a significant part of government revenues as it is used to service high domestic interest rates. Further, the interest cost of domestic borrowing can rise quickly along with increases in the outstanding stock of debt, especially in shallow financial markets. In such markets, given that financial resources
are limited, expansions in domestic debt will more easily lead to higher domestic interest rates. The increase in interest rates may be even more pronounced if the investor base is relatively narrow, as the government may be held hostage by a particular group of investors.

Economic growth comes in two forms: an economy can either grow "extensively" by using more resources (such as physical, human or natural capital) or "intensively" by using the same amount of resources more efficiently (productively). The Gross Domestic Product growth rate measures the increase in value of the goods and services produced by an economy. Economic growth is usually calculated in real terms or inflation-adjusted terms, in order to net out the effect of changes on the price of the goods and services produced. The real GDP per capita of an economy is often used as an indicator of the average standard of living of individuals in that country, and economic growth is therefore often seen as indicating an increase in the average standard of living.

1.1.3 Relationship between Domestic Debt and Economic Growth

High levels of domestic debt have a substantial economic cost which is weak economic growth. The growth of domestic debt leads to an increase in debt servicing costs, leaving less for investment in economic infrastructure and expenditures on such vital items as health, education and social security. Public debt has been the important source of funds to finance the development plans of the government of Kenya, as the budgetary situation of the government has always remained in deficit. Some portion of the deficit is met through domestic and foreign borrowing. As a result, the volume of the debt has also
increased quite sharply in recent years. Even though raising sufficient funds in the form of public debt is important for sustained economic growth and to end prolonged poverty, a failure to meet debt obligations could lead to a serious economic crisis.

Buchanan (1968) opines that there is no simple connection between fiscal policies and the issue or retirement of national debt. Budgetary deficits need not be financed by the issue of debt. And, if such deficits are generated purposefully for the supplementing of aggregate demand, national debt should not be used as the means of financing. Instead, money should be directly created, which is always an alternative means of financing. In such a setting, the issue of debt exerts a deflationary, and undesirable, impact on total demand. The elementary confusion about all this arises because, institutionally, national governments tend to disguise money creation through so-called "borrowing" from the central banks, and "public debt" is, nominally, created in this money-creating process.

1.2 Statement of the Problem

There has been a shift in composition of the total public debt in favour of domestic debt in Kenya during the period 2000 to 2011. Maana et al, (2008) opines that in order to develop and deepen the financial markets, there is need for a steady supply of a wide range of instruments to be traded. Government debt provides a benchmark for issuance of private sector securitised debt such as corporate bonds. The government starts by issuing short term Treasury bills to build investor confidence through guaranteed or secure return, and thereafter financial deepening is achieved by issuing longer dated instruments. According to trading economics (2012), Gross Domestic Product growth rate measures the increase in value of the goods and services produced by an economy. The real GDP
per capita of an economy is often used as an indicator of the average standard of living of individuals in that country, and economic growth is therefore often seen as indicating an increase in the average standard of living. Domestic debt in Kenya comprises central government debt incurred internally through borrowing in the local currency from residents. The government borrows from the domestic market using securities, overdrafts at the Central Bank of Kenya and advances from commercial banks. According to Kenya economic survey for 2011, domestic debt stood at 50.2% of the total debt stock while the ratio of debt to Gross Domestic Product (GDP) stood at 42.3% in 2010 compared to 37.6% in 2009.

The most recent studies focused on the impact of public debt on economic growth in Sub Saharan Africa as well as in other countries and the studies have mainly focused on the impact of external debt on economic growths. However, none of the studies have focused on the relationship between domestic debt and economic growth. This study therefore aims at filling this gap by using the most recent data to analyse the relationship between domestic debt and the rate of growth in Kenyan economy. In view of the above these study aims at answering the question 'what is the relationship between domestic debt and economic growth in Kenya?'

1.3 Objective of the Study

To establish the relationship that exists between domestic debt and economic growth in Kenya.
1.4 Importance of the Study

The Ministry of Finance

The Government, through the Ministry of Finance is responsible for formulation of policies on debt management strategies in the country. The study will therefore increase knowledge on the relationship between the country's indebtedness and the rate of economic growth thereby assist in laying out informed debt management strategies.

The Ministry of State for Planning and National Development and Vision 2030

The functions of the Ministry include the coordination of government economic policies and preparation of the planning components of the Medium Term Expenditure Framework, the Fiscal Strategy Paper and the requisite budget documents. The study will therefore aid in understanding the relationship between domestic debt and economic growth in Kenya which is an input in national economic policy management.

