

Domestic Debt and its Impact on the Economy – The Case of Kenya

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Abstract

This study analyses the development in public domestic debt in Kenya and its impact on the economy for the period 1996 to 2007, and provides recommendations on how to improve domestic debt management in Kenya. The study finds that the composition of Kenya's public debt has shifted in favour of domestic debt while considerable progress has been made in extending the maturity profile of the debt, and diversification of the investor base towards institutional investors and individuals. The significant rise in domestic debt during the period resulted in higher domestic interest payments which present a significant burden to the budget. However, due to a considerable level of financial development in Kenya, the study found no evidence that the growth in domestic debt crowds-out private sector lending in Kenya. We also examined the effect of domestic debt on real output by using a modified Barro growth regression. The results indicate that domestic debt expansion had a positive but not significant effect on economic growth during the period.

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² MEFMI stands for Macroeconomic and Financial Management Institute of Eastern and Southern Africa.

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1. Introduction

Public debt remains one of the major economic policy issues confronting the governments of poor countries globally. The debt levels, particularly among the Highly Indebted Poor Countries (HIPCs), 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 HIPCs. The initiatives range from measures to ease the debt burden through debt rescheduling to outright debt forgiveness.

Among the most successful initiatives in relieving the debt burden of most low income countries are the Debt Initiative for Heavily Indebted Poor Countries (HIPC Initiative) and the Multilateral Debt Relief Initiative (MDRI) by the World Bank and the International Monetary Fund (IMF). These two initiatives build “on instruments already available to the international community to deal with the external debt problems of low income countries and allows them to exit from repeated debt rescheduling”.

These initiatives, however, have concentrated on addressing the external debt burden. External debt has therefore historically received the attention it deserves. However, domestic debt has not received a lot of attention from the international development agencies. Until the late 1990s even low income countries themselves did not pay much attention to the potential risks and challenges of domestic debt. This led in some countries to the substitution of external debt for domestic debt. Countries like Kenya have been running net repayments of external debt for more than a decade while at the same time accumulating domestic debt at fairly rapid rates, implying domestic borrowing is used to service external debt. According to Quarterly Budget Reviews for 1995/96 and 2006/07, foreign financing of the budget deficit increased from a net repayment of 0.01 percent of GDP to a net repayment of 0.11 percent of GDP during the period.

Many developing countries like Kenya have been unable to constrain the growth of their public domestic debt to ensure that sufficient revenues remain available after debt service payments to finance other vital

government recurrent and development expenditures. 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. Furthermore, the domestic debt to GDP ratio for these countries increased considerably from 12 percent to 16 percent in the same period.

The shift in the composition of overall public debt in favour of domestic debt in sub-Saharan Africa countries has brought to the fore the need for governments to formulate and implement prudent domestic debt management strategies to mitigate the effects of the rising debt on the economy. Literature on the effect of public debt on the economy in Kenya, and Africa in general, is scanty as most studies have largely focused on developed countries. Recent studies used old domestic debt databases of up to 2004 which are unlikely to yield results which reflect the current situation in the Kenyan economy. Furthermore, studies on public debt and economic growth have typically focused on external debt. This study aims at filling this gap by using the most recent data to analyse the impact of domestic debt on the Kenyan economy.

Government domestic debt is contracted for various reasons. First, it is used to finance the budget deficit when the government is not able to meet its expenditure commitments using domestically raised revenue and externally sourced grants and borrowing. Second, domestic debt is contracted during implementation of monetary policy through open market operations. Third, debt instruments are important in financial markets development. 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.

Extensive use of domestic borrowing can have severe implications on the economy. Domestic interest payments consume a significant part of government revenue more so if the associated interest rates are higher compared to those on external debt. In shallow financial markets, the interest cost on domestic debt increases with the debt stock as a large proportion of the debt is held in short term instruments. Christensen (2005) found that domestic interest payments for sub-Saharan African countries increased

from 49.7 percent of total debt service between 1990 and 1994 to 51.9 percent between 1995 and 2000. The proportion of domestic interest payments to government revenues increased from 10.9 percent to 11.5 percent during the period while the ratio of the interest payments to GDP increased from 2.0 percent to 2.3 percent.

The World Bank and IMF (2001) found that the rise in the domestic interest rates is more pronounced if the investor base for domestic debt is relatively narrow as the government may be held hostage by a particular group of investors. A wider investor base reduces the monopolistic tendencies of certain investor groups such as commercial banks and brings down borrowing costs. It also minimises potential rollover risks associated with short term borrowing. Broadening of the investor base can be achieved through promoting investment by retail investors and introducing relevant reforms in the financial sector mainly comprising of insurance companies and pension funds to encourage their investment in government securities.

Excessive domestic borrowing could also crowd out private sector investment as the government competes with the private sector for private savings. This is more so in developing countries like Kenya where national savings are quite low compared with those of developed countries. Increased demand for limited financial resources from commercial banks and other non-bank investors' driving interest rates up. This increases the cost of borrowing and hence reduced credit to private sector which eventually undermines private investment. Christensen (2005) examined the domestic debt crowding-out effect on private sector credit for 27 sub-Saharan countries, including Kenya, and found significant evidence for the period 1980 to 2000.

The government debt portfolio should comprise of both short and long term securities in appropriate proportions. If the overall portfolio is dominated by short term debt, the government is vulnerable to a sudden increase in interest rates due to frequent rollovers which leads to increased domestic interest payments. Furthermore, if the rollover amounts are quite large, the government is also faced with the risk of defaulting on servicing the debt due to unavailability of adequate funds. Frequent rollovers of domestic debt could also result in higher administrative costs.

The maturity structure of domestic debt is important for investors to diversify their asset portfolios to match their long term liabilities with long term assets. Furthermore, long term debt instruments are crucial

for establishing a yield curve that is useful in pricing other financial instruments in the market. However, if inflation is high and there are considerable default risks, the market confidence in longer dated paper is eroded. In some cases, the government may also be reluctant to issue longer dated paper because of implied higher interest rates at the initial stage.

Furthermore, there may be legal considerations concerning the statutory limit on the level of domestic debt in the economy. This could be expressed as a percentage of government revenues or as a nominal amount. The current level of domestic debt should be assessed in relation to the legal limits as this would indicate how far the government is from breaching the limits. The other legal or policy consideration is issuance of government guarantees for parastatals, and if so how much of the existing debt stock and servicing obligations is accounted for on this basis?

This study analyses the development in public domestic debt in Kenya, and its impact on the economy for the period 1996 to 2007 with the objective of making policy recommendations for improving the management of the debt. The study finds that the composition of Kenya's public debt has shifted in favour of domestic debt while considerable progress has been made in extending the maturity profile of the debt, and diversification of the investor base towards institutional investors and individuals.

