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M. Nureldin Hussain and Bernhard G. Gunter*

Abstract

After providing a brief background on recent developments of terms of trade shocks and debt relief initiatives, the paper uses a simple macroeconomic model to estimate the impact of debt relief and terms of trade shocks on growth and poverty in African countries. For the 18 Heavily Indebted Poor Countries (HIPCs) that reached the enhanced HIPC decision point by end-December 2000, the basic quantitative findings are as follows:

- HIPC debt relief has boosted economic growth in these countries by an average of 2.9 percent per annum (everything else remaining the same).
- The computed result of this increase in growth is a reduction in poverty by an average of 2.2 percent per annum.
- However, recent deteriorations in the terms of trade might have counter-balanced these positive effects by lowering growth by an average of 2.0 percent per annum and by increasing poverty by an average of 1.3 percent per annum.
- Clearly, much of the positive impact emanating from the HIPC Initiative has been eroded due to recent deteriorations in the terms of trade. The HIPC-induced growth and poverty reduction have been reduced each to an average of 0.9 percent per annum.

The paper also estimates the net effect on growth and poverty of the recently agreed 100 percent multilateral debt relief. This is predicted to boost economic growth by an average of 5 percent per annum and reduce poverty by about 5.3 percent per annum for the group of all African HIPCs. The paper concludes that 100 percent debt relief is crucial for Africa, but that more aid and policies need to be focused on a long-term development strategy that fosters the necessary structural transformation.

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Résumé

Après une brève présentation de l'évolution récente des chocs des termes de l'échange et des initiatives d'allègement de la dette, le document utilise un modèle macroéconomique simple pour évaluer l'impact des chocs de l'allègement de la dette et des termes de l'échange sur la croissance et la pauvreté dans les pays africains. Pour les 18 pays pauvres très endettés (PPTE) qui ont atteint le point de décision de l'initiative PPTE renforcée à la fin de décembre 2000, les constatations quantitatives fondamentales sont les suivantes :

- L'allègement de la dette au titre de l'initiative PPTE a favorisé la croissance économique de ces pays de 2,9 pour cent environ par an (toute chose égale par ailleurs).
- Les résultats calculés de cette hausse de la croissance représentent une réduction de la pauvreté de 2,2 pour cent environ par an.
- Toutefois, les récentes détériorations des termes de l'échange auraient pu contrebalancer ces effets positifs en réduisant la croissance de 2 pour cent environ par an et en accroissant la pauvreté de 1,3 pour cent par an.
- Clairement, une grande partie de l'impact positif découlant de l'initiative PPTE a été érodée en raison des récentes détériorations des termes de l'échange. La croissance et la réduction de la pauvreté induites par l'initiative PPTE ont été chacune réduites à environ 0,9 pour cent par an.

Le document estime également l'effet net sur la croissance et la pauvreté de l'allègement de la dette multilatérale de 100 pour cent convenu récemment. Cela devra normalement favoriser une hausse de la croissance économique de 5 pour cent par an et une réduction de la pauvreté de 5,3 pour cent par an pour le groupe de pays africains PPTE. Le document conclut qu'un allègement de la dette de 100 pour cent est crucial pour l'Afrique, mais que l'aide et les politiques devront, pour la plupart, être axées davantage sur une stratégie à long terme contribuant à la transformation structurelle nécessaire.

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Chapter I: Introduction

Crude oil prices have increased from about $12 per barrel in 1999, to above $50 per barrel in 2004, and even reached $60 in June 2005, exacerbating already serious poverty in most oil-importing African countries. Fortunately, some export commodity prices of oil-importing African countries (like for example, coffee) have also recovered in 2003 and 2004, counter-balancing the negative impact of increases in oil prices. Yet, given the high degree of import and export concentrations in all poor African countries, import and export price volatilities continue to have significant negative impacts on growth in these countries. Interestingly, little empirical work exists on the systematic quantification of the impact of these external shocks on African countries.

Another lack of quantitative analysis relates to the impact of debt service provided under the Heavily Indebted Poor Country (HIPC) Initiative on growth and poverty. Building on the debt overhang theory as it emerged from the seminal contributions of Krugman (1988) and Sachs (1989), there have been many empirical studies confirming the existence of a debt overhang in Heavily Indebted Poor Countries (HIPCs). While there is broad agreement that all HIPCs faced a debt overhang before receiving HIPC debt relief, there is some disagreement on the relevance of a debt overhang for HIPCs that have reached the HIPC completion point. Most of the current proposals for further debt relief are based on the shortage in financing these countries continue to face to reach the Millennium Development Goals (MDGs). However, no use has been made thus far of a relative simple model to systematically estimate the impact of debt service and debt relief on growth and poverty.

The model used in this paper provides a convenient methodology not only to estimate the impact of debt service on growth and poverty, but also to estimate the impact of external shocks on growth and poverty. Hence, this paper will measure separately (a) the macroeconomic impact of the HIPC Initiative on growth and poverty reduction, and (b) the extent to which these positive impacts emanating from the HIPC Initiative have been counter-balanced by recent deteriorations in the terms of trade (ToT). Furthermore, the methodology also allows us to estimate the net effect of the multilateral debt relief agreed by the Finance Ministers of the Intergovernmental Group of Eight (G8) in June 2005 for HIPCs that have reached the HIPC completion point.

The paper is organized as follows. Following this introduction, the next chapter provides a brief background on the commodity risk vulnerability of African HIPCs and the HIPC Initiative. The third chapter outlines the methodology by summarizing the model used, explaining how the model's framework can be used to provide country-specific quantitative measures for the impact of debt relief on growth and poverty, and explaining how the model allows us to provide country-specific quantitative measures for the impact of changes in the ToT on growth and poverty. The fourth chapter reports and interprets the results for the 18 African HIPCs that have reached their enhanced HIPC decision points by end-December 2000. A fifth chapter suggests some policy implications and conclusions.

Chapter II: External Shocks and HIPC Debt Relief in Africa

Given the various contributions linking Africa's indebtedness to Africa's structural deficits we limit this chapter to a summary of issues that are directly relevant for our analysis.[1] The first section summarizes the key issues related to the commodity risk vulnerability of African HIPCs, the second section describes and summarizes the HIPC Initiative, the third section summarizes the developments on debt relief since the adoption of the enhanced HIPC Initiative, before the fourth section provides a summary of the key issues of the linkage between debt and development in Africa.

II.1 Commodity Risk Vulnerability of African HIPCs

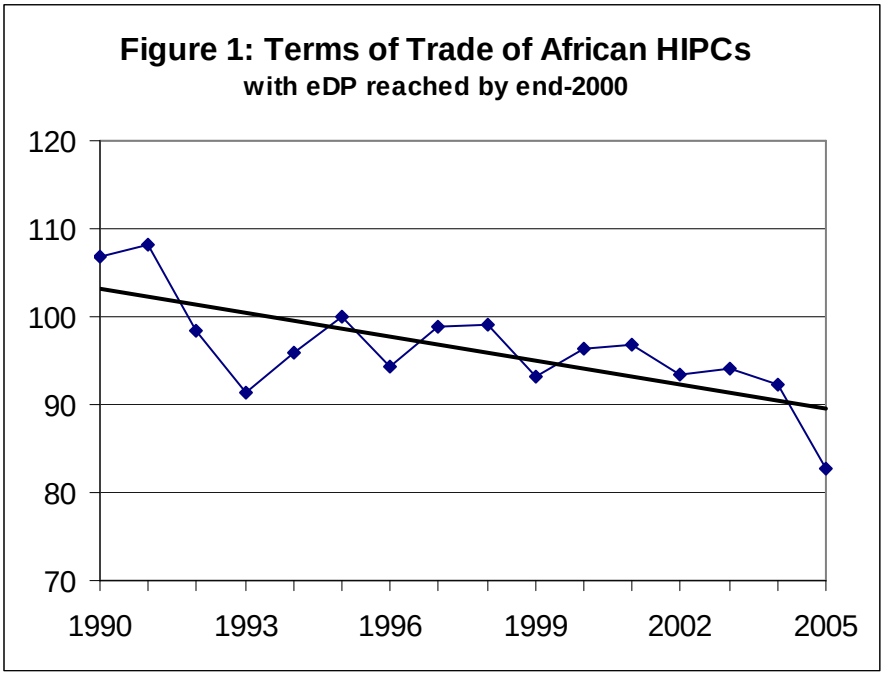
As the International Task Force on Commodity Risk Management (2002) has pointed out, HIPCs depend on primary commodities for more than half of their merchandise export earnings. About half of the HIPCs generate more than 90 percent of their merchandise export revenues from a few commodities such as cocoa and coffee. They are, in the order of dependence on commodities, Mauritania, Chad, São Tomé & Príncipe, Angola, Rwanda, Niger, Congo Republic, Sudan, Guinea-Bissau, Burundi, Somalia, Benin, Ghana, and Cameroon. On average, the commodity share in the total merchandise exports stands at around 84 percent for HIPCs, compared to about 55 percent for developing countries as a whole. For example, in Uganda, about 5 million smallholders and poor households—a quarter of the population—earn their living from producing coffee.