The Central Bank of Kenya (CBK)

CBK has the mandate of formulating and implementing monetary policy so as to achieve and maintain stability in the general level of prices in the economy. The institution therefore requires knowledge on how domestic debt and the related interest rates are related to the country's economic growth. Interest repayments are a great component of the domestic debt in Kenya and as such CBK will benefit from the study.
Scholars

The conclusions reached at the end of the study will help the scholars gain knowledge on the relationship between domestic debt and economic growth in Kenya. The recommendation for further research will also help an interested scholar to build on the existing knowledge by carrying out further research on the domestic debt and economic growth in Kenya.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The literature review discusses the theoretical framework for the relationship between domestic debt and economic growth, the legal framework for domestic debt in Kenya and related studies that have been carried out on public debt and economic growth.

2.2 Theoretical Framework

2.2.1 Barro-Ricardo equivalence theorem

Ricardian equivalence suggests that it does not matter whether a government finances its spending with debt or a tax increase, because the effect on the total level of demand in the economy is the same. Governments can raise money either through taxes or by issuing bonds. When the government issues bonds, they must eventually repay this borrowing by raising taxes above what they would otherwise have been in future. The choice is therefore being taxed now or later. According to the Ricardian paradigm, rational consumers are mindful of the present value of the future taxes implied by current deficits, and they increase their savings accordingly to fully offset the new government borrowing. The theory stipulates that an increase in government expenditure results in an identical increase in private savings and consequently has no real interest rates effects and a lasting impact on the real economy.
2.2.2 Crowding-out Effect Theory

McConnel and Brue (1990) asserts that the essence of the crowding out effect is that an expansionary (deficit) fiscal policy will tend to increase the interest rate and reduce investment spending, thereby weakening or cancelling the stimulus of the fiscal policy. When a government uses the money market to finance deficit, the resulting increase in the demand for money raises the interest rates thus increasing the cost of borrowing money. Consequently, since investment spending varies with the interest rates thus some investment will be crowded out. While examining the effects of disaggregated government expenditure on private investment, Ahmed and Miller (2000) applied fixed and random effect methods in the case of some developed and developing countries. They found out that government expenditure on transport and communication in developing countries lead to crowding in-effect while expenditure on welfare and social security leads to a decline in private investment.

2.2.3 Keynesian theory

According to the Keynesian theory, government spending can be used to increase aggregate demand, thus increasing economic activity, reducing unemployment and deflation. For example, when the unemployment rate is very high, a government can use a dose of expansionary monetary policy. Keynes argued that the solution to the great depression was to stimulate the economy through some combination of two approaches; a reduction in interest rates, and government investment in infrastructure. Investment by government injects income, which results in more spending in the general economy. This in turn stimulates more production and investment involving still more income and
spending and so forth. The initial stimulation starts a cascade of events, whose total increase in economic activity is a multiple of the original investment. A central conclusion of Keynesian economics is that, in some situations, no strong automatic mechanism moves output and employment towards full employment levels. This conclusion conflicts with economic approaches that assume a strong general tendency towards equilibrium.

2.2.4 Legal Framework for Domestic debt in Kenya

Public Debt management in Kenya is governed by four different but related Acts of Parliament, namely: the External Loans & Credits Act (Cap 422), Internal Loans Act (Cap 420), Guarantee Loans Act (Cap 461) and the Central Bank of Kenya Act (Cap 491). The Internal Loans Act (Cap 420) provides the legal framework for the Minister for Finance to borrow on behalf of the government from the domestic market through issuance of Treasury bills and Treasury bonds. According to this Act, the government sets a target for domestic borrowing annually through the budget and has the option of revising the figure through the revised budget in the second half of the fiscal year. The Act also allows the Government access to an overdraft at the CBK when there is a mismatch between revenue receipts and expenditures. As a measure of checking inflationary pressures resulting from use of the overdraft facility, the Act sets a limit to the use of the overdraft to a 5 percent level of the latest audited Government revenue.
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 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 KShs 500 billion or such higher sum as the National Assembly may by resolution approve. The minister of Finance, according to the Act, 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.

2.3 Empirical Evidence

In less developed and developing countries, the financial markets and credit markets are still low and underdeveloped, therefore government borrowing may have negative effects on economic growth more than it would in countries with well-developed market economies. A number of studies have been undertaken to examine different aspects of these issues and the relationships between various variables that include private credit, public debt, budget deficit, interest rates and inflation. This section reviews some of the relevant studies.

While using America's federal budget to evaluate whether high taxes increases the deficits. McConnel and Brue (1990) concluded that payment of interest rates on debt probably increases inequality, interest payments on the debt require higher taxes which impair incentives and government borrowing to refinance or pay interest on the debt may
increase interest rates and crowd out private investment. Abbas and Christensen (2007) using a database covering 93 emerging and low income countries over the period 1975-2004. found evidence that beyond 35% of bank deposits, government borrowing starts to undermine growth. They conclude that moderate levels of domestic debts and bank deposits impact positively on economic growth.

