



Diskussionspapiere an der Universität Bayreuth

## **The BOTOS-Approach**

### **An Alternative Approach for Calculating and Achieving a Sustainable Debt Level of HIPC-Countries**

Jonas Bunte, Oliver Gloede, and Christoph Trautfetter

Initiative WiSoTrEn at the University of Bayreuth, Germany

**Jahrgang 1/2004**

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## Abstract

This paper proposes an alternative approach for calculating a sustainable debt level for countries participating in the Heavily Indebted Poor Country (HIPC) Initiative. However, this approach can also be applied to all indebted countries. The proposed approach significantly modifies the mechanism recently published by the World Bank and the International Monetary Fund (IMF)<sup>1</sup> by defining debt distress situations with the help of the Millennium Development Goals (MDGs)<sup>2</sup>. Additionally, a new process for accomplishing a sustainable debt level will be outlined. This includes setting up a Board of Trustees on Sustainability (BOTOS). The BOTOS will negotiate a Business Plan, which provides a framework for investments in growth and development by both creditor and debtor replacing one-sided development assistance.

**Keywords:** Heavily Indebted Poor Countries, World Bank, International Monetary Fund, Millennium Development Goals, Debt Sustainability

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<sup>1</sup> IMF and IDA (2004), „Debt Sustainability in Low-Income Countries – Proposal for an Operational Framework and Policy Implications“.

<sup>2</sup> See <http://www.un.org/millenniumgoals/>.

## Acknowledgements

This paper presents the results of a year-long research project conducted by the Initiative WiSoTrEn at the University of Bayreuth.

Therefore, the authors would like to thank Stefan Bauer and Marcus Grohmann for their contributions, which were a great help in the process of summarizing and presenting the thoughts of WiSoTrEn. Additionally the commitment of all, who have been active in this initiative has to be acknowledged and thanked for. That is Boris Raeder, Benedikt Hamers, Heidi Wagner, Jan Teschke, Julia Schitke, Julian Culp, Nicola Bunte, Sebastian Mingers, Sonja Ruff, Stephanie Hartmann, Tobias Adolph and Wasilios Hariskos as well as many others. Many thanks to Genelle and LeAnn Wine, Iris Whelan as well as Sabine Bethke-Bunte and Bartholomäus Bunte for editing this paper.

Furthermore we would like to thank Rudolf Schüßler and Alexander Brink for recommending literature. We are grateful for statistical advice and constructive criticism provided by Bernhard Herz, Martin Leschke, Walter Olbricht, Jürgen Kaiser and Volker Karb as well as the Forschungskolloquium of “Philosophy & Economics”.

As for establishing WiSoTrEn as an institution at the University of Bayreuth we would like to thank Prof. Rainer Hegselmann and Prof. Bernhard Herz, Student Convention of the University Bayreuth, David Faubel and Rudolf Jung as well as the University Bayreuth itself (especially Mr. Graß and Mr. Göhl) for their help and work.

The authors

Bayreuth, June 7<sup>th</sup> 2004

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## **0. Preamble**

There is no question that the current situation of many people in the less-developed countries of Africa, South America and Asia is unbearable. Many statements of governmental and non-governmental organizations, churches, and institutions such as the United Nations have repeatedly pointed out the crisis burdening many living in the so-called Third World. All of us are called by a collective responsibility to improve the lives of those who are living under inhuman conditions caused by severe poverty. Having achieved a state of relative economic prosperity and considering the history of their advancement, it is unacceptable for industrialized countries to be indifferent towards the suffering of these countries.

The Millennium Declaration signed by the United Nations in the year 2000 was an historic step towards assuming the responsibility and a serious commitment to help. For the first time, industrialized nations and international institutions agreed upon concrete goals and a deadline by which those goals should be completed. Even though the indebtedness of countries has been addressed in the Declaration the means implemented so far have not been sufficient in order to alleviate indebtedness.

As the unbearable situation continues, the countries affected still pay more for debt service than they receive in international aid. Though private insolvency laws forbid the demand of debt service from a person to the extent that she is not able to meet her basic needs, this is not necessarily the current practice at the international level. In fact, the opposite is the case. The results are children who can not exercise their right to an education and sick people who are not able to receive medical assistance. Hundreds of millions of people suffer every day from this type of structural force.

From an ethical point of view, consideration should be given to whether these heavily indebted countries are in any way able to meet the demands of their debt service. The argument for full repayment is only legitimate as long as one is capable of repaying. The constant phenomenon of debt rescheduling as well as continued, but insufficient attempts to provide debt relief through the HIPC campaign indicates that it is impossible for the countries to repay the full amount under the current circumstances. Additionally, it is precisely the industrialized nations' subsidies and tariffs that prevent stronger economic growth and with that an improved ability of less-developed nations to repay debts. Hence, the

demands for full debt repayment are only partially justified from an ethical point of view.

These ethical considerations are the starting point for our proposal. We also recognize that not all problems would be solved with the full cancellation of debt. It is crucial to promote development, which will nurture long-term stability and prevent continued over-indebtedness in these countries in the future. Responsible policy-making as well as the creation of the necessary institutions are therefore crucial preconditions the debtor needs to fulfill. Hence, within the Board of Trustees on Sustainability (BOTOS) proposed in our approach, debtor and creditor are supposed to jointly develop appropriate political means and ensure their funding. It is important to keep in mind that the population affected by the measures taken needs to participate in the decision-making as well as the implementation. The overall goal of these reforms has to be positive economic as well as democratic development. As an internationally accepted norm, the Millennium Development Goals (MDGs) can serve as a standard for accomplishing these intentions. The realization of the MDGs is therefore closely connected to achieving a sustainable debt level.