The significant rise in domestic debt during the period resulted in higher domestic interest payments which present a significant burden to the budget. However, due to a considerable level of financial development in Kenya, the study found no evidence that the growth in domestic debt crowds-out private sector lending in Kenya. We also examined the effect of domestic debt on real output by using a modified Barro growth regression. The results indicate that domestic debt expansion had a positive but not significant effect on economic growth during the period.

The paper is organised as follows. Chapter 2 presents the legal framework and existing policies for managing domestic debt in Kenya; Chapter 3 provides a detailed analysis of developments in domestic debt in Kenya since 1996; Chapter 4 provides the literature review for the study; chapter 5 presents the specifications of the analytic models; the data and empirical results are presented and analysed in Chapter 6, after which we draw conclusions and give policy recommendations for the sound management of domestic debt in Kenya.

2. Legal Framework and Strategies for Domestic Debt Management in Kenya

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 bonds³. 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 Central Bank of Kenya Act further allows the government access to an overdraft facility at the Central Bank of Kenya when there is a mismatch between revenue receipts and expenditure commitments by the government. However, to mitigate the inflationary pressures resulting from use of the overdraft facility, the Act limits the overdraft level to 5 percent of the latest audited ordinary 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 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.

Despite lack of a documented debt management strategy, the Annual Debt Management Report for the fiscal year 2005/06 outlined the government’s debt management strategies. These include ensuring that public debt is sustainable over time and contracting new external loans on concessional terms. In addition, continuous review of the debt portfolio will be undertaken to minimise debt-servicing costs while domestic borrowing and monetary policies will be closely co-ordinated to ensure that the government raises required resources from the financial market without destabilising interest rates and consequently crowding-out private sector lending. The domestic debt portfolio will also be restructured by lengthening the maturity profile in order to promote the development of the capital markets and minimise the risks

³ Section 3 of the Internal Loans Act (CAP 420) provides that “The government may from time to time borrow in Kenya currency sums of money in such amounts and on such terms and conditions as to interest, repayment or otherwise as the minister may determine, in any of the following manners:

- a) By the issue of government Securities;
- b) By advances from the Central Bank as provided for under the provision of the Central Bank of Kenya Act;
- c) By bank overdraft on the exchequer account or any other account;
- d) By any other loan or credit evidenced by instrument in writing.

associated with short term domestic borrowing. Lastly, the government will ensure that the outstanding external debt is within the limit authorised by Parliament.

3. Developments in Domestic Debt: 1996-2007

Domestic debt in Kenya is defined as the central government debt incurred internally through borrowing in the local currency from residents. Government domestic borrowing comprises of government securities, overdraft at the Central Bank of Kenya and advances from commercial banks. Government securities comprise Treasury bills, Treasury bonds and long-term stocks.

During the period June 1996 to June 2007, Treasury bills were issued mainly in maturities of 91-days and 182 days while Treasury bonds were issued in maturities of between one and fifteen years. However, 9-day, 16-day, and 23-day Treasury bills were issued in 1995 while 30-day and 60-day Treasury bills were issued in 1993. Similarly, 28-day Treasury bills were issued between September 1996 and June 1997. The types of bonds issued during the period were fixed rate, fixed coupon discounted, zero-coupon, floating rate, and special fixed and floating rate. Special and restructuring bonds were issued with respect to pending bills, and recapitalization of government parastatals and agencies.

Except for special and public entities restructuring bonds, all other government securities are issued through open-ended auctions. In July 2002, the government replaced the non-auction based system with a multi-price bid auction system for bonds to allow market determined yields and promote price discovery. Since Treasury bonds are tradable in the secondary market, this development resulted in increased bond trading at the Nairobi Stock Exchange (NSE).

Domestic debt increased more than threefold from Ksh 120.4 billion in June 1996 to Ksh 404.7 billion in June 2007 (Table 1). This represented a growth of 236.3 percent in domestic debt during the period. Similarly, the share of domestic debt in the overall public debt increased significantly from 25.8 percent to 50.5 percent during the period. This rapid growth in domestic debt was not anticipated in government policy documents such as the Economic Recovery for Wealth and Employment Strategy Paper (ERS). The annual Debt Management Report of June 2007 attributed the shift in the composition of debt mainly to reduced access to external funding and the need for domestic borrowing to finance the budgetary operations.

External financing was generally unpredictable as most of the funding is tied to the government meeting certain loan conditions. The ERS, 2003-2007 had anticipated increased concessional external borrowing during the four year period but the increase in external funding was not as high as anticipated. External debt is much cheaper than domestic debt, especially when contracted on concessional terms from multilateral creditors. However, a large external debt stock exposes the country to the exchange rate risk, Montiel (2005).

Due to rapid growth in domestic debt during the period, its proportion in GDP increased from 17.5 percent in June 1996 to 27.9 percent in June 2003 before declining to 22.1 percent in June 2007. However, the domestic debt to GDP ratio has been falling since 2003 due to high growth of the economy.

Table 1: Evolution of Public Debt (Ksh Billion)

	Jun-96	Jun-97	Jun-98	Jun-99	Jun-00	Jun-01	Jun-02	Jun-03	Jun-04	Jun-05	Jun-06	Jun-07
EXTERNAL DEBT*	345.9	307.7	323.3	407.8	395.6	394.0	377.7	407.1	443.2	434.5	431.2	396.6
Bilateral	127.8	114.1	108.3	147.9	138.6	132.3	130.0	142.6	162.9	157.7	154.9	137.9
Multilateral	187.8	163.8	179.3	220.2	230.7	228.5	222.5	233.8	260.7	255.8	255.6	240.3
Commercial Banks	29.0	26.3	34.9	35.8	24.9	29.4	24.0	3.6	2.9	1.8	1.3	0.3
Export Credit	1.4	3.5	0.9	3.9	1.5	3.8	1.3	27.0	16.7	19.2	19.5	18.0
(As a % of GDP)	50.3	42.2	39.9	55.1	50.9	40.7	36.8	39.2	36.6	32.2	27.9	21.7
(As a % of total debt)	74.2	65.9	65.3	70.1	65.7	65.0	61.5	58.4	59.1	57.9	54.7	49.5
DOMESTIC DEBT**	120.4	159.1	171.7	174.3	206.1	211.8	236.0	289.4	306.2	315.6	357.8	404.7
(As a % of GDP)	17.5	21.8	21.2	23.6	26.5	21.9	23.0	27.9	25.3	23.4	23.2	22.1
(As a % of total debt)	25.8	34.1	34.7	29.9	34.3	35.0	38.5	41.6	40.9	42.1	45.3	50.5
TOTAL DEBT	466.3	466.8	495.1	582.1	601.7	605.8	613.7	696.4	749.4	750.0	789.1	801.3
(As a % of GDP)	67.8	64.0	61.1	78.7	77.4	62.6	59.8	67.1	62.0	55.6	51.1	43.8

* valued at the end of fiscal year exchange rate

** Domestic debt is reported on gross domestic debt

Note: Fiscal year GDP is computed as the average calendar year GDP at market prices for previous year and current year.