Hanson (2007) examined the growth of government domestic debt over the period 1990-2004 using data set for 25 large banking systems in the developing countries. He also compared the growth of government domestic debt to government foreign debt in this period. He concluded that large government debt relative to fiscal, financial, and political systems is a risk and that risk does not seem to be much affected by whether the debt is domestic or foreign. The volatility of capital flows in crises and the fall in the cost of domestic borrowing, relative to foreign borrowing, have made domestic debt issuance attractive to government currently. Fundamentally, the volatility of voluntary demand for government debt does not depend on location or even the currency of issue. Ultimately, governments must adjust their debt to be consistent with the development of their fiscal, financial and political development.

Christensen (2005) analyses the role of domestic debt markets in 27 sub-Saharan African countries (including Kenya) based on data spanning the period 1980-2000. The study also sought to establish whether domestic borrowing crowded out private sector lending in the period. The study found that domestic debt markets in these countries were generally small, highly short term, and had a narrow investor base. The use of domestic debt was also found to have significantly crowded out private sector lending. The
findings in this study with respect to Kenya may not hold at the moment given that a lot of reforms were implemented in the management of domestic debt, and in the financial sector as a whole, between 2001 and 2007. Apart from the robust performance of the economy and broadening of the investor base in government securities, the maturity profile of domestic debt increased significantly during the period.

Mwangi (2009) examined the impact of domestic borrowing on private credit in Kenya between 1996 and 2008. The study found out that the government mainly finances its deficit through tax revenues, printing money and borrowing but owing to the fact that Kenya tax base is narrow and printing of money is not desirable for fear of high inflation, and also due to the fact that there has been reduced access to external funding, the only option available to the government to finance its budget deficit is domestic borrowing. The study also showed a tradeoff between domestic debt and external debt and that with the financial markets still low and underdeveloped even a small claim by the government impact negatively on the private sector. The study confirmed that indeed domestic borrowing crowd our private credit.

A study by Abbas and Christensen (2007) analysed optimal domestic debt levels in low-income countries (including 40 sub-Saharan Africa countries) and emerging markets between 1975 and 2004 and found that moderate levels of marketable domestic debt as a percentage of GDP have significant positive effects on economic growth. The study also provided evidence that debt levels exceeding 35 percent of total bank deposits have negative impact on economic growth. However, conclusions pertaining to Kenya based on this study could be outdated since a lot of developments have been witnessed in
the management of domestic debt since then. The country also witnessed an accelerated economic growth between 2005 and 2007 which was not captured in the above study.

There are substantial potential changes in financial sector risk as a result of the growth of government domestic debt. In particular, an issue exists regarding the extent to which government domestic debt management policy may transfer risks from the government to the banks and other financial intermediaries. Governments can reduce their risks by issuing more fixed-rate, longer maturity, domestic currency debt. However, this debt management policy increases the risks for banks if these changes lead to significant differences between the composition of deposits and the government debt held by intermediaries. A related issue is the appropriate response of bank supervisors when interest rate rises reduce the capital values of banks’ government debt. The solution to these risks is not simply to increase banks' required capital because of these risks—the potential volatility of interest rates means the changes in capital are unlikely to be insufficient and the policy will raise the cost of government borrowing from banks and lead to a shift of government debt into non-bank intermediaries. A more fundamental approach to reducing this risk would be for government debt managers to include a consideration of how banks' risks will be affected by their debt management policy with respect to maturities, fixed rate and local currency debt issues. (Hanson 2007)

Most developing countries borrow both from external and domestic markets. External debts allows a country to invest and consume beyond its current domestic production, it also enhances capital formation by tapping savings from capital surplus countries. However, the enhancing of capital formation depends mainly on whether the borrowed
money is used to finance investment expenditure or current expenditure. Foreign finance also increases foreign exchange which is important in meeting import requirements, Christensen (2005).

King and Levine (1993) used data from 80 countries between 1960 and 1989 to study the empirical link between a range of indicators of financial development and economic growth. They concluded that indicators of the level of financial development - the size of the formal financial intermediary sector relative to GDP, the importance of banks relative to the central bank, the percentage of credit allocated to private firms, and the ratio of credit issued to private firm as to GDP - are strongly and robustly correlated with growth, the rate of physical capital accumulation, and improvements in the efficiency of capital allocation. In addition, predetermined components of these financial development indicators significantly predict subsequent values of growth indicators. Financial services stimulate economic growth by increasing the rate of capital accumulation and by improving the efficiency with which economies use that capital.

Were and Karangi (2002) opined that the high cost of capital, partly attributed to the relatively high interest rates, has been considered one of the impediments to investment in Kenya. Long-term interest rates determine borrowing and loan repayment requirements. The high interest rates result in lower profitability as a result of the high cost of capital. Consequently, GDP goes down leading to a further decline in investments. The volume of imports declines as a result of the decline in investments. Consumption also falls as a consequence of the decline in disposable wage and profit income. With a budget deficit, thus, by increased domestic borrowing and a decline in money supply the budget deficit worsens with the increased interest payment costs for the government. In
Kenya, the Treasury-bill rate forms a benchmark for other interest rates. A jump in the Treasury-bill rate resulting from a sudden increase in domestic borrowing by the government leads to a reduction in investments but does not appear to have a significant impact in comparison with long-term interest rates.