We are convinced that such a process is also in the interest of industrialized countries. The increasing numbers of international financial crisis, economic refugees as well as the threads of international terrorism are rooted in the growing North-South and West-East divide. Achieving sustainable debt levels in debtor countries would help in establishing an equilibrium.

Justice, which is necessary for solving these problems, cannot only consist of compensation in material terms. Justice reveals itself in interactions and relationships. Yet, justice through interaction between the First and Third World is still missing. The current relationships are limited to credit-contracts and occasional developmental assistance. As the Millennium Goal No.8 states, global difficulties can only be resolved by the integration of all nations into the international community. Therefore, our approach is a contribution for the re-definition of these relationships.

## **1. Introductory remarks**

This paper is a proposal which aims at reforming the method of determining debt sustainability currently used within the HIPC initiative. UNCTAD<sup>3</sup> as well as NGOs like EURODAD<sup>4</sup> and CAFOD<sup>5</sup> have already pointed out that the criteria used so far have not been sufficient. By the Bank's and the Fund's own definitions, long-term debt sustainability is not being achieved in most HIPC-countries.

Considering that the International Financing Institutions (IFIs) have pledged to strive to achieve the Millennium Development Goals (MDGs), a significant need exists to take immediate action. In our eyes, the realization of the MDGs and the achievement of debt sustainability are closely related, and with this paper we will merge those two concepts.

This document proposes improvements in two areas: With this paper we will present an alternative calculation for the debt sustainability of indebted countries (see 2.2, p. 6ff) as well as a framework for implementing this new method of calculation.

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<sup>3</sup> United Nations Conference on Trade and Development (UNCTAD), Least Developed Country Report 2002.

<sup>4</sup> EURODAD (2001) „Putting Poverty First“

<sup>5</sup> CAFOD (2001) „A Human Development Approach to Debt Sustainability Analysis for the World's Poor“.

## **2. Determination of Debt Sustainability and how to achieve it**

### **2.1 The Board of Trustees on Sustainability (BOTOS)**

According to our proposal, a Board of Trustees on Sustainability (BOTOS) will be appointed for each country. Similar to an arbitration tribunal for private insolvencies, the BOTOS is meant to be a neutral authority that will allow all parties space for constructive dialogue. It is intended that debtors and creditors be represented on the BOTOS in equal numbers. The debtor's delegation will also include representatives from the civil society distinct from government representatives. Following the example of already existing arbitration tribunals, an additional neutral party or person should be agreed upon by both the debtor and creditor. This authority is not associated with any of the parties involved and is therefore able to take on the chairmanship.

Furthermore, the legal grounds on which the BOTOS operates need to be determined. Ideally, the BOTOS would agree to work on the terms of already existing international conventions. We suggest that it will work on basis of the Articles of Agreement (AoA) by the IMF, since it effectively represents the only recognized multilateral convention regarding debt issues. Additionally, one having reached an agreement within the BOTOS no creditor will realistically opt out due to significant disadvantages for the single creditor following a cancellation of their recognition of the AoA. Regarding the alternative – a stand-alone treaty – we consider the process of creating such a treaty to be too difficult and lengthy, which would be unacceptable considering the desperate situation at the moment. Secondly, it would be too easy for a single party to opt out of such a treaty.

This needs to be clarified before the BOTOS actually starts negotiations to prevent individual creditors from undermining the resulting agreement. As the debate concerning the Sovereign Debt Reduction Mechanism (SDRM) has shown, it is important for the debtor to have securities in the event that creditors take legal action that have not been served according to the agreement negotiated by the BOTOS.

The overall goal of the BOTOS will be the achievement of the MDGs, and subsequently, debt sustainability of the respective country. To have a sustainable debt burden, a long-term, stable economic and social environment has to be in the self-interest of the debtor. However, if creditors wish to maintain credibility, they must also take an interest in achieving the MDGs. In addition, creditors funding short-term “rescue

operations” will prove more costly over time than financing a well-organized plan that aims at economic stability.

Furthermore, the BOTOS-Approach represents improvement insofar as it creates a win-win situation for both debtor and creditor. The debtor would inherit a functioning economic system, which would enable the country to finally stand on its own feet. The financing required by the creditor, however, would not simply consist of providing debt relief without benefiting from the results as well. The creditor’s ‘financial losses’ in this approach need to be interpreted as an *investment* in these countries in order to obtain reliable political and trading partners. This would pose a significant step ahead in an increasingly global market for both parties.

As a first step, the BOTOS must determine the financial needs of the debtor-country. Second, a strategy for the realization of the goals needs to be set up with all parties sharing the responsibility. For the debtor, this means the self-commitment to undergo certain economic and judiciary transformations, which would be agreed upon in a fair discourse within the BOTOS. For the creditor, the strategy will entail the self-commitment to provide the required financial means. The matter of sanctions in the case of non-compliance will be addressed in 3. (p. 11f).

In such a constellation we expect there to be sufficient political will by the debtor to renounce some degree of sovereignty to the BOTOS, and with that subordinate certain authority to the decision making process of the panel. This is because the BOTOS is set up as a fair panel, which ensures that only the better arguments matter. Additionally complete transparency minimizes the risk of accepting imbalanced conditions.

On the other hand we expect the outcome of the negotiations to be carried through by the creditors as well. The first reason for the expected compliance of the creditors is that it will be less costly to finance a well-organized plan that aims at economic stability than long funding short-term “rescue operations”. Secondly, by basing the negotiations to the AoA creditors, too, are legally bound to their commitments made during the negotiations.

Central to the success of this process will be a tool to help the BOTOS determine the financial needs of the debtor, which will be described in 2.2.

