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The Prospects For Foreign Debt Sustainability In Post-Completion Point Countries: Implications Of The HIPC-MDRI Framework

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Abstract

The Enhanced HIPC Initiative was launched in 1999 to reduce the NPV of poor country foreign debt to a sustainable threshold of 150 percent of their exports. This paper applies a simple growth-with-debt model to sixteen post-completion point HIPCs to assess whether or not this goal will be met by 2015. Our somewhat optimistic base case projections suggest that participation in the current Enhanced HIPC-MDRI initiative will only reduce the NPVs of their external debt as a whole to 176 percent of exports by this date. Sensitivity tests which expose these countries to adverse exogenous shocks help draw attention to policies that could ensure that unsustainable debt levels are not again accumulated by the world's poorest countries.

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The prospects for foreign debt sustainability in post-completion point countries: implications for the HIPC-MDRI framework

In September 1999, calls for a comprehensive approach to address the excessive external debt burden of the world's poorest states culminated in the revision of the original Highly Indebted Poor Countries (HIPC) Initiative framework. It then became known as the "Enhanced HIPC Initiative" (HIPC II). The HIPC II Initiative was expected to benefit around forty low-income countries, of which twenty-two had reached their Completion Point and had started to receive irrevocable debt relief by April 2007[1]. Compared with the original HIPC I, the enhanced initiative established a stronger link between debt relief and the Millennium Development Goals (MDGs)(I have added this – should it be here?) by making relief conditional on the progress made by qualifying countries in the preparation and implementation of social policies and strategies for reducing poverty.

An important milestone in the history of debt relief programmes was the launch of the Multilateral Debt Relief Initiative (MDRI) in July 2005 by the leaders of the group of G-8 countries at their summit in Gleneagles in Scotland. Under this proposal, countries that had reached, or would eventually reach the Completion Point under the HIPC II Initiative would receive 100 percent debt cancellation from three multilateral institutions, the IMF, the International Development Association (IDA) of the World Bank and the African Development Fund (AfDF) of the African Development Bank. The full write-off covered the debts owed to each institution at the end of 2004. By the end of January 2006 there was an agreement by the Executive Board of the IMF, the IDA and the AfDF that seventeen post-completion point HIPCs had met the policy qualification criteria and should be provided with MDRI relief.

Unlike the HIPC Initiative and numerous traditional debt relief programmes before it, the MDRI was not based on the principle of proportional burden sharing on the part of official bilateral or of private creditors, or of other multilateral agencies beyond the three selected institutions. Nonetheless, in January 2007 the Governors of the Inter-American Development Bank (IADB) agreed to extend similar assistance to their qualifying member states, even though they were not included in the original G-8 proposal. Bolivia, Guyana, Honduras and Nicaragua are four countries that have now qualified to receive MDRI assistance from the IADB.

But in recent years, the HIPC II-MDRI has been subjected to criticism, in particular with respect to its choice of the debt indicators available for judging sustainability and treatment of domestic debt. Despite the reservations of several authors, notably Peter Hjertholm (2003), our analysis nevertheless takes as given the indicators of debt sustainability as defined by the sponsors of the HIPC II Initiative. There is some merit in using the IMF-World Bank debt sustainability framework, if only for comparison of outcome purposes. Even so, the results of debt sustainability analyses under the current HIPC II Framework should be interpreted with caution.

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[1] See the www.worldbank.org/hipc/ for key features of the HIPC Initiative.

This is particularly the case in many South and Central American countries where the inclusion of government domestic debt in the overall liabilities of the public sector could lead to a markedly different classification of debt distress.

The objectives of this paper, then, are threefold:

First, it assesses the impact of Enhanced HIPC-MDRI financing on the external debt of those post-HIPC countries that qualified for MDRI assistance by the end of January 2006. These economies included: Benin, Bolivia, Burkina Faso, Ethiopia, Ghana, Honduras, Madagascar, Mali, Mozambique, Nicaragua, Niger, Rwanda, Senegal, Tanzania, Uganda and Zambia — sixteen in all. The study excludes Guyana because its exports plus imports were outlying at 180 percent of GDP averaged from 1980 to 2004. This was roughly four times the corresponding average ratio of trade to GDP for the group of seventeen economies classified as heavily indebted in the World Bank Development Indicators for 2006. Moreover, data showed that domestic debt as a proportion of GDP in Guyana was considerably higher than in the other post-HIPC countries included in our sample.

Second, we investigate the interrelationship between key indicators of macroeconomic management and projected external debt levels in countries that met the policy qualification criteria for MDRI assistance by the end January 2006. We utilize a simple growth-with-debt model that is capable of demonstrating the effect of major structural policy variables on the evolution of external debt obligations in borrowing countries. The results may contribute to the continued debate for a re-enhanced front-loading of future debt relief to HIPC countries with "good" policies in support of the attainment of the Millennium Development Goals (MDGs). (is this technically the 2nd time it is mentioned?)

Third, in the past in many HIPCs, the failure to persist with the set of complex IMF and World Bank macroeconomic stabilisation and structural policies contributed to the build-up of external liabilities to unsustainable levels. This paper highlights the impact of such slippages in policy reforms on indebtedness in post-HIPC countries and suggests policy actions for achieving and maintaining long-term debt sustainability beyond the delivery of MDRI relief assistance.

The article is organised as follows: Section 1 specifies the growth-with-debt model and associated key parameter values to be used in our baseline simulation of the indicators of foreign borrowing commitment. Section 2 relates this basic growth-debt framework to each of the sixteen post-HIPC-MDRI economies in our sample over the perspective-plan period 2005 to 2030. Section 3 focuses on the implementation of Enhanced HIPC-MDRI programmes. It looks at the extent to which a full cancellation of all multilateral debt stock outstanding at the end of 2004 provides a basis for post-HIPC states to achieve and maintain sustainable debt levels over the medium and long-terms. Section 4 presents sensitivity tests in order to assess the impact of possible failure in the implementation of structural adjustment on the external debt sustainability outlook of our sixteen post-HIPC countries and to qualify our basic optimistic stylized assumptions.

1. Model Specification and Data Description

The framework underlying our external debt-with-growth simulations in this study is the original Chenery-Strout (1966) dual-gap theoretical model which, despite numerous criticisms, remains the basis of much of the debt sustainability analyses performed by the staff of the World Bank and the IMF. The objections to such traditional financing-gap models has centered mainly on Lucas' (1976) argument that structural relationships predicted by conventional financing-gap methods across random shifts in policy regimes could be highly unstable. Further, in a critical assessment of financing-gap models, William Easterly (1997) noted that financing-gap calculations themselves created perverse incentives since a country's domestic savings performance may well deteriorate following a commitment by donors of more external funds. Under these circumstances, the parameter values underlying the financing-gap methodology might vary substantially from simulations which embody slippage in the implementation of reforms (Easterly, 2006). The implications for external debt sustainability outlook in post-HIPC-MDRI countries of exogenous shocks in economic fundamentals are explored in Section 4.