Many African HIPCs are major exporters of commodities, important for industrial production and domestic consumption in the developed world. About 60 percent of cocoa in the world is produced in three African HIPCs: Cameroon, Côte d'Ivoire, and Ghana. HIPCs produce and export about 20 percent of coffee in the world. Prices of these commodities are particularly volatile. For instance, between 1983 and 1997, cocoa prices fluctuated between 60 percent and 170 percent of the average price over this period, and robusta coffee from 40 percent to 195 percent—as against other commodity price fluctuations from 50 percent to 150 percent over the same period. In addition, many HIPCs are net importers of food and/or fuels. For many African HIPCs, such imports represent more than 20 percent of their merchandise imports.

In addition to the high concentration of exports and imports, which imply a high vulnerability to commodity price fluctuations, the ToT of African HIPCs have overall deteriorated over time, and are expected to deteriorate further, see Figure 1, covering the period of 1990-2005. Declining ToT and the high vulnerability to commodity price fluctuations had and continues to have significant implications for growth, poverty, and debt sustainability of African HIPCs. Dependence on commodities coupled with high volatility of prices results in significant fluctuations in export earnings in HIPCs and

[1] Some of the most recent studies, which also provide comprehensive reviews of the HIPC Initiative, are Birdsall and Williamson (2002) Geda (2002), Gunter (2003), and especially UNCTAD (2004). Some of more specific and recent literature related to commodity risk vulnerability are Barghouti, Kane, Sorby, and Mubarik (2004), Birdsall and Hamoudi (2002), Broda and Tille (2003), Collier (2002) Combes and Guillaumont (2002), and Hussain (2005).

therefore in debt indicators. For instance, Uganda's export revenues are highly correlated to coffee prices. Taking the level of Uganda's export earnings in 1985 as 100, this benchmark fell to 47 in 1993, following a sharp fall in coffee prices, and rose to 170 in 1997 after prices rallied. Such changes have direct impacts on debt indicators and on countries' ability to adhere to debt sustainability targets.[2]



Source: IMF, World Economic Outlook, 2005

II.2. The HIPC Initiative in the African Context

Since the early 1980s, more and more African countries were unable to pay their scheduled debt service and were thus repeatedly allowed to reschedule their official bilateral debts at increasingly concessional terms during the late 1980s and the early- and mid-1990s. During the same time, theoretical and empirical work gave evidence to the existence of a debt overhang that could not be resolved without a reduction of a staggering multilateral debt, as most African countries accumulated it, mostly in the late 1980s and early 1990s. Based on these developments and the continuous failure of traditional debt relief to end the repeated process of bilateral debt rescheduling, the International Monetary Fund (IMF) and the World Bank adopted the Heavily Indebted Poor Country (HIPC) Initiative in fall 1996. The key goal of the HIPC Initiative has been to reduce all public and publicly guaranteed external debt to a level that would allow HIPCs to permanently exit the process of repeated debt rescheduling.[3]

[2] See International Task Force on Commodity Risk Management (2002) for further details.

[3] See World Bank (2003), where referring to the original HIPC concept paper of August 1996: *The HIPC Debt Initiative—Elaboration of Key Features and Possible Procedural Steps*, the explicitly stated goal of the Initiative was "to achieve a sustainable debt situation".

Three years after launching the HIPC Initiative, it was clear that the original HIPC framework (HIPC-1) was not sufficient to provide HIPCs with a permanent exit from repeated debt rescheduling, and partly due to public pressure, the IMF and World Bank formally agreed in September 1999 to enhance the HIPC framework (HIPC-2). Like with HIPC-1, HIPC-2 involves two stages. The first stage is a three-year period during which a HIPC works in coordination with the support of the World Bank and the IMF to establish a record of good economic policies. At the end of this three-year period the IMF and World Bank determine whether a country's debt level is sustainable. For those countries whose debt burden remains unsustainable after full use of traditional debt relief mechanisms, a package of debt relief is identified. This is known as the enhanced Decision Point (eDP), at which some creditors may start with the provision of HIPC debt relief. The decision to provide HIPC debt relief irrevocably is taken once the conditions identified at the eDP are satisfied, which is then known as the enhanced Completion Point.

HIPC-2 assumes that a country's external debt is sustainable if the net present value (NPV) debt-to-export ratio (which is called the export criterion) is around 150 percent (lowered from the 200-250 percentage range under HIPC-1). Unlike in HIPC-1, which took external vulnerability issues into account when determining the sustainable NPV debt-to-export ratio for a specific country, the enhanced framework targets a unique NPV debt to export ratio of 150 percent at the eDP, with the justification to simplify the framework. It was also argued that the 150-percentage ratio provides a sufficient cushion against external shocks.[4]

The amount of debt relief is determined in NPV terms such that the NPV debt-to-export ratio would be 150 percent at the eDP. The actual ratios of the years following the eDP may be quite different.[5] Hence, the enhanced framework was clarified in September 2001 to allow a so-called "topping-up" of debt relief at the completion point, if the 150 percent NPV debt to export target ratio has been eroded significantly due to exogenous shocks, though additional bilateral debt relief beyond what is required under the HIPC Initiative is taken into account.[6] As of end-April 2005, HIPC debt relief had been topped-up for Burkina Faso, Ethiopia, Niger, and Rwanda. Four African completion point HIPCs (Mauritania, Mozambique, Tanzania, and Uganda) did not benefit from any topping up because they reached their completion points before the policy for topping up was implemented. There is no possibility to top-up HIPC debt relief once a HIPC has reached

[4] As under HIPC-1, HIPC-2 considers the provision of debt relief under a fiscal window, as long as a country has both (a) an export-to-GDP ratio of at least 30 percent (lowered from 40 percent under HIPC-1) and (b) a government revenue-to-GDP ratio of at least 15 percent (lowered from 20 percent under HIPC-1), whereby it is assumed that a country's debt is sustainable if the NPV debt-to-government revenue ratio is around 250 percent (lowered from 280 percent under HIPC-1). Out of the 23 African HIPCs that have reached the enhanced decision point by end-April 2005, only Ghana, Mauritania, and Senegal have qualified under the fiscal window.

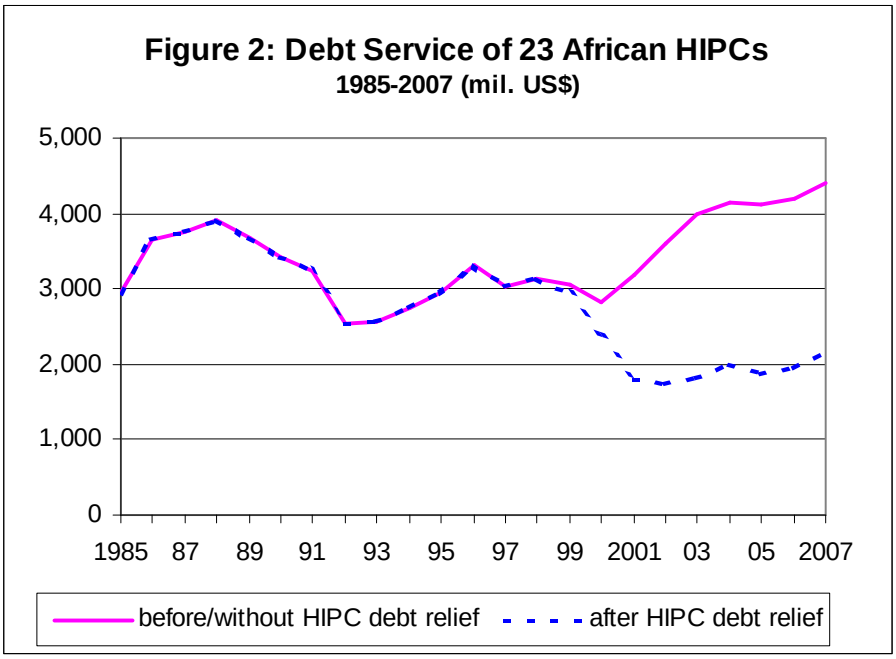
[5] For example, it was expected at Rwanda's enhanced decision point, that the NPV debt-to-export ratio at end-2003 would be 193 percent. However, based on the analysis at the Completion Point in April 2004, it turned out to be 326 percent.