## **2.2 Calculation of the financial needs**

Our proposal draws upon a procedure recently proposed by the boards of the World Bank and the IMF, which was designed as a guideline for future lending in order to avoid excessive indebtedness<sup>6</sup>. In contrast, the goal of achieving sustainability is this approach's first priority. Hence, we will be significantly modifying this proposal by the IFIs to serve our purpose.

The first step will be to determine a global median for all HIPCs, which will be the reference point for further country-specific reduction of these ratios in the second step (see p. 8.). This is done by exploring the ratios of four debt indicators at times when the countries were distressed with debt in the past. Four indicators have been proposed by the IFIs and will be used in this approach as well:

- Net-present-value-of-debt to Gross Domestic Product
- Net-present-value-of-debt to Export Earnings
- Debt service to Export Earnings
- Debt service to Government Revenue

However, the definitions of debt distress situations proposed by the World Bank and the IMF in their paper<sup>7</sup> cannot be indicators for the real problem. The history of debt crisis has shown that once governments experience payment difficulties, they initially try to solve the problem internally. Cuts in social spending or reductions in governmental reserves, accompanied by rising demands for debt service are obvious indicators of over-indebtedness. These have been primary indicators leading up to a crisis in the past. The definitions used by the IFIs, however, are rather secondary political steps taken by a government when a nation is already in crisis. With that, the indicators used by the IFIs are still signs of serious problems of the debtor and hence need to be taken into consideration when determining which countries should be included in the program proposed in this paper. Yet, for the calculation of a sustainable debt level more sensitive indicators need to be used as argued above. Consequently, all countries that either have had debt distress according to our sensitive definition or the

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<sup>6</sup> IMF and IDA (2004), „Debt Sustainability in Low-Income Countries – Proposal for an Operational Framework and Policy Implications“.

<sup>7</sup> (a) Incurring substantial arrears on their external debt, (b) Paris Club debt rescheduling or (c) receive non-concessional balance of payments support from the IMF.

IFI's secondary indicators for debt distress need to be included in the program.

In this proposal a debt distress situation will be defined by referring to the MDGs in order to take, as argued above, primary indicators into account, which characterize the preliminary steps of a crisis.

The first criterion examines what percentage of the financial resources required to achieve the MDGs was available to the government at what times in the past: That is, comparing the resources available to a country to the resources required to achieve the MDGs. Available resources are defined as fiscal revenue, including grants, minus debt service. As for the numbers used in determining how much money is needed for the realization of the MDGs, we draw upon the figures published by EURODAD<sup>8</sup>, which are based on World Bank definitions<sup>9</sup>.

The second criterion studies the historic development towards the full achievement of the MDGs. The BOTOS will examine how a country has progressed towards the full achievement of the MDGs.

If the historic development of these criteria were plotted in a coordinate system, the graphs would almost always be below the straight line representing 100% accomplishment of the MDGs or the full existence of the necessary resources. Since this alone does not help define a debt distress situation, we need to take a different approach in order to decide at what point in time we are going to examine the position of the indicators mentioned on p. 6.

This problem may be solved with the help of the following considerations. As soon as the slope of the graph described in the first criterion. turns downward, this indicates a strain on the available resources. Regarding the second criterion, the existence of a debt distress situation is even more obvious. A downward slope in this graph indicates a movement away from the full accomplishments of the MDGs and a further decline in the country's situation. Hence, the next step is to take note of the measurement of the four indicators described on p. 6 at the moment when one of the graphs turns negative. That is, when the first derivative of the

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<sup>8</sup> EURODAD „Putting Poverty First“, p.9.

<sup>9</sup> Fiscal revenue 1999-2001 according to *The Financial Impact of HIPC* (World Bank, 2001a), Grants according to *Global Development Finance* (World Bank, 2001b), Health care provision according to a World Bank estimate of 1993: \$12/Person (without AIDS), Expenses for education 1995-1997 (World Development Report 2000), Estimate for accomplishing universal primary education by 2015 (UNICEF, 2001).

respective graph turns negative. This turn from a positive into a negative slope defines a debt distress situation.

After having defined debt distress situations with the help of the MDGs and then having assessed the ratios of the four debt indicators mentioned on p. 6 at times of debt distress, the next step is to calculate the four medians for each of those indicators. These medians, not the MDGs themselves, will serve as the basis for calculating the sustainable debt level in the next step.

In the second step, these four medians will be subject to country-specific stress tests, as proposed in the procedure of the World Bank and the IMF. These stress tests simulate the economic effects of risks such as natural disasters or the collapse of prices for raw materials. Depending on their outcome, the critical levels will be lowered again in order to establish a buffer against these unforeseeable events. The result will be the final four ratios of the indicators described on page 6. These are considered the thresholds above which the debt burden or debt service of a country is considered to be unsustainable. The BOTOS will use these ratios as guidelines in determining the financial requirements of the debtor country.

However, the approach outlined above has so far taken into account the full amount of resources available to a government in comparison to how much money would be needed to accomplish the MDGs. This would entail that after the country has reached the ratios calculated with this approach, the MDGs could be accomplished if and only if all resources then available to a country were invested in the MDGs. Yet, this cannot be possible since there are some “non-MDG” but nevertheless essential public expenditures needed for a country to subsist. These expenditures would for instance include the costs of running the civil service, police force and judiciary, as well as basic investments in infrastructure. However, this paper does not set any arbitrarily chosen amounts of resources, which should be given additionally<sup>10</sup>. We urge the individual BOTOSs to determine the necessary resources for these expenditures for the countries specifically and take these considerations into account when the funding is negotiated (see 2.3, p. 9f).

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<sup>10</sup> EURODAD, for example, has chosen to not demand more than a third of the available resources for debt service to enable these public expenditures. „Putting Poverty First“, p.4.