Source: Ministry of Finance and Central Bank of Kenya.

3.1 Maturity Structure of Domestic Debt

As shown in Table 2, the instruments used by the government for domestic borrowing between June 1996 and June 2007 were Treasury bills, Treasury bonds, long-term stocks, overdraft at Central Bank of Kenya, and other forms of debt which include the pre-1997 government overdrafts at Central Bank of Kenya, advances from commercial banks, tax reservation certificates and clearing items.

The composition of domestic debt portfolio by instrument changed significantly in favour of Treasury bonds over the period under review. The proportion of Treasury bonds in the overall domestic debt increased from 7.1 percent in June 1996 to 67.3 percent in June 2007 while Treasury bills dropped from 65.2 percent to 23.3 percent of the overall domestic debt during the period. The shift in the composition of domestic debt in favour of the longer dated instruments followed the government initiative in May 2001 to restructure public domestic debt and develop the domestic debt markets. The first objective of the process

was to restructure domestic debt from the short-dated Treasury bills to the long-dated Treasury bonds in order to minimise roll-over risks associated with short-term borrowing.

The second objective of the process was to develop a secondary market for government securities. It was envisaged that the secondary market for government securities would promote financial resource mobilization for both the public and private sector through the financial market. Development of this market has since enabled issuance of other tradable instruments by the private sector especially corporate bonds.

The shift in composition of domestic debt also affected the proportion of overdraft. The proportion of government overdraft at the Central Bank of Kenya in the overall domestic debt dropped from 20 percent to zero during period under review. The reduction in utilisation of the overdraft facility was not only due to improved fiscal discipline but also due to amendment of the CBK Act in April 1997 to limit the overdraft level to 5 percent of the latest audited ordinary government revenue. As at the end of 2007, therefore, the maximum overdraft the government could utilize was Ksh 13.3 billion. As a result, the percentage of budget deficit financed by money creation through overdraft from the central bank decreased significantly.

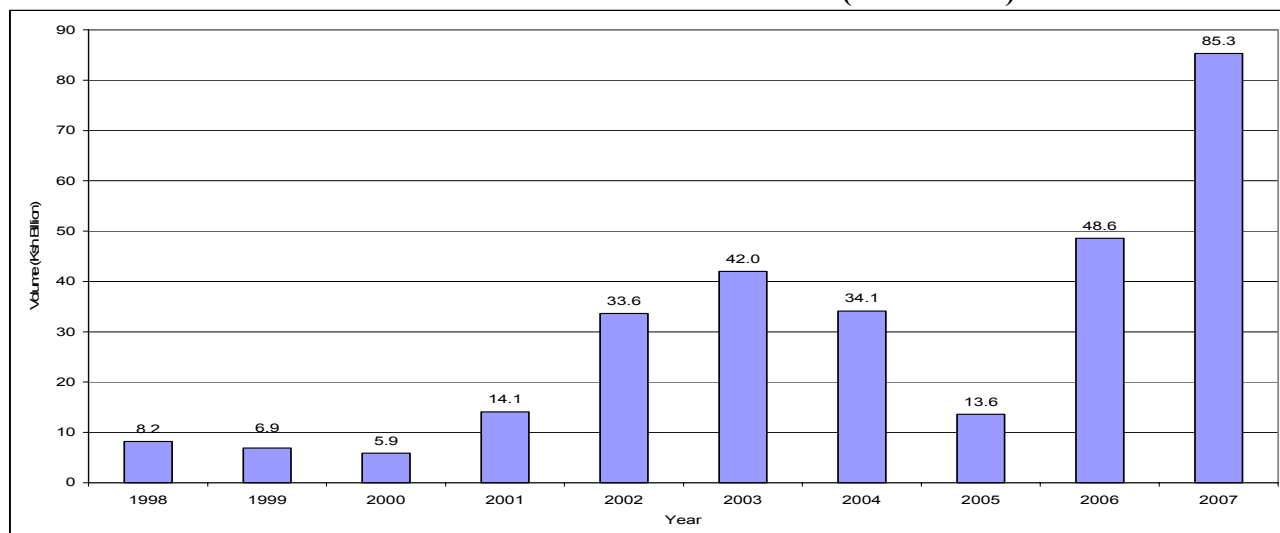
Table 2: Composition of Domestic Debt by Instrument (Percent of Total)

	Jun-96	Jun-97	Jun-98	Jun-99	Jun-00	Jun-01	Jun-02	Jun-03	Jun-04	Jun-05	Jun-06	Jun-07
Total Domestic Debt (A+B)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
A. Government Securities	76.1	87.3	83.1	94.8	92.6	94.1	96.1	96.2	94.5	95.8	97.7	99.6
1. Treasury Bills (excluding Repo Bills)	65.2	62.4	60.7	55.5	55.4	55.0	34.8	27.2	20.6	22.8	26.5	23.3
Banking institutions	37.5	33.7	26.1	32.4	30.1	25.6	12.9	12.5	13.8	10.4	13.1	11.2
Others	27.7	28.8	34.6	23.0	25.3	29.4	21.9	14.7	6.8	12.4	13.3	12.1
2. Treasury Bonds	7.1	22.4	20.2	16.2	17.9	21.0	45.0	55.8	61.6	61.3	61.0	67.3
Banking institutions	0.4	14.4	15.3	2.9	4.2	6.2	20.0	25.7	29.1	28.4	28.0	35.0
Others	6.7	8.0	4.9	13.3	13.7	14.8	25.1	30.1	32.5	32.8	33.0	32.3
3. Long Term Stocks	3.8	2.5	2.2	2.0	1.5	0.7	0.6	0.4	0.3	0.3	0.3	0.2
Banking institutions	0.1	0.1	0.0	0.0	0.1	-	-	-	-	-	-	-
Others	3.7	2.4	2.2	1.9	1.4	0.7	0.6	0.4	0.3	0.3	0.3	0.2
4. Pre-1997 Government Overdraft	-	-	-	21.2	17.9	17.4	15.6	12.8	12.1	11.4	9.9	8.8
Repo T/Bills	2.2	10.9	9.8	2.9	8.2	10.0	15.3	9.3	12.0	11.4	9.9	8.8
B. Others	23.9	12.7	16.9	5.2	7.4	5.9	3.9	3.8	5.5	4.2	2.3	0.4
Of which CBK overdraft to Government	20.0	-	3.2	3.2	3.2	1.4	-	1.5	3.0	1.7	1.5	0.0

Source: Central Bank of Kenya

The shift in the composition of domestic debt portfolio by instrument in favour of Treasury bonds resulted in a tremendous increase in the value of Treasury bonds traded at the Nairobi Stock Exchange (NSE) from Ksh 14.1 billion in the year 2001 to Ksh 85.3 billion in the year 2007 (Chart 1). The sharp decline in the performance of the bonds traded in the secondary market in 2005 is attributed to the significant rise in Treasury bills interest rates during the year.