A set of tables available from the author, but not given here, report the values of the principal variables to be used in our baseline projections for the stock of foreign loans implied by a target growth in real gross domestic product of five-and-a-half percent[2]. The more than five-percent growth in GDP is needed to prevent an increase in poverty levels, particularly in Sub-Saharan Africa (SSA) by 2015 (World Bank a, 2000). To remain consistent with this target growth rate, the parameters underlying our simulations have been arbitrarily selected so as to ensure that the dual gap model requirements for a steady downward trend in the gross domestic saving and foreign exchange gaps are obtained in each of our countries.

The marginal rate of savings is projected to rise from a low level of about 6 percent of GDP and then to level off at a constant figure of between 26 and 29 percent by the year 2030. This peak ratio of savings to GDP is comparable to the general level currently obtaining in the more rapidly advancing countries of East Asia. The implications for external debt accumulation of the rather optimistic assumption that the less populous agricultural African HIPCs, such as Benin, Mali, Rwanda, Senegal, Tanzania and Uganda, will achieve these comparatively high savings to GDP ratios of between 26 and 29 percent of GDP in the twenty-five years from 2005 to 2030 are explored further in our sensitivity tests in Section 4.

We also presume that the projected marginal import rate will first rise slowly from an initial ratio of 15 percent of GDP in 2004 and then level off at between 30 and 33 percent in the year 2030 and beyond. The implicit assumption here is that the agriculture and manufacturing sectors should by then be producing some of what is currently being imported, such as food and other consumer items like clothing and shoes. This could result in a decline in the marginal propensity to import and we have assumed a perhaps optimistic one-to-one relationship between output growth and imports of goods and non-factors services beginning from 2030.

Furthermore, the real rate of growth of exports of goods and non-factor services is expected to rise from a figure which is generally below 4 percent to reach its peak of between 7 and 10

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[2] The tables are available from the author on request at: Jacinta.nwachukwu@manchester.ac.uk

percent in the year 2030. It is then expected to decline slowly from 2031 and to level off at a constant figure equal to the target growth rate in GDP of five-and-a-half percent.

As noted by Avramovic (1964), McDonald (1982) and Nissanke and Ferrarini (2001), a successful progression through the external debt-cycle model requires that the projected marginal domestic savings rate should exceed the fixed investment ratio required by the target rate of growth. This should ensure that debt eventually begins to decline. Other long-term debt sustainability provisions subsumed in our baseline growth-with-debt model include the requirement that the anticipated rate of growth of imports should not be more than the real growth rate of exports. We also assume that the estimated growth of external debt and interest payments does not continuously exceed the real rate of growth of exports and income, as well as a need for the marginal product of foreign capital to be greater than the international cost of borrowing. It is against such ambitious sustainability threshold values that the authenticity of the results of our projections for indicators of foreign indebtedness in the sixteen post-HIPC-MDRI countries of study will need to be judged.

Following Feder (1980) and Feder, Just and Ross (1981), we define the interrelationships at the end of a time period t between the projected requirements for new external loans $EBFC_t$, the associated deficit on current account NFC_t, the net inflow of total new disbursements $NFEB_t$ and the face value of the stock of foreign debt outstanding SEB_t as follows:

$$NFC_t = EBFC_t + PPI_t + FDI_t + AID_t + REM_t \ldots\ldots\ldots\ldots\ldots(1.1)$$

$$EBFC_t = CEBFC_t + NCEBFC_t = GEB_t - AD_t - iSEB_{t-1}\ldots\ldots\ldots\ldots\ldots(1.2)$$

$$\therefore EBFC_t + iSEB_{t-1} = GEB_t - AD_t = NFEB_t = \Delta SEB_t = SEB_t - SEB_{t-1}\ldots\ldots\ldots(1.3)$$

$$\therefore SEB_t = EBFC_t + iSEB_{t-1} + SEB_{t-1} = NFEB_t + SEB_{t-1}\ldots\ldots\ldots\ldots(1.4)$$

$$\therefore \frac{EBFC_t + iSEB_{t-1}}{SEB_{t-1}} = \frac{NFEB_t}{SEB_{t-1}} = \frac{\Delta SEB_t}{SEB_{t-1}}$$

$$\frac{\Delta SEB_t}{SEB_{t-1}} - \frac{\Delta Y}{Y_{t-1}} = \frac{EBFC_t + iSEB_{t-1}}{SEB_{t-1}} - \frac{\Delta Y}{Y_{t-1}}\ldots\ldots\ldots\ldots(1.5)$$

$$\frac{\Delta SEB_t}{SEB_{t-1}} - \frac{\Delta X}{X_{t-1}} = \frac{EBFC_t + iSEB_{t-1}}{SEB_{t-1}} - \frac{\Delta X}{X_{t-1}}\ldots\ldots\ldots\ldots(1.6)$$

$$\therefore \frac{SEB_t}{Y_t} = \frac{SEB_{t-1}}{Y_{t-1}}\left(1 + \left(\frac{EBFC_t + iSEB_{t-1}}{SEB_{t-1}} - \frac{\Delta Y}{Y_{t-1}}\right)\right)\ldots\ldots\ldots\ldots(1.7)$$

$$\therefore \frac{SEB_t}{X_t} = \frac{SEB_{t-1}}{X_{t-1}}\left(1 + \left(\frac{EBFC_t + iSEB_{t-1}}{SEB_{t-1}} - \frac{\Delta X}{X_{t-1}}\right)\right)\ldots\ldots\ldots\ldots(1.8)$$

where PPI_t is the anticipated transfer of net foreign private portfolio investment at a given time period t, FDI_t is the projected net foreign direct investment flow including real estate

purchases and AID_t refers to development grants-in-aid, including those for technical cooperation and other donations by international aid agencies as well as non-governmental organisations. The symbol REM_t represents net remittances received from abroad. The sum of net foreign portfolio investment PPI_t, foreign direct investment FDI_t, foreign grants-in-aid with technical cooperation AID_t and net remittances REM_t approximate to the flow of non-debt creating items on the external balance of payments at the end of period t. The term $CEBFC_t$ refers to the estimated new foreign concessionary borrowing from all creditors, including multilateral institutions, bilateral governments and private creditors. On the other hand, $NCEBFC_t$ is the corresponding estimate for new international liabilities contracted on commercial terms and issued to both the public and private sectors. The term GEB_t is, therefore, a representation of the likely total amount of new foreign loans that may be required by each of our post-HIPC-MDRI countries in financing the target growth rate in gross domestic output of five-and-a-half percent at a given time period t. This potential amount of gross new external loan transfers is assumed to be forthcoming without interruption throughout the growth-with-debt cycle.

The AD_t term is the scheduled total concessionary and non-concessionary foreign loan amortisation payments, while $iSEB_{t-1}$ is the potential interest expenditure on the nominal stock of concessionary and non-concessionary external debt outstanding at the beginning of the period $t-1$. The SEB_{t-1} symbol is the *nominal* or face value, as opposed to the net present value of the stock of concessionary and non-concessionary external debt accumulated at the start of a given period t in constant 2000 US dollars and ΔSEB_t is the change in the face value of the stock of foreign loans. The face value of the stock of external debt outstanding at the beginning of period t is approximated by the level of concessionary and non-concessionary foreign debt accumulated at the end of the previous period $t-1$.