### **2.3 Setting up a Business Plan**

Having determined the financial necessities of the specific country with the help of the procedures outlined in 2.2, the BOTOS needs to turn towards the task of outlining how to achieve the change. Within the framework of the BOTOS, both parties negotiate a mutual agreement to ensure that the necessary funds are provided by the creditors and appropriate securities are established on behalf of the debtors. The former will preferably take place by the cancellation of debt, since this would set free the resources the country itself is producing, and thus ensure increased ownership by the debtor. Grants would also provide necessary funds.

From the requirements mentioned above, a catalogue of needs will be derived and logged in a Business Plan, based on the idea by Jeffrey Sachs<sup>11</sup>. This Plan will contain demands on both debtor and creditor, which they have agreed to during the fair discourse within the BOTOS.

The demands on the debtor country may include certain securities which guarantee the appropriate use of the financial means provided by the creditors. Specific reforms to be undertaken by the debtor may also be recorded in the Business Plan, such as ensuring the existence of a legal framework guaranteeing the rule of law. Other necessary social institutions or the creation of such should also be ensured by the debtor. In this way, the idea of “Debt-for-institutions-swap” by Andre Habisch<sup>12</sup> is taken into account. We regard it as justified for debtor countries to commit themselves to reforms that have been agreed upon by both parties through fair negotiations. Not only would this ensure the existence of a functioning macroeconomic system after the achievement of the MDGs, but it also enables the country to stand on its own feet. We consider this procedure a fundamental step forward compared to the current process where creditors are stipulating specific measures while threatening to withhold financial means.

The demands on the creditors amount to the provision of the financial means agreed upon in the Business Plan. As already described, this should take place preferably by the cancellation of debt and/or the provision of additional grants. The former has to be given to such an extent that it will allow the country to achieve the ratios calculated with the method proposed

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<sup>11</sup> Jeffrey Sachs (2002), “Resolving the Debt Crisis of Low-Income Countries – Brookings Papers on Economic Activity”.

<sup>12</sup> Andre Habisch (2000), “Armut als elementare Beziehungslosigkeit”.

in 2.2. In this way, the country will be supplied with starting capital to help get the reforms outlined in the Business Plan off the ground. Further debt cancellation will be provided later according to a premium system which has been recorded in the Business Plan as well. The possibility of further cancellation should create positive incentives for the debtor countries to implement the reforms. Additional indirect measures for the improvement of the economic situation in the debtor country, such as the improvement of the Terms of Trade, may also be included in the Business Plan.

It is not the purpose of this paper to propose precise measures that should be considered in the Business Plan. We believe that it will be more effective to let each country's BOTOS determine those measures in their negotiations because they are most familiar with the situations of the respective countries. Each BOTOS has access to country-specific data and the knowledge of the political and social context. Therefore, it would be unwise for us to dictate concrete "one-size-fits-all" measures. The goal is set, the choice of ways and means to achieve the MDGs will need to be determined on an individual basis. To us, the fair and balanced composition of the BOTOS ensures that this freedom cannot be misused and stipulations established in the self-interest of the creditors.

Yet, granting a framework as described above, even without specific measures proposed, would still produce additional advantages. The creation of a Business Plan ensures the transparency of the procedure. The plans for creating the legal basis of economic activity will provide incentives and security for private investors to become involved in these countries. Furthermore, the aspect of self-commitment by the debtor in agreement with creditors carries the side effect of maintaining or even increasing the credit-worthiness of the country.

### **3. Follow Up**

After the Business Plan has been set up, annual reports will be written to record the countries' progress in achieving the MDGs. These reports serve as a means to ensure that the commitments made by the debtors as well as the creditors are being fulfilled. All reports need to be made public in order to have both parties held accountable by the world public.

In the case of positive debtor development, which would be represented by a positive derivative of the second criterion described in 2.2 (p. 7), a country-specific premium system, that has been agreed upon and recorded in the Business Plan (see 2.3, p. 9), will reward the fruitful efforts by the debtor government. This may entail additional cancellation of debt or additional grants, which in turn need to serve the further achievement of the MDGs.

In the case of the negative development of a country, which would be represented by a negative derivative of the second criterion described in 2.2 (p. 7), two possible scenarios exist. The BOTOS will decide which scenario fits the respective case, since it will be best qualified to make such a decision due to its country-specific knowledge.

It may be that the government of the debtor country has no responsibility for getting off-track in their attempts to achieve the MDGs. For instance, this could be due to a natural catastrophe or by the failure of the creditors to provide the financial means agreed to in the Business Plan. In this case, there should be no sanctions against the country. On the contrary, there will be an even greater obligation for the creditor to maintain the flow of finances as promised. This will need to be achieved by emphasizing that the commitments made by the creditors were made on the grounds of the AoA and hence there is legal ground for the claims.

In the case that it is the government of the debtor country who is responsible for getting off-track, we suggest that the following mechanism of sanctioning be agreed upon in the Business Plan. In principle, it is mandatory that the country's budget for the MDGs always remain at the same level or exceed that of the previous period. If that is not the case and additionally the BOTOS determines that money was misappropriated, e.g. for military purposes, the following mechanism will be triggered.

The first violation will require that twice the amount of misspent money will be subtracted from the total amount of money, which was originally supposed to go to the debtor government during the following

period according to the Business Plan. Yet, this subtracted amount will still flow into the country. However, the money will not go directly to its government. Instead, this amount will be entrusted to a trust fund, with the order to finance single projects in this country that directly benefit the population. We expect the BOTOS to be capable of making the decision whether or not the debtor misappropriated any money due to its country-specific knowledge of the circumstances as well as the neutral set up of the BOTOS and complete transparency of its actions.