[6] The additional bilateral debt relief, beyond of what is required to be provided under the HIPC Initiative, is based on some industrialized countries' promise to provide 100 percent bilateral debt relief following the enhanced completion point.

its completion point, even though external factors may result in debt ratios far above the 150 percent target, as is most clearly the case for Uganda. The remaining six African completion point countries (Benin, Ghana, Mali, Madagascar, Senegal, and Zambia) did not meet the conditions for topping-up as additional bilateral debt relief was expected to keep the projected debt ratio below the target ratio.

Table 1 provides the details on the classification of African countries with regards to the HIPC Initiative, the eDP dates, the NPV debt and debt reductions, as well as data on six key debt ratios. While the averages[7] of the various groups reflect the degree of indebtedness of these groups, the country-specific details provided in the Table show that there are considerable differences across countries, even within a specific group.

The HIPC framework does not determine how the various creditors provide their HIPC debt relief; it just determines the NPV debt reductions. NPV debt reductions have been provided through reductions and cancellation of debt service (the later especially once the enhanced Completion Point has been reached) and through the rescheduling of debt service (which even though it provides only a temporary reduction in debt service payments, it implies generally a NPV debt reduction). The cumulative reduction in nominal debt service to be provided under the enhanced HIPC Initiative (mostly over about 20 years) to the 23 African HIPCs that have reached the eDP by April 2005, is estimated to amount to nearly US$45 billion, of which an estimated US$8.2 have been provided until the end of 2004. Figure 2 shows the debt service payments of these 23 African HIPCs before and after taking HIPC debt relief into account.



Source: Authors' estimates based on April 2005 HIPC Progress Report and HIPC-1 Completion Point documents for Mozambique and Uganda.

[7] Averages provided in all Tables are weighted by the purchasing power parity (PPP) based GDP.

Table 1: Net Present Value (NPV) Debt, HIPC Debt Reduction, and Key Debt Ratios in Africa

Country Name	Date of enhanced decision point	NPV Debt (2000)	HIPC NPV Debt Reduction (incl. toping up)	2000-2002 averages					
				NPV Debt-to-GNI (%)	Debt Service-to-GNI (%)	NPV Debt-to-XGS (%)	Debt Service-to-XGS (%)	NPV Debt-to-Revenue (%)	Debt Service-to-Revenue (%)
I. HIPCs (that reached the enhanced DP by Dec. 2000)									
BENIN	Jul 2000	808	265	34	2	131	10	209	15
BURKINA FASO	Jul 2000	676	553	22	2	194	14	193	14
CAMEROON	Oct 2000	5,463	1,260	58	5	193	16	298	25
GAMBIA, THE	Dec 2000	262	67	67	4	97	7	431	28
GUINEA	Dec 2000	1,803	545	51	4	197	16	469	37
GUINEA-BISSAU	Dec 2000	510	416	231	10	781	33	1,390	58
MADAGASCAR	Dec 2000	2,311	836	48	2	179	8	451	20
MALAWI	Dec 2000	1,551	643	77	3	273	9	416	14
MALI	Sep 2000	1,443	539	53	3	144	9	304	19
MAURITANIA	Feb 2000	1,625	622	131	8	324	20	573	34
MOZAMBIQUE	Apr 2000	1,446	2,023	30	2	115	9	224	17
NIGER	Dec 2000	1,080	664	45	1	268	8	495	15
RWANDA	Dec 2000	664	695	35	1	432	16	348	13
SAO TOME & PRINCIPE	Dec 2000	101	97	236	11	596	27	967	43
SENEGAL	Jun 2000	2,344	488	51	5	150	13	281	25
TANZANIA	Apr 2000	1,485	2,026	16	2	102	11	148	16
UGANDA	Feb 2000	1,077	1,003	19	1	108	6	175	10
ZAMBIA	Dec 2000	4,079	2,499	126	6	395	20	626	31
Sum of NPV Debt / *Average of Ratios*		**28,727**	**15,241**	***46***	***3***	***185***	***12***	***318***	***21***
II. HIPCs (that reached enhanced DP by April 2004)									
CHAD	May 2001	635	170	39	2	222	9	537	22
CONGO, DEM. REP. OF	Jul 2003	10,890	6,311	219	6	980	30	3,455	76
ETHIOPIA	Nov 2001	2,805	1,982	48	2	303	14	270	12
GHANA	Feb 2002	3,886	2,186	66	5	155	13	401	35
SIERRA LEONE	Mar 2002	862	600	119	8	872	60	1,025	70
Sum of NPV Debt / *Average of Ratios*		**19,078**	**11,249**	***95***	***4***	***372***	***17***	***694***	***32***
III. HIPCs (that have not yet reached enhanced DP)									
BURUNDI		670		98	3	1,472	48	499	16
CENTRAL AFRICAN REP.		559		62	1	570	9	576	10
COMOROS		167		81	1	528	10	606	10
CONGO, REPUBLIC OF		4,600		229	3	188	2	544	6
COTE D IVOIRE		11,159	345 (orig.)	99	8	212	17	560	44
LIBERIA		1,971		477	0	1,445	1	n.a.	n.a.
SOMALIA		2,304		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
SUDAN		14,920		133	0	575	2	1,027	3
TOGO		1,018		83	2	210	5	593	14
Sum of NPV Debt / *Average of Ratios*		**37,367**		***135***	***4***	***341***	***9***	***799***	***21***
IV. Other African countries									
ALGERIA		24,366		45	9	114	22	113	22
ANGOLA (sustainable HIPC)		9,064		133	20	121	18	218	31
BOTSWANA		352		7	1	11	2	16	3
CAPE VERDE		210		41	3	91	7	195	14
DJIBOUTI		177		33	2	85	5	n.a.	n.a.
EGYPT		24,897		26	2	124	9	133	10
EQUATORIAL GUINEA		200		52	1	6	0	64	2
ERITREA		178		31	1	158	4	132	4
GABON		3,826		89	10	108	12	316	36
KENYA (sustainable HIPC)		4,761		42	5	150	16	188	20
LESOTHO		460		41	6	78	12	135	21
LIBYA		n.a.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MAURITIUS		1,653		37	7	58	11	199	36
MOROCCO		15,545		46	9	110	21	181	34
NAMIBIA		n.a.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NIGERIA		31,116		84	5	144	9	163	10
SEYCHELLES		206		39	2	43	3	97	6
SOUTH AFRICA		24,168		20	4	64	11	87	16
SWAZILAND		285		22	2	24	2	90	8
TUNISIA		10,556		57	8	110	15	219	30
ZIMBABWE		3,716		62	4	184	10	184	11
Sum of NPV Debt / *Average of Ratios*		**155,738**		***38***	***5***	***101***	***13***	***136***	***17***
AFRICA (Sum / *Average*)		**240,910**	**26,490**	***47***	***5***	***129***	***13***	***182***	***18***

Given that the HIPC framework requires that eligible HIPCs adopt a poverty reduction strategy, an implicit condition for HIPC debt relief has been that debt service savings due to the HIPC Initiative are spent on pro-poor social sectors spending, mostly targeting primary education and health services for the poor. This increase in social sector spending is expected to reduce poverty and to stimulate growth, at least in the long-term, though critics have pointed out that a much broader development strategy is needed to reduce poverty and to stimulate growth in a more sustainable way, including the elimination of current structural problems that have contributed to Africa's high indebtedness.