Panizza (2008) while discussing on domestic and external public debt in developing countries, using dataset for 130 countries in the period 1990-2007, concludes that the recent switch from external to domestic borrowing may just lead countries to trade one type of vulnerability for another. For instance, countries that are switching from external to domestic debt could be trading a currency mismatch for a maturity mismatch. Alternatively, the switch to domestic borrowing could lead to pressure on institutional investors and banks to absorb "too much" government debt and this may have a negative effect on financial stability. Moreover, expanding the market for domestic government bonds may have positive externalities for the domestic corporate bond market but there is also the risk that the public sector may crowd out private issuers. There are political economy reasons that may make domestic debt more difficult to restructure.

Adesola (2009) used data for Nigeria’s five main creditors over a period of twenty four years between 1981 through 2004 to carry out an empirical analysis of the impact of debt payment to creditors on the economic growth of Nigeria. The five main creditors included Paris club creditors, multilateral financial creditors, London club creditors, promissory note holders and other creditors not belonging to any of the four creditors earlier listed. The data collected were used to generate the regression result to reflect the
cause and effect relationship between the dependent and the independent variables on which the study was based. The empirical result indicated that there exist a statistically significant relationship between gross fixed capital formation and debt payment to creditors and that external debt services have a statistically significant impact on the economic growth (GDP) of Nigeria.

El-Mahdy and Torayeh (2009) conducted a research on debt sustainability and economic growth in Egypt using annual data for the period 1985-2006. They concluded that rising public debt for Egypt poses challenges about the implication of higher debt level for economic growth and some cautions are called about the sustainability of current and future public domestic debt in Egypt. The empirical analysis of co integration model confirmed a strong and negative impact of public domestic debt on growth, indicating credence for the crowding out argument. The error correction models methodology was used to estimate the short-run and long-run relationships. The selected vectors gave the error correction terms and affirmed the negative impact of public domestic debt on economic growth.

Adofu and Abula (2010) investigated the empirical relationship between domestic debt and economic growth in Nigeria. Using regression techniques and the time series data from 1986 - 2005, the study explored the relationship between domestic debt and economic growth in Nigeria. To achieve robust statistical analysis, other variables like domestic credit and interest rate which are related to domestic debt were included in the model. The results showed that domestic debt has affected the growth of the economy negatively.
Akram (2010) examined the consequences of public debt for economic growth and investment in Pakistan for the period 1972-2009. He developed a hybrid model that explicitly incorporated the role of public debt in growth equations. The study found that public external debt has negative relationship with per capita GDP and investment confirming the existence of "Debt Overhang effect". However, due to insignificant relationships of debt servicing with investment and per capita GDP, the existence of the crowding out hypothesis could not be confirmed. The study also confirmed that domestic debt has a negative relationship with investment and per capita GDP thus seemed to have crowded out private investment.

2.4 Conclusion

The chapter reviewed theories on government spending, public debt and interest rates, as factors that have an impact on growth of economy relative to government spending and interest rates. Some of the empirical studies reviewed have confirmed a positive relationship between domestic debt and economic growth while others have confirmed a negative relationship. Governments also stand a risk if the domestic debts are held by a few investors. According to the economic survey for 2011, the stock of outstanding public debt in Kenya has been increasing with the domestic debt increasing more than the foreign debt. However the Kenyan economy has maintained a positive growth over the last few years. This study therefore seeks to find out the relationship that exists between domestic debt and economic growth in Kenya.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was used in the study. It discusses the research design, the population of the study, data collection methods as well as data analysis techniques that were employed in the study.

3.2 Research design

This is a descriptive study which seeks to explain the relationship between domestic debt and economic growth in Kenya. Descriptive studies describe characteristics associated with the subject population Cooper and Schindler, (2000). According to Gill and Johnson (2002), descriptive surveys are concerned primarily with addressing the particular characteristics of a specific population of subjects, either at a fixed point in time or at varying times for comparative purposes. The concern is to secure a representative sample of the relevant population to ensure any subsequent assessments of the attributes of that population are accurate and the findings are generalizable - in other words, they have population validity.

3.3 Population

This is a case study on the relationship between domestic debt and economic growth in Kenya. The Population therefore consisted of the total amount of the country's domestic debt and the rate of economic growth from the year 2000 to 2011. The period 2000 -2011 has been considered because it provides the most recent data on the study area and it is
during this period that the country recorded increased amounts of domestic debts with the domestic debt instruments like treasury bills and bonds being traded in the Nairobi Securities Exchange thereby being accessible to the general public.

