GHANA'S DEBT PROFILE AND SUSTAINABILITY

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Abstract

The profile and sustainability of Ghana's debt are assessed for the period 2000-12. The assessment was based on debt-to-GDP ratios and the fiscal approach to debt sustainability, which can only provide backward-looking analysis. The dearth of debt data did not permit the use of the traditional forward-looking approaches based on NPVs. The results found Ghana's debt to be unsustainable during 2000-2002/03 and sustainable during 2004-2012. The results are generally consistent with those obtained for Ghana by the IMF and World Bank under the HIPC and new Debt Sustainability Framework (DSF). The study stresses the importance of keeping the fiscal deficit under control to serve as a policy buffer and macroeconomic stability anchor and using borrowed resources judiciously to generate growth in order to maintain long-term debt sustainability.

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Executive Summary

Relying on both external loans and domestic borrowing to support its development saw Ghana's debt rise over the years, reaching over 100% of GDP in 2000. When the IMF and World Bank introduced the Heavily-Indebted Poor Countries (HIPC) initiative in 1999, Ghana was judged to be a HIPC with unsustainable debt. The country benefited from debt relief under the initiative in 2004 when it met the full policy conditions. Subsequently, in 2006, the country also benefitted from the Multilateral Debt Relief Initiative (MDRI), which offered total relief from debts owed to the IMF, the International Development Association (IDA) of the World, and the African Development Bank (AfDB). The HIPC and MDRI reliefs resulted in a sharp decline of Ghana's debt to about 26% of GDP, which was regarded as a sustainable level.

Subsequent to these reliefs, Ghana has been borrowing at a rapid pace to finance largely infrastructure projects. This has caused the post-HIPC/MDRI debt level to rise, reaching about 48 percent in 2012. Warnings are being sounded, including from the IMF and other development partners, that the pace of borrowing could return the debt to unsustainable levels. There is even a school of thought that Ghana could return to HIPC status yet again. The rebasing of Ghana's GDP in 2010 and the start of oil production late that year mean that Ghana now has a higher capacity to carry debt sustainably.

The IMF conducted debt sustainability analyses (DSAs) for Ghana in the context of the HIPC mechanism and also in monitoring Ghana's financial programs. In the post-HIPC era, Ghana has diversified its borrowing, including by borrowing commercially, which was restricted under the financial programs. Further, Ghana does not currently have an active program with the Fund. In the circumstances, debt data has become somewhat sparse and no up-to-date comprehensive DSA has been carried out for Ghana.

This study seeks to throw some light on Ghana's debt situation. To this end, the study analyses the debt profile for 2000-2012. It analyses the structure and dynamics of the domestic, external, and total debt, bringing out emerging vulnerabilities. The study also assesses the sustainability of the debt during the period. The pre-HIPC/MDRI period is covered as well in order to confirm the unsustainable debt situation during that period and also to set the stage for analyzing the post-HIPC/MDRI period.

The level and structure of Ghana's debt have changed during the review period. The domestic debt increased from GH¢784 million to GH¢18,535 million, an increase of nearly 30-fold. In terms of maturities, the medium-term debt saw the most dramatic increase, followed by short-term debt and then long-term debt. Because of chronic macroeconomic instability and associated risks, holders of the domestic debt prefer the short-dated instruments. As such, the short-term debt has been relatively high. However, its share in the total debt has been on the decline, dropping from 75 percent in 2000 to 32 percent in 2012. The share of the long-term component also declined from 25 percent to 17 percent. On the other hand, the share of the medium-term component increased from 0 percent to 52 percent. The decline in the short-term debt and the concomitant increase in medium-term debt, reflect attempts to lengthen the maturity profile of the debt in order to ease the burden on the budget. The decline in the share of long-term debt, however, suggests that investor appetite for long-term debt remains weak, because of

lingering doubts about long-term macroeconomic stability and public financial sustainability.

As the domestic debt increased during the period, all holders increased their holdings in absolute terms. In terms of shares, the banking sector's was the highest throughout the period, but it followed a general downward trend, starting from 75 percent in 2000 and settling at 49 percent in 2012. Starting with a share of 25 percent in 2000, the holding of the nonbank sector fluctuated during the period and settled at about the same level in 2012. For non-residents, their share increased from a mere 2.1 percent in 2006 to 27 percent in 2012. The growing share of nonresident holding increases fiscal vulnerability, given that nonresident investments are more volatile.

The external debt declined from US$6,021 million in 2000 to US$2,177 million in 2006 as a result of Ghana benefiting from HIPC relief starting from 2004 and from MDRI relief in 2006. Subsequently, the debt rose steadily to US$8.836 million. In terms of relative share in the external debt, the share of the multilateral component declined from 66 percent to 48 percent in 2012, the share of the bilateral component rose from 28 percent to 33 percent, while the share of commercial debt rose from 6 percent to 19 percent. For the period as a whole, the multilateral component lost out to the bilateral and commercial components. The latter's share has seen the biggest increase. Given that commercial debt has the harshest terms, on that score, the debt burden, particularly in terms of future service, has somewhat increased.

The total public debt rose from GH¢4,920 million to GH¢35,146 million in 2012, showing about a seven-fold increase. The increase was partly affected by the exchange rate effect on the external debt.

Most debt sustainability analysis (DSA) methods require knowledge of future streams of debt service payments and/or future resources available for debt service (or future primary fiscal balances). The dearth of debt data currently, however, did not permit the use of traditional DSAs, especially those based on NPV concepts. The study bases the DSA largely on debt-to-GDP ratios and the fiscal approach to debt sustainability. Sustainability under the fiscal approach is based on path of the debt-to-GDP ratio. In principle, debt sustainability implies maintaining a stable debt ratio, meaning that additions to the debt ratio from the primary deficit and interest payments are fully compensated by gains from seigniorage (or money printing) and real economic growth.

The total public debt as a ratio of GDP declined from 113 percent in 2000 to 26 percent in 2006, largely mirroring the path of the external debt as it was influenced by HIPC and MDRI reliefs. Thereafter, the debt ratio rose steadily to 48 percent in 2012 as both domestic debt and external debt increased. The IMF and World Bank have set country-specific public debt sustainability thresholds for 2012 under a new debt sustainability framework (DSF) for Ghana among 155 countries in terms of debt-to-GDP ratios. Ghana's general threshold is set at 75 percent, while a more stringent threshold is set at 60 percent. Based on these yardsticks, Ghana's debt-to-GDP ratio of about 48 percent in 2012 is within both thresholds, implying a tolerable risk of debt distress.

Using the fiscal approach to debt sustainability, Ghana's total debt is found to be unsustainable for the period 2000-02. This was a period when, according to the approach, the combined effect of the fiscal balance and interest payments were not fully compensated by the combined effect of

seiniorage and real growth. On the other hand, sustainability is established for the period 2002-12. This was a period when the combined effect of the fiscal balance and interest payments were more than offset by the combined effect of seiniorage and real growth. Further analysis reveals that during 2000-02, the primary balance was in surplus, but that together with seignirode, it is outweighed by other factors, particularly high debt ratios, high real interest rates, and low real growth. On the other hand, for the sustainable period, 2003-11, the primary balance was in deficit most of the time (escalating during 2006-08), yet it appears its impact on the debt was offset by the effects of lower debt stocks, lower real interest rates, and higher real economic growth. On the whole, the effect of seigniorage appears to be relatively muted during the entire period.

The results of the fiscal approach are to a large extent consistent with the debt-to-GDP ratio and HIPC/DSF approaches. The debt-ratio and HIPC/DSF approaches suggest that the debt was unsustainable during 2000-03. The fiscal approach finds unsustainability for 2000-02 only as the debt ratio was heavily influenced by the tumble in real interest rates in 2003. All approaches, however, suggest debt sustainability for 2004-12.

Maintaining debt sustainability going forward depends on several factors. A key factor is the rate of economic growth, which is not easily controllable. Other important factors are the levels of fiscal deficits, borrowing to finance them, and the terms of borrowing. Among all these factors the most important one is the fiscal deficit as it drives the level of borrowing and even the terms that can be obtained for such borrowing. Keeping the deficit under control is, therefore, critical for long-term debt sustainability. Indeed, fiscal unsustainability and debt unsustainability are like twins—they are inextricably linked. Further, it is important that borrowed funds are used judiciously, in particular for productive purposes so that sufficient growth can be generated to reduce the debt service burden and foster sustainability.

CONTENTS

1. Introduction

Ghana has long depended on aid and other loans to support its development. This saw its debt rise steadily over the years. When the IMF and World Bank introduced the Heavily-Indebted Poor Countries (HIPC) initiative in 1999, Ghana was judged to be a HIPC with unsustainable debt. The country benefited from debt relief under the initiative in 2004 when it met other policy conditions. Subsequently in 2006, the country also benefitted from the Multilateral Debt Relief Initiative (MDRI), which offered total relief from debts owed to the IMF, the International Development Association (IDA) of the World, and the African Development Bank (AfDB). The HIPC and MDRI reliefs resulted in a sharp decline of Ghana's debt to what was regarded as a sustainable level.

Subsequent to these reliefs, Ghana stepped up its borrowing to finance largely infrastructure projects. This has caused the debt level to rise yet again. Warnings are being sounded, including from the IMF and other development partners, that the pace of accumulation of debt could return the debt to unsustainable levels sooner or later. There is even a school of thought that Ghana could return to HIPC status yet again. The rebasing of Ghana's GDP in 2010 and the start of oil production late that year mean that Ghana now has a higher capacity to carry debt sustainably. However, if the debt increases too rapidly then sustainability could be at risk.

The IMF conducted debt sustainability analyses (DSAs) for Ghana in the context of the HIPC mechanism and also in monitoring Ghana's financial programs. In the post-HIPC era, Ghana has diversified its borrowing, including more commercial borrowing, which was restricted under the financial programs. Further, Ghana has not had a continual program with the Fund recently and is currently out of program. In the circumstances, debt data is sparse and no up-to-date DSA has been carried out for Ghana.

The objective of this study is to analyze the dynamics of Ghana's debt and assess its sustainability, to the extent that data will permit. The study is structured as follows: Following this introduction, Chapter 2 presents definitions, concepts and a literature review of debt sustainability; Chapter 3 analyses the profile of Ghana's debt for the review period, 2000-12; Chapter 4 contains the debt sustainability analysis; and Chapter 5 concludes the paper.

2. Definition, concepts and literature review

Debt management, which may be defined as policy which seeks to alter the stock, composition, structure and terms of debt with a view to maintaining at any given time, a sustainable level of debt service payment, has become an important issue in macroeconomic management. It involves the planned acquisition, deployment and retirement of external loans drawn either for developmental purposes or for balance of payments accommodation (Ojo 1997). According to UNCTAD, this involves functions relating to policy, regulation, resourcing, recording, analysis, control and operation activities.

Debt burden is the reflection of the difficulties and strains arising from the servicing of debt. This may result from inability to generate enough resources to meet commitment in debt servicing. The burden is measured in terms of the proportion of current resources (income) devoted to financing past consumption. The more resources are earmarked for debt servicing, less resources are available to ensure sustained economic growth and development. Thus, when a disproportionately large share of current resources is deployed to service external debt the burden increases. The reverse is the case when external debts can be serviced without compromising the requirements of domestic economic development.