II.3. Developments Since the Adoption of HIPC-2

The period since the adoption of the enhanced framework has been characterized by three major developments. First, evidence has been mounting that even HIPC-2 is insufficient to provide any reasonably defined debt sustainability. Hence, in April 2001, the International Monetary Fund (IMF) and the International Development Association (IDA) issued a joint paper (IMF and IDA, 2001) that recognized for the first time that the HIPC Initiative might not achieve long-term debt sustainability. The paper acknowledged explicitly that the NPV debt-to-export ratio was projected to remain above 150 percent for 10 years or more for at least 2 African HIPCs (Malawi and Niger). Recognizing that many HIPCs might not have achieved debt sustainability after having reached the enhanced HIPC completion point, the IMF and World Bank have started to shift the task of achieving debt sustainability away from the HIPC Initiative towards the Poverty Reduction Strategy Paper (PRSP) framework, "within which the authorities should seek to maintain a sustainable debt burden." Furthermore, the adjusted goal of the HIPC Initiative was cemented in a new language, stating that "the HIPC Initiative is designed to deal with (…) the existing stock of debt (…) at a given point in time" and "debt relief under the HIPC Initiative provides a basis, but no guarantee, for long-term debt sustainability in HIPCs."[8]

Second, in spring 2005, the IMF and World Bank implemented a new debt sustainability framework for low-income countries, which seeks to ease the debt sustainability challenge by providing guidance on new lending to low-income countries whose main source of financing are official loans. The framework has been developed with the intention to better monitor and prevent the accumulation of unsustainable debt and will guide IDA grant allocation and lending decisions by providing a more systematic basis for analyzing debt sustainability prospects, including individual countries' current and prospective ability to service debt. By providing guidance to both lenders and borrowers on new lending/borrowing decisions the new framework intends to help low-income countries achieve their development objectives while maintaining sustainable levels of debt (see Box 1 for further details). The African Development Fund is also in the process of basing its lending decisions on the new debt sustainability framework.

[8] See IMF and IDA (2002), pages 32 and 39, respectively.

Box 1: The IMF and World Bank's New Debt Sustainability Framework

The debt sustainability framework is a "forward looking" approach that aims to guide borrowing and lending decisions for low-income countries on terms that allow borrowing countries to devote resources toward achieving the MDGs, while also staying within their means to repay loans. By accounting each country's specific circumstances, the framework tries to help borrowing countries balance their need for funds with their current and prospective ability to repay their debts. Linking a country's borrowing potential to its current and prospective ability to service debt should help countries avoid accumulating excessive debts.

This approach puts responsibilities on both, borrowers and creditors. The low-income countries that seek new loans are responsible for maintaining debt sustainability. They must develop and strengthen policies and institutions that enhance their capacity to manage debt and reduce their vulnerability to exogenous shocks ranging from international trading conditions to natural disasters. Among other things, they will need to: keep new borrowing in step with their capacity to repay loans, diversify exports, and build up foreign exchange reserves.

Creditors and donors, for their part, need to comprehensively review long-term debt projections, which incorporate forward-looking analysis and account for possible shocks. Potential creditors and donors should also consider giving additional resources in the form of grants and/or highly concessional loans for low-income countries with high levels of debt distress to reduce the possibility that these are countries to experience debt distress. Creditors and donors also need to explore options that can help limit the potential impacts of adverse exogenous shocks or help low-income countries cope with them.

Source: World Bank, Debt Department, http://www.worldbank.org/

Third, following some disagreement and a long discussion within the G8 on a U.K. proposal to also provide 100 percent debt relief on multilateral debt, an agreement has finally been reached at the G8 Finance Ministers' Meeting on June 11-12, 2005.[9] The agreement, which applies to countries that have reached their HIPC Completion Point, recognized that HIPC Completion Point countries continued to being forced to choose between servicing their debts and making the investments in health, education and infrastructure that would allow them to achieve the MDGs.[10]

II.4. Linking Trade and Development with Debt and Debt Sustainability

The issues of trade and development are closely associated with the issues of debt and debt sustainability. The accumulation of Africa's debt reflects the fact that most African countries have consistently imported more than they exported (invested more than they saved), and hence have borrowed from abroad to bridge their financing gaps. The persistence of this pattern led to accumulation of debt and to debt repayments problems.

While the HIPC Initiative has led to marked reduction in Africa's debt indicators in recent years, the pattern of Africa's trade and its specialization in primary product

[9] While the agreement of the G-8 Finance Ministers applies strictly speaking only to three multilateral financial institutions, the African Development Fund (ADF), the World Bank's concessional lending arm (IDA), and the IMF, these three institutions amount to about 90 percent of the African HIPCs' multilateral debt. See http://www.g8.gov.uk/ for the detailed statement of the G-8 Finance Ministers.

[10] See Section 9.4 of the Report of the Commission for Africa (2005) and Recommendation 7 of the UN Millennium Project (2005) Report for more details.

exports pose serious conceptual questions to the long-term debt sustainability of African HIPCs, largely due to two factors.

First, there is a threat of external shocks to the sustainability of the HIPC initiatives. Falling prices of primary exports have large negative effects on external indebtedness directly through the transfer of wealth effect and through increasing the domestic currency equivalents of such debts, as well as indirectly through increasing debt service ratios. A fall in debt service ratios tends to further impose a downward pressure on commodity prices when debtor countries attempt to export more of the same commodities for meeting debt service obligations without having to cut back imports. This effect is stronger the lesser the expenditure of creditor countries, which receive debt repayments on the exports of the indebted African countries (see African Development Report 2004). The attempt by debtors to export more affects the terms of trade of all developing countries to the extent that they export similar commodities. There is also the tendency towards currency devaluation, which will also directly lower the terms of trade. African countries that depend on primary commodities seem to be caught in a vicious circle where currency depreciation encourages domestic supply of the same primary commodities and reduces the prices of primary commodities still further, so that foreign exchange earnings may not improve, leading to further indebtedness, pressure for currency depreciation and so on.

A second factor relates to the trade-economic growth nexus. To illustrate this factor, it can be argued, in the extreme case, that any poor country can achieve 'debt sustainability' by curbing its imports, debt repayment, and foreign borrowing to levels that are compatible with its low export earnings. While such a policy can achieve 'sustainability' because it shuts down the sources that raise debt levels, the price of such practices would be to condemn the country to even lower growth rates and an increased incidence of poverty. Clearly, debt sustainability must be defined in ways that allow African countries to realize their targeted development objectives by expanding their investment beyond the limits permitted by their export earnings, i.e., by borrowing from abroad. The important point however is that—unlike in the past—this borrowing must be used to alter the pattern of trade to generate sufficient foreign exchange earnings for future debt repayment.

Looking specifically at the debt-to-export indicator, the debt sustainability of HIPCs depends on the change in three basic determinants -- two related to the numerator and one related to the denominator. In the numerator, the first determinant is the financing gap, which determines the level of borrowing and the rate of change in the stock of debt given the level of export earnings. The financing gap itself depends on a set of important variables including economic growth and social development targets, investment requirements to achieve those targets and the availability of domestic savings. The second determinant in the numerator is the level of concessionality of any new external borrowing. In the denominator there is export growth and there are short-term and long-term factors affecting this growth, such as the terms of trade, world demand and the diversification of export baskets.

The conceptual challenges facing the issue of debt sustainability as related to the nexus of trade, growth and poverty reduction can be summarized as follows:

- **The Challenge of Development Targeting.** The yardstick for determining sustainability is some arbitrary ratio of debt to exports with no apparent link to any quantifiable developmental outcomes, such as achieving a given growth rate or socio-economic targets such as the MDGs. In a nutshell, the accumulation of foreign indebtedness in the case of many African countries is related partly to the structure of their economies and, partly to the manner in which the borrowed funds are contracted and utilized.
- **The Challenge of Graduating from Aid Dependency to Self-Sustainability and Private Sector Flows**. There is no clear policy mechanism in HIPC arrangements to ensure that poor countries escape from the debt trap. The funds released by HIPC programs are essentially used to finance investment in the social sector, which does not generate foreign exchange earnings directly or in the short run.

Chapter III: Methodology

In this paper we attempt to measure the impact of HIPC on growth and poverty reduction and show that these might be eroded by deterioration in the terms. We will attempt to demonstrate that unless debt relief is used effectively to boost Africa's exports relative to its imports or attract more private capital, the debt problem will re-emerge if Africa attempts to grow at rates higher than its balance equilibrium growth rate. The methodology used in this paper to assess and compare the impact of debt service savings as well as of ToT shocks on real GDP growth rates of HIPCs is based on a variety of work that all has its theoretical foundation on Thirlwall (1979). Thirlwall's key proposition is that the long run rate of economic growth (y) of any developed country is equal to the growth rate of the volume of its exports (E) divided by its income elasticity (π) of demand for imports (M), i.e., $y = E/\pi$. Though the proposition continues to be detailed and elaborated, it has over the years become to be known as Thirlwall's Law. The basic implication of Thirlwall's Law is that in the long-run, no country can grow faster than the rate consistent with the balance of payments equilibrium.