3.4 Data collection

The study used secondary data. To be able to determine the relationship that exists between domestic debt and economic growth in Kenya, data was collected in relation with the amount of domestic debt, the rate of economic growth (GDP), the interest rate on the domestic debt and the inflation rate for the twelve years from 2000 to 2011. The data was collected once (cross-sectional) and analysed for the twelve year period. The time frame of twelve years was considered adequate for a relationship to exist.

Data on outstanding debt by tenor and by instrument as well data on evolution of debt over the research period was obtained from the Annual Public Debt Management Reports of the Ministry of Finance. Data on GDP growth and inflation rates was obtained from the annual economic surveys done by the Ministry of Planning. National Development and Vision 2030 and quarterly GDP statistical releases by Kenya National Bureau of Statistics. The data extracted included evolution of public debt, amount of domestic debt by instrument and by tenor, the interest therein and GDP growth over the research period.

3.5 Data analysis

Analysis of data was conducted using descriptive statistics, specifically through the use of spearman's rank correlation. Saunders et al. (2003) noted that descriptive statistics
enable you to describe (and compare) variables numerically. Spearman's correlation coefficient. \( (P, \text{ also signified by } r_s) \) measures the strength of association between two ranked variables and will be calculated by applying the following formula:

\[
P = I - \frac{n(n^2 - 1)}{n}
\]

Where; \( d_i \) is the difference in the ranks given to the two variable values for each item of data and \( n \) is the number of data pairs. The ranking for the variables was done using Statistical Package for Social Scientists (SPSS) Version 16 while the analysis was conducted using both MS Excel and SPSS Version 16.

The Pearson correlation coefficient\(^3\), can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association, that is, as the value of one variable increases so does the value of the other variable. A value less than 0 indicates a negative association, that is, as the value of one variable increases the value of the other variable decreases. The results from the analysis are presented using tables and graphs to provide an accurate picture of the research findings.
CHAPTER FOUR

4.0 DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents and explains the findings obtained from the data collected on Domestic growth and economic growth in Kenya. The study focused on the relationship between domestic debt and economic growth in Kenya for the twelve years from 1999/2000 to 2010/2011 financial years. The results are presented in tabular and graphical form.

4.2 Evolution of Domestic debt

Figure 1: Evolution of Domestic Debt

![Graph showing the evolution of domestic debt from 1999/2000 to 2010/2011](image)

Source: Ministry of Finance, CBK. (Adapted)
Figure 1 above shows that the Government has been increasing the amount raised through borrowing from the domestic market by sale of Treasury Bills and Bonds. The amount of domestic debt used by June 2000 was KShs. 206,127 Million while in June 2011 the amount stood at KShs. 764,222 Million, an increase of 271%.

4.3 Composition of domestic debt by instrument

Figure 2: Composition of Domestic Debt by Instrument

* Others includes Government overdraft at the CBK, clearing items awaiting transfer to Pay Master General (PMG), commercial bank advances and tax reserve certificates

Source: CBK. (Adapted)

Figure 2 above shows that of the instruments used by the government to borrow from domestic market. Treasury Bonds has been on the increase over the years. The stocks of treasury bonds have grown from KShs. 36,851 Million in June 2000 to KShs. 595,661...
Million in June 2011, an increase of 1516%. However, the stock of outstanding Treasury Bills has been on the decline over the same period. An indication that the government prefers bonds for their long maturity period (1-30 Years) as compared to treasury bills which mature within 91-182 days. The government long term stock has been constant over the years and was eventually cleared in by June 2011, while Pre-1997 government overdraft and others which include financial institutions, government overdraft at the CBK, clearing items awaiting transfer to PMG, commercial bank advances and tax reserve certificates CBK advances to the government has been on the decline.

4.4 Domestic Debt by Tenor

Table 1: Composition of domestic debt by Tenor

<table>
<thead>
<tr>
<th>Maturity Period</th>
<th>Total Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 Year</td>
<td>1,116,294</td>
<td>27%</td>
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<tr>
<td>1 - 5 Years</td>
<td>1,479,027</td>
<td>36%</td>
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<tr>
<td>6 - 9 Years</td>
<td>734,591</td>
<td>18%</td>
</tr>
<tr>
<td>10 Years &amp; Above</td>
<td>766,961</td>
<td>19%</td>
</tr>
<tr>
<td>Total</td>
<td>4,096,873</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: treasury, CBK. (Adapted)

Data available on composition of domestic debt by tenor indicate that outstanding treasury bonds with a maturity period of 1 year to 5 years was the largest with a composition of 36% of the total domestic debt while that of treasury bills (Less than 1 year) stood at 27% of the total stock of domestic debt. This indicates a large concentration of government securities holding at short term to medium term. However, there has been an increase in the introduction of long term bonds, the recent being introduction of a 25 Year bond in 2009/2010 financial year and a 30 year bond in
2010/2011 financial year. These long term bonds comprise of 19% of the total domestic debt.