Debt overhang occurs when an excessive debt stock introduces negative externalities in the economy beyond the transfer of resources, first on investment and adjustment and then on economic growth. This is because high (current and future) debt transfers lead to anticipation by domestic and foreign investors of future higher taxes and increased uncertainty, both of which create a disincentive effect on the present investment or adjustment decisions of an indebted country.

External debt capacity shows the ability of a debtor country to internalize its debt obligations without compromising its growth objectives. It also shows the extent to which a country can service its debt obligations with its export receipts without resorting to exceptional financing, significant arrears accumulation, restructuring arrangements or some costly options which may create further distortions. If a country, as a result of unpaid arrears of debt, has to restructure its debt, adjust the economy, especially the consumption and investment patterns in order to establish an artificial savings – investment equilibrium, then it is obvious that its debt servicing capacity is low. Indeed, debt sustainability remains an essential condition for economic stability.

Debt sustainability requires that indebtedness be kept in line with the capacity of the borrower to repay (IMF 2003). At a firm or project level, this means that borrowed funds should be invested productively with a return high enough to cover debt-service costs. This simple definition, however, is not as easily applied to countries as it is to firms or projects.

Approaches to debt sustainability

Fiscal Approach: The conventional accounting approach to fiscal sustainability is based on a simple indicator: the ratio of debt to Gross Domestic Product (GDP). The difficulty lies in estimating this ratio and in analyzing how it changes over time. To estimate the ratio of debt to GDP at any point in time, one first must estimate the level of debt. It is easiest to start with nominal debt as opposed to the present value of debt. It has to be noted first that, at any point in time, the government budget constraint states that a (primary) fiscal deficit not financed by money creation will feed automatically into higher public debt. Conversely, fiscal surpluses can be used to reduce the public debt stock. This means that the debt at time *t* is equal to the debt at time *t* – 1 plus the interest paid on the debt minus the creation of money and a term (the primary budget balance) equal to the difference between the resources available to the government from tax revenues and foreign aid in the form of grants, and the use of those resources in the form of recurrent consumption and investments.

In general, the fiscal approach to debt sustainability can be cast in the form of an identity as follows:

Change in debt-to-GDP ratio = [(primary deficit/GDP) – (seigniorage/GDP)] + [(real interest rate – real growth rate)] *(debt-to-GDP ratio)

or in symbols:

$$\Delta d = PD - \Delta RM + (r-y)*d \text{---} (1)$$

Where,

d = public debt-to-GDP ratio
PD = primary deficit-to-GDP ratio (non-interest expenditure minus revenue)
ΔRM = change in reserve money- or high-powered money-to-GDP ratio (signifying seigniorage)
r = real interest rate
y = real GDP growth

Intuitively, the noninterest deficit (PD) has to be financed with new debt (Δd) to the extent that the deficit exceeds the amount of money creation by the central bank (ΔRM). In addition, nominal interest expenditures (r*d) have to be refinanced with new debt (Δd). But since the denominator of the debt ratio is nominal GDP (P*y), the debt ratio will decline either with inflation (P) or real GDP growth (y), in the absence of new borrowing. Alternatively, higher growth (y) will generate higher revenues that will make it easier to pay the debt in future. In principle, if the real interest rate on debt (r) exceeds the growth rate (y), then the debt dynamics are unsustainable, and it becomes impossible to run a permanent primary deficit that exceeds the amount of revenue the government can obtain through seigniorage. Alternatively, if the government is running a primary deficit larger than the amount of seigniorage it can obtain, and if

the real interest rate exceeds the economy's growth rate, the debt-to-GDP ratio will continue rising without limit. At some point, it will be impossible for the government to sell its debt, and the process will have to be brought to an end by cutting the deficit.

In principle, debt sustainability implies maintaining a stable debt-to-GDP ratio (i.e. d=0). But this is true only if the current level of debt is the "desired" or "optimal level." Sustainability ultimately depends on the difference between the current level of the debt ratio and its "desired" level. Given a range of combinations of growth rates (y), interest rates (r), and primary deficits (PD) (for a given debt ratio), it is possible in principle, to arrive at and sustain a desired level of indebtedness.

__External Approach:__ We now turn to a discussion of the sustainability of the combined public and private debt from a foreign exchange or external point of view. The idea is to measure sustainability in terms of a *foreign exchange constraint* instead of the *fiscal constraint*. A sustainable fiscal stance may not be sufficient for external sustainability if private sector investment (Ip) exceeds private sector savings (Is). Conversely, an unsustainable fiscal deficit may translate into a sustainable external position if the balance of private savings minus private investment is positive and compensates for an unsustainable fiscal deficit. Thus there may be divergence between fiscal and external sustainability (Parker and Kastner 1993).

In general,

Current account balance = government balance plus private sector balance

Or in symbols,

$$CAD = (Ig-Sg) + (Ip-Sp) \text{--}(2)$$

Where,

CAD = current account deficit
Ig = government investment
Is = government savings, defined as govern revenue less its recurrent expenditure
Ip = private investment
Is = private savings, defined as private sector's disposable income less its consumption

Solvency Approach: The government budget of a country can be viewed in an inter-temporal approach. This introduces the solvency approach to debt sustainability analysis. This approach argues that a government can be said to be solvent as long as resources generated in the future are sufficiently large to cover all future debt-service obligations irrespective of the fact that the country may have *large fiscal deficits* and *unsustainable debt-to-GDP ratio*. Under this approach, a government can be considered to be solvent if *the present value of future resources available for debt servicing* is larger than *the present value of all future public debt servicing obligations*. This means that the *government has a positive net worth*. The future available resources is represented by *future primary fiscal balances* whilst future public debt servicing obligations is

equaled to the current public debt stock for borrowers at market terms. In the event where debt service obligations equal future primary fiscal balances, it is termed as the "no-Ponzi game" condition.

Solvency = present value of future resources - present value of future debt service

Or in symbols,

SOLV = PVFR-PVFDS

Where,

SOLV = solvency
PVFR = present value of future resources
PVFDS = present value of future debt service

This approach implies that there is no unique fiscal stance for solvency. If a country engages in high spending today, it can compensate for it by a cut in spending tomorrow. The framework can be used to calculate the required primary surplus needed to stabilize the debt-to-output ratio depending on *the real interest rate* and *the real GDP growth rate*.

Theoretically, the solvency approach is a good tool to analyze debt sustainability. However, it comes with its own challenges. First of all, it is difficult to estimate the present value of future revenue and expenditure especially in less developed countries. Also, projection of real growth rates and interest rates can be uncertain.

Concessionality and the Present Value of Debt: Debt is highly concessional especially in developing countries thus the nominal debt may not be a good indicator of the debt burden. For such countries, it is appropriate to use *the present value of debt*, that is, *the discounted value of all future debt-service payments* as a measure of the future debt burden. To use the present value of debt instead of the nominal debt, the Grant Element (GE) concept is adopted. The GE concept is defined as the difference between the nominal stock of debt and its present value, which is expressed as a percentage of the nominal debt stock.

GE = NSD-PVD

Where,

GE = grant element
NSD = nominal stock of debt
PVD = present value of debt

The value of the GE also depends on the discount rate. A lower discount rate reduces the GE by increasing the present value of the debt. Between two time periods if there is a no change in GE then it means the overall debt stock remains unchanged. However, if there is a positive change in GE then it implies the value of GE has increased. A larger value of GE implies a higher degree of concessionality. This concept helps to argue that a higher degree of concessionality over time implies that a lower growth rate is required to ensure sustainability. On the other hand, a fall in the

loan concessionality will lead to an increase in the growth rate required to ensure sustainability.
Operationalizing Debt Sustainability Concepts: The HIPC Initiative

Four Steps for Conducting DSA

The steps outlined here are drawn from the World Bank and the IMF and they are as follows:

*   Deciding on the appropriate debt sustainability concepts and indicators.
*   Conducting consistent analysis of the debt dynamics based on the chosen menu of indicators under a most-likely benchmark scenario, over a medium –to-long-term period.
*   Running stress tests using a number of detailed alternative scenarios, taking into account the most relevant structural vulnerabilities of the economy
*   Translating debt sustainability into borrowing policies.

Debt Sustainability Concepts Used in the HIPC Initiative: The best-known operational debt sustainability framework has been the one devised for the HIPC Initiative. The framework sought to use the debt relief instruments to reduce the debt burden of participating countries to a sustainable level. The HIPC Initiative framework adopts the stock concept to arrive at threshold indicators. Using the present value definition, the Initiative aimed to assess the relative degree of concessionality of a country's debts. The thresholds use both fiscal and external sustainability frameworks. Two key ratios used are:

A ratio of the net present value of debt to exports that should remain below 150% (external window). A ratio of the net present value of debt to government revenue that should remain below 250% (fiscal window). HIPCs can qualify for the fiscal window if their country is quite open represented by an exports-GDP ratio of not less than 30% and a government revenue-GDP ratio of not less than 15%.

The HIPC Initiative framework requires data on external public and publicly guaranteed debt including arrears. In this framework, domestic debt is not included in the fiscal window and private external debt is not included in the external window. Also, a three-year average is used in the calculation of exports of goods and services whilst government revenue comprises central government revenue, excluding grants. The discount rate used for the calculation of the present value of debt is the currency-specific commercial interest reference rates. It should be pointed out that the debt thresholds used in the Enhanced HIPC Imitative are not considered as elaborate framework of debt sustainability. These threshold levels were set to provide a covering against external shocks and some safety margin to prevent debt crises.

The Bretton Woods institutions have revised the framework of the Enhanced HIPC Initiative to direct debt sustainability analysis and thresholds to country circumstances especially in LICs. The new framework states the thresholds based on the performance of the countries as measured through the Country Policy and Institutional Assessment (CPIA) (see Table 1). The framework also looks at debt sustainability indicators in determining country allocations within the International Development Association (IDA). Specifically, the IDA distributes country allocations between loans and grants with a greater proportion being grants when debt

Table 2.1: Debt Sustainability Thresholds and Policy Performance for IDA 14 (values in %)

| Debt Sustainability Indicator | CPIA score | | |
	Strong (CPIA ≥ 3.75)	Medium (CPIA 3.25 -3.75)	Poor (CPIA ≤ 3.25)
Present value of debt/GDP	50	40	30
Present value of debt/exports	200	150	100
Present value of debt/revenue	300	250	200
Debt service/exports	25	20	15
Debt service/revenue	35	30	25

Source: IMF and IDA (2005).
IDA 14= 14th replenishment of the IDA's resources agreed in 2005.

Further approaches to debt sustainability

The foregoing debt sustainability concepts were mainly concerned with *debt-servicing in relation to government revenue or economic growth*. Thus, governments are faced with either prioritizing debt servicing at the expense of economic growth or stimulating economic growth without a careful look at the debt burden. However, there are alternative approaches to debt sustainability which target *optimal debt levels*. These are the debt overhang and the human development approaches.