Thirlwall's Law has then been extended by Thirlwall and Hussain (1982) to be applicable to developing countries (i.e., to include capital flows and terms of trade effects), which is also known as the extended Hussain-Thirlwall (H-T) model. While the extensions of the H-T model captured the key elements contributing to long-run growth in developing countries during most of the 1960s and 1970s, it ignored the impact of debt service payments. Following the sharp accumulation of debt during the 1970s and 1980s, debt service payments become more and more a severe constraint for developing countries' growth. Hence, an extension to the H-T model by Elliott and Rhodd (1999) allows taking debt service payments into account. Including this extension to the H-T model, the country-specific real GDP growth rate (y) can be measured by the following expression:

$$y = \left[\frac{T}{M\pi}\right] * \left[\left(\frac{E}{R}\eta + \frac{M}{T}\psi\right)(p_d - e - p_f) + \left(\frac{E}{R}(p_d + \varepsilon z)\right) - \left(\frac{M}{T}(p_f + e)\right) - \left(\frac{D}{T}(d + e)\right) + \left(\frac{C}{R}k\right)\right]$$

whereby

i) capital letters (C, D, E, M, R, and T) stand for nominal values of variables:

C	=	total capital inflows,
D	=	total debt services payments (principal + interest),
E	=	total exports (goods services and transfer receipts),
M	=	total imports (goods and services plus transfer payments),
R	=	total receipts as the sum of total exports plus capital inflows (C),
T	=	total payments as the sum of total imports plus total debt service;

ii) lower case letters (d, e, k, p, y and z) stand for rates of parameters:

d	=	rate of change of debt service (D),
e	=	rate of change in the exchange rate (domestic price of foreign currency),
k	=	rate of growth of capital inflows (C),
p_d	=	rate of change in domestic prices (export prices in domestic currency),
p_f	=	rate of change in foreign prices (import prices),
z	=	rate of growth of world income;

iii) Greek letters (η, ψ, ε, and π) stand for elasticities:

η	=	price elasticity of demand for exports,
ψ	=	price elasticity of demand for imports,
ε	=	income elasticity of demand for exports, and
π	=	income elasticity of demand for imports.

The beauty of the model is that it reflects the five most crucial components boosting (or hindering) economic growth in developing countries. The first part [T/(Mπ)(E/R η+M/T ψ)(p_d-e-p_f)] represents the ToT effect, the second part [T/(Mπ) (E/R) (p_d + εz)] represents the domestic price and export effect; the third part -[T/(Mπ) (M/T) (p_f + e)] represents the devaluation and imported inflation effect; the fourth part -[T/(Mπ) (D/T) (d + e)] represents the debt service effect; and the fifth part [T/(Mπ) (C/R) k] represents the capital flows effect. The ToT effect and capital flows effect can be either positive or negative. The domestic price and export effect are generally positive, while the devaluation and imported inflation effect as well as the debt service effect have a negative impact (as is already reflected explicitly in the minus sign in front of these terms).

While the calculation of the impact of debt service payments and of the ToT is straightforward from the first and fourth components of the above growth equation, some explanations are needed for the methodology on how to calculate the impact of either

effect on poverty. It might be possible to extend the model further to derive a formal presentation of the impact each growth component has on poverty, however for not complicating matters, we use the poverty elasticity of growth[11] to measure the impact of debt relief on poverty. The same methodology is adopted for the impact of changes in the terms of trade on poverty. In other words, we multiply the poverty elasticity by the effect debt service has on growth to get the impact of debt service on poverty. Similarly, we multiply the poverty elasticity by the effect the ToT have on growth to get the impact of the ToT on poverty.

As Thirlwall's Law states, no country can grow faster in the long-run than the rate consistent with the balance of payments equilibrium, the H-T model has been developed to provide estimates for the long-term growth rates of developing countries. The longer the time period under consideration, the better the results. This is especially important to keep in mind for Africa, where highly volatile capital flows can easily lead to distortions. Hence, the model is not supposed to be used for the estimation of short-term growth rates, and thus, it would not be appropriate to re-calculate the growth rates for the short time period since HIPCs have received enhanced HIPC debt relief. The difference in real GDP growth rates before and after the HIPC Initiative is generally also due to many other factors. To assume that the change in the real GDP growth rates are all due to HIPC debt relief would imply a significant overestimation. Hence, the methodology used to estimate the impact of debt service savings is not based on a recalculation of the real GDP growth rates (y), but based on the change in country-specific debt service effects due to the new D/T ratios and the change in the debt service parameter (d).

Given that we require a minimum of three years following the eDP to make a reasonable comparison before and after the HIPC initiative, we have excluded the five African HIPCs (Chad, the Democratic Republic of Congo (DRC), Ethiopia, Ghana, and Sierra Leone) that have reached the eDP after December 2000. For the two HIPCs (Mozambique and Uganda) that have received HIPC debt service reductions before year 2000 (based on debt relief provided under HIPC-1), we have added the 1999 HIPC debt service savings to the actual debt service payments of 1999 to reflect the situation as it would have been if these two countries would not have received any HIPC debt relief in 1999. This implies that the time for the comparison before and after the HIPC Initiative is the same for all 18 African HIPCs that have reached the enhanced decision point by December 2000.

The 18 African HIPCs, which have reached the eDP in 2000, have reached the eDP in different months, ranging from February to December (see Table 1). Hence, debt service and debt service savings for year 2000 are not comparable to each other across countries. While a pro-rating based on the eDP month would have been one option to make the year 2000 data comparable, there were—at least initially—also differences in the time it took to provide enhanced debt relief, and thus, we have decided to always exclude year 2000. That is, we have used the period of 1985-1999 for the calculation of

[11] The poverty elasticity of growth tells us by how much poverty decreases if real GDP grows by one percent. The data for the poverty elasticities have been taken from an internal collection of the African Development Bank.

the GDP growth rate before the HIPC Initiative, and the three-year period of 2001-03 for the calculation of the effect from HIPC debt service savings.

Nominal variables (C, D, E, M, R, and T) are always calculated based on the specific time period under consideration, i.e., data from 1985-99 has been averaged for the nominal variables before the HIPC Initiative, and data from 2001-03 has been averaged for the nominal variables after the HIPC Initiative. However, given that three years cannot be considered to be sufficient for the calculation of some parameters and elasticities, all elasticities, the exchange rate parameter (e), the capital flow parameter (k), and the world income parameter (z) are based on 1985-99 data. The actual change in these elasticities and parameters is in any case not that crucial for our purpose, as we are interested in the comparison of two effects:

a) the impact of changes in debt service (due to the HIPC), which is reflected in changes of parameter (d); and
b) the impact of ToT shocks (following the enhanced DP), which is reflected in changes of parameters p_d, and p_f.

Hence, we have calculated these three critical parameters (before and after HIPC) as follows:

a) $d_{\text{before HIPC}}$ (the rate of change of debt service before the HIPC Initiative) is based on the average annual change in debt service payments from 1985-1999;

b) $d_{\text{after HIPC}}$ (the rate of change of debt service after the HIPC Initiative) is based on the actual average debt service savings due to the HIPC Initiative for 2001-2003;

c) $p_{\text{d before HIPC}}$ and $p_{\text{f before HIPC}}$ (the change in domestic and foreign prices before the HIPC Initiative) is based on average annual changes in domestic and foreign prices from 1985-1999; and

d) $p_{\text{d after HIPC}}$ and $p_{\text{f after HIPC}}$ (the change in domestic and foreign prices after the HIPC Initiative) are based on the average changes in the ToT during 2001-2003.

Chapter IV: Interpretation of Results

IV.1. Impact of Debt Service on Growth and Poverty

The results of the impact of debt service on growth and poverty are provided in Table 2.[12] The first column shows the predicted effect of debt service on growth, the second column shows the sum of the other four effects of the model on growth. Column 3, which is the sum of the first two columns, provides the growth rate as predicted by the model. The actual real GDP growth rate is provided in the fourth column. The poverty elasticity of growth is provided in the fifth column. Finally, the effect of debt service on poverty, which is calculated by multiplying the poverty elasticity of growth with the predicted GDP growth rate, is then provided in the last column. All results of Table 2

[12] Unlike Table 1, which covered 51 of the 53 African countries, we were forced to exclude an additional seven countries (see footnote of Table 2) due to lack of sufficient macroeconomic data to calculate especially the elasticities.

show the effects and growth rates per year, though averaged based on 1985-99 data. Comparing the predicted growth rate with the actual growth rate average shows that the model is overall a good predictor. For the whole of Africa, the model predicted an annual growth rate of 2.6 percent, which compares to an actual growth rate of 2.1 percent.