We also assume that some new foreign lending will be available throughout the projection period at a constant concessional rate of interest of i_{CONS} per annum. This is approximated by the annual average nominal rate of interest on multilateral and bilateral concessionary debt outstanding in the period 1990 to 2004. Data derived from the World Bank's *Global Development Finance for 2007* (World Bank b, 2007) show that the concessional rate of interest

i_{CONS} is significantly lower than the corresponding interest rates on multilateral, bilateral and private non-concessionary foreign loans i_{NCONS}

Real interest rates are customarily used in the growth-debt literature, deploying either the dollar import or export unit value indices for an individual debtor nation as the foreign price deflator. Of course, a future rise in any of these foreign price indices will result in estimates of real interest rates that are lower than the nominal rates which prevailed during the 1990 to 2004 time period. On the other hand, using export unit values as the international price deflator results in unsustainably high real interest rates for many of our SSA countries. This is because of the decline in the export prices of most primary commodities in the late 1990s to early 2000s. In view of the uncertainties involved in the future terms of trade, and recognizing the relatively low international inflation environment in the 1990s by comparison with the late 1970s and 1980s, the prospective annual real rate of interest on concessionary, i_{CONS}, and non-concessionary foreign loans, i_{NCONS}, are assumed to be equal to the corresponding annual average nominal rate observed in the decade 1990 to 2004.

The Y_t symbol refers to the absolute dollar value of gross domestic products in constant year 2000 prices which are expected to grow at the constant annual growth target $\dfrac{\Delta Y}{Y_{t-1}}$ of five-and-a-half percent. The term X_t is the value of exports of goods and non-factor services in constant 2000 US dollars. In this study, it is assumed that the rate of growth of export earnings per annum $\dfrac{\Delta X}{X_{t-1}}$ for all of our sixteen countries in the next couple of decades will have risen somewhat higher than the proposed target annual rate of growth in GDP.

2. The External Debt Sustainability Analysis of Post-HIPC-MDRI Countries

The purpose of this section is to justify the discussion of the challenges of maintaining long-term debt sustainability in post-HIPC-MDRI countries by highlighting the linkages between the key determinants of external indebtedness. Analytically, the sustainability of a country's external debt position depends on three main factors and on their development over time. They are: (i) the existing stock of debt outstanding at a given time period t, (ii) the prospective volume and terms of new external borrowing and (iii) the development of fiscal and external repayment capacity. This last is closely related to the outlook for a country's gross domestic output and export growth rates with domestic savings therefrom.

An assessment of external debt sustainability in our sample of post-HIPCs in this paper will involve two measures of external obligations. They are (i) the nominal stock of foreign loans expressed in constant US dollars and (ii) the dollar stock of debt outstanding measured in terms of net present value. However, to account for the effect of growth in the fiscal and repayment capacity of the borrowing countries, these measures of debt burden have been related to development in domestic output and export earnings. Of course, the usefulness of these estimates of debt-to-export ratios, particularly as indicators of debt sustainability, will ultimately depend on the availability of their foreign exchange earnings to a government and on the degree of openness of the economy. For ease of exposition, our discussion and representation are limited to the trend in the unweighted mean for our group of sixteen post-HIPC-MDRI economies[3].

Figure 1 illustrates the prospective mean for the nominal value of the external stock outstanding at a given time period t for our group of sixteen-post HIPC-MDRI countries on the left vertical scale. The corresponding estimate for the unweighted mean value of external debt stock expressed as a percentage of the prior-three year average GDP is on the right vertical scale. It shows that the threat of default builds up inevitably when the process of growth is financed by foreign loans over time. The total external indebtedness outstanding for our sample of sixteen post-HIPCs as whole is projected to grow to a constant 2000 US$11 billion by the end of the Millennium Development Goals (MDGs) in 2005 in the absence of MDRI relief. This is almost four times the initial debt stock of US$3 billion observed at the base year 2004. In terms of GDPs, the increase is much less pronounced. The face value of the stock of debt was projected to almost double from 67 percent of GDP in 2004 to 117 percent in 2015. It was then expected to reach 144 percent of average GDP, equivalent to US$30 billion in 2030.

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[3] The corresponding year-on-year projections for *each* of the sixteen countries of study are available on request.

Figure 1: Projected Stock of External Debt (Aggregate for 16 HIPC-MDRI Economies)
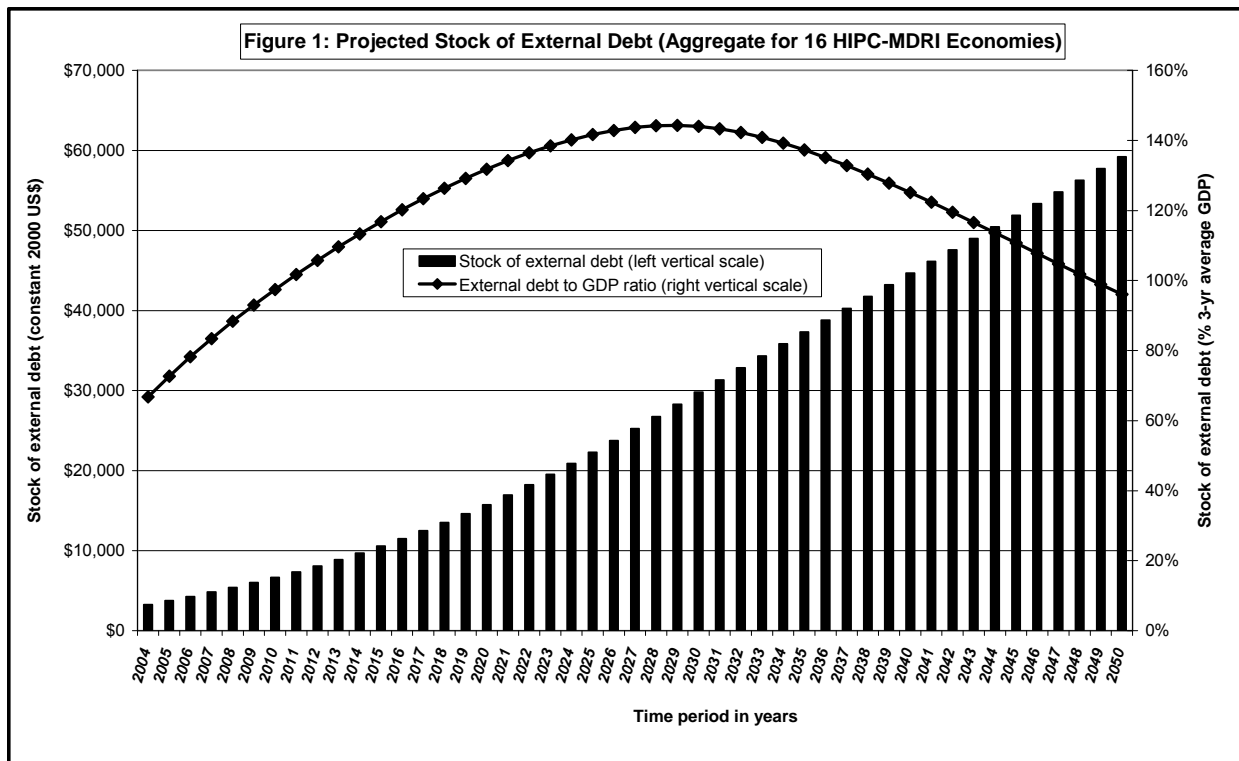
The increase in the absolute value of the stock of external indebtedness for our group of post-HIPC countries is largely due to the accumulation of substantial new disbursements which are expected to increase from US$503 million in 2004 to US$711million in 2015, rising to US$932 million by the end of 2030. The potential annual interest charges payable on these new external borrowings are likely to more than quadruple from circa US$38 million in 2004 to US$166 million in 2015. They are projected to reach US$588 million by 2030. In this way, our sixteen post-HIPCs as a whole are expected to obtain a net addition to their external borrowing commitments amounting to US$877 million in 2015, rising to US$2 billion by the end of 2030.