Debt Overhang Approach: Debt overhang is the negative effect of a large debt burden on economic growth (Krugman, 1988). Debt sustainability thresholds may be defined as *the level just above which debt starts to have negative effect on economic growth.* These thresholds may differ from the thresholds discussed above because the absence of debt-servicing problems does not mean that there is no negative impact of debt on economic growth.

Debt overhang develops when high debt stocks introduce negative externalities in the economy beyond the transfer of resources on investment and economic growth. High debt payments may lead to some externalities such as anxiety over high taxes and uncertainty on the part of investors which is likely to have an effect on present and future investments.

Debt overhang may cause governments in debt to be unwilling to implement adjustment programs that will promote economic growth because a greater proportion of the benefits will end up as debt-service payments to creditors. Debt overhang is also likely to crowd out investment by both domestic and foreign investors. This is because public spending or investments will be reduced because governments will have to service their debts. The overall effect is a reduction in the future net after-tax return on investments. Debt overhang may also scare off potential foreign investors who observe the huge debts accrued and the debt-servicing undertaken by a country. Investors will always be worried about any potential returns that can be made in such an economy. Debt overhang therefore acts as an obstacle to economic growth because it diverts resources for investment into debt-servicing.

Human Development Approach: This approach to DSA advocates for a *prioritization of the MDGs rather than debt sustainability*. The argument of this approach is that even if a country has

resources to pay for its debt service, the current debt servicing might crowd out public spending and investment necessary to attain poverty reduction and achievement of the MDGs. Debt sustainability under this approach is defined as *the level at which debt service does not crowd out MDG-priority public spending.* This notion can be translated into an argument in favour of debt service relief. The crowding out effect on MDGs spending can be minimized by establishing an upper limit on debt-service ratios.

A proposal along the lines of the upper limit on debt-service ratios was pioneered by a Catholic Agency for Overseas Development (CAFOD) article by Northover, Joyner and Woodward (1998). The concept states that we need to first of all determine the resources needed for a country to attain the MDGs and then attempts have to be made to achieve them with the resources generated by the public sector in the government budget. Afterwards, the debt service to be made will have to be determined based on the resources left after the spending to achieve the MDGs. This approach is normally in contrast with approaches where the debt servicing become the priority rather than public investments. This approach obviously has some problems which include moral hazards, no resources left for debt service after the spending on MDGs. This approach has been used by advocates to call for full debt relief. This has necessitated the move by international bodies to grant additional debt relief through the Multilateral Debt Relief Initiative (MDRI).

Theoretically, the MDRI can be said to be an example of the Human Development approach to debt sustainability. Under this approach debt relief is linked to the need to acquire the necessary resources needed to attain the MDGs by low income countries. The Bretton Woods Institutions and the African Development Bank grant additional debt relief to low income countries that have reached the completion point or are yet to reach the completion point under the HIPC Initiative. Prior to obtaining debt relief a country must have sustained broad macroeconomic stability, shown overall commitment to implement a poverty alleviation strategy and must have a minimum quality of public expenditure management. These requirements would help the country to free resources for MDGs spending ultimately when it receives full debt cancellation. A major concern of this approach is the fear of countries building up their debt-ratios in the future following debt cancellation.

3. Debt profile

The level and structure of Ghana's debt have evolved over the years. The evolution of both the domestic and external debt during 2000-12 is analyzed in this section.

3.1 Domestic debt

During 2000-12, Ghana's domestic debt increased from GH¢784 million to GH¢18,535 million, an increase of nearly 30-fold (Table 3.1 and Charts 3.1a and b). In terms of maturities, the medium-term debt, comprising debt of 2-5 years, saw the most dramatic increase of GH¢9,544 million, followed by short-term debt comprising debt of up to 1 year (increasing by GH¢'m), and then long-term debt of over 5 years (increasing by Gh¢ million).

Table 3.1.1: Domestic debt by maturity (GH¢'m)

YEAR	A. Short-Term Instruments	B. Medium-Term Instruments	C. Long-Term Instruments	TOTAL(A+B+C) (GH¢ million)
2000	586.61	0.00	197.62	784.23
2001	619.38	202.47	197.62	1,019.47
2002	820.58	372.74	197.62	1,390.94
2003	805.21	362.39	191.51	1,359.12
2004	710.36	536.44	442.93	1,689.72
2005	529.90	734.14	559.91	1,823.95
2006	793.34	1,096.14	1,004.17	2,893.65
2007	880.20	1,823.84	1,004.17	3,708.21
2008	2,022.62	1,752.52	1,025.07	4,800.22
2009	2,643.12	2,107.54	1,352.33	6,102.99
2010	3,214.45	3,788.34	1,277.33	8,280.12
2011	4,353.33	5,601.07	1,886.72	11,841.12
2012*	5,839.17	9,544.54	3,151.51	18,535.21

Chart 3.1.1a: Domestic Debt by Maturity (GH¢'m)
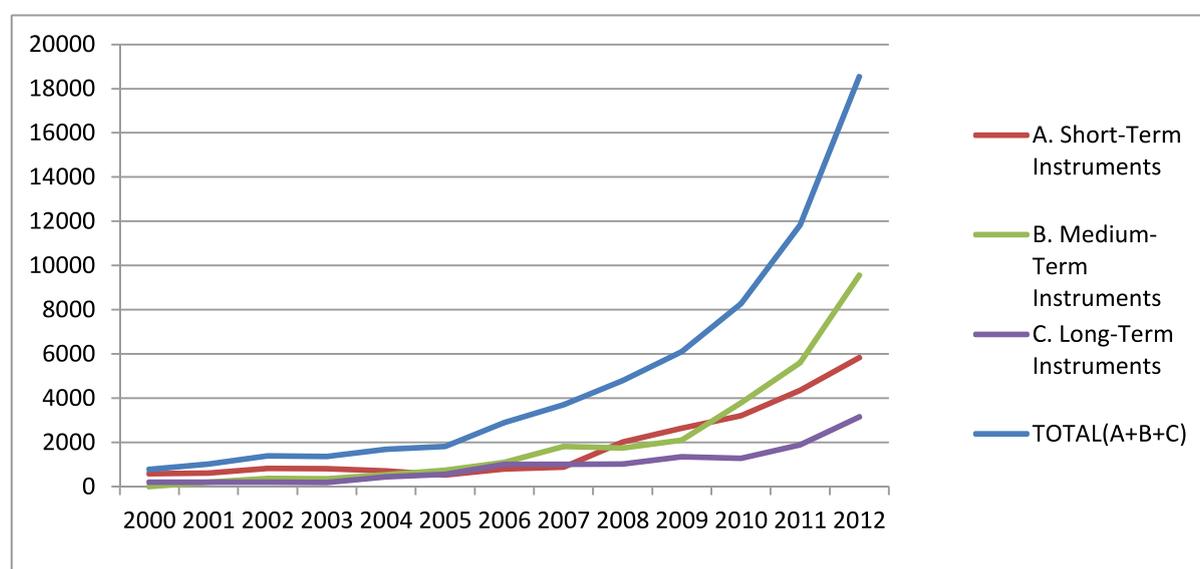
Chart 3.1.1b: Domestic Debt by Maturity (GH¢'m)
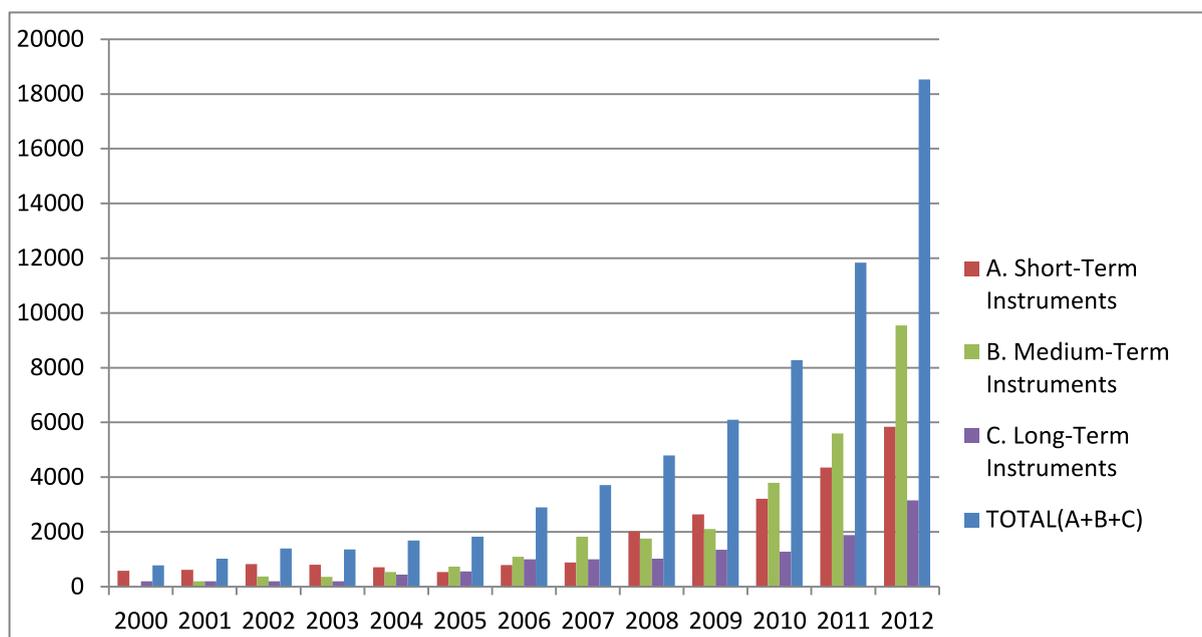
Because of chronic macroeconomic instability and associated risks, holders of the domestic debt preferred the short-dated debt. This explains why the short-term debt has been relatively high (Table 3.1.2 and Chart 3.1.2). However, its share in the total debt has been on the decline, dropping from 75 percent in 2000 to 32 percent in 2012. The share of the long-term component also declined from 25 percent to 17 percent. On the other hand, the share of the medium-term component increased from 0 percent to 52 percent. The decline in the short-term debt and the concomitant increase in medium-term debt, reflect improved macroeconomic conditions generally and attempts by government to lengthen the maturity profile of the debt in order to ease the burden on the budget. The decline in the share of long-term debt however, suggests that investor appetite for long-term debt remains weak, because of lingering doubts about long-term macroeconomic stability and public financial sustainability.