As expected, the effect of debt service on real GDP growth is negative for all countries. The size of the negative impact varies however considerably across countries, from a negative 0.2 percent for the Comoros to a negative 11.9 percent for Zimbabwe. While the overall average for all HIPCs listed in the first three sections (see aggregation on the bottom of Table 2) is (as was expected) lower (-5.0) than for the non-HIPCs (-4.4), the table shows that the effect of debt service on growth is—at the country-level—not always more prominent for HIPCs than for non-HIPCs. This can partly be contributed to the limited eligibility criteria for HIPC debt relief, which is—excluding a few fiscal cases—limited to the NPV-debt-to-export ratio. For example, excluding two very highly indebted, but not-HIPC-eligible countries (Nigeria and Zimbabwe) from the group of non-HIPCs, would result in an average of –3.1 percent for the non-HIPCs. Furthermore, comparing the levels of six debt ratios provided in Table 1 with the effect of debt service on growth in Table 2, shows an overall remarkable consistency across the four groups. There also is an overall consistency between the first and the last columns of Table 2, as the group of HIPCs that have reached the eDP by December 2000 has the least negative values for both the effects of debt service on growth and poverty, even though the poverty elasticities vary considerably across countries. The same applies for the other three sub-groups.

Concentrating on the last column of Table 2, we finally note that the effect of debt service always increases poverty (as the always positive value indicates) and this directly follows from the negative impact of debt service on growth. The model predicts that debt service increased poverty in Africa by 5.4 percent per annum, with a marginal difference between HIPCs (and non-HIPCs. However, as was the case previously, the results vary largely across countries, ranging from a less than half a percent (for Chad, the Comoros, Gabon, and Namibia) to more than 10 percent (for Algeria, Cote d'Ivoire, Ghana, Nigeria, and Sierra Leone). Looking at such high annual averages, we obviously need to keep in mind that the effects reported in the last column of Table 2 are the net predicted effects of debt service on poverty; there obviously are many other factors that have contributed to poverty reduction. We are also fully aware that the simple multiplication of the effect on growth by the poverty elasticity is obviously not an accurate measure for the impact of debt service on poverty. Yet, given that we apply the same methodology when we analyze the impact of ToT shocks on poverty, the results are at least indicative and comparable. Finally, looking at the relatively low effects of debt service on poverty for the first group of HIPCs (averaging 2.8 percent per annum), we need to keep in mind that most of these HIPCs receive considerable amounts of traditional debt relief that is not taken into account, as we just look at the impact of HIPC debt relief.

Table 2: The Effect of Debt Service on Real GDP Growth and Poverty in Africa (per annum, 1985-1999 averages)*/

Country Name	Predicted Effect of Debt Service on Growth (A)	Predicted Other Effects on Growth (B)	Predicted Growth Rate (C = A+B)	Actual Growth Rate	Poverty Elasticity of Growth (D)	Predicted Effect of Debt Service on Poverty (E = C*D)
I. HIPCs (that reached the enhanced DP by Dec. 2000)						
BENIN	-1.3%	5.2%	3.9%	3.4%	-1.12	1.4%
BURKINA FASO	-1.9%	9.9%	8.0%	6.0%	-0.69	1.3%
CAMEROON	-1.6%	0.9%	-0.7%	0.5%	-0.38	0.6%
GAMBIA, THE	-0.8%	1.2%	0.4%	3.8%	-0.88	0.7%
GUINEA	-7.1%	8.4%	1.3%	4.3%	-0.38	2.7%
GUINEA-BISSAU	-2.1%	1.0%	-1.1%	1.7%	-0.38	0.8%
MADAGASCAR	-3.4%	4.9%	1.5%	1.9%	-0.80	2.7%
MALAWI	-4.3%	6.3%	2.0%	3.5%	-0.52	2.2%
MALI	-2.4%	7.9%	5.5%	4.8%	-0.56	1.4%
MAURITANIA	-1.4%	6.5%	5.1%	3.4%	-1.57	2.2%
MOZAMBIQUE	-6.7%	9.8%	3.1%	5.6%	-0.52	3.5%
NIGER	-0.9%	5.4%	4.5%	2.7%	-0.56	0.5%
RWANDA	-3.8%	5.7%	2.0%	1.8%	-0.38	1.4%
SAO TOME & PRINCIPE	-4.0%	3.8%	-0.3%	1.2%	-0.38	1.5%
SENEGAL	-3.3%	3.7%	0.4%	3.0%	-1.96	6.4%
TANZANIA	-7.9%	11.9%	4.0%	3.8%	-0.81	6.4%
UGANDA	-3.6%	6.8%	3.2%	5.3%	-1.04	3.8%
ZAMBIA	-10.1%	10.5%	0.4%	0.3%	-0.42	4.2%
Average (PPP weighted)	**-4.1%**	**6.5%**	**2.4%**	**3.3%**	**-0.75**	**2.8%**
II. HIPCs (that reached enhanced DP by April 2004)						
CHAD	-0.3%	2.8%	2.5%	1.0%	-0.38	0.1%
ETHIOPIA	-8.8%	12.0%	3.1%	3.3%	-0.67	5.9%
GHANA	-6.7%	10.1%	3.4%	4.3%	-2.40	16.0%
SIERRA LEONE	-10.6%	7.2%	-3.4%	-1.4%	-1.12	11.9%
Average (PPP weighted)	**-7.4%**	**10.3%**	**2.8%**	**3.3%**	**-1.36**	**9.8%**
III. HIPCs (that have not yet reached enhanced DP)						
BURUNDI	-2.1%	4.5%	2.4%	1.8%	-0.38	0.8%
COMOROS	-0.2%	3.3%	3.1%	2.7%	-0.94	0.2%
CONGO, REPUBLIC OF	-1.7%	5.4%	3.7%	3.4%	-0.38	0.6%
COTE D IVOIRE	-5.6%	7.4%	1.8%	3.1%	-1.79	10.1%
TOGO	-0.7%	3.4%	2.7%	2.8%	-1.12	0.8%
Average (PPP weighted)	**-4.0%**	**6.1%**	**2.2%**	**2.9%**	**-1.37**	**6.5%**
IV. Other African countries						
ALGERIA	-8.1%	11.0%	2.9%	2.4%	-1.57	12.7%
BOTSWANA	-1.2%	8.4%	7.2%	7.2%	-0.52	0.6%
CAPE VERDE	-1.3%	3.9%	2.6%	2.1%	-1.12	1.5%
EGYPT	-3.8%	8.6%	4.9%	4.0%	-1.57	5.9%
EQUATORIAL GUINEA	-6.1%	16.5%	10.4%	14.0%	-0.38	2.3%
GABON	-0.7%	2.1%	1.5%	0.9%	-0.38	0.2%
KENYA (sustainable HIPC)	-2.6%	6.4%	3.7%	0.9%	-1.40	3.7%
LESOTHO	-0.9%	6.2%	5.3%	4.8%	-0.52	0.5%
MAURITIUS	-1.8%	10.7%	8.9%	8.8%	-0.94	1.7%
MOROCCO	-4.7%	8.7%	4.0%	3.4%	-1.57	7.4%
NAMIBIA	-0.6%	5.4%	4.7%	4.4%	-0.52	0.3%
NIGERIA	-10.4%	12.2%	1.8%	-1.7%	-1.16	12.0%
SEYCHELLES	-1.9%	9.3%	7.4%	4.3%	-0.94	1.8%
SOUTH AFRICA	-1.8%	2.7%	0.9%	0.6%	-0.52	0.9%
SWAZILAND	-1.4%	8.1%	6.7%	7.2%	-0.61	0.9%
TUNISIA	-2.0%	5.5%	3.5%	3.5%	-1.57	3.1%
ZIMBABWE	-11.9%	15.1%	3.2%	0.5%	-0.52	6.1%
Average (PPP weighted)	**-4.4%**	**7.1%**	**2.7%**	**1.8%**	**-1.07**	**5.4%**
14 Afr. Compl. Point HIPCs (PPP w.)	**-5.6%**	**8.8%**	**3.3%**	**3.8%**	**-1.08**	**5.9%**
All African HIPCs (PPP w.)	**-5.0%**	**7.5%**	**2.5%**	**3.2%**	**-1.00**	**5.3%**
Africa (PPP weighted)	**-4.5%**	**7.2%**	**2.6%**	**2.1%**	**-1.06**	**5.4%**

Note */: Angola, the Central African Republic (CAR), the Democratic Republic of Congo (DRC), Djibouti, Eritrea, Liberia, Libya, Somalia, and Sudan are excluded due to lack of data. of these nine excluded countries, the DRC reached the enhanced decision point in July 2003; Angola, Djibouti, Eritrea, and Libya are considered sustainable without requiring HIPC debt relief; the CAR, Liberia, Somalia, and the Sudan remain to be considered under the HIPC Initiative.