4.5 Domestic Debt and Real Gross Domestic Product

Figure 3: Real GDP and Domestic Debt in KShs Million

Source: Annual economic Surveys. (Adapted)

Figure 3 above presents a comparison of the volumes of domestic debt and real GDP and indicates that though both have been increasing over time, domestic debt seem to be increasing more than real GDP.
4.6 Growth in Domestic Debt and in Real GDP

Figure 4: Comparison of growth in real GDP and in Domestic debt

Financial Year

Source: Ministry of Finance, CBK and Annual Economic Surveys. (Adapted)

Figure 4 indicates that growth in domestic debt has been fluctuating during the period under research. However the growth in real GDP has had less fluctuations and recorded a steady rise between June 2002 and June 2007. Though there has been growth in the real GDP and in domestic debt as shown in below, the growth in domestic debt seems to be higher than that of real GDP.
4.7  Inferential Findings

Figure 5: Scatter Plot for Real GDP Growth vs. Domestic Debt

The scatter graph above shows a positive correlation between the variables. Real GDP growth increases as domestic debt increases. However, the relationship between the two variables does not appear to be linear as it has curves.
Table 2: Spearman's rank Correlation results

<table>
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<tr>
<th>Correlations</th>
<th>Rank of Real GDP Growth</th>
<th>Rank of Domestic Debt</th>
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</thead>
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<td>Spearman's rho</td>
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<tr>
<td>Rank of Real GDP Growth</td>
<td>1.000</td>
<td>.280</td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.189</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Rank of Domestic Debt</td>
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<td>1.000</td>
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<td>Correlation Coefficient</td>
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<td></td>
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<tr>
<td>N</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

The results of the Spearman's rank correlation show a weak positive correlation (0.28) between economic growth and use of domestic debt in Kenya. This indicates that even though the two variables are moving together, the relationship between the two is quite weak.

4.8 Discussion of Findings

Over the twelve years period under review, there has been increase economic growth from 0.6% in June 2000 to 4.4% in June 2011. However the growth has not been constant but has been fluctuating from year to year, with some years recording notable declines while in other years there were notable increases.

In the same period the use of domestic debt has been increasing from year to year. The stock of domestic debt outstanding as at 30 June 2000 was KShs 206.127 Million which
increased to KShs 764.222 Million as at 30 June 2011 registering a 271 % rise over the
twelve year period.

The stocks of treasury bonds grew from KShs. 36,851 Million in June 2000 to KShs. 595.661 Million in June 2011, an increase of 1516%. However, the stock of outstanding Treasury Bills has been on the decline over the same period. The government seems to be moving towards use of more long term bonds especially with the introduction of implementation of the benchmark Bonds initiative in September 2007, which is set to address illiquidity in the domestic debt market and to lengthen maturity of domestic debt in order to minimize rollover risk.

The analysis of data on real GDP and domestic debt indicate a weak positive relationship (0.28) between the two variables. This is an indication that even though the two variables seem to be moving together, the relationship between them does not seem to be causal.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This chapter contains a summary of the purpose of the research project, discussion of the results, conclusions and recommendations. The discussion section interprets the results with reference to the research questions and the literature review. The conclusions given are based on the specific question of the research. The chapter closes with recommendations for improvement and further research.

5.2 Conclusion

The objective of the study was to establish the relationship that exists between domestic debt and economic growth in Kenya. Secondary data collected with respect to the level of domestic debt and real GDP growth in Kenya for the period between 1999/2000 to 2010/2011 was analysed using both SPSS and MS Excel. The results indicate that domestic debt has been increasing steadily over the twelve year period with a 271% increase from June 2000 to June 2011. The analysis also indicates that Treasury bonds were the main instrument used for domestic borrowing and the stock of treasury bonds grew with 1516% from June 2000 to June 2011.

Over the same period, the analysis indicates that growth in real GDP registered some unsteady growth which has been fluctuating from year to year. In June 2000 the economic growth was 0.6% , rose to a high 7.0% in 2007 after which it decline to 1.5% in 2008 then rose to 4.4% in June 2011.
Though the two variables have been moving in the same direction, the results show that the relationship between the two variables does not appear to be linear and there is a weak positive relationship between domestic debt and economic growth in Kenya. This means that though the level of use of domestic debt in Kenya may not have any significant impact on the rate of economic growth it has some slight contribution to economic growth.

5.3 Policy Recommendation

The fact that the study finds a positive relationship between domestic debt and economic growth does not mean that the country can sustain any level of debt. The government should only use a level of debt which is sustainable to avoid the interest on domestic debt becoming greater than the GDP growth and to avoid crowding out other investments which are also crucial for economic growth.

5.4 Limitations

The study did not include the interest factor in each class of Treasury bill and bonds issued over the research period, thus the figures used are purely the outstanding stocks of domestic debt at the end of each financial year.