Table 3.1.2: Shares in domestic debt by maturity

YEAR	A. Short-Term Instruments	B. Medium-Term Instruments	C. Long-Term Instruments	TOTAL(A+B+C)
2000	74.8	0.0	25.2	100.0
2001	60.8	19.9	19.4	100.0
2002	59.0	26.8	14.2	100.0
2003	59.2	26.7	14.1	100.0
2004	42.0	31.7	26.2	100.0
2005	29.1	40.3	30.7	100.0
2006	27.4	37.9	34.7	100.0
2007	23.7	49.2	27.1	100.0

2008	42.1	36.5	21.4	100.0
2009	43.3	34.5	22.2	100.0
2010	38.8	45.8	15.4	100.0
2011	36.8	47.3	15.9	100.0
2012	31.5	51.5	17.0	100.0

Chart 3.1.2 Shares in domestic debt by maturity
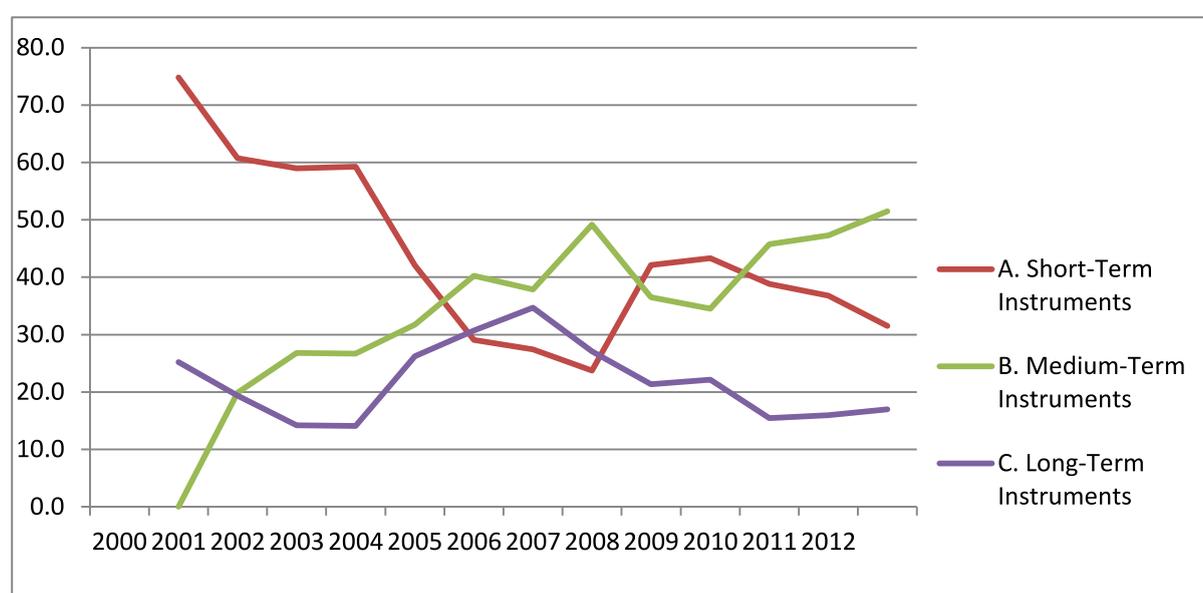
As the domestic debt increased during the period, all holders increased their holdings in absolute terms. The banking system held the biggest amount, with its holding increasing from GH¢585 million in 2000 to GH¢8,981 million in 2012 (Table 3.1.3 and Chart 3.1.3). The domestic nonbank sector followed as its holding rose from GH¢198.99 million to GH¢4,615 million. Nonresidents started holding the domestic debt from 2006, and their holding grew steadily and rapidly from GH¢61 million in that year to GH¢4,939 million in 2012.

Table 3.1.3: Domestic Debt by Holders (GH¢'m)

YEAR	A. Banking sector (GH¢ million)	B. Nonbank sector (GH¢ million)	C. Non-Residents (GH¢ million)	Total Domestic Debt (GH¢ million)
2000	585.25	198.99	0.0	784.23
2001	673.96	345.51	0.0	1,019.47
2002	919.28	471.66	0.0	1,390.94
2003	793.19	565.93	0.0	1,359.12
2004	1,268.46	421.26	0.0	1,689.72
2005	1,602.56	221.39	0.0	1,823.95
2006	2,244.67	588.22	60.76	2,893.65
2007	2,522.16	762.22	423.83	3,708.21
2008	3,255.45	1,111.22	433.54	4,800.22
2009	4,247.58	1,371.80	483.61	6,102.99
2010	5,289.07	1,426.09	1,564.97	8,280.12
2011	7,004.59	2,568.45	2,268.08	11,841.12
2012*	8,980.92	4,614.89	4,939.40	18,535.21

*provisional; Source: BoG

Chart 3.1.3 : Domestic debt by holders
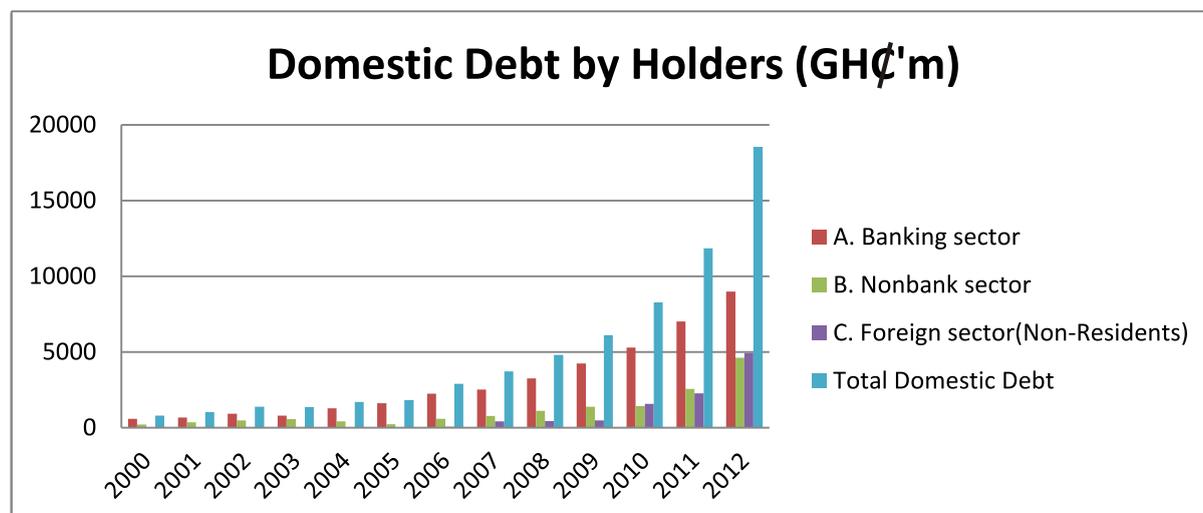
Domestic Debt by Holders (GH¢'m)

In terms of shares, the banking sector's was the highest throughout the period, but it followed a general downward trend, starting from 75 percent in 2000 and settling at 49 percent in 2012 (Table 3.1.4 and Chart 3.1.4). Starting with a share of 25 percent in 2000, the holding of the nonbank sector fluctuated during the period and settled at about the same level in 2012. For non-residents, their share increased from a mere 2.1 percent in 2006 to 27 percent in 2012. The growing share of nonresidents' holding in the domestic debt increases fiscal vulnerability given that nonresident investments are more volatile.

Table 3.1.4: Shares in domestic debt by holders

YEAR	A. Banking sector	B. Non-bank sector	C. Non-Residents	Total Domestic Debt
2000	74.6	25.4	0.0	100.0
2001	66.1	33.9	0.0	100.0
2002	66.1	33.9	0.0	100.0
2003	58.4	41.6	0.0	100.0
2004	75.1	24.9	0.0	100.0
2005	87.9	12.1	0.0	100.0
2006	77.6	20.3	2.1	100.0
2007	68.0	20.6	11.4	100.0
2008	67.8	23.1	9.0	100.0
2009	69.6	22.5	7.9	100.0
2010	63.9	17.2	18.9	100.0
2011	59.2	21.7	19.2	100.0
2012	48.5	24.9	26.6	100.0

Chart 3.1.4: Shares in domestic debt by holders
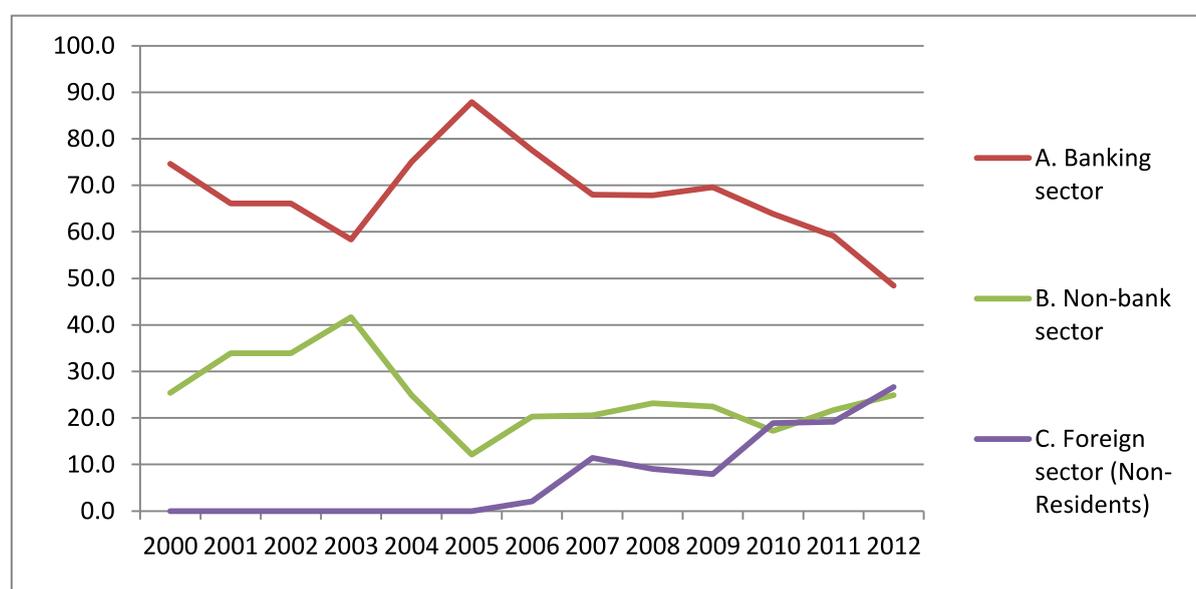
3.2 External debt

Ghana's external debt rose from US$6,021 million in 2000 to US$7,549 million in 2004. It then fell to as low as US$2,177 million by 2006, the result of benefiting from HIPC relief starting from 2004 and from MDRI relief in 2006. Subsequently, the debt rose steadily to US$8.836 million. (Table 3.2.1 and chart 3.2.1). In absolute terms, multilateral debt has been the largest. Starting from US$3,952 million, multilateral debt fell to US$1,327 million post-HIPC and MDRI reliefs, but has since risen to US$4,225 million by 2012. Bilateral debt started at US$1,682 million, fell to US$732 million in 2006, and has since risen to US$2,907 million. Commercial debt started at US$388 million, fell to US$118 million in 2006, and has since risen to US$1,704 million.