Chart 1: Value of Bonds Traded at NSE (Ksh Billion)



Source: Nairobi Stock Exchange

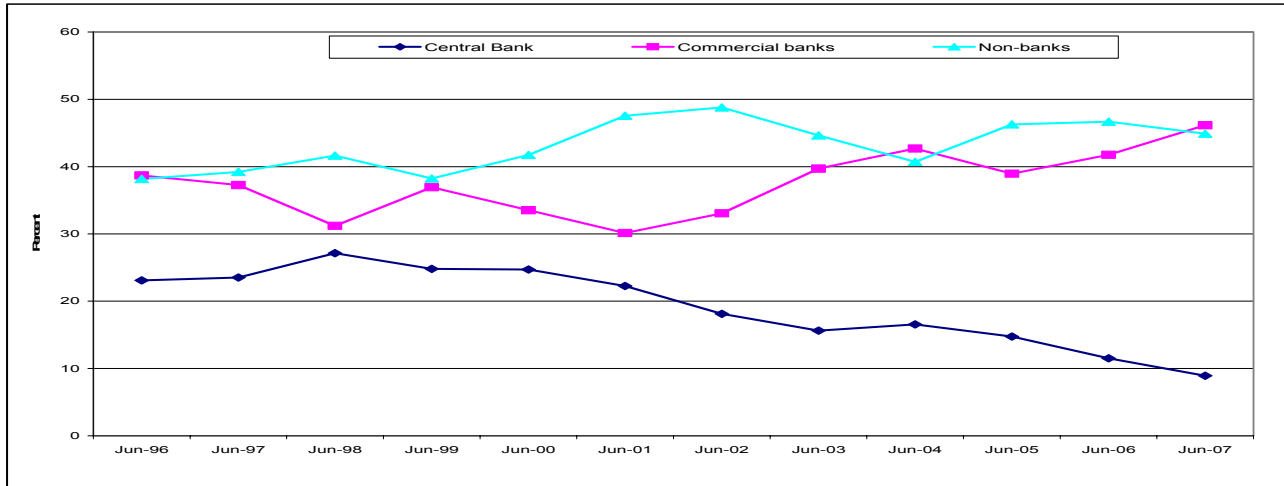
The success of the government bond programme during the period was largely attributed to the deliberate government policy to restructure domestic debt from short to long term, and reforms in pensions and insurance sectors which required that part of their investment must be in government securities. There was also support from the financial market players through the Market Leaders Forum which was constituted in May 2001. This is a consultative forum held on a monthly basis to discuss among other things market developments that may impact on the performance of new issues of government securities, debt market development and any other relevant information.

The Market Leaders Forum is chaired by the Governor of the Central Bank of Kenya draws its representation from the Central Bank of Kenya, commercial banks, the Treasury, other financial sector regulators comprising the Retirement Benefit Authority and Capital Markets Authority, brokers, Nairobi Stock Exchange, Insurance Companies and Fund Managers. This forum has been very useful to the government in shaping the reforms in the government securities market.

3.2 Domestic Debt by Investor

As shown in Chart 2, the percentage of domestic debt held by commercial banks increased from 38.2 percent in June 1996 to 46.2 percent in June 2007 while the percentage held by the Central Bank of Kenya dropped from 23.1 percent to 8.9 percent during the period. Similarly, the share of domestic debt held by non-bank entities comprising non-bank financial institutions, pension funds, building societies, parastatals and individuals increased from 38.2 percent to 44.9 percent during the period.

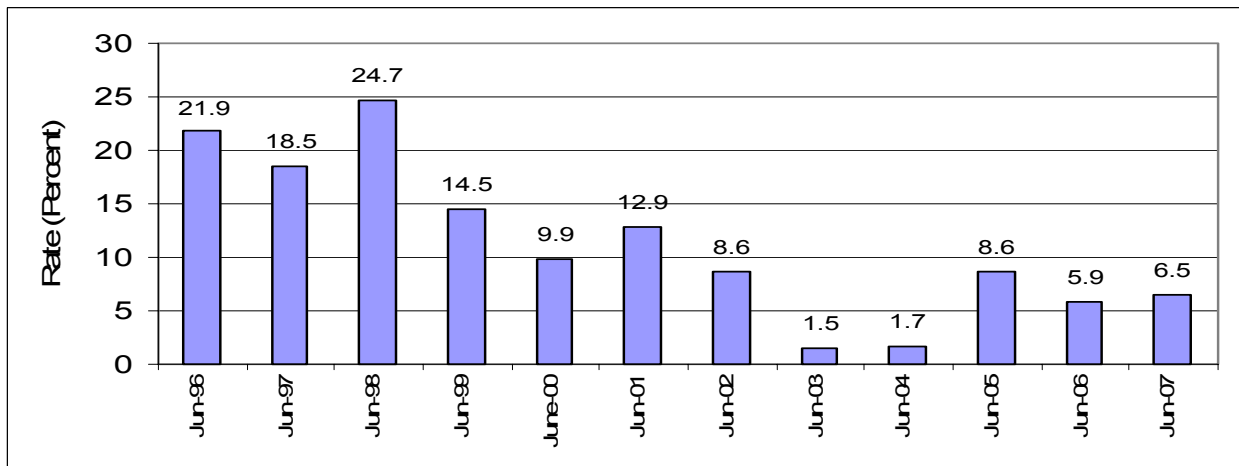
Chart 2: Domestic Debt by Holders (As percent of total Domestic Debt)



Source: Central Bank of Kenya.

The higher proportion of debt held by non-bank entities is a positive development as a wider investor base is crucial to lowering the cost of government debt and the volatility of market interest rates. This partly explains the significant drop in the interest rates on government securities during the period (Chart 3).

Chart 3: Trends in the 91-Days Treasury bills rate



Source: Central Bank of Kenya

Interest rates on Treasury bills had increased significantly in the early 1990's to the highest ever rate of 85 percent in July 1993, as the investor base in government securities was highly skewed towards commercial banks due to lack of sufficient institutional investors.