Interestingly, our simulations show that the foreign debt stock expressed as the ratio of previous three-year average GDPs for Benin, Burkina Faso, Mali, Mozambique, Rwanda, Tanzania and Uganda are likely to fall to below 100 percent by the end of the MDGs in 2015. However these external financing projections are typically ambitious. Any delay in disbursements due to absorption problems in recipient countries or to bureaucracy and administrative difficulties on the part of the creditors may substantially raise the projected debt-stock to GDP ratio. By contrast, the external debt outlook in Ghana, Madagascar, Nicaragua and Zambia is projected to worsen throughout our planning period. Their potential ratios of debt-to-GDP were persistently higher than the comparable mean for our group of sixteen post-HIPCs. This is in spite of our stylized assumption of the countries' continuing good record of satisfactory performance on IMF structural adjustment programs and the implementation of the poverty reduction strategies subsumed in our optimistic parameters.

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Further, we illustrate on the right vertical scale of Figure 2 below the year-on-year baseline calculations for the unweighted average NPV of foreign loan stocks at the end of a given year t expressed as a fraction of the previous three-years' average exports for our sixteen post-HIPC-MDRI economies as a whole. The outlook for debt sustainability for our post-HIPCs as a group is expected to worsen significantly up to 2030. The NPV of their unweighted mean stock of debt is projected to rise from 74 percent of average exports (or US$885 million in constant 2000 prices) in 2004 to 236 percent of exports (representing US$5 billion) in 2015, before reaching its peak of 281 percent (or US$9 billion) in 2024. However, we projected that by the end of the planning period in 2030, the external debt stock for our group of HIPCs will decline somewhat to reach 260 percent of export earnings (equivalent to US$13 billion). This is still more the 150 percent of the export sustainability benchmark. But, despite the elevated foreign debt ratios in the early stages of the growth-debt cycle, the potential mean NPV of external debt stock for our group of sixteen post-HIPCs is expected to fall to the sustainability threshold of 150 percent of exports in 2047. We can therefore foresee a time in the future when these HIPCs will be able to meet their debt service commitments from their own export earnings.

Figure 2: Projected NPV of External Debt Stock (Aggregate for 16 HIPC-MDR1 Economies)
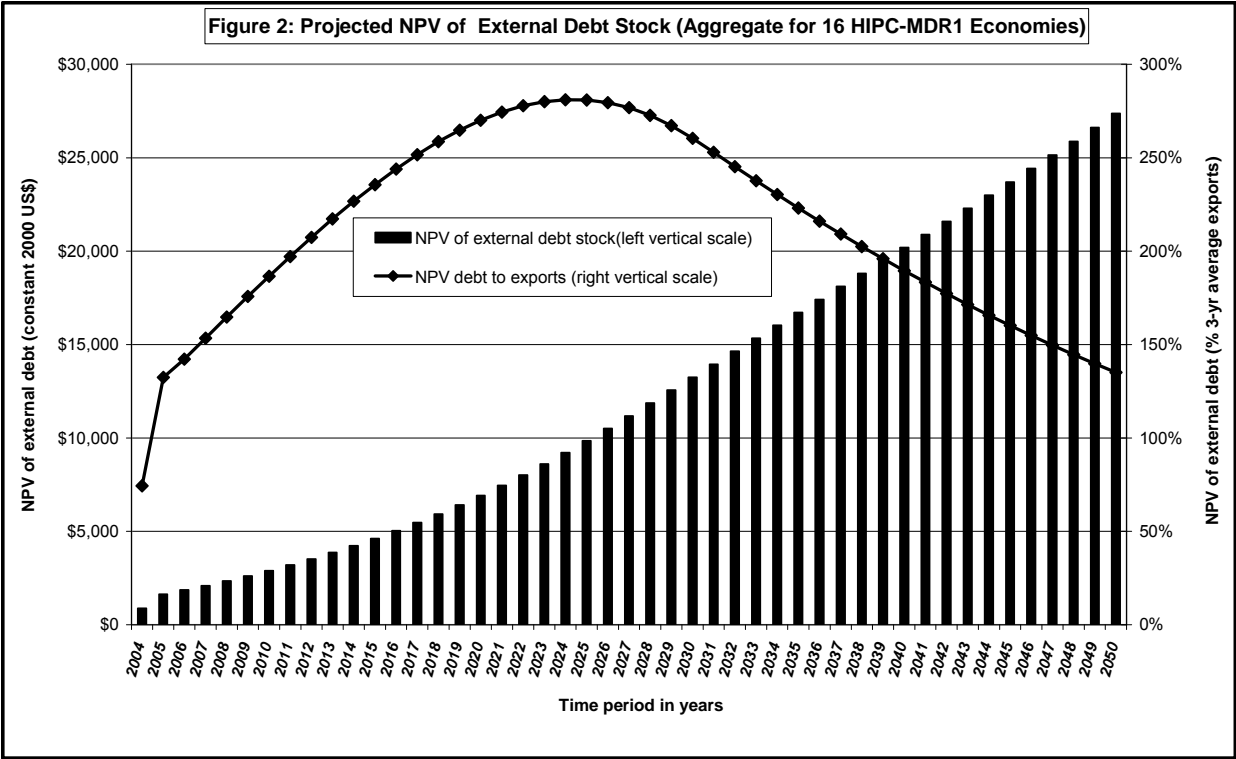
Nevertheless, there is concern that the heavy external loan burden obtaining in many HIPC economies at the start of their development process may put off potential domestic and foreign investors. Prospective private investors may be worried that a government might finance its onerous debt-servicing obligations through distortionary policies such as the increasing of the domestic money supply and higher taxes. In addition some authors, including Corden (1989),
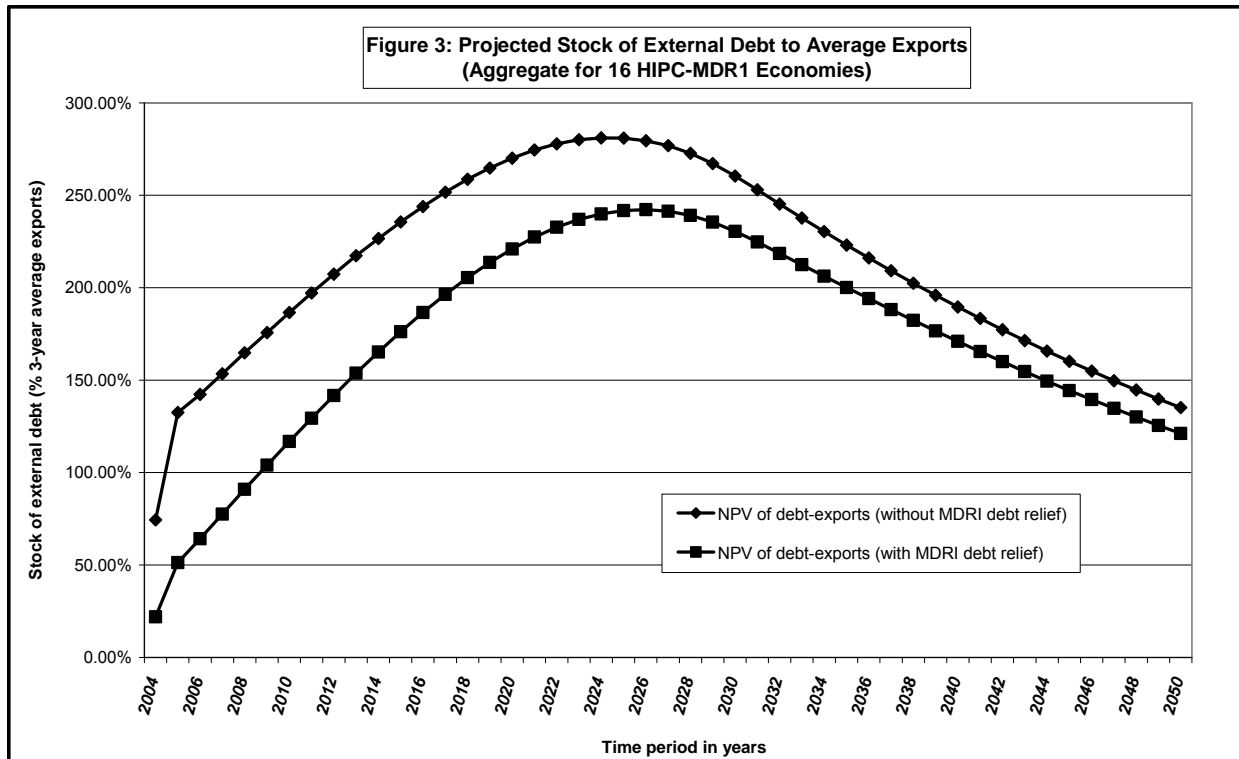
have argued that high levels of external debt may discourage governments from undertaking difficult reforms, like the trade liberalisation and fiscal adjustments subsumed in our optimistic baseline performance parameters. It follows that as the financial position of these countries improves with structural adjustment, they will almost inevitably come under increasing pressure from foreign creditors to repay their large stock of loans in their entirety. This means that the anticipated effect on economic growth of high external indebtedness in the early stages of the debt-cycle in some HIPCs, such as Ghana, Madagascar, Nicaragua and Zambia, may not only be via a lower than expected volume of investment, but also through a poorer policy environment which will affect the efficiency of physical and human capital.