Table 3.2.1: External Debt by Holders

YEAR	Multilateral Creditors (US$ million)	Bilateral Creditors (US$ million)	Commercial Creditors (US$ million)	Total External Debt (US$ million)
2000	3,951.64	1,681.26	388.10	6,021.00
2001	3,916.64	1,756.92	352.00	6,025.56
2002	4,046.00	1,861.51	223.80	6,131.31
2003	5,057.76	2,222.84	268.30	7,548.90
2004	5,307.27	921.99	238.62	6,467.88
2005	5,565.12	602.52	180.18	6,347.82
2006	1,326.86	732.03	118.35	2,177.24
2007	1,667.92	992.64	929.80	3,590.36
2008	2,028.31	1,168.22	838.54	4,035.07
2009	2,461.76	1,687.25	858.86	5,007.87
2010	3,081.94	2,211.06	1,027.67	6,320.68
2011	3,891.78	2,712.32	985.35	7,589.45
2012*	4,225.14	2,906.53	1,703.89	8,835.56

*provisional; Source: BoG

Chart 3.2.1 External debt by holders (US'm)
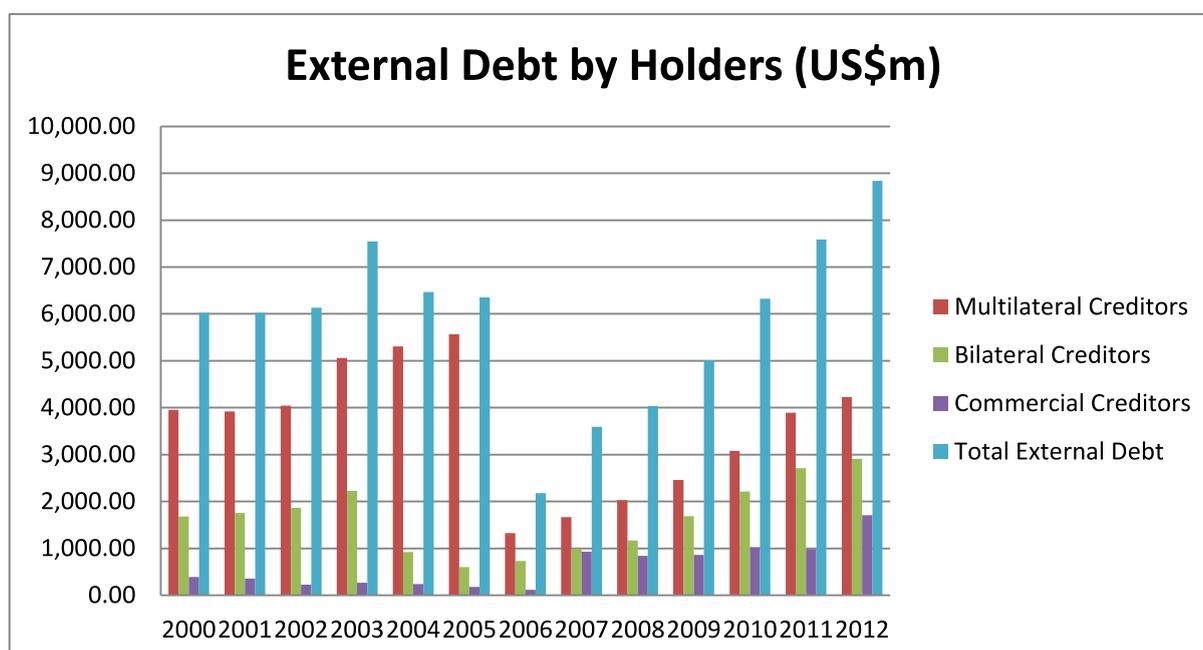
External Debt by Holders (US$m)

In terms of relative share in the external debt, the share of the multilateral component rose from 66 percent to peak at 88 percent in 2005, and has since declined to 48 percent. The share of the bilateral component declined from 28 percent in 2000 to 10 percent in 2005 and has since risen to 33 percent. The share of commercial debt rose from 6 percent in 2000 to peak at 26 percent in 2007 and by 2012 it was 19 percent. (Table 3.2.2 and Chart 3.2.2). For the period as a whole, it can be said that the multilateral component has lost out to the bilateral and commercial components. The latter's share has seen the biggest increase. Given that commercial debt has the harshest terms, one could say that, on that score, the debt burden, particularly in terms of future service, has somewhat increased.

Table 3.2.2: Share in external debt by holders

YEAR	Multilateral Creditors	Bilateral Creditors	Commercial Creditors	Total External Debt
2000	65.6	27.9	6.4	100.0
2001	65.0	29.2	5.8	100.0
2002	66.0	30.4	3.7	100.0
2003	67.0	29.4	3.6	100.0
2004	82.1	14.3	3.7	100.0
2005	87.7	9.5	2.8	100.0
2006	60.9	33.6	5.4	100.0
2007	46.5	27.6	25.9	100.0
2008	50.3	29.0	20.8	100.0

2009	49.2	33.7	17.2	100.0
2010	48.8	35.0	16.3	100.0
2011	51.3	35.7	13.0	100.0
2012	47.8	32.9	19.3	100.0

Chart 3.2.2: Share in external debt by holders
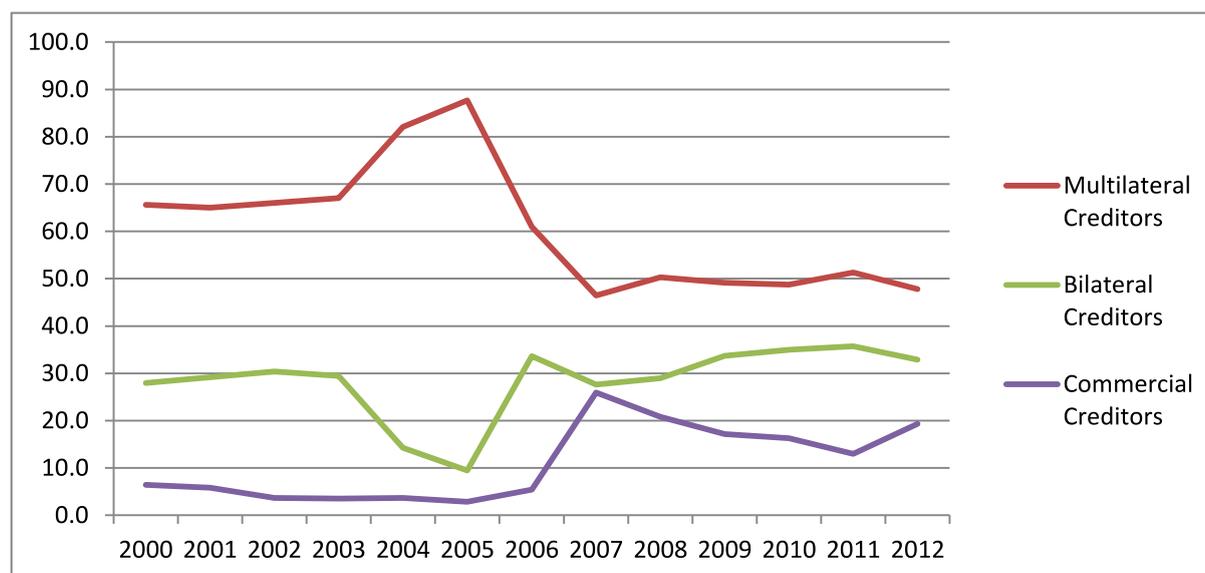
3.3 Total public debt

The total public debt rose from GH¢4,920 million in 2000 to GH¢35,146 million in 2012, showing about a seven-fold increase. The increase was partly affected by the exchange rate effect on the external debt. (Table 3.3.1 and Chart 3.3.1).

Table: 3.3.1:Total Public Debt

YEAR	Total External Debt (US$ million)	Total External Debt (GH¢ million)	Total Domestic Debt (GH¢ million)	Total Debt (GH¢ million)	Exchange rate (GH₵ e/US$)
2000	6,021.00	4,136.26	784.23	4,920.49	0.69
2001	6,025.56	4,355.28	1,019.47	5,374.75	0.72
2002	6,131.31	5,098.40	1,390.94	6,489.34	0.83
2003	7,548.90	6,639.80	1,359.12	7,998.92	0.88
2004	6,467.88	5,841.32	1,689.72	7,531.04	0.90
2005	6,347.82	5,796.08	1,823.95	7,620.03	0.91
2006	2,177.24	2,010.79	2,893.65	4,904.44	0.92
2007	3,590.36	3,484.09	3,708.21	7,192.30	0.97
2008	4,035.07	4,909.06	4,800.22	9,709.28	1.22
2009	5,007.87	7,138.22	6,102.99	13,241.21	1.43
2010	6,320.68	9,315.41	8,280.12	17,595.53	1.47
2011	7,589.45	11,768.20	11,841.12	23,609.32	1.55
2012*	8,835.56	16,610.85	18,535.21	35,146.06	1.88

*provisional; Source: BoG

Chart: 3.3.1: Total public debt (GH₵ e'm)
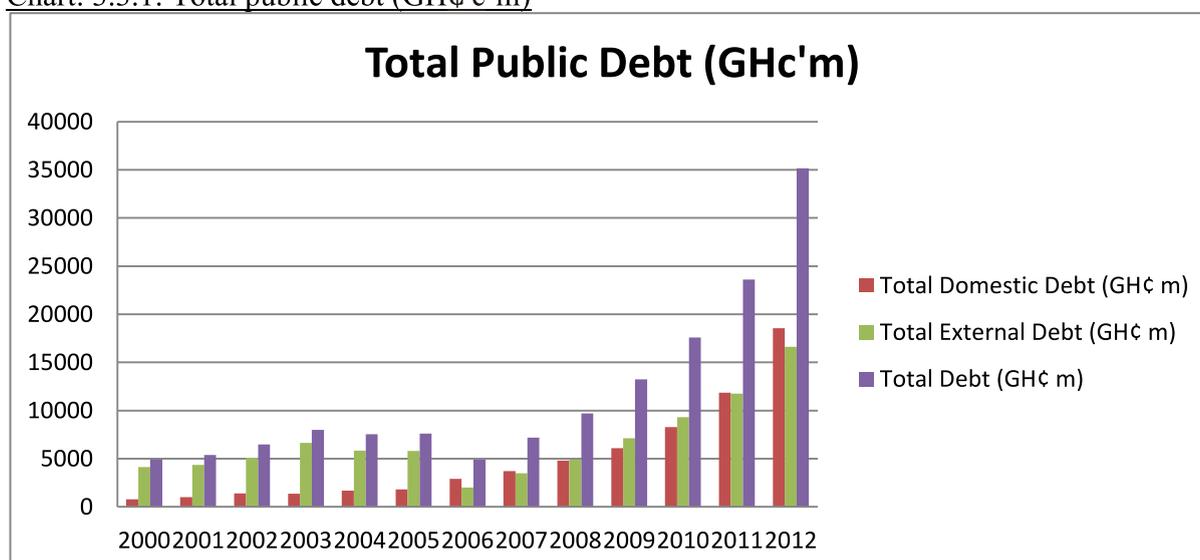
4. Debt sustainability analysis (DSA)

Most of the DSA methods reviewed in Chapter 2 require knowledge of future streams of debt service payments and/or future resources available for debt service (or future primary fiscal balances). As noted above, post-HIPC extensive and diversified borrowing, coupled with lack of a current program relationship with the IMF, has led to a dearth of debt data currently. This makes it difficult to carry out the traditional DSA, especially those based on NPV concepts.

Because of data limitations, we base our DSA largely on debt-to-GDP ratios and the fiscal approach to debt sustainability. These approaches can, however, only give us backward-looking rather than forward looking results. As more debt data becomes available, we would be able to undertake the DSA using the forward-looking approaches.