If there is a second violation by the debtor the mechanism described above will be repeated. However, in order to achieve a gradually increasing pressure on the debtor to comply with the Business Plan the amount withdrawn from free government access will now be quadrupled. Consequently, with the third violation it will be eight times the amount misappropriated.

If there should then be another violation according to the criteria mentioned above, the country will be expelled from the initiative. These guidelines are meant to uphold the trustworthiness of the procedure itself for the creditors. Due to the fact that the use of finances was agreed upon in detail by the BOTOS, the government of the debtor country will have a clear picture of the consequences of any delinquency.

In order to avoid arrears in the provision of the financing by the creditors agreed upon in the Business Plan, specific measures and/or sanctions need to be included in the Plan. These are meant to provide encouragement to follow through an agreement in addition to the positive incentives for the creditor's participation mentioned in 2.1 (p. 4f). These measures need to be determined on an individual basis since the structure of creditors is different in each country. For instance, the BOTOS could consider setting up a trust fund supervised by the BOTOS immediately after a Business Plan has been agreed on, which would cover all future expenditures necessary to achieve the goals recorded in the Business Plan. By doing so cash-flow problems could be avoided. However, other solutions are also conceivable.

The measures mentioned in 2.1 (p. 4) through here (p. 12) are meant to ensure that all participating countries will be able to present a sustainable budget in the year 2015 according to the definition of sustainability described in this paper. In addition, the countries should by then have a functioning legal system and stable economy, which will enable the country to sustain itself henceforth.

## 4. Appendix

In the Appendix we will demonstrate the method of calculation outlined in the approach above. It will give a rough idea of how it is supposed to work and what ratios ought to be expected. *However, we are simply not infallible, and hence we would strongly encourage you to treat these figures with great care.* We simply do not have the capacity for calculation as do the Bank's or the Fund's staff. Moreover, we did not have access to all the data necessary, especially the NPV data for the last twelve years.

Also the data showing the progress towards achieving the MDGs was not available to us. This is why the second criterion in 2.2 (p. 7). has not been taken into account in this appendix. If the data necessary for this criteria has indeed not been collected so far, we would recommend still using the second criterion in 2.2, but only to evaluate the progress made on the Business Plan.

Generally, all examples below are only based on data from the World Development Indicators 2002 as well as the data published by EURODAD in their paper "Putting Poverty Reduction First".

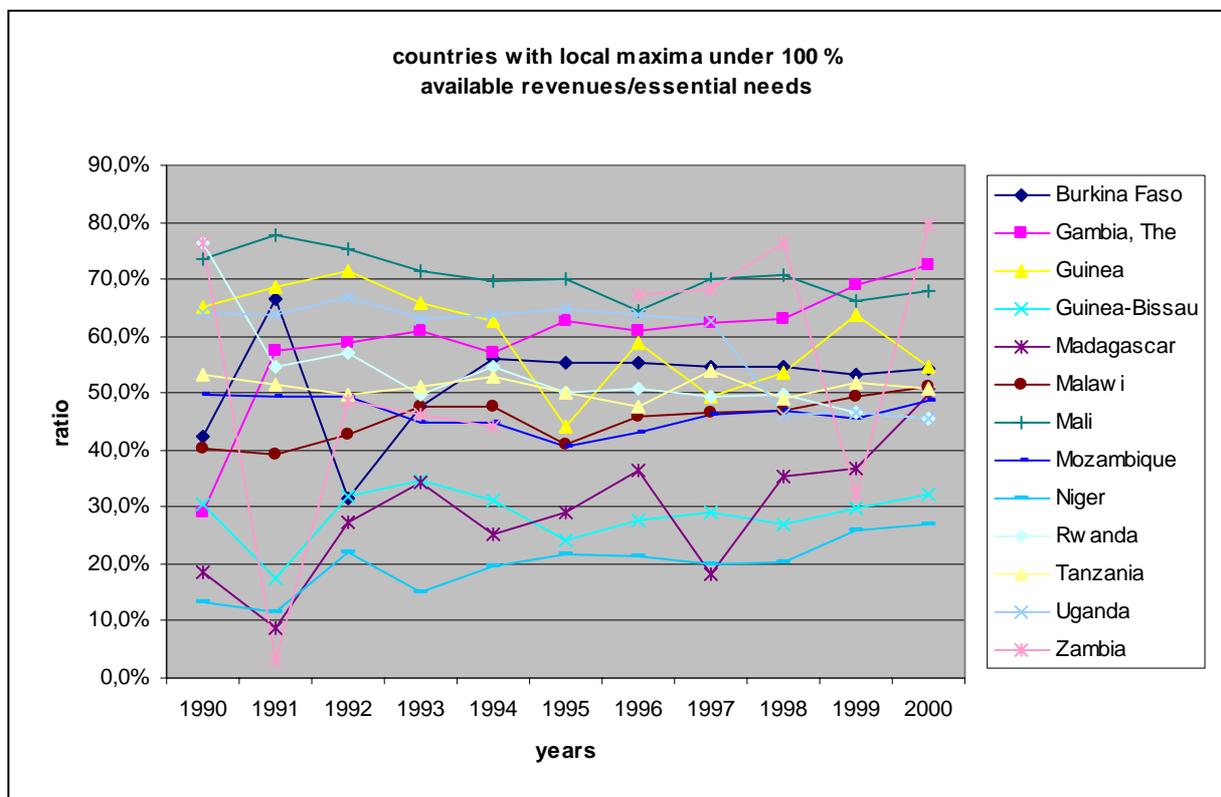
The procedure outlined in 2.2. can be summarized as follows:

- The first step is calculating the amount of resources available for the countries.
- In the second step, the amount of resources needed for accomplishing the MDGs needs to be determined.
- Calculating the ratio of the amount of resources that were available to how many resources would have been needed in the different years is the third step. Then the first derivative of these graphs needs to be determined.
- In the fourth step, the height of the four indicators outlined in 2.2 (p. 6f) at times of debt distress will be assessed and the median of these indicators calculated.
- In the final step the medians calculated on p. 17 are subject to country-specific stress tests. Lastly the country-specific "non-MDG", but nonetheless essential public expenditures need to be considered.