IV.2. Impact of 100 Percent Debt Relief

By reversing the sign of the values in the first and last column of Table 2, Table 2 can also be interpreted as providing the benefits each country would get from 100 percent debt relief, as with 100 percent debt relief, debt service would be zero, and thus, the effects of debt service would also be zero. Obviously, this exercise should be applied mainly to HIPCs, and especially to those that have reached the enhanced completion point, as the proposed 100 percent debt relief kicks only in once a country has reached the enhanced completion point. Taking the weighted average of the 14 African HIPCs that have reached the enhanced completion point by end-May 2005, our calculations (shown in the bottom of Table 2) show that—other things being equal—real GDP growth is estimated to increase in the average by 5.6 percent per year due to 100 percent debt relief, while poverty would decrease by 5.9 percent per year.

IV.3. Impact of HIPC Debt Relief on Growth and Poverty

We now move to look at the results displayed in Tables 3 to 5. Table 3 provides the effects of debt service on growth (first three columns) and on poverty (last three columns). Columns 1 and 4 show the effects before the HIPC Initiative. Columns 2 and 5 show the effects after HIPC debt relief. The third and the six columns show, respectively, the net increase in real GDP growth and the net reduction in poverty, both due to HIPC debt relief. The last row of the third column shows that on average (for the 18 HIPCs), HIPC debt relief has contributed to real GDP growth by 2.9 percent per year. Though there are some variations across countries, there is always a net increase in real GDP growth due to HIPC debt relief, varying between a minimal 0.8 percent (for the Gambia) to a maximal 6.0 percent (for Tanzania). The other two countries in which the HIPC Initiative had a large impact on real GDP growth are Guinea and Zambia. A considerable part of these differences are attributable to qualitative differences and differences in institutions across countries, i.e., how effective a country has made use of HIPC debt relief.

Looking at the impact of the HIPC debt relief on poverty reduction (the last three columns of Table 3), it is once again the case that all countries display a positive net impact, ranging between a high 5.1 percent annual reduction in poverty (for Senegal) to a low 0.3 percent annual reduction in poverty for Niger. Given the differences in poverty elasticities across countries, it is only normal that the countries that benefited most from the HIPC debt relief in terms of real GDP growth are not necessarily the countries that benefited most in terms of poverty reduction. However, it is still the case that the three countries with the highest impact on real GDP growth have also experienced a more than average reduction in poverty. The three countries that benefited most from HIPC debt relief in terms of poverty reduction are Senegal (5.1 percent per annum), Tanzania (4.9 percent per annum), and Uganda (3.1 percent per annum). The four countries that benefited the least in terms of poverty from HIPC debt relief are Cameroon, the Gambia, Niger, and Sao Tome & Principe (with an effect below 0.5 percent per year for each of these four countries).

Table 3: Net Increase in Real GDP Growth and Net Reduction in Poverty due to the HIPC Initiative in Africa (2001-03 averages)

Country Name	Effect of Debt Service on Growth		Net Increase in Real GDP Growth due to the HIPC Initiative	Effect of Debt Service on Poverty		Net Reduction in Poverty due to the HIPC Initiative
	Before the HIPC Initiative (1985-99)	After the HIPC Initiative (2001-03)		Before the HIPC Initiative (1985-99)	After the HIPC Initiative (2001-03)	
BENIN	-1.3%	-0.4%	0.9%	1.4%	0.5%	1.0%
BURKINA FASO	-1.9%	-0.9%	1.0%	1.3%	0.6%	0.7%
CAMEROON	-1.6%	-0.4%	1.1%	0.6%	0.2%	0.4%
GAMBIA, THE	-0.8%	-0.4%	0.4%	0.7%	0.4%	0.4%
GUINEA	-7.1%	-1.6%	5.5%	2.7%	0.6%	2.1%
GUINEA-BISSAU	-2.1%	-0.7%	1.4%	0.8%	0.3%	0.5%
MADAGASCAR	-3.4%	-0.6%	2.8%	2.7%	0.5%	2.2%
MALAWI	-4.3%	-2.3%	2.1%	2.2%	1.2%	1.1%
MALI	-2.4%	-0.8%	1.6%	1.4%	0.4%	0.9%
MAURITANIA	-1.4%	-0.6%	0.8%	2.2%	0.9%	1.3%
MOZAMBIQUE	-6.7%	-2.2%	4.5%	3.5%	1.1%	2.3%
NIGER	-0.9%	-0.3%	0.6%	0.5%	0.2%	0.3%
RWANDA	-3.8%	-2.1%	1.7%	1.4%	0.8%	0.7%
SAO TOME & PRINCIPE	-4.0%	-3.1%	1.0%	1.5%	1.2%	0.4%
SENEGAL	-3.3%	-0.7%	2.6%	6.4%	1.3%	5.1%
TANZANIA	-7.9%	-1.9%	6.0%	6.4%	1.5%	4.9%
UGANDA	-3.6%	-0.7%	3.0%	3.8%	0.7%	3.1%
ZAMBIA	-10.1%	-4.2%	5.9%	4.2%	1.8%	2.5%
Average (PPP weighted)	**-4.1%**	**-1.2%**	**2.9%**	**2.8%**	**0.8%**	**2.2%**

IV.4. Impact of Changes in the ToT on Growth and Poverty

Similar to Table 3, Table 4 shows the impact of changes in the ToT on growth and poverty. We have kept the format between Tables 3 and 4 identical to make it easier to read the results. Hence, as was the case in Table 3, a positive value in the first three columns implies a positive impact on real GDP growth, and a negative number in the last three columns indicate an increase in poverty. Given that some HIPCs experienced an improvement in the ToT while others experienced a deterioration, Table 4 displays positive as well as negative numbers in every column.

The values of the first column, which reflect the ToT effect on real GDP growth during 1985-99, range between a minimal -0.38 percent (for Zambia) to a maximal 6.16 percent (for Guinea-Bissau), with an average of 1.9 percent. The positive average for 1985-99 implies that the average country benefited from ToT changes during 1985-99. For the second column, which reflects the ToT effect on real GDP growth during 2001-03, the values range between a low -4.7 percent (Guinea-Bissau) to a high 0.5 percent (Mauritania), whereby the average amounts to a negative 0.1 percent, reflecting an overall detrimental impact of the ToT effect during 2001-03. Taking the difference between the first two columns reflects the net increase in real GDP growth due to changes in the ToT during 2001-03, which is overall clearly negative, hence, the average HIPC lost considerably due to recent ToT movements. Only four countries (Benin, Madagascar, Senegal, and Zambia) display marginally positive percentages, indicating that these four countries have experienced a small net increase in real GDP growth due to recent ToT movements (2001-03).

Table 4: Net Increase in Real GDP Growth and Net Reduction in Poverty due to Changes in the Terms of Trade in African HIPCs (2001-03 averages)

	Effects of Changes in the Terms of Trade on Growth		Net Increase in Real GDP Growth due to Changes in Terms of Trade	Effects of Changes in the Terms of Trade on Poverty		Net Reduction in Poverty due to Changes in Terms of Trade
Country Name	**1985-99**	**2001-03**		**1985-99**	**2001-03**	
BENIN	0.00%	0.00%	0.0%	0.00%	0.00%	0.0%
BURKINA FASO	0.87%	-0.10%	-1.0%	-0.60%	0.07%	-0.7%
CAMEROON	2.65%	0.46%	-2.2%	-1.01%	-0.18%	-0.8%
GAMBIA, THE	3.31%	-0.62%	-3.9%	-2.92%	0.55%	-3.5%
GUINEA	4.24%	-0.42%	-4.7%	-1.61%	0.16%	-1.8%
GUINEA-BISSAU	6.16%	-4.73%	-10.9%	-2.34%	1.80%	-4.1%
MADAGASCAR	-0.06%	-0.02%	0.0%	0.05%	0.01%	0.0%
MALAWI	1.01%	-0.13%	-1.1%	-0.52%	0.07%	-0.6%
MALI	1.89%	-0.10%	-2.0%	-1.06%	0.06%	-1.1%
MAURITANIA	2.49%	0.49%	-2.0%	-3.91%	-0.76%	-3.1%
MOZAMBIQUE	1.08%	0.13%	-1.0%	-0.56%	-0.07%	-0.5%
NIGER	2.80%	0.14%	-2.7%	-1.57%	-0.08%	-1.5%
RWANDA	0.84%	-0.20%	-1.0%	-0.32%	0.08%	-0.4%
SAO TOME & PRINCIPE	1.07%	-0.30%	-1.4%	-0.41%	0.11%	-0.5%
SENEGAL	-0.24%	-0.01%	0.2%	0.47%	0.02%	0.4%
TANZANIA	4.84%	-0.05%	-4.9%	-3.92%	0.04%	-4.0%
UGANDA	1.60%	-0.80%	-2.4%	-1.66%	0.83%	-2.5%
ZAMBIA	-0.38%	-0.02%	0.4%	0.16%	0.01%	0.1%
Average (PPP weighted)	**1.9%**	**-0.1%**	**-2.0%**	**-1.2%**	**0.1%**	**-1.3%**

The impact of the ToT on poverty, displayed in the last three columns of Table 4, are once again consistent with the impact of the ToT on real GDP growth. For example, all countries experiencing a net decrease in real GDP growth rates also experienced a net increase in poverty, though there are differences in relative sizes at the country level, reflecting differences in the poverty elasticity across countries. At the average, poverty has increased by 1.3 percent per year due to recent changes in the ToT. The three countries in which poverty increased the most due to recent ToT changes are the Gambia (3.5 percent), Guinea-Bissau (4.1 percent), and Tanzania (4.0 percent). The three countries at which recent ToT changes had close to zero net effect on poverty reduction are Benin, Madagascar, and Zambia. None of the 18 HIPCs experienced any significant positive impact on poverty reduction due to recent ToT changes.