3. MDRI Debt Relief and the External Indebtedness of Post-HIPCs

The focus of this section is to examine the impact of the newly proposed MDRI relief on the overall stock of the external debt burden in our sixteen post-HIPCs that qualified for assistance under this Initiative by the end of January 2004. To simplify our analysis, we have assumed the anticipated full debt write-off under the MDRI Program by the participating financial institutions will be for all types of multilateral debt stock outstanding at the end of 2004. This corresponds to the year when the qualifying post-HIPC countries began to receive assistance from the IMF under the MDRI framework.

The growth-with-debt identities in equations 1.1 to 1.8 outlined earlier in Section 1 show that a high level of existing stock of debt and associated debt services is one of the major determinants of debt distress in many low-income countries. The Enhanced HIPC Initiative with the supplementary MDRI relief was designed primarily to achieve and maintain sustainable external debt levels in the medium to long-term by providing a one-off stock-of-debt cancellation for qualifying countries.

Figure 3 presents the result of our year-on-year calculations for the unweighted mean NPV of debt stock expressed as a percentage of exports for our sample of sixteen states with and without the proposed MDRI relief. As with our previous representation in Figure 2, the results are predicated on a baseline scenario of optimistic performance parameter values for each of our sixteen countries. For brevity, much of the argument here will be restricted to projected mean ratios of the NPV of foreign debt to exports observed in the eleven years from 2005 through 2015 for our sample of sixteen post-HIPCs as a whole. This final period is the year in which the originators of the MDGs sought to address such issues as extreme poverty eradication, HIV/AIDS, universal primary education, gender equality, child mortality reduction and maternal health improvements.

Figure 3: Projected Stock of External Debt to Average Exports (Aggregate for 16 HIPC-MDR1 Economies)

The projections in Figure 3 show that the delivery of MDRI relief in 2004 would not provide an assurance of sustainable levels of external indebtedness in the subsequent eleven years for our group of sixteen post-HIPCs. In this Figure, the unsustainable external debt position is defined in terms of a continuing NPV of foreign debt stock of more than the HIPC II threshold of 150 percent of average exports. On average, the NPV of external debt relative to average exports for our group of sixteen post-HIPC economies, assuming a provision of MDRI relief in 2004, is expected to rise from an initial ratio of 22 percent in 2004 to 176 percent in 2015. It is projected to reach its peak of 242 percent in 2026 and to decline to a sustainable ratio of 149 percent in 2044 compared to 2047 in the absence of multilateral debt cancellation. The impact of the proposed multilateral debt relief on debt sustainability outlook in our sample of HIPCs, it seems, is only a marginal three final years. This implied benefit of a one-off MDRI debt relief is particularly insignificant if the resources saved in these last three years are discounted to the base year 2004. We may therefore infer that the outlook for long-run growth and debt sustainability in those post-HIPCs that failed to qualify for a 100 percent cancellation of their multilateral debt stock outstanding in 2004 will not be significantly different from that of our sample of sixteen states which did qualify in January 2006. This observation is, of course, predicated on the assumption that those post HIPCs that did not qualify for additional assistance under the MDRI arrangement will continue to stay with their economic stabilization programmes and structural reform in a manner similar to that subsumed in our base case scenario. Such further underscores the importance of improvements in policy and institutional environments in attaining and maintaining sustainable external debt levels in the medium to long-term in HIPCs.