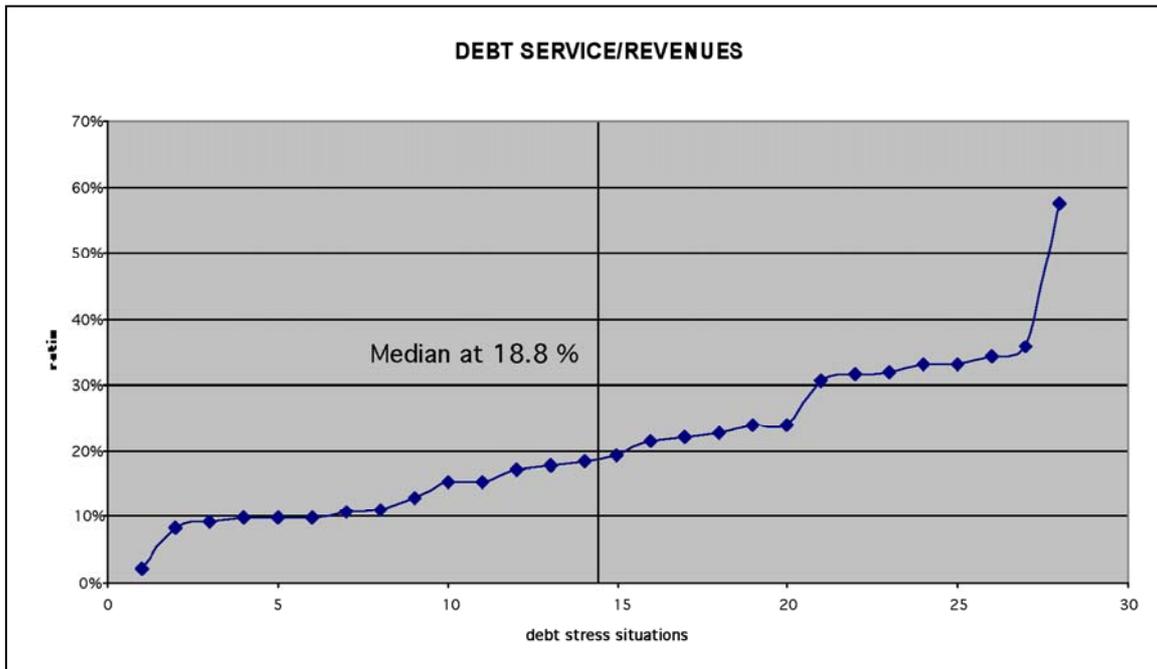
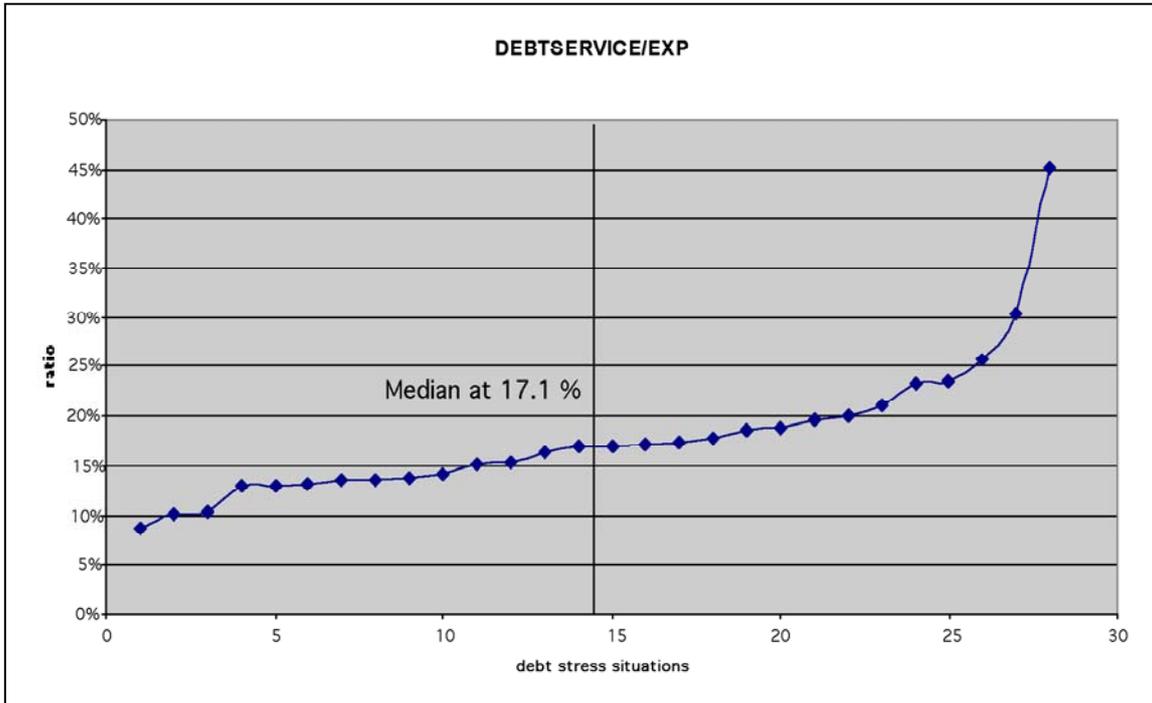




Since some countries will be constantly above the 100% straight line, indicating that they will not have difficulties accomplishing the MDGs even if their slope is turning downwards (as long as it is still above the 100%), they will no longer be considered in the next steps of the calculation. Ideally, the graphs should be outlined more robustly to even out random variation, which has not been done in this example. For the countries remaining below the 100% line the local maxima of the graph (that is when the first derivative becomes negative) are the times of debt distress, which are considered in the fourth step.