IV.5. Comparison of Net Effects

Finally, Table 5 provides a comparison of the net effects of HIPC debt relief with the net effects of changes in the ToT. Like before, the first three columns refer to the net effects on real GDP growth and the last three columns refer to the net effects on poverty reduction. The interpretation of the first, second, fourth, and fifth columns of Table 5 is however different than in same columns of Tables 3 and 4, as all columns in Table 5 are net effects. Column three of Table 5 is then simply the sum of the first two columns, while column six is simply the sum of the fourth and fifth column. Given that the details of columns one, two, four and five have already been discussed above, we can limit our observations to the averages and the new columns.

Table 5: Comparison of Net Effects of HIPC Debt Relief with Net Effects of Changes in the Terms of Trade on Growth and Poverty Reduction (2001-03 averages)

	Net Effects on Real GDP Growth			Net Effects on Poverty Reduction		
Country Name	**of HIPC Debt Relief**	**of Changes in the Terms of Trade**	**of both HIPC Debt Relief and Changes in the ToT**	**of HIPC Debt Relief**	**of Changes in the Terms of Trade**	**of both HIPC Debt Relief and Changes in the ToT**
BENIN	0.9%	0.0%	0.9%	1.0%	0.0%	1.0%
BURKINA FASO	1.0%	-1.0%	0.0%	0.7%	-0.7%	0.0%
CAMEROON	1.1%	-2.2%	-1.0%	0.4%	-0.8%	-0.4%
GAMBIA, THE	0.4%	-3.9%	-3.5%	0.4%	-3.5%	-3.1%
GUINEA	5.5%	-4.7%	0.8%	2.1%	-1.8%	0.3%
GUINEA-BISSAU	1.4%	-10.9%	-9.4%	0.5%	-4.1%	-3.6%
MADAGASCAR	2.8%	0.0%	2.9%	2.2%	0.0%	2.3%
MALAWI	2.1%	-1.1%	0.9%	1.1%	-0.6%	0.5%
MALI	1.6%	-2.0%	-0.3%	0.9%	-1.1%	-0.2%
MAURITANIA	0.8%	-2.0%	-1.2%	1.3%	-3.1%	-1.8%
MOZAMBIQUE	4.5%	-1.0%	3.6%	2.3%	-0.5%	1.8%
NIGER	0.6%	-2.7%	-2.1%	0.3%	-1.5%	-1.2%
RWANDA	1.7%	-1.0%	0.7%	0.7%	-0.4%	0.3%
SAO TOME & PRINCIPE	1.0%	-1.4%	-0.4%	0.4%	-0.5%	-0.2%
SENEGAL	2.6%	0.2%	2.9%	5.1%	0.4%	5.6%
TANZANIA	6.0%	-4.9%	1.1%	4.9%	-4.0%	0.9%
UGANDA	3.0%	-2.4%	0.6%	3.1%	-2.5%	0.6%
ZAMBIA	5.9%	0.4%	6.2%	2.5%	0.1%	2.6%
Average (PPP weighted)	**2.7%**	**-1.8%**	**0.9%**	**2.2%**	**-1.3%**	**0.9%**

Comparing the averages of the first three columns, one key result is that 66 percent of the benefits from HIPC debt relief (provided during 2001-03) have been lost due to changes in ToT experienced during the same period, as the positive net effect of 2.7 percent in the first column is followed by a negative 1.8 percent, resulting in a net effect from both changes (debt relief and ToT changes) of 0.9 percent. With regards to the average net effect from both changes on poverty, poverty has been reduced by an average of 2.2 percent a year due to HIPC debt relief, while poverty has increased by 1.3 percent a year due to ToT shocks, leaving just 0.9 percent of poverty reduction as the net effect from HIPC debt relief and changes in the ToT. Hence, this implies that 60 percent of the benefits from HIPC debt relief on poverty reduction have been lost due to changes in ToT. Looking at some country details, six countries (Cameroon, the Gambia, Guinea-Bissau, Mali, Mauritania, Niger, and Sao Tome & Principe) have a negative overall effect, on both, real GDP growth and poverty reduction. For seven countries (Benin, Burkina Faso, Guinea, Malawi, Rwanda, Tanzania, and Uganda) the overall effect on growth, as well as the overall effect on poverty, has been between 0 and 1 percent. For only four HIPCs (Madagascar, Mozambique, Senegal, and Zambia) have the overall net effects on growth and on poverty reduction been significant.

Yet, we should be careful with interpreting these results and calculations for at least three reasons. First, it needs to be stressed that these are net effects. It is likely, that debt relief has other macroeconomic effects, which are not captured by these results. For example, there are some indications that the removal of the debt overhang has some positive implications on private capital flows, which would then be captured by the capital flows effect of our growth equation. Yet, there are obviously many other factors

that affect capital flows. A second reason why we have to be careful with the interpretation of our results is that the debt service savings may be used for poverty-reducing expenditures that we are not able to capture with a macroeconomic model.[13] Third, while the true impact of debt relief may be higher than the net effects presented above, it is also likely that HIPCs experiencing serious deteriorations in their ToT may be supported by the international community, like for example, increased aid flows. On the other hand, it could also be argued that ToT deteriorations may have negative effects that go beyond macroeconomic effects. Much of these are however beyond the scope of this paper. Given the limitations of any macroeconomic model, the above results are quite reasonable.

Chapter V: Policy Implications and Conclusions

One set of policy implications, which stems from our results that debt relief has a positive impact on growth and poverty reduction, is to enhance debt relief. The newly reached agreement to provide 100 percent debt relief is therefore crucial for HIPCs currently in the interim period to speed up efforts to reach the enhanced completion point. Similarly, more efforts need to be undertaken by HIPCs that have not yet reached their decision point. And finally, looking at the relative high negative effect debt service has on some of the non-HIPCs, it might also be worthwhile to consider alternatives to extend debt service to some non-HIPCs. Yet, we also need to keep in mind that even 100 percent debt relief will not be sufficient to reach the MDGs in most African countries.

Another set of policy implications stem from the negative impact terms of trade shocks. Calls for increased international efforts to limit the negative impact of ToT shocks are no novelty. As already referred to above, the analysis and policy suggestions of the International Task Force on Commodity Risk Management (2002) are critical and deserve more attention. Yet, many of these suggestions are related to treating the symptoms instead of treating the underlying sources for the high vulnerability HIPCs continue to face.

The long-term agenda to achieve sustainable growth and poverty reduction needs to focus much more on a long-term development strategy that fosters the necessary structural transformation of HIPCs. It is unlikely that HIPCs will undergo the necessary structural transformation without targeted policy interventions. As is detailed in Hussain (1998, 1999, and 2005), this calls for a combination of industrial investments that concentrate on certain export niches, supporting competition policies, and strategic trade policies that go beyond the existing (though under-exploited) comparative advantages in agriculture. An appropriate mix of such policies could lead to the development of selected industrial bases and service centers that can—at least in the long-term—compete in the global international market and generate additional foreign exchange to finance the imports required for sustaining higher growth rates.

[13] Some of these effects depend on trickle-down effects from growth to poverty through the poverty elasticity of growth. It might also be argued that the effect of HIPC debt relief due to increased education and health expenditures might accrue in the longer-run and that the poverty elasticities based on past relationships would need to be re-estimated based on new relationships.

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