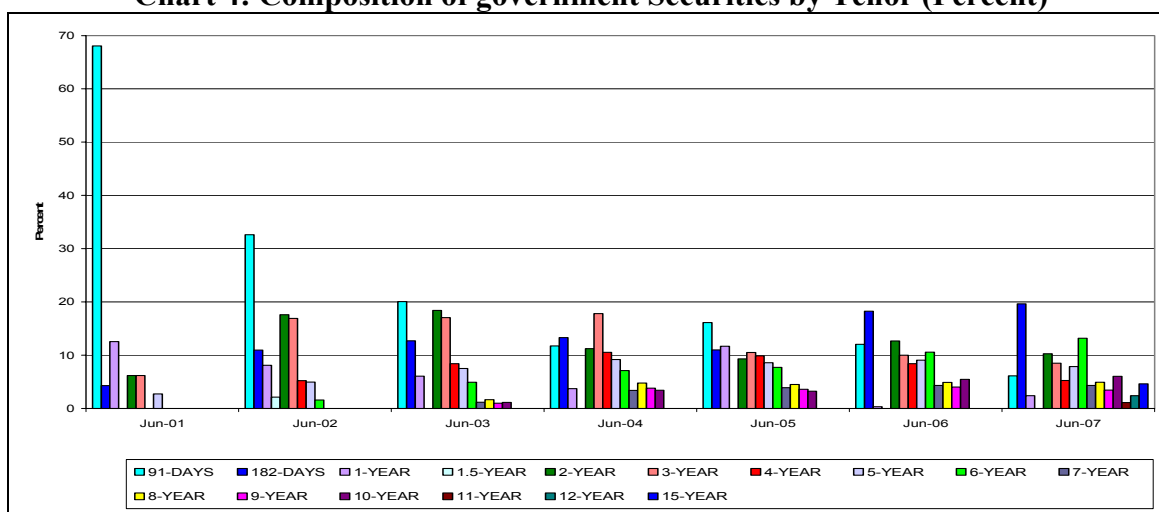
A wider investor base also plays a major role in ensuring that the government meets its domestic borrowing requirements at reasonable costs. A narrow investor base consisting mainly of commercial banks increases the risk of crowding-out private sector investment as private companies depend mainly on commercial bank financing, Christensen (2005).

3.3 Composition of government Securities by Tenor

As depicted in Chart 4, the percentage of 91-day Treasury bills in outstanding government securities dropped significantly from 68.1 percent in June 2001 to 6.1 percent in June 2007 while 182-days Treasury bills increased from 4.3 percent to 19.7 percent of the securities. Similarly, the percentage of outstanding Treasury bonds of 5 years and above increased from 2.7 percent to 47.8 percent during the period. Furthermore, the longest tenor for existing bonds increased from 5-years to 15-years in the period.

The 15-year bonds, introduced in 2007, proved to be very popular with investors as their auctions were oversubscribed. Their popularity was also an indication of the confidence that investors have in the government securities market.

Chart 4: Composition of government Securities by Tenor (Percent)



Source: Central Bank of Kenya

In addition, the average maturity profile of domestic debt by months to maturity increased from 3 months in May 2001 to 3 years and 1 month by June 2007. This is an indication that the government has made significant steps in the implementation of the strategy of lengthening the maturity structure of its domestic debt portfolio. The issue of longer dated Treasury bonds during the period was important for institutional investors such as pension funds and insurance companies to balance their long-term liabilities with long-term assets.

The government significantly reduced the interest rate risk on domestic debt which is associated with fluctuations in the 91-day Treasury bill rate by increasing the proportion of the debt held in fixed rate

Treasury bonds from 12.1 percent in June 2001 to 88.2 percent during the period. The share of floating rate bonds in outstanding Treasury bonds dropped from 85.8 percent to 0.3 percent during the period.

3.4 Domestic Contingent Liabilities

Contingent liabilities are obligations arising from government guarantees for non-sovereign borrowings including liabilities of local governments and public and private sector enterprises, government insurance schemes, payments arrears arising from goods and services rendered to government but not yet paid for and bank failures and other financial sector bail-outs. They are a potential risk to the government and should therefore be included in the domestic debt stock. However, due to unavailability of periodic and reliable information, contingent liabilities are not included in domestic debt in Kenya.

During the period under review the government adopted a strategy of settling some of the contingent liabilities through issuance of Treasury bonds. This practise intensified in 2006 and 2007 when close to Ksh 31.2 billion worth of contingent liabilities were settled through Treasury bonds. The Ksh 31.2 billion comprised of Ksh 3.2 billion bonds issued to Co-operative Bank in June 2006 to offset liabilities owed by Coffee farmers; Ksh 20 billion bonds issued to the National Bank of Kenya in June 2007 to offset historical debts by public enterprises; and Ksh 8.0 billion issued in December 2007 to offset TELKOM Kenya liabilities (including pension fund) in preparation of privatisation of the company.

Although settling of contingent liabilities through issuance of special bonds has its merits in strengthening the financial position of the institutions involved, it can lead to a rapid accumulation of domestic debt beyond the sustainable levels provided for in the fiscal framework.

3.5 Impact of Domestic Debt on the Government Budget

With a rising domestic debt stock, an important issue for debt management is the cost implications to the government budget. As depicted in Table 3, domestic interest payments have been rising at a lower rate compared with growth in ordinary government revenue, total expenditure and GDP. Domestic interest payments, as a percentage of revenues, decreased from 18.0 percent in the fiscal year 1995/96 to 9.9 percent in the fiscal year 2006/07. The decline is attributed to strong revenue and real GDP performance in the period. Driven mainly by strong performance of agriculture, manufacturing, hotels and restaurants,

transport and communication, and financial services sectors, real GDP growth accelerated from 4.6 percent in 1996 to 7.0 percent in 2007.

Furthermore, the interest rates on government securities have declined substantially. For instance, the 91-day Treasury bills rate average 27.1 percent in October 1997. Using the same instrument the government was able to borrow at less than 7 percent in 2007. The change in interest rates is perhaps the most significant contributor to the fall in interest as a proportion of revenue, expenditure and GDP. However, these proportions are much higher than those of foreign interest which dropped from 7.9 percent to 1.2 percent of revenue during the period a manifestation of the expansive nature of domestic debt.

Due to higher interest rates and rising domestic debt, the interest cost on domestic debt accounted for the largest proportion of total government interest expenditure during the period. Domestic interest payments, as percent of total interest expenditure, increased from 69.5 percent in the fiscal year 1995/96 to 89.3 percent in the fiscal year 2006/07. However, due to lower interest rates compared with those on domestic debt and various debt relief initiatives, foreign interest payments dropped from 30.5 percent of total government expenditure on interest in the fiscal year 1995/96 to 10.7 percent in the fiscal year 2006/07.

Domestic interest payments also declined as a proportion of GDP from 4.5 percent to 2.0 percent following a faster growth in GDP. Moreover, foreign interest payments, as a percent of GDP, decreased significantly from 2.0 percent to 0.2 percent during the period. The declining interest cost to GDP ratios indicates an increasing capacity of the government to service its debt.