4.1 Debt-to-GDP ratios

The debt-to-GDP ratio is an important indicator of a country's debt burden and sustainability, but it is not a sufficient indicator in and of itself. This is because each economy is different structurally. Japan, the US and China have debt ratios in excess of 100 percent, but nobody is declaring them bankrupt yet. This is because these are vibrant economies that are capable of carrying high debt levels sustainably. The European Monetary Union (EMU) sets a debt-to-GDP ratio threshold of 60 percent for its members, but this is only a rough guide to debt risks in consonance with the macroeconomic convergence rules of the Union. Less developed countries with structurally weak economies however, cannot afford to carry high levels of debt as it increases their vulnerabilities, especially to real and financial shocks.

As a ratio of GDP, the domestic component of Ghana's debt declined from 18 percent in 2000 to 12 percent in 2005 and then rose to 26 percent in 2012. The external component fell from 95 percent in 2000 to 11 percent in 2006 (as result of HIPC and MDRI reliefs) and then rose to 23 percent in 2012. (Table 4.1.1 and Chart 4.1.1).

Table 4.1.1: Debt- to-GDP Ratios

YEAR	Nominal GDP (GH¢ million)	Domestic Debt-GDP Ratio*	External Debt-GDP Ratio*	Total Debt-GDP Ratio*
2000	4,351.36	18.02	95.06	113.08
2001	6,101.03	16.71	71.36	88.10
2002	7,830.46	17.76	65.11	82.87
2003	10,602.12	12.82	62.63	75.45
2004	12,788.97	13.21	45.67	58.89
2005	15,586.53	11.70	37.19	48.89
2006	18,705.00	15.47	10.75	26.22
2007	23,154.00	16.02	15.05	31.06
2008	30,179.00	15.91	16.27	32.17
2009	36,598.00	16.68	19.50	36.18
2010	46,042.00	17.98	20.23	38.22
2011	59,264.00	19.98	19.86	39.84
2012	73,109.10	25.80	23.12	48.07

Source: BoG   *Computed by Author

Chart 4.1.2: Debt-to-GDP ratios
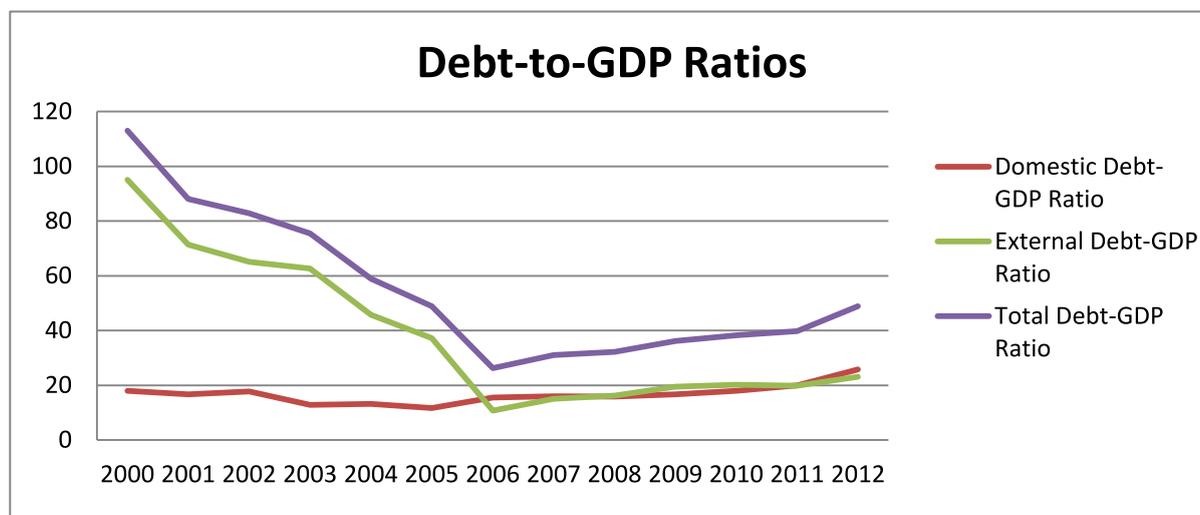
The total public debt as a ratio of GDP declined from 113 percent in 2000 to 26 percent in 2006, largely mirroring the path of the external debt as it was influenced by HIPC and MDRI reliefs. Thereafter, the debt ratio rose steadily to 48 percent in 2012 as both domestic debt and external debt increased. The debt ratios during 2000-03 were high, falling in the range 113-75 percent. It will be recalled that during this period, Ghana had been declared a HIPC with unsustainable debt based on the HIPC criteria. After benefiting from HIPC relief from 2004 and MDRI relief in 2006, Ghana's debt ratio fell into a lower range of 59-26 percent during 2004-06. And subsequently during 2007-12, the ratio followed a rising trajectory in the range of 31-48 percent. As noted above, debt-to-GDP ratios alone is not a sufficient indicator of sustainability or otherwise.

To place these debt ratios in some perspective, we make reference to country-specific public debt sustainability thresholds set by the IMF and the World Bank for Ghana among 155 countries in terms of debt-to-GDP ratios. These thresholds were set in the context of a Revised Framework for Debt Sustainability Analysis (DSA) for Low-Income Countries (LICs) (IMF, 2012). Classified as a middle-income country with a strong Country Policy and Institutional Assessment (CPIA) score, Ghana is said to have Debt Sustainability Framework (DSF) threshold of 75. A more stringent calibration such that the average country whose debt is at the relevant threshold faces a lower probability of debt distress (10%) placed Ghana's threshold at 60 percent. Based on these yardsticks, Ghana's debt-to-GDP ratio of about 48 percent in 2012 is within both thresholds, implying that its risk of debt distress is tolerable. The DSF further determined that Ghana's debt to-GDP will decline to about 38 percent in 2017, ostensibly due to higher growth. On that basis, Ghana is classified as having a "moderate risk of debt distress" during 2012-17.

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[2] The results were quoted in the 2013 Regional Economic Outlook (REO) for Sub-Saharan Africa.
[3] The CPIA is an index set by the World Bank and used to classify low-income countries into weak, moderate and strong performers. In principle countries with strong scores will have higher debt thresholds than those with moderate or weak scores.

4.2 External debt service

External debt service data that we were able to put together for 2007-11, shows debt service payment in absolute terms increasing from US$182 million in 2007 to US$346 million in 2011. As a ratio of exports, debt service payment rose from 3.1 percent in 2007 to peak at 5.6 percent in 2008 and has since declined to 2.4 percent in 2011. The average ratio for the period was 3.9 percent. Meanwhile, as a ratio of government revenue, debt service payment increased from 4.9 percent in 2007 to 8.9 percent in 2008 before falling to 4.6 percent in 2011. The average ratio for the period was 6.7 percent. (Tables 4.2.1, 4.2.2 and 4.2.3: and Chart 4.2.1).

Table 4.2.1: External debt service

External Debt Service, 2007-12 (US$'m)						
	2007	2008	2009	2010	2011	
GOV'T DS PMTS	181.73	346.50	304.86	380.50	346.03	
o/w principal	131.45	224.85	169.65	210.83	214.79	
o/w interest	50.28	121.65	135.21	169.67	131.25	

Source: MoFEP

Table 4.2.2: Government revenue and export receipts

YEAR	Revenue, excluding grants (GH¢ m)**	Tax revenue (GH¢ million)**	Export of goods and services (GH¢ m)**
2007	3,627.58	3,213.37	5,678.65
2008	4,736.28	4,193.61	7,553.54
2009	5,642.80	4,615.86	10,720.12
2010	7,685.13	6,164.29	13,538.79
2011	11,587.45	8,892.17	22,529.28

Source: BoG, **World Development Indicators, NA – Not available

Table 4.2.3: External debt service ratios

Year	DS PMTS (US$'m)	DS PMTS (GH₵₵m)*	DS PMTS-Revenue Ratio*	DS PMTS-Tax Revenue Ratio*	DS PMTS-Exports Ratio*
2007	181.73	176.28	4.86	5.49	3.10
2008	346.5	422.73	8.93	10.08	5.60
2009	304.86	435.95	7.73	9.44	4.07
2010	380.5	559.34	7.28	9.07	4.13
2011	346.03	536.35	4.63	6.03	2.38

*Computed by author.

Chart 4.2.1: External debt service ratios (%)
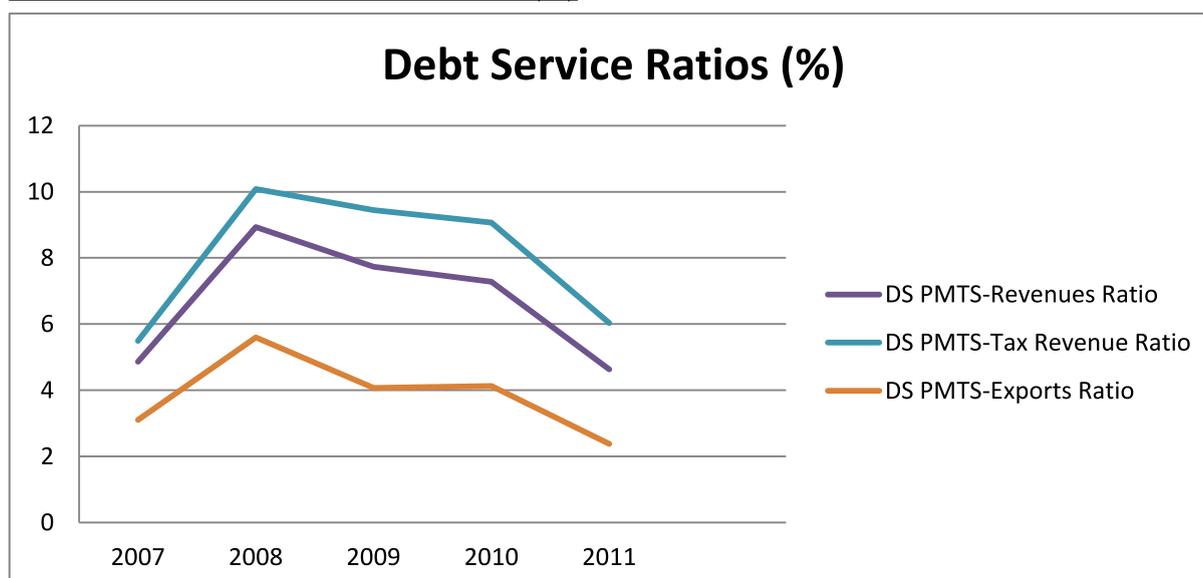
The debt service ratios appear low, especially when compared with the HIPC thresholds of 15-25 percent for exports and 25-35 percent for revenue for IDA countries (See Table 2.1). The fact, however, is that HIPC and MDRI reliefs substantially affected Ghana's debt service ratios. As the pace of accumulation of debt, especially of commercial nature, increases, these ratios are likely to rise quickly. This will be all the more so if exports and revenue growth do not keep pace with debt accumulation.