Interestingly, the rapid build-up in the overall external debt burden to unsustainable levels of more than 150 percent from 2013 for our sample of the post-HIPCs, despite any MDRI debt relief operation in the early stages of their growth process, is not as an assumed result of the poor economic management that has plagued these economies in the past. After all, our baseline projections are based on optimistic growth-enhancing policy reforms that should augment fiscal balances as well as expand and diversify export production. Rather, the anticipated sharp rise in foreign debt-to-average export ratios is largely due to their continuing requirement for total new external disbursements, $EBFC_t$, of around US$564 million per annum averaged from 2005 to 2015. This is despite the fact that their overall annual interest payable on outstanding debt, $ISEB_{t-1}$, after MDRI relief is cut by 31 percent on average from US$99 million to US$69 million between 2005 and 2015 when compared with obligations under the base case scenario.

By contrast, such anticipated reductions in interest payments brought about by implementation of MDRI debt relief are projected to significantly lessen the expected additions to external debt flows for Benin, Burkina Faso, Mali, Mozambique, Rwanda, Tanzania and Uganda. As a result, their potential stock of external liabilities is likely to remain below the HIPC II "critical value" of 150 percent of exports throughout the period 2005 to 2015. This offers a good starting point from which these states can depart permanently from debt rescheduling and/or forgiveness. According to an IMF and World Bank study (IMF-Bank, 2001a), the incidence of rescheduling for developing countries, such as those listed immediately above, with prospective net present values of foreign debt stock to export ratios below 150 percent was only 12 percent. Nonetheless, numerous challenges still remain for these relatively low-populated agrarian Sub-Saharan African (SSA) HIPCs and their multilateral creditors to ensure that unsustainable debt levels are not accumulated once again. Most importantly, creditors should coordinate their lending approaches to deal with the so-called "free rider" problem emphasized in numerous HIPC/MDRI documents. This refers to a situation where commercial banks in particular may attempt to take advantage of the lower risk of default in post-HIPC-MDRI economies by extending new loans on non-concessional terms, leading to a further need for debt relief in the future. The creation of an appropriate debt sustainability framework that involves all bilateral, multilateral and private creditors should ensure that the lending space created by progressive reductions in the levels of debt under the Enhanced HIPC-MDRI Program is not filled by non-concessionary borrowing from the commercial sector and/or bilateral donors.

4. Adverse Shocks and the Enhanced HIPC-MDRI Framework: A Sensitivity Analysis

The projections in Figure 3 suggest that the unweighted mean NPV of debt-to-exports for our group of sixteen HIPCs is likely to show a downward trend from the end of 2025 and to fall below the 150 percent "critical value" by the end of 2047 in the absence of further debt relief from the multilateral agencies. Of course, the observed improvements in the development of external debt indicators is largely a reflection of the optimistic assumptions underlying our debt sustainability analyses, especially with respect to the future course of their marginal domestic savings rates and external trade conditions.

While such hopeful projections are useful in informing policy makers of the likely trend in economic growth with associated new external borrowing under favourable economic conditions, researchers are increasingly worried that the long-term economic forecasts underlying Fund and Bank HIPC debt sustainability analyses are often too ambitious (see Easterly, 2006). Generally, projections under the current Enhanced HIPC-MDRI framework are heavily reliant on the successful implementation of a set of complex economic and structural reforms. The deterioration in the stock of debt indicators for Uganda soon after reaching its Completion Point in 2000 seems to have been largely a consequence of a slowdown in global demand for primary commodities with an associated decline in its export prices in the early 2000s. Although the continuing increase in the prices of commodities in the last three years should improve the debt outlook of mineral commodity exporters, in particular those of Uganda, Zambia, Ghana and Bolivia. Then too, many SSA HIPCs, like Zambia and Uganda, have rates of HIV/AIDS infections that are amongst the highest in the world. An adult HIV/AIDS epidemic, through its effect on the skilled labour force and on public sector finances in particular, can reduce exports and real GDP growth, thereby weakening a country's repayment capacity.
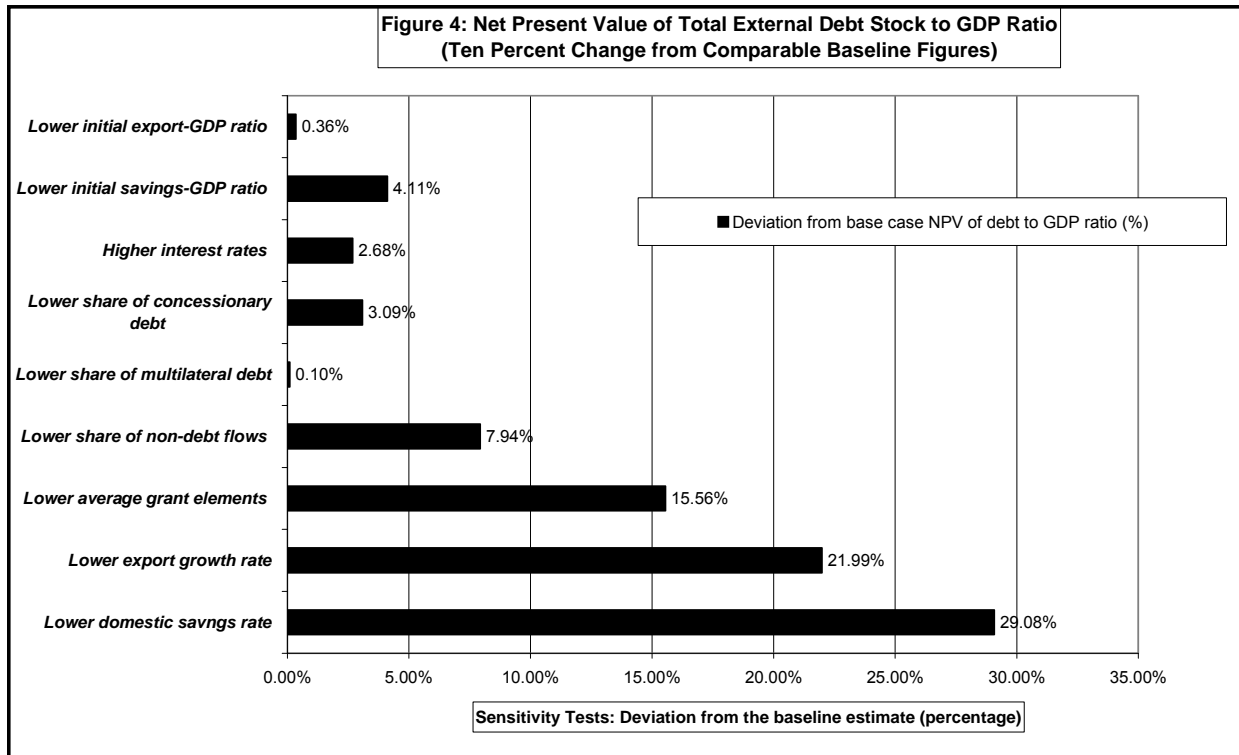
These uncertainties illustrate the need for the design and application of conditionalities allied to debt-relief initiative to be flexible and adaptable to changes in individual country characteristics. In fact, Fund and Bank Decision Point assessments for the worst HIV/AIDS affected Southern African states like Zambia included Completion Point triggers for topping up relief assistance in order to contain and/or reduce the potential macroeconomic effect of their relatively high adult HIV/AIDS infection rates. There are also Completion Point triggers for additional relief for countries that are experiencing a balance of payments difficulties caused by shocks that are beyond their control, including deteriorating terms of trade and natural disasters.