Table 3: Debt Service Ratios and Amounts

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
External Interest (Ksh billion)	11.5	8.3	7.8	7.5	8.9	3.9	5.9	9.8	5.8	4.4	3.6	4.4
Domestic Interest (Ksh billion)	26.2	26.6	35.4	31.7	22.1	23.2	23.7	27.6	23.3	23.4	31.4	36.9
External Interest (percent of revenue)	7.9	5.5	4.3	3.8	5.0	2.0	3.0	4.6	2.3	1.5	1.2	1.2
Domestic Interest (percent of revenue)	18.0	17.8	19.7	16.2	12.4	12.1	12.1	13.1	9.1	8.1	10.1	9.9
External Interest (percent of total interest)	30.5	23.7	18.1	19.1	28.8	14.3	19.8	26.2	20.0	15.9	10.4	10.7
Domestic Interest (percent of total interest)	69.5	76.3	81.9	80.9	71.2	85.7	80.2	73.8	80.0	84.1	89.6	89.3
External Interest (percent of GDP)	2.0	1.1	1.0	0.9	1.0	0.4	0.6	0.9	0.5	0.3	0.2	0.2
Domestic Interest (percent of GDP)	4.5	3.6	4.4	3.6	2.4	2.3	2.3	2.5	1.9	1.7	2.0	2.0
Implicit Interest rate on domestic debt (percent)	21.7	16.7	20.6	18.2	10.7	11.0	10.1	9.5	7.6	7.4	8.8	9.1
Implicit Interest rate on external debt (percent)	3.3	2.7	2.4	1.8	2.3	1.0	1.6	2.4	1.3	1.0	0.8	1.1

Source: Quarterly Budgetary and Economic Reviews, Ministry of Finance.

As mentioned earlier, the higher domestic interest payments in absolute terms during the period under review was attributed mainly to higher interest rates compared with those on external debt which are mainly on concessional terms. The average implicit interest rates for domestic and foreign debts are shown in Table 3. These interest rates are computed by dividing the respective interest payments by

corresponding actual debt stocks in the previous year. The average implicit interest rates on domestic debt dropped from 21.7 percent in 1995/96 to 9.1 percent in 2006/07 while those on external debt dropped from 3.3 percent to 1.1 percent during the period.

If implicit interest rate of 1995/96 was maintained in 2006/07, the domestic interest payments in that fiscal year would have totalled Ksh 88.0 billion instead of the Ksh 36.5 billion. Additional evidence on the decline of implicit interest rates on domestic debt is shown in Chart 3 where Treasury bills average interest rates dropped from 24.7 percent in June 1998 to 12.9 percent in June 2001 and further to 6.5 percent in June 2007. The decline in the interest rates during the period was partly attributed to increased liquidity in the market following the reduction of the commercial banks required reserves at the Central Bank of Kenya from 10 percent to 6 percent of total deposits in July 2003. It could also be attributed to reduced pressure from government domestic borrowing on domestic debt markets due to strong revenue performance.

These developments were also supported by the reversal in the composition of government debt portfolio in favour of Treasury bonds during the period. Short term debt held in Treasury bills is associated with frequent rollovers that could result in a sudden increase in interest rates.

3.6 Debt Sustainability

The falling debt-to-GDP and debt service ratios in Table 1 and Table 3 are an indication that the country's debt is sustainable. This proposition was confirmed through proper debt sustainability analyses (DSA) by IMF/World Bank in 2003 which indicated that Kenya faced a moderate risk of debt distress (See the Annual Public Debt Annual Report 2005/06). In particular the net present value of public debt at the end of 2005 was found to be above 40 percent of GDP, which is the threshold for countries which the World Bank classifies as having policies that are of medium quality.

Under prevailing macroeconomic conditions and policies, the results indicated that Kenya's public debt was sustainable. However, various stress tests indicated that the sustainability of the country's public debt was vulnerable to shocks in real GDP and export value growth rates. Specifically, the study identified sharp depreciation of the Kenya shilling as the most serious threat to the sustainability of public debt.

The sustainability of the debt is however vulnerable if the government resorted mainly to using domestic borrowing to finance the budget deficit. Therefore, the debt sustainability is conditioned on continued recourse to the more concessional external borrowing and reduction in domestic borrowing. The strategy of lengthening the maturity profile of domestic debt should also continue through issuance of longer dated Treasury bonds. This is expected to reduce the cost of domestic borrowing in the medium to long term by minimising the rollover and market risks which characterise short term domestic borrowing.

4 Review of Literature

A recent 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.

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.

Theoretically, the process of crowding-out arises from the fact that once the government borrows heavily from the domestic market, a shortage of funds arises prompted by increased demand for investible funds which drives interest rates up leading to the reduction of private borrowing and hence limiting private investment. Nevertheless, other channels of crowding-out exist. For example, the type of public

investment has important bearing on private investment. There has been a strong argument in both economic theory and policy as to whether public and private investments are substitutes or compliments.

The proponents of free markets argued that government intervention in the economy should be minimal. In this regard, they view state activity as competing with the private sector for the scarce resources in the economy hence driving prices up. This is so if public sector investments are financed by borrowing which drives interest rates up thereby raising the cost of capital for the private sector. The end result is crowding-out of private investments by public sector investment.

A counter argument to the above explanation defends the public expenditure especially in the provision of necessity to the public. It is argued that public investment may indeed be beneficial for the development of the private sector. The spill-over from expensive public investment that require long lead time to yield profits (such as infrastructure projects) may benefit the private sector. This is because an economy with world class transport and communication systems reduces the cost of doing business and hence profitability. In addition, public investment in human capital and health care services improves the skills and quality of life of the manpower in the economy hence raising productivity.

Thus public investment may not necessarily compete with the private sector for scarce resources. Some private sector investment might not be financed if financial markets are not well developed as in the case of developing countries. As such, public investment becomes handy in the provision of much needed and otherwise expensive investments.

5 The Model

5.1 Impact of Domestic Debt on the Economy

The impact of domestic debt on the economy is examined using the King and Levine's (1993) version of the Barro growth regression model with the form

$$Y_t = \beta_0 + \beta_1 L_t + \beta_2 Z_t + \varepsilon_t \dots\dots\dots 5.1$$

For year t , Y_t is the growth rate of real GDP, L_t is the domestic debt to nominal GDP ratio, Z_t is a set of explanatory variables that have been shown empirically to be robust determinants of real growth, and ε_t is the error term which is assumed to be $iid(0, \sigma^2)$. The Z_t variables include the lagged real GDP growth, ratio to GDP of government expenditure, private sector credit, broad money supply (M3), secondary

school enrolment, and trade (total exports and imports of goods and services). The ratios to GDP of credit to private sector and M3 are widely used measures of financial development. The ratio to GDP of M3 is a measure of financial depth and the overall size of financial intermediary activity in a country.

The estimated coefficient of the ratio to GDP of domestic debt is expected to be either positive or negative depending on the level of domestic debt distress. Extensive domestic borrowing results in a rapid accumulation of domestic debt which has a negative effect on the economy through increased interest payments or higher interest rates. However, recent studies by Abbas and Christensen (2007) show that moderate levels of domestic debt could have a positive effect on the economy, more so if the debt is marketable.