4.3 Debt Sustainability Analysis (DSA) based on fiscal approach

Apart from its modest data requirements, the fiscal approach to debt sustainability lends itself to easy application. As elaborated in Chapter 2, sustainability under the approach is based on the path of the debt-to-GDP ratio as determined by Equation 1. In principle, debt sustainability

implies maintaining a stable debt ratio (i.e. d=0). This means that addition to the debt ratio from the primary deficit and interest payments is fully compensated by gains from seigniorage and real growth. A positive change in the debt ratio suggests unsustainability in the sense that addition from the primary deficit and interest payments is less than offset by gains from seigniorage and real growth. But sustainability is more of a dynamic rather than a static concept. Therefore, the additions must persist for some time for unsustainability to be established. The question of how long increases in the debt ratio should persist to qualify for unsustainability, however, is a matter of judgment.

Table 4.3.1: Data for fiscal approach to debt sustainability

Year	Ghana inflation	Treasury bill rate	US LIBOR	US inflation	Real interest rate (r)[1]	Real growth (y)	Primary deficit (PD)[2]	Debt ratio (d)	Seigniorage (ΔRM)
2000	25.19	36.30	6.649	3.38	7.19	3.70	-2.30	101.60	
2001	32.91	41.00	3.728	2.83	4.50	4.00	-4.40	100.60	-0.72
2002	14.82	25.10	1.875	1.59	5.28	4.50	-1.94	82.10	1.18
2003	26.67	27.30	1.23	2.27	-0.21	5.20	-2.20	81.30	-0.17
2004	12.62	16.60	1.792	2.68	1.55	5.60	-0.34	57.10	-0.22
2005	15.12	14.90	3.763	3.39	0.08	5.90	-3.39	47.90	-0.98
2006	10.92	10.00	5.274	3.23	0.56	6.40	3.01	26.00	-3.26
2007	10.73	10.60	5.252	2.85	1.13	6.46	3.72	29.90	0.39
2008	16.52	24.70	3.046	3.84	3.69	8.43	5.88	28.30	-0.19
2009	19.25	22.50	1.121	-0.36	2.36	3.99	-0.33	36.10	0.91
2010	10.71	12.30	0.595	1.64	0.27	8.01	-0.08	36.50	1.31
2011	8.73	10.30	0.78	3.16	-0.40	14.39	0.60	39.80	0.09

Year	PD-RM+(r-y)*d	(r-y)*d	r - y	PD-ΔRM	r* d	y*d	PD+(r*d)	ΔRM + y*d)
2000	352.39	354.69	3.49	-2.30	730.61	375.92	728.31	375.92
2001	46.21	49.89	0.50	-3.68	452.29	402.40	447.89	401.68
2002	61.29	64.41	0.78	-3.12	433.86	369.45	431.92	370.63
2003	-441.46	-439.43	-5.41	-2.03	-16.67	422.76	-18.87	422.59
2004	-231.52	-231.40	-4.05	-0.12	88.36	319.76	88.02	319.54
2005	-281.42	-279.01	-5.82	-2.41	3.60	282.61	0.21	281.63
2006	-145.47	-151.74	-5.84	6.27	14.66	166.40	17.67	163.14
2007	-155.90	-159.23	-5.33	3.33	33.93	193.15	37.65	193.54
2008	-127.97	-134.04	-4.74	6.07	104.52	238.57	110.40	238.38
2009	-59.96	-58.72	-1.63	-1.24	85.31	144.04	84.98	144.95
2010	-283.81	-282.42	-7.74	-1.39	9.95	292.37	9.87	293.68
2011	-588.27	-588.78	-14.79	0.51	-16.06	572.72	-15.46	572.81

1. Calculated as the average of real Treasury bill rate and real US-LIBOR rates
2. Negative implies a surplus; positive implies a deficit.
3. d, PD and   RM are all calculated as ratios of GDP.

The debt sustainability analysis is conducted using Equation 1, viz.   d = PD -   RM+ (r-y)*d (where the symbols are as explained in the Equation).   Chart 4.3.1 plots the equation over the review period. As explained earlier, a positive d implies unsustainability and vice versa.

Chart 4.3.1: Debt sustainability per fiscal approach
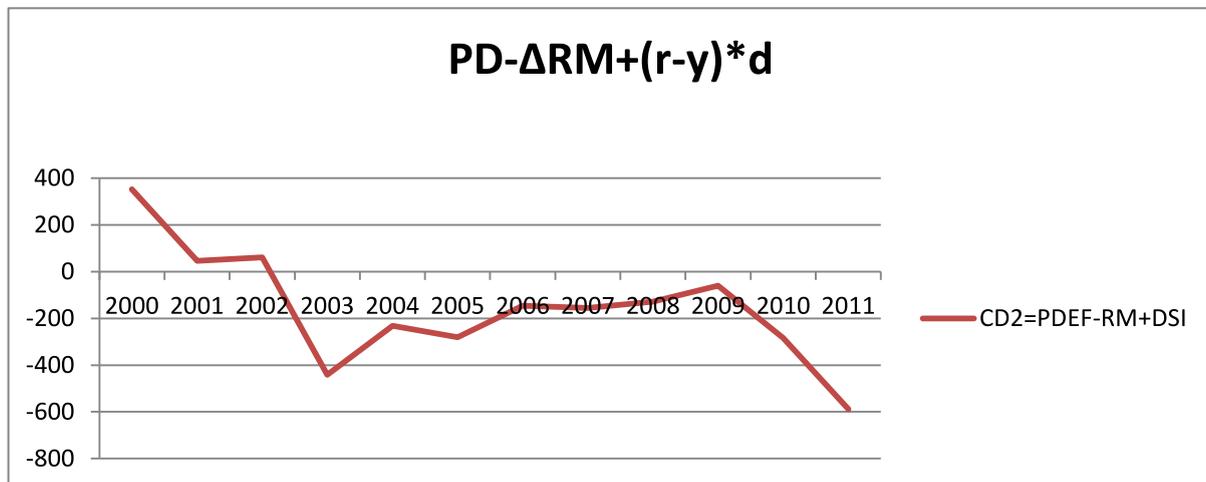
From the Chart, d unsustainability is established for the period 2000-02, when   d>0. According to the fiscal approach, this was a period when the combined effect of the fiscal balance and interest payments were not fully compensated by the combined effect of seiniorage and real growth. On the other hand, d sustainability is established for the period 2002-11, when   d<0. This was a period when the combined effect of the fiscal balance and interest payments were more than offset by the combined effect of seiniorage and real growth.

These relationships are depicted clearly in Chart 4.3.2 where the combined effect of PD and r*d are separated from that of   RM and y*d graphically. As can be seen, during 2000-02, the PD and r*d line lies above the   RM and y*d line, implying that   d>0 and also unsustainable. On the other hand, for 2003-11, the PD and r*d line lies below the   RM and y*d line, implying that   d<0 and also sustainable.

Chart 4.3.2: The sum of drivers of the debt ratio (primary deficit and interest payments) vs the sum of the dampeners (seigniorage and real economic growth effect)
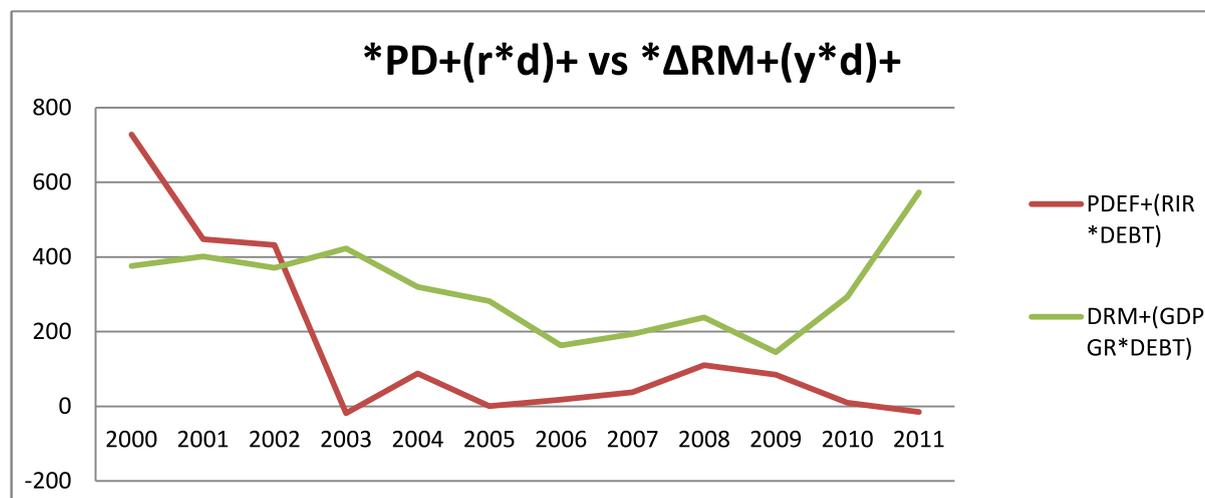
To better understand the factors driving the d trajectory, we have further broken up the aggregate equation to show the relative influences of the underlying factors, PD, RM, r, and y. The results are shown in Charts 4.3.3 through to 4.3.5.

In Chart 4.3.3, PD is plotted against RM. It can be seen that during 2000-02, when d is determined to be unsustainable, the primary balance is in surplus (negative here), but that together with seiniroge, it is outweighed by other factors, particularly high debt ratios, high real interest rates and low real growth (as is shown below). On the other hand, for 2003-11, when d is established to be sustainable, the primary balance was in deficit most of the time (escalating during 2006-08), yet it appears its impact on d was offset by the effects of lower debt stocks, lower real interest rates, and higher real economic growth. On the whole, the effect of seigniorage (RM) appears to be relatively muted during the entire period.

Chart 4.3.3: Primary deficit versus seiniorage
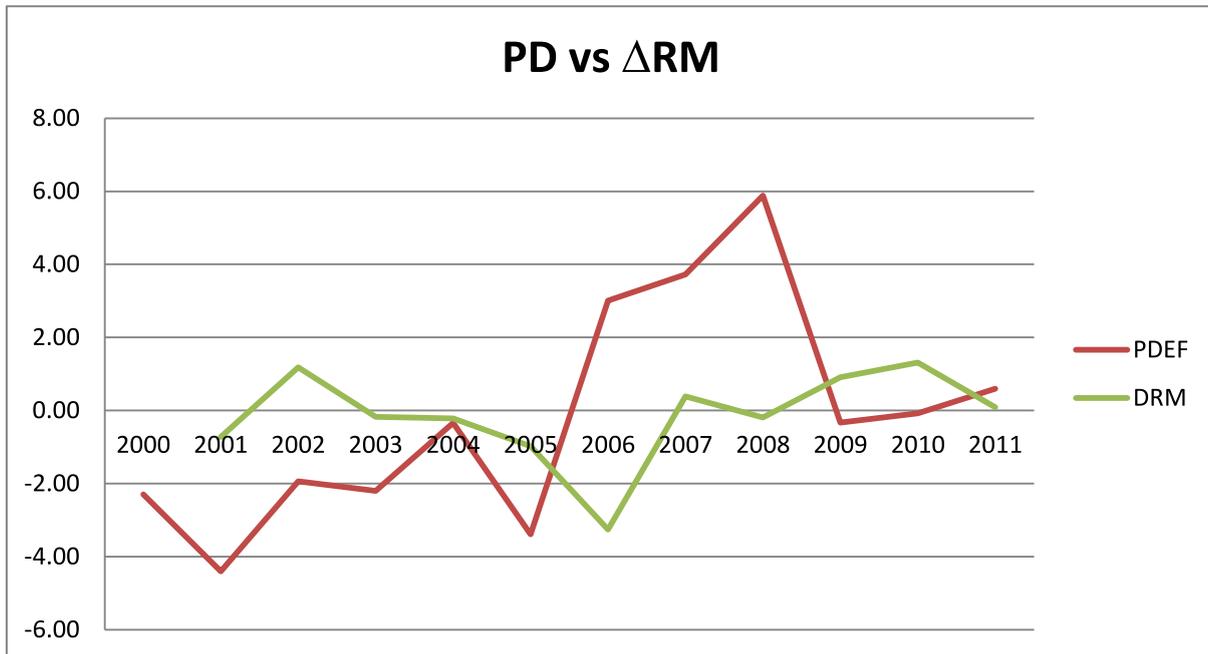
In Chart 4.3.4, real interest rate (r) is plotted against real growth (y). This relationship is central to the fiscal approach that postulates that *all things being equal,* d unsustainability is determined by r being greater than y and vice versa. From the Chart, during 2000-02, when unsustainability is established for d, r>y, while for 2003-11, when sustainability is determined for d, r<y.