To gain a clearer understanding of the implications of these exogenous factors and less optimistic assumptions for the current Enhanced HIPC-MDRI debt sustainability framework, we conducted sensitivity analyses of the underlying determinants of the evolution of external indebtedness in each of the sixteen post-HIPCs in our study. Specifically, we recalculated the respective NPV of the foreign stock of loans resulting from a ten-percent adverse movement in the following key indicators of debt sustainability: (i) the marginal gross domestic savings rate, (ii) the real rate of growth in exports, (iii) the share of non-debt creating flows in gross external resources, (iv) the share of multilateral debt in new external disbursements, (v) the share of concessionary loans in new external borrowings, (vi) the interest rate on concessionary and non-concessionary loans and (vii) the grant element in new foreign disbursements. Assessment of a country's vulnerability to these selected exogenous shocks is based on a comparison of the updated foreign debt stock indicators with the measures of debt burden projected under the base case assumption of sound macroeconomic policies and a favourable external environment.

Figure 4 presents the results of our sensitivity analyses of the unweighted average percentage change in the NPV of the stock foreign loans for our sample of sixteen HIPCs as whole. The graphical representation and the discussion which follows are for the base case growth-with-debt process without the delivery of MDRI debt relief. This is because our simulations show that there was little difference in projection outcomes with or without the delivery of multilateral debt relief at the end of 2004. Moreover, the promised MDRI assistance is conditional upon the reforms which underlie our baseline scenario. Therefore, sensitivity tests which presume any slippage in policy reforms leading to an adverse movement in the baseline parameter values violates the terms under which MDRI relief was provided to our post-HIPCs.

The key findings of our basecase sensitivity tests may then be summarised as follows:
First, a reduction in the baseline marginal rate of domestic savings by ten-percent annually over the period 2005 to 2030 is likely to be associated with a rise of more than ten-percent of the corresponding baseline NPV debt to GDP figure for our sixteen post-HIPCs as a whole. We estimate that our sample of HIPCs will experience an average annual increase of 29 percent in their unweighted mean ratio of the NPV of debt-to-GDP following a ten-percent reduction in their marginal savings rates over the period 2005 to 2030. Figure 4 shows that this anticipated increase in external debt stock is higher than the effect of a ten-percent reduction in the other key indicators of domestic policy and external environment. Such an outcome further emphasises the importance of the need for HIPCs to take action to improve their savings performance by reducing fiscal deficits, as well as by liberalizing their financial sectors.

Figure 4: Net Present Value of Total External Debt Stock to GDP Ratio (Ten Percent Change from Comparable Baseline Figures)

However, this aggregate result masks significant variation in the vulnerability of our countries individually to a fall in the marginal savings rate. At one end, Ghana and Nicaragua with an annual increase in NPV of debt-to-GDP of 14 and 19 percent respectively are the two least sensitive countries in our sample. At the other extreme, an estimated annual average increase in the NPV of debt-to-GDP ratio of up to, or more than four times the original ten-percent reduction in the marginal domestic savings rate is obtained for Mali, Uganda and Mozambique. This is partly a reflection of the fact that the proposed ten-percent reduction in the domestic savings rate will reduce the annual average for this figure to well below the required ratio of fixed investment to GDP of almost 20 percent implied by the target growth rate of five-and-a-half percent. We therefore project that around one-half of the additional gross resource requirements will be financed from new foreign loans with consequent increases in the outstanding stock of debt.

Second, a ten-percent cut in annual export earnings averaged from 2005 to 2030 will be related to a 22 percent increase in the projected mean ratio of NPV of debt-to-GDP for our sixteen post-HIPCs as a whole (see Figure 4). The ten countries in our sample most at risk to any adverse shock in exports named in ascending order of their vulnerabilities are: Madagascar, Bolivia, Niger, Honduras, Tanzania, Benin, Burkina Faso, Mali, Uganda and Mozambique. We may note, however, that inspite of its high susceptibility to adverse trading shocks, the ratio of the NPV of debt stock to GDP for Mozambique is projected to remain at 28 percent vis-à-vis the mean ratio of 71 percent observed for a group of sixteen post-HIPCs. Mozambique appears to

be in a good position to maintain sustainable debt levels despite any worsening of its exports. It is also noteworthy that between 2001 and 2004, that country actually achieved a real export growth rate of 26 percent per annum following the coming into production of its aluminum project and as a consequence of the ending of its civil war. Such enhancement in its export production should help improve its debt sustainability outlook.

Third, results in Figure 4 reveal that a ten-percent reduction in the average grant element of new external borrowing is likely to lead to an increase of just under 16 percent in the mean NPV of debt-to-average GDP for our sixteen post-HIPC countries as a whole. Countries which are particularly vulnerable to reductions in the level of concessionality in new foreign disbursements are in ascending order: Mali, Mozambique and Rwanda. However, despite the anticipated adverse effect of a lowering in the aid component of new loans to these three economies, our results suggest that their potential NPV of foreign debt stock will endure at below the HIPC II threshold of 40 percent of average GDP. This suggests that not every HIPC country which experiences a rise in its NPV of external debt stock will face a fundamental worsening in its debt sustainability outlook. Nonetheless, it is important to emphasise that our baseline projections are tentative as they are derived from simulation exercises and depend critically on the underlying stylized assumptions. One such conjecture is that all creditors are willing to engage in defensive lending by rolling over their outstanding claims as they fall due. Additionally, they are presumed to be content to continue to provide new financing to help HIPCs fill the larger of their investment minus savings or foreign exchange gaps and to cover debt service payments on the terms and conditions that prevailed from 1990 to 2004. But the outlook for the global capital market is uncertain, as are our estimates of the indicators of debt stock which they determine.

Conclusions and Policy Recommendations

The high indebtedness of world's poorest countries has been recognised as an important problem which needs to be resolved if they are to achieve their MDGs by 2015. In this paper we have addressed concerns regarding whether the current HIPC-MDRI framework will be able to assist in reaching and maintaining long-term external debt sustainability in sixteen out of the seventeen countries that met the policy eligibility criteria of the MDRI Program in January 2006. The main findings and consequent policy options may be summarised as follows:

First, it is unlikely that any of our sixteen post-HIPCs will reach a stage in the next two and a half decades at which they can afford to pay out of their own domestic savings (or foreign exchange receipts) for all the investment, imports and debt servicing required to achieve and sustain the

annual growth in real gross domestic product needed to meet both the United Nations MDGs by 2015 and the HIPC II debt sustainability thresholds. This is in spite of the fact that, under our baseline assumptions, their potential gross domestic savings and foreign exchange gaps are expected to decline gradually from 2005. The projected build-up in the absolute dollar value of the net inflow of new external loans is such that the additions to the stock of external debt burdens will continue to rise throughout the twenty-five year perspective-plan period from 2005 to 2030. As a result, the estimated mean for the NPV of external debt stock for our sixteen post-HIPCs as a whole is likely to more than triple from 74 percent in 2004 to 236 percent of exports at the end of 2015 in the absence of the proposed MDRI debt relief.