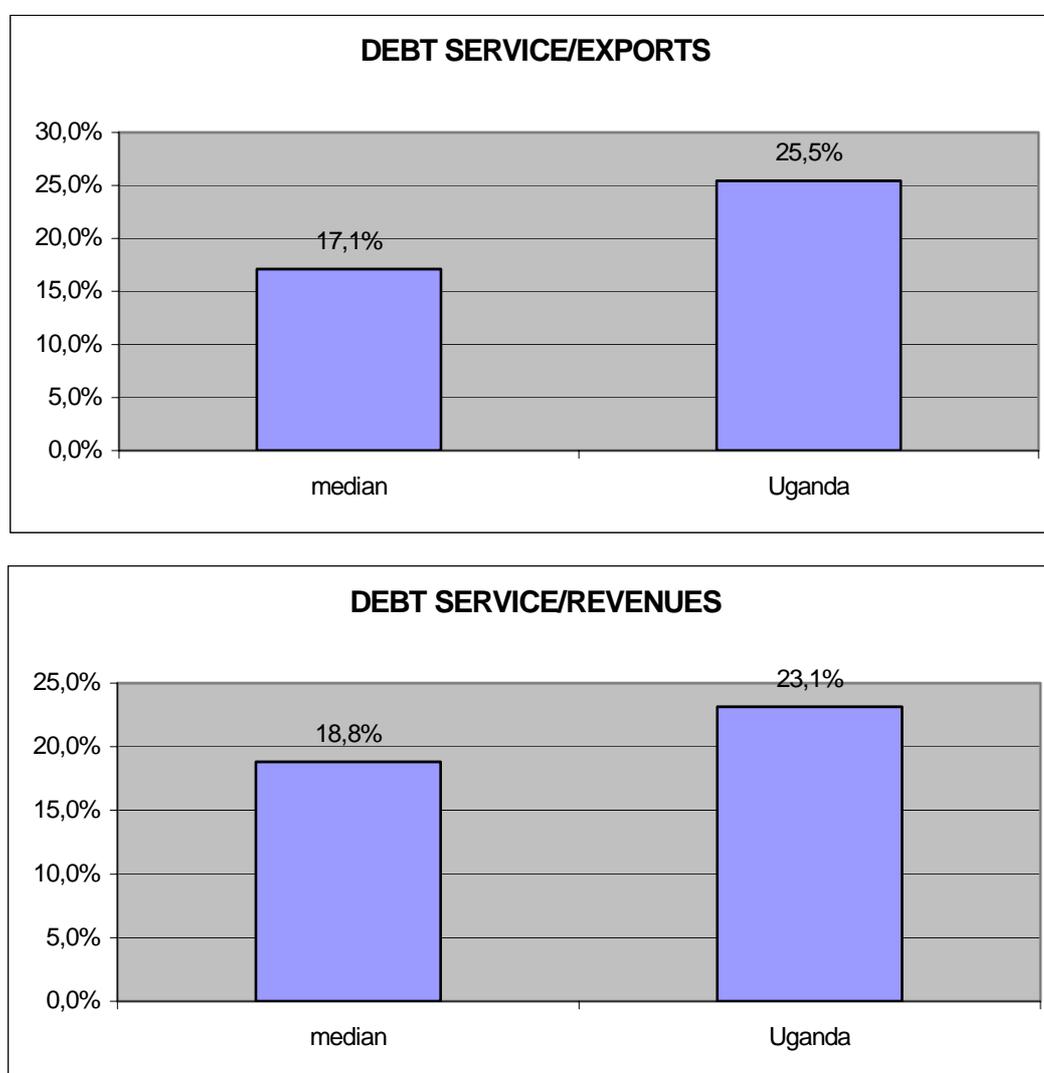


The fourth step assesses the height of the four indicators at times of debt distress and then calculates the median of the data collected. This was not a problem for the ratios debt service-to-exports and debt service-to-government revenue, since all the necessary data was available to us.



Also, it would not have been difficult to calculate the ratios NPV-to-GDP and NPV-to-EXP, but it was not possible to obtain the necessary NPV-data for the years of 1990 through 2002. Yet, these data must exist, since the World Bank and the IMF used the very same procedure in their paper. Hence, we would encourage them to make these data available to the public, so that we can calculate the two missing ratios. However, we do estimate that the ratio derived from these indicators using our approach will be below the 30 percent NPV-to-GDP and 100 percent NPV-to-EXP, which were projected by the World Bank and the IMF for countries with poor policies<sup>13</sup>.