The expected signs of estimated coefficients of the financial development variables have been shown to be positive and significant in most studies. Secondary school enrolment is used as proxy for the level of investment in human capital which should have a positive effect on economic growth due an expected increase in productivity. The effect of trade and government expenditure on growth should be positive.

The presence of a lagged dependent variable among the explanatory variable model in equation 5-1 calls for the use of instrumental variable estimation as the use of ordinary least squares would result in biased and inconsistent parameter estimates, Green (1993). Use of OLS requires all explanatory variables to be exogenous. There are several instrumental variable estimators including 2-stage least squares, 3-stage least squares and generalised method of moments (GMM). Unlike King and Levine (1993) who use 2-stage least squares to estimate their growth model, this study uses the generalised method of moments. The GMM estimator is superior to the other instrumental variable estimators as it does not require strong assumptions on the underlying data generating process. It also has the ability to generate standard errors that are robust with respect to heteroscedasticity and autocorrelation (Hall, 2005).

To check for the adequacy of the GMM model, the Sargan's J-test of over-identifying restrictions is used. If there are q moment conditions (instruments) and p parameters, there are $q - p$ over-identifying restrictions. The null hypothesis of the test is that the over-identifying restrictions hold, which indicates that the model is correctly specified. The test statistic has a χ^2_{q-p} distribution. To ensure consistency of the GMM estimator, it is assumed that there is no second order serial correlation in the first differences of the

error term. Since the instruments are constructed as a lagged term, presence of second order serial correlation will render the instruments invalid.

5.2 Impact of Domestic Debt on Credit to Private Sector

Domestic borrowing can crowd-out private sector credit with adverse consequences for private investment. To examine this effect, a simple model was estimated as in Christensen (2005), regressing private sector lending on domestic debt (both variables were expressed as a percentage of broad money M3) using ordinary least squares technique, and monthly data covering the period 1996 to 2007. The model is specified as

$$p_i = \alpha + \beta D_i + \varepsilon_i \dots\dots\dots 5.2$$

where p_i and D_i are private sector lending and domestic debt observations respectively in month i expressed as a percentage of broad money M3, α and β are parameters of the model, and ε_i is the error in month i which is assumed to be $NIID(0, \sigma^2)$.

6 Data and Empirical Results

6.1 Impact of Domestic Debt on the Economy

The results of the estimated model in equation 5-1 are presented in Table 4. Annual data (calendar year) covering the period 1996 to 2006 was used in the estimations due to the limitation of lack of monthly data on GDP. The data on ratios of government expenditure, private sector credit, broad money supply and trade to GDP are computed using nominal data. Data on government expenditure was derived from the monthly budget outturns generated by the Ministry of Finance and adjusted to add up to the annual data published in the annual Economic Surveys published by the Kenya National Bureau of Statistics (KNBS).

Data on money supply (M3), credit to private sector and domestic debt was obtained from the Central Bank of Kenya database. Data on government expenditure, secondary school enrolment and GDP obtained from annual Economic Surveys published by the KNBS.

The first lag of all the variables was included in the instruments list. The results from the growth regression are shown in Table 4, and show evidence of a positive impact of domestic debt on real output. On average, an expansion in domestic debt of 1 percent relative to real GDP causes real GDP growth to increase by 0.24 percent. However, this evidence is not statistically significant at 5 percent or 10 percent levels. The regression results also show that growth in trade, private sector, financial deepening and

government expenditure on real output have a statistically significant (at 10 percent significance level) positive impact on growth. The results also show that secondary school enrolment matters for growth, although the results are not statistically significant.

Table 4: Generalised Method of Moments Regression Results

	Coefficient	Std. Error	t-Statistic
C	-1.2011	0.531221	-2.26101
RGDP(-1)	-1.55E-07	1.34E-07	-1.15186
DDEBTGDP(-1)	0.244068	0.505043	0.483262
EXPGOVGDP	1.379887	0.793677	1.7386
M3GDP	1.131121	0.583315	1.939126
PRVSECGDP(-1)	1.187289	0.495479	2.396242
TRDGDP	0.57711	0.245144	2.354173
ENR	0.000989	0.001232	0.802357
R ² =0.2158		P-value of J-Statistic = 0.9999	

Where C is a constant, RGDP (-1) is the one year lag of real GDP growth, DDEBTGDP is the ratio of domestic debt to GDP, EXPGOVGDP is the ratio of government expenditure to GDP, M3GDP is the ratio of broad money supply M3 to GDP, PRVSECGDP is the ratio of private sector credit to GDP, and TRDGDP is the ratio of total trade to GDP.

The J-statistic indicates that the null hypothesis that the model is over-identified is rejected at 5% significance level which implies that the model is correctly specified. Probability values for the Q-statistics at various lags (Q(3)=0.39 and Q(6)=0.24) do not provide any significant evidence of serial correlation and autoregressive conditional heteroscedasticity (Q²(3)=0.68 and Q²(6)=0.81) in the residuals and squared residuals from the above model. Furthermore, the Jarque-Bera test (P-value = 0.64) rejected the null hypothesis of non-normality of the residuals from the model. Based on these tests we deduce that the above model is adequate in explaining the movements in real GDP during the period.

The results, although not statistically significant, allude to findings by Abbas and Christensen (2007) in which it was established that moderate domestic debt levels drive economic growth. More than 90 percent of Kenya's domestic debt during the study period was securitized. The link between debt markets and economic growth is through the fact that domestic debt markets promote economic efficiency and financial depth. This is evidenced by increased vibrancy of the capital market in Kenya in the period. However, the insignificant result could be attributed to relatively low financial depth averaging about 40 percent during the period.

Estimations based on short sample periods like in this case result in large variance in the errors of the fitted models implying that the parameters will be imprecisely estimated. This could result in wrong conclusions from the fitted models (Amato and Gerlach, BIS Papers No.8). Therefore, the results in Table 4 could be improved by using longer data periods as and when they become available.