Chart 4.3.4: Real interest rate versus real growth rate
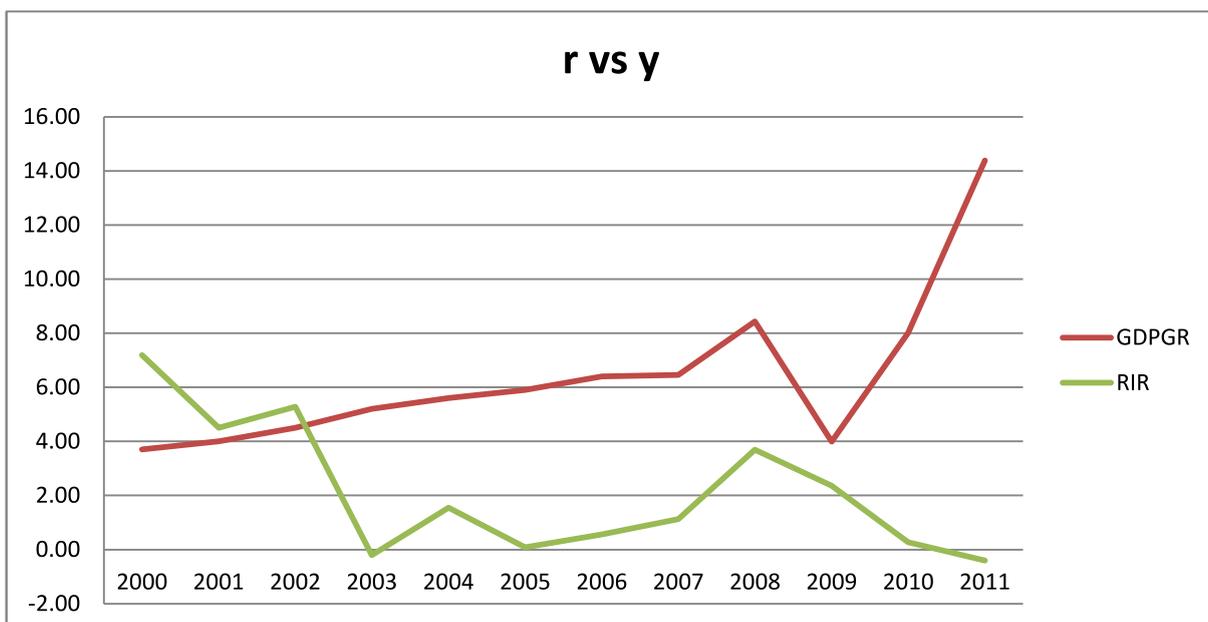
The effect of the r v y relationship is amplified in Chart 4.3.5, where their full impact is ascertained by multiplying each by d as they appear in the sustainability Equation 1.

Chart 4.3.5: The driving impact of interest payments (r*d) vs. the dampening impact of real economic growth (y*d) on the debt ratio
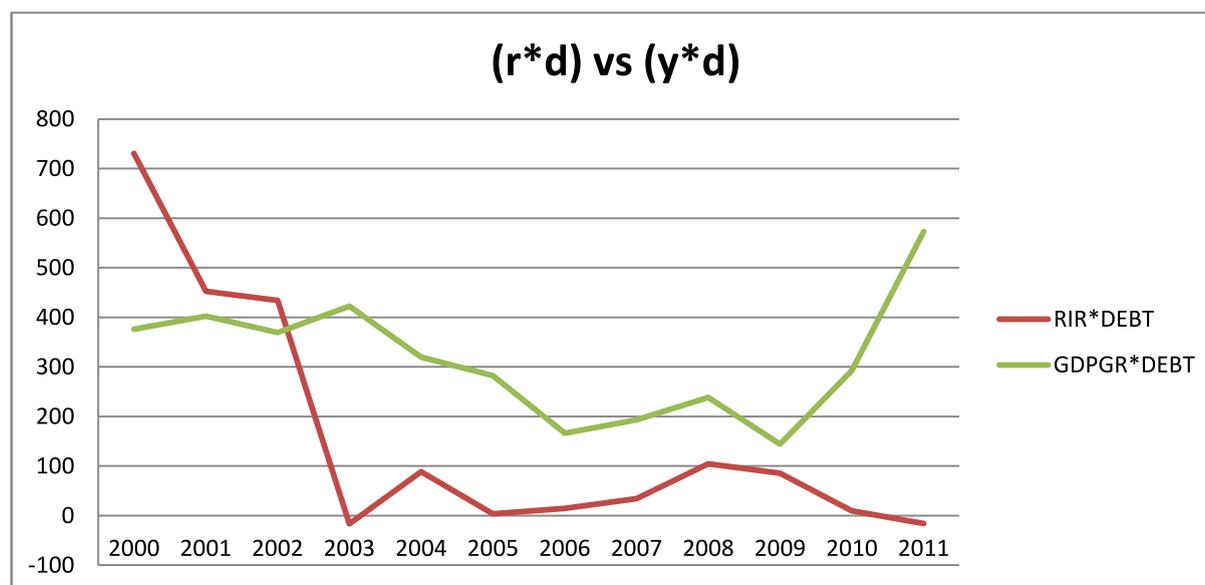
In general, it can be said that debt unsustainability established for the period 2000-02 was influenced largely by the high debt ratios and high real interest rates. On the other hand, the sustainability established for 2003-11, was influenced by the lower debt ratios, lower real interest rates, and higher real growth rates. The effect of high primary deficits especially during 2006-08 was dampened by these influences.

The results of the fiscal approach are somewhat consistent with the debt-to-GDP ratio and HIPC/DSF approaches with slight differences. The debt-ratio and HIPC/DSF approaches suggest that the debt was unsustainable during 2000-03. The fiscal approach finds unsustainability for 2000-02 only as the debt ratio was heavily influenced by the tumble in real interest rates in 2003. All approaches, however, suggest debt sustainability for 2004-12.

5. Conclusion

Ghana's dependence on aid and other loans to support its development saw its debt rise steadily to unsustainable levels. HIPC relief from 2004 and MDRI relief in 2006 brought the debt down to sustainable levels. Subsequent borrowing has caused the debt level to rise yet again. The question is whether Ghana risks returning to debt unsustainability and possibly HIPC status. The rebasing of Ghana's GDP in 2010 and the start of oil production late that year mean that Ghana now has a higher capacity to carry debt sustainably. However, if the debt increases too rapidly, then sustainability could be at risk.

Based on available data, Ghana's debt profile and sustainability have been analyzed for 2000-12. For domestic debt, the shares of both the short-term and long-term components have declined in favor of the medium-term component. Sustaining macroeconomic stability is important to reduce further the short-term debt, which has been relatively high, and lengthening the maturity profile of the debt. The nonresident holding of the domestic debt has steadily increased, which increases fiscal vulnerability given the volatility of such holdings. For external debt, a noticeable trend is the steady increase in the commercial component. This also increases the debt and the service burden.

Based on debt-to- GDP ratios and the fiscal approach to debt sustainability, the study finds Ghana's debt to be unsustainable during 2000-02/03. This result confirms the designation of Ghana by the IMF and World Bank as a HIPC with unsustainable debt up to 2003. The study finds the debt to be sustainable during 2004-12. This indicates that debt sustainability achieved from the HIPC and MDRI reliefs has been sustained. An enlarged GDP from rebasing and oil production have contributed to debt sustainability.

Maintaining debt sustainability going forward depends on several factors. A key factor is the rate of economic growth, which is not easily controllable. Other important factors are the levels of fiscal deficits, borrowing to finance the deficits, and the terms of borrowing. Among all these factors the most important is probably the fiscal deficit as it drives the level of borrowing and even the terms that can be obtained for such borrowing. Keeping the deficit under control is therefore critical for long-term debt sustainability. Indeed, fiscal unsustainability and debt unsustainability are like twins they are inextricably intertwined. Further, it is important that borrowed funds are used judiciously, in particular for productive purposes so that sufficient growth can be generated to reduce the debt burden and foster sustainability.

References

African Development Bank, 2006, "*Multilateral Debt Relief Initiative by the African Development BankAt a Glance,*" http://www.afdb.org.

International Monetary Fund (IMF), 2003, *Debt Sustainability in Low-Income CountriesTowards a Forward-looking Strategy,* Policy Development and Review Department, Washington, DC.

_____, and World Bank, 2012, "*Revisiting the Debt Sustainability Framework for Low-Income Countries,"* Washington, D. C.

_____, 2013, Sub-Saharan Africa: Building Momentum in a Multi-Speed World, *Regional Economic Outlook,* Washington, D.C.

Ley, E., 2004. Fiscal (and External) Sustainability. Available at: *http://econwpa.wustl.edu:80/eps/pe/papers/0310/0310007.pdf* and accessed on 12 March, 2013.

Northover, H., Joyner, K., and D. Woodward, 1998,*A Human Development Approach to Debt Sustainability for the World's Poor.* Catholic Agency for Overseas Development, London.

Ojo, N. K., 1997, Sustainability of Nigeria's Debt, Paper Presented at a *Seminar on the Debt Problem and the Nigerian Economy: Resolution Options, Organized by the CBN at Abuja, Nigeria, October, 29-29.*

Parker, K., and S. Kastner, 1993. A Framework for Assessing Fiscal Sustainability and External Viability, with an Application to India. *Working Paper 93/78*, International Monetary Fund, Washington, D.C.

Sachs, J. D., 2002, "Resolving the Debt Crisis of Low-Income Countries," *Brookings Papers on Economic Activity 2002 (1): 257-86.*

Sun, Y., 2004, "External Debt Sustainability in HIPC Completion Countries," *Working Paper WP/04/160*, IMF, Washington, D.C.

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