5.5 Suggestion for Further Research

Debt maturity period has an impact on economic growth due to the amount of interest accruing over time. The Ministry of Finance has been introducing treasury Bonds with longer maturity periods, the latest being 25 years and 30 years maturity periods. A
research should be carried out to assess the impact the debt maturity period has on
government securities has on economic growth.

Interest component is a major factor consideration on repayment of any debt. A research
on the relationship between economic growth in Kenya and the total amount of
outstanding debt stock and the interest there in could also be carried out.
REFERENCES


Laws of Kenya: External Loans and Credit Act, Chapter 422


## APPENDICES

### Appendix 1: Evolution of Domestic Debt (KShs Billion)

<table>
<thead>
<tr>
<th></th>
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<th>Jun-01</th>
<th>Jun-02</th>
<th>Jun-03</th>
<th>Jun-04</th>
<th>Jun-05</th>
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<th>Jun-08</th>
<th>Jun-09</th>
<th>Jun-10</th>
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<tr>
<td><strong>Banks</strong></td>
<td>120.800</td>
<td>160.178</td>
<td>181.512</td>
<td>169.529</td>
<td>190.762</td>
<td>224.076</td>
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<td>290.778</td>
<td>401.794</td>
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<td>Central Bank</td>
<td>42.800</td>
<td>45.289</td>
<td>50.774</td>
<td>46.618</td>
<td>41.289</td>
<td>36.182</td>
<td>35.548</td>
<td>40.061</td>
<td>50.215</td>
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<td>Commercial Banks</td>
<td>78.000</td>
<td>114.889</td>
<td>130.738</td>
<td>122.911</td>
<td>149.473</td>
<td>187.894</td>
<td>192.934</td>
<td>250.717</td>
<td>351.579</td>
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<td>Non-banks</td>
<td>104.400</td>
<td>119.984</td>
<td>120.688</td>
<td>139.541</td>
<td>162.029</td>
<td>180.614</td>
<td>202.136</td>
<td>227.729</td>
<td>258.477</td>
<td>339.8</td>
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<td>2.800</td>
<td>3.077</td>
<td>3.190</td>
<td>2.129</td>
<td>1.400</td>
<td>1.084</td>
<td>11.177</td>
<td>3.651</td>
<td>2.959</td>
<td>10.04</td>
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<td>Other Non-bank Sources</td>
<td>101.600</td>
<td>116.907</td>
<td>117.498</td>
<td>137.412</td>
<td>160.629</td>
<td>179.530</td>
<td>190.953</td>
<td>224.078</td>
<td>255.518</td>
<td>329.8</td>
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<td>Non-residents</td>
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<td>4.035</td>
<td>6.502</td>
<td>5.047</td>
<td>1.091</td>
<td>2.826</td>
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<tr>
<td><strong>DOMESTIC DEBT</strong></td>
<td>206.127</td>
<td>211.813</td>
<td>236.000</td>
<td>289.376</td>
<td>306.235</td>
<td>315.572</td>
<td>357.838</td>
<td>405.781</td>
<td>433.438</td>
<td>518.507</td>
<td>660.271</td>
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Source: MOF, CBK
### Appendix 2: Public Domestic Debt by Instrument