6.2 Impact on Private Sector Lending

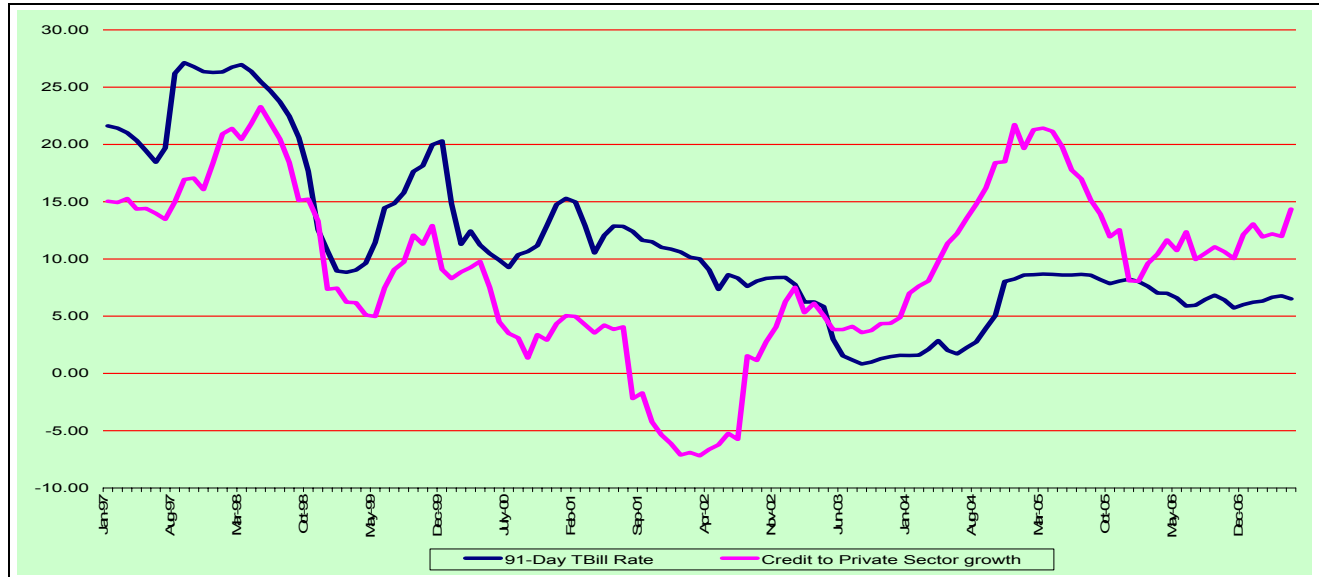
The model in equation 5.2 was estimated using ordinary least squares and the results are presented in Table 5. The results from the regression yielded significant evidence against the crowding-out hypothesis at 5 percent significance level. Diagnostics tests rejected presence of serial correlation and heteroscedasticity in the model residuals while the Jarque-Bera normality test rejected the null hypothesis of non-normal errors. Therefore, on average, an expansion in domestic debt of 1 percent relative to broad money causes the ratio of private sector lending to broad money to increase by 0.16 percent.

Table 5: Estimated Model

	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000445	0.001117	-0.398040	0.6912
Domestic Debt/M3	0.156153	0.071454	2.185367	0.0306
R ²	0.034168	F-statistic		4.775827
Durbin-Watson stat	1.933119	Prob(F-statistic)		0.030587

These results suggest that the proportion of private sector lending increased despite the increase in domestic debt. This can be attributed to increased participation by non-bank investors in the government debt market during the period under review, which resulted in the reduction of commercials' banks holdings of domestic debt. Furthermore, the amount of new borrowing was not large enough to have a negative impact on the growth in credit to private sector as interest rates remained stable especially in the period 2002 – 2007 (Chart 5). Consequently, this development helped to mitigate the negative impact of the rise in domestic debt on credit to private sector.

Chart 5: Interest rates and Credit to Private Sector Growth



Source: Central Bank of Kenya

Panel regression analysis by Christensen (2005) found that domestic borrowing crowded out private sector lending in Kenya for the period 1980 – 2000. These results may not apply for the period after 2000 since Kenya undertook a series of financial sector and debt management reforms which resulted in a complete reversal of the composition of domestic debt in favour Treasury bonds.

7 Conclusions and Policy Recommendations

The main objective of this paper was to study the evolution of domestic debt in Kenya and its impact on the economy in the period 1996 to 2007 in order to make recommendations on how to mitigate the risks of domestic debt in Kenya. The study found no evidence that domestic borrowing crowded-out private sector lending in Kenya during the period. This could be attributed to the considerable level of financial development in Kenya. Using a modified Barro growth regression incorporating a domestic debt variable, the results indicated that domestic debt expansion had a positive but insignificant effect on economic growth during the period.

Following improved economic performance and robust performance of the revenue in the study period, Kenya's domestic debt was reasonably sustainable. However, domestic borrowing consumed a significant proportion of government revenue which poses a risk to fiscal sustainability. Domestic debt is characterised by higher interest rates compared with those on external debt, which is contracted mainly on concessional terms, and it is therefore expensive to maintain. There is therefore urgent need for the

government to formulate and implement debt reduction schemes for domestic debt. Such schemes should recognize the fact that outright reductions in domestic debt could increase liquidity in the system which may pose a risk to macroeconomic stability.

Domestic debt reduction could be achieved using proceeds from the privatization programme of public corporations, or the use of externally borrowed resources which are mainly on concessional terms to retire more expensive domestic debt. Cape Verde established a donor financed trust fund to finance domestic debt reduction, Christensen (2005). The foreign exchange from the fund is used to retire domestic debt without injecting liquidity in the system as the foreign exchange transaction absorbs liquidity. This would keep the cost of domestic borrowing at sustainable levels and also provide room for shocks.

Following the significant extension of the maturity profile of domestic debt, and the widening of the investor base to include institutional and other non-bank investors in the domestic debt market, commercials' banks holdings of domestic debt have generally dropped. This contributed to the stability in interest rates during the period.

Contingent liabilities represent a potential risk, and burden on the government budget and a risk to domestic debt sustainability. The government should therefore develop a framework for recording and monitoring all contingent liabilities and also formulate and implement a policy for management of the contingent liabilities. Periodic reporting of the outstanding liabilities will also ensure transparency to the public and donor countries on the management of these debts.

Although the government made commendable progress in restructuring domestic debt from the short dated Treasury bills to the longer dated Treasury bonds during the period, the need to continue with this process is even higher. Despite the higher domestic debt service costs due to higher yields on longer dated bonds, the market and rollover risks on the debt have reduced significantly. The government should therefore continue to implement wider reforms that promote investment in Treasury bonds, and encourage institutional investors such as pension funds and insurance companies to invest in Treasury bonds. Sound corporate governance for these institutional investors is also necessary for their continued investment in government securities.

There is also an urgent need for the government to streamline the current high number of Treasury bonds maturities in the market to few and large volume benchmark bonds. There were fifty two issues of Treasury bonds which were outstanding in June 2007 with maturities of 1 to 15-years. In addition to promoting financial markets deepening, consolidation of the yield curve for Treasury bonds is expected to increase liquidity for the remaining tradable instruments thereby reducing the cost of domestic borrowing through lower and stable interest rates.

The management of domestic debt in Kenya would also benefit immensely from participation of foreign investors in the domestic debt market. This would promote competition thereby lowering the cost of domestic borrowing, and also increase efficiency in the domestic debt market since foreign participation is expected to introduce financial technology and innovation. The government should also develop a framework for capturing and monitoring non-residents investment in government securities for purposes of improving the monitoring of foreign direct investment in the country.

Lastly, in order to ensure the success of the domestic borrowing programme, the government should continue to implement measures to maintain confidence in the financial markets through prudent fiscal policy and adherence to the annual domestic borrowing calendar.

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