Second, the impact on the debt sustainability outlook of the proposal to cancel all multilateral debt outstanding at the end of 2004 is only marginal. It is expected to cut the time taken for our group of post-HIPCs to reach the debt sustainability threshold of 150 percent of exports by no more than three years. What is more, the reduction in the prospective NPV of debt stock of our sixteen post-HIPCs at the end of the MDGs following a 100 percent cancellation of all multilateral debt outstanding at the base year 2004 was only 25 percent, from 236 percent to 176 percent of average exports. The delivery of a one-off MDRI debt relief early on in the planned growth process, it seems, will simply leave our group of sixteen post-HIPCs with an NPV of debt relative to exports in 2015 slightly higher than the 150 percent threshold and comparable to the ratio they attained at end of 1999-2000. This outcome suggests that programmes for achieving and maintaining sustainable debt levels in post-HIPC countries, including the provision of further assistance under the proposed MDRI framework should be complemented by initiatives aimed at encouraging the inflow of long-term non-debt creating flows, in particular foreign direct investment and emigrant remittances.

Third, the results of our sensitivity analysis suggest that policy initiatives which address the problems faced by post-HIPC-MDRI countries in terms of a ***low marginal savings rate*** would be most effective in helping them to reach and maintain sustainable external debt levels. As part of a well-designed strategy to raise aggregate domestic savings rates, HIPC governments should improve transparency in their collection, reporting and management of public resources. They should also remove subsidies and deregulate prices to provide user charges which cover the cost for public utilities. Admittedly, however, the implementation of the foregoing fiscal adjustment policies, while beneficial in the long term, could adversely affect the lower income sections of society and lead to an initial rise in poverty levels. But the financial cost of avoiding such difficult reforms bearing on the low domestic savings rate in many HIPCs may be high in terms of required new disbursements from abroad. The willingness of donors to provide the

additional resources for financing such projected increases in new borrowing arising from a widening in fiscal deficits in particular is uncertain.

Fourth, equally important in the maintenance of sustainable debt levels in post-HIPC countries, as suggested by our sensitivity tests, is the **growth of exports**. To reduce their vulnerability to external trading conditions, HIPC countries should expand the share of exports in their gross domestic products. Appropriate export expansion policies require that HIPC governments address problems relating to the poor quality of infrastructure, especially where it specifically bears upon the cost of production and transport of goods. These facilities include roads and railways, power, telecommunication, ports and airports in particular. Also, they should take action to remove impediments to private sector development, notably in those areas which relate to the earning of foreign exchange. These constraints may include the limited availability of skills and capital for entrepreneurs, as well as price regulation, corruption and bureaucracy, an absence of law and order and a poor protection of property. Improvements therein should attract foreign direct investment and strengthen the responsiveness of export supplies to trading opportunities in the world market. Of course these concerns also bear upon production as a whole, but they are particularly significant where the exigencies of a competitive world export markets are concerned. In addition, the HIPC authorities should liberalize their exchange rate regimes and trade policies by abolishing destructive publicly-owned marketing boards, cutting taxes and other restrictions on exports, as well as by improving transparency in customs procedures, border controls and police harassment. To encourage diversification, small and medium scale exporters of manufactured goods and non-traditional agricultural products, such as cut-flowers, medicinal plants and exotic fruit and vegetables, should, perhaps, be given duty-free access to imported inputs including seeds, fertilizers, capital machinery and spare parts. Regional market integration and monetary unions would also allow small sized countries to take advantage of economies of scale and so to improve export competitiveness. Donor governments, for their part, should reduce barriers to, and within their markets, including agricultural subsidies. By insulating their farmers from swings in world prices, trade-distorting subsidies are reputed to have contributed to debt distress in HIPCs by exacerbating volatility in commodity prices. They should also improve access to their markets by allowing duty and quota free entry of imports of goods from HIPCs. Such preferential treatment should give the poorest countries some incentive to persist with the often difficult and complex set of structural and institutional reforms allied to enhanced debt relief and aid flows.

Fifth, the size of the **grant component of the new disbursement** was identified by our sensitivity tests as another major determinant of the debt sustainability outlook in post-HIPC-MDRI countries. This finding is related to the fact that the bulk of HIPC external finance has

largely comprised official disbursements from bilateral and multilateral agencies directly in loans to their central governments and to corporations which they own or underwrite. Given the limited capacity of HIPC governments to repay debt from fiscal balances, creditors should provide a significant proportion of the projected new transfers in the form of grants and/or on more concessional terms. Indeed, we estimate that at least one-half of all new finance to severely indebted countries, such as Nicaragua, should come in the form of grants-in-aid and/or loans with an average grant element of at least 50 percent. This should ensure that the NPV of external debt stocks relative to exports is reduced below the 150 percent sustainability threshold by the end of 2015. HIPC governments, for their part, should pay more attention to the terms and conditions of new borrowing and should ensure that they put resources freed-up by debt relief to good use. As part of the approach outlined in their Poverty Reduction Strategy Papers (PRSPs), the HIPC authorities should honour their commitment to channel more of any enhanced debt relief to the provision poverty-reduction initiatives like improved education, health, nutrition, water and sanitation. They should also follow more prudent debt management and accounting policies. This will require the strengthening of their legal and regulatory systems for public debt and expenditure management, as well as the establishment of appropriate debt information systems for recording, retrieving and analysing data on public debt. Such should help to improve their overall domestic borrowing position and to reduce the fear that the exclusion of such public domestic debt from the Enhanced HIPC debt sustainability framework will undermine the effectiveness of the structural adjustment policies allied to debt relief assistance. An active debt management strategy should also include the training of public sector workers in the preparation and use of a debt sustainability framework to determine the concessionality and appropriateness of new disbursements for the country's overall debt outlook. This should help allay concerns expressed by the sponsors of HIPC and MDRI Programs that they might be cross-subsidizing other lenders, especially newly-emerging bilateral creditors and commercial banks that offer non-concessional loans. But, to prevent such free riding and moral hazard it may be necessary for sanctions to be imposed on those countries that raise non-concessional loans at home or from abroad which breach the concessionality guidelines specified in their PRSPs.

The long-term development objectives embodied in our simulations of foreign debt ratios in this study are optimistic. Thus, while the results reported in this article may be generally plausible as a measure of the magnitude of the stock of external debt liabilities associated with a target growth of five-and-a-half percent in our sixteen post-HIPC-MDRI countries, they are tentative and need to be interpreted with caution. A more comprehensive econometric analysis will be required to establish the relative roles and interactions between domestic and external factors in determining foreign indebtedness, as well as the required responses of the HIPC authorities to

an influx of international development assistance including debt relief. Then too, to the extent to which domestic conditions, such as the favourable institutional and economic reforms associated with the HIPC II Initiative, "pulls" non-debt creating equity capital, foreign direct investment and immigrant remittances into these poor economies, the greater will be the possibility of higher domestic saving and export growth rates. Such developments should improve the prospects for debt sustainability in the HIPCs, despite the weaknesses of the Enhanced HIPC-MDRI framework catalogued in the literature.

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