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<tbody>
<tr>
<td><strong>Total stock of domestic debt (A-B)</strong></td>
<td>206,042</td>
<td>211,806</td>
<td>236,000</td>
<td>289,377</td>
<td>315,572</td>
<td>357,839</td>
<td>404,689</td>
<td>430,612</td>
<td>518,507</td>
<td>660,268</td>
<td>764,222</td>
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<tr>
<td><strong>A. Govt. Securities</strong></td>
<td>190,886</td>
<td>199,317</td>
<td>226,800</td>
<td>278,251</td>
<td>289,537</td>
<td>349,740</td>
<td>402,925</td>
<td>427,031</td>
<td>511,621</td>
<td>640,080</td>
<td>753,921</td>
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<tr>
<td>1. Treasury bills (excluding Kepo bills)</td>
<td>114,129</td>
<td>116,441</td>
<td>82,100</td>
<td>78,744</td>
<td>62,936</td>
<td>71,938</td>
<td>94,776</td>
<td>94,422</td>
<td>76,293</td>
<td>116,794</td>
<td>158,494</td>
<td>126,605</td>
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<td>Banking Institutions</td>
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<td>30,515</td>
<td>36,231</td>
<td>42,154</td>
<td>32,780</td>
<td>47,035</td>
<td>45,051</td>
<td>28,483</td>
<td>74,630</td>
<td>133,797</td>
<td>87,736</td>
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<tr>
<td>Others</td>
<td>52,210</td>
<td>62,287</td>
<td>51,585</td>
<td>42,513</td>
<td>20,782</td>
<td>39,158</td>
<td>47,741</td>
<td>49,371</td>
<td>47,810</td>
<td>42,164</td>
<td>24,697</td>
<td>38,865</td>
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<tr>
<td><strong>2. Treasury bonds</strong></td>
<td>36,851</td>
<td>44,491</td>
<td>106,300</td>
<td>161,549</td>
<td>188,626</td>
<td>193,358</td>
<td>218,357</td>
<td>272,199</td>
<td>315,190</td>
<td>360,744</td>
<td>448,615</td>
<td>595,66</td>
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<td>Banking Institutions</td>
<td>8,637</td>
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<td>89,729</td>
<td>100,149</td>
<td>140,685</td>
<td>161,625</td>
<td>182,058</td>
<td>217,562</td>
<td>294,206</td>
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<td><strong>3. Long Term Stocks</strong></td>
<td>3,006</td>
<td>1,468</td>
<td>1,500</td>
<td>1,058</td>
<td>1,058</td>
<td>1,058</td>
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<td></td>
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<tr>
<td>Others</td>
<td>2,889</td>
<td>1,468</td>
<td>1,500</td>
<td>1,058</td>
<td>1,058</td>
<td>1,058</td>
<td>1,058</td>
<td>1,058</td>
<td>755</td>
<td>755</td>
<td>755</td>
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<td><strong>4. Pre-1997 Govt. Overdraft</strong></td>
<td>36,900</td>
<td>36,917</td>
<td>36,900</td>
<td>36,900</td>
<td>36,917</td>
<td>35,917</td>
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<td>35,549</td>
<td>34,993</td>
<td>33,328</td>
<td>32,218</td>
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<td><strong>B. Others</strong></td>
<td>15,156</td>
<td>12,489</td>
<td>9,200</td>
<td>11,126</td>
<td>16,697</td>
<td>13,301</td>
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<td>1,764</td>
<td>3,381</td>
<td>6,886</td>
<td>20,188</td>
<td>10,293</td>
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</table>

* Others includes Government overdraft at the CBK, clearing items awaiting transfer to PMG, commercial bank advances and tax reserve certificates

Source: CBK
## Appendix 3: Outstanding Treasury bills and bonds by Tenor (KShs Million)

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>91-DAY</td>
<td>108.476</td>
<td>109.539</td>
<td>61.420</td>
<td>48.186</td>
<td>29.497</td>
<td>42.761</td>
<td>37.632</td>
<td>22.017</td>
<td>17.980</td>
<td>23.523</td>
<td>23.663</td>
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<tr>
<td>182-DAY</td>
<td>8.903</td>
<td>10.760</td>
<td>20.630</td>
<td>30.558</td>
<td>33.439</td>
<td>29.177</td>
<td>57.144</td>
<td>72.405</td>
<td>58.313</td>
<td>93.271</td>
<td>85.337</td>
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<tr>
<td>6-YEAR</td>
<td>2.982</td>
<td>11.800</td>
<td>17.909</td>
<td>20.434</td>
<td>33.105</td>
<td>48.333</td>
<td>47.589</td>
<td>38.769</td>
<td>48.986</td>
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<tr>
<td>8-YEAR</td>
<td>3.907</td>
<td>11.969</td>
<td>11.969</td>
<td>15.287</td>
<td>17.944</td>
<td>17.944</td>
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<td>26.721</td>
<td>22.813</td>
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<tr>
<td>10-YEAR</td>
<td>2.705</td>
<td>8.634</td>
<td>8.634</td>
<td>17.113</td>
<td>22.113</td>
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<td>69.090</td>
<td>91.391</td>
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<tr>
<td>12-YEAR</td>
<td>—</td>
<td>8.766</td>
<td>8.766</td>
<td>28.494</td>
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<td>33.051</td>
<td>33.051</td>
<td>33.051</td>
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<td>15-YEAR</td>
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<td>16.892</td>
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<td>61.929</td>
<td>75.443</td>
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<td>25-YEAR</td>
<td>—</td>
<td>7.008</td>
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<tr>
<td>30-YEAR</td>
<td>—</td>
<td>18.760</td>
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<tr>
<td>Total</td>
<td>117,379</td>
<td>164,798</td>
<td>184,389</td>
<td>240,295</td>
<td>251,564</td>
<td>265,297</td>
<td>313,133</td>
<td>366,622</td>
<td>391,484</td>
<td>477,538</td>
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Source: Treasury, CBK
### Appendix 4: Economic Indicators 2000-2011

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<tr>
<td>Real GDP growth (%)</td>
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<td>0.3</td>
<td>2.8</td>
<td>4.6</td>
<td>6.0</td>
<td>6.3</td>
<td>7.0</td>
<td>1.5</td>
<td>2.6</td>
<td>5.6</td>
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<td>17.8</td>
<td>17.3</td>
<td>9.1</td>
<td>4.6</td>
<td>6.2</td>
<td>6.1</td>
<td>6.9</td>
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<tr>
<td>Inflation rate</td>
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Source: Economic Surveys