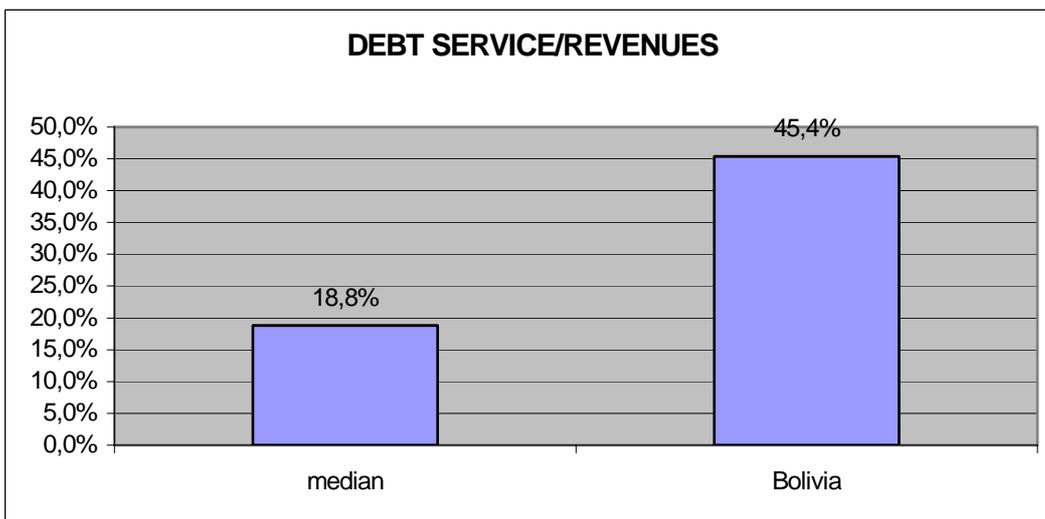
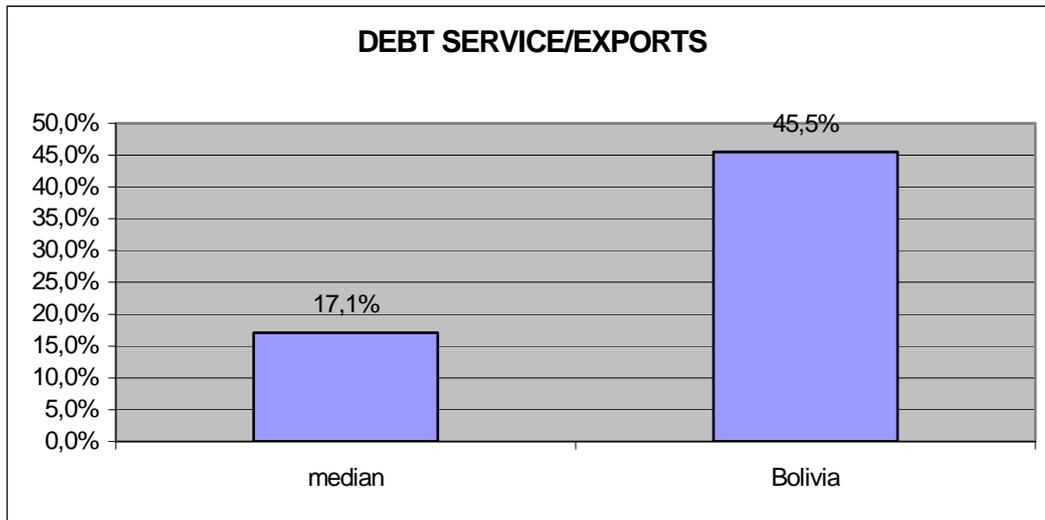
*Example 1: Comparison of Uganda's current situation<sup>14</sup> with the first two medians calculated using the BOTOS-Approach:*



<sup>13</sup> IMF and IDA (2004), „Debt Sustainability in Low-Income Countries – Proposal for an Operational Framework and Policy Implications“ p.21.

<sup>14</sup> Data taken from World Development Indicators 2002.

*Example 2: Comparison of Bolivia's current situation<sup>15</sup> with the first two medians calculated using the BOTOS-Approach:*



Other than Uganda, which is a country that has had local maxima below 100% in the ratio of available resources and essential needs and hence is to be included in our program, Bolivia has not experienced debt distress according to our sensitive definition of debt distress situations. Yet, it did have debt distress according to the secondary indicators proposed by the World Bank and IMF (see 2.2, p. 6f.). Thus, according to the argumentation of the IFIs, there were times when Bolivia was not able to pay back its debt on time, which indicates, that the debt burden is too high (see figure above). Consequently, cases like Bolivia need a debt reduction according to our calculation as well.

<sup>15</sup> Data taken from World Development Indicators 2002.

In order to avoid misinterpretation we would like to emphasize once more that *the medians demonstrated in the examples 1 (p. 18) and 2 (p. 19) are not the final ratios*, which would represent the sustainable debt level. The examples are simply intended to demonstrate the differences between the current situation and the medians calculated. Step five still needs to be applied to the medians.

In the fifth step these ratios would then be subject to the country-specific stress tests. Finally the essential “non-MDG” but still essential amount of public spending required needs to be taken into account. Since the stress tests as well as the amount of public spending required are to be determined for each country specifically by the BOTOSs we were not able to include them in our examples. This is why it was impossible for us to come up with a specific number for each country.

Lastly, we would like to emphasize the need for further discussion regarding the issue of debt sustainability. Joint efforts are necessary to resolve the debt problem. Hence we would encourage all NGOs as well as the World Bank and the IMF to come up with constructive criticism: We welcome any comments on the BOTOS-Approach outlined in this paper.

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## References

- CAFOD (2001): A Human Development Approach to Debt Sustainability Analysis for the World's Poor, London.*
- EURODAD (2001): Putting Poverty First, Brussels.*
- Habisch, A. (2001): Armut als elementare Beziehungslosigkeit. Zur sozioökonomischen Grundlage von Gerechtigkeitsansprüchen im internationalen Raum, in: Karl Graf Ballestrem (Ed.): Internationale Gerechtigkeit, Opladen 2001.*
- IMF and IDA (2004): Debt Sustainability in Low-Income Countries – Proposal for an Operational Framework and Policy Implications, Washington, DC.*
- Sachs, J. (2002): Resolving the Debt Crisis of Low-Income Countries, Brookings Papers on Economic Activity.*
- United Nations Conference on Trade and Development (2002): Least Developed Country Report 2002, Geneva.*
- World Bank (2000): World Development Report 2000, Washington, DC.*
- World Bank (2001a): The Financial Impact of HIPC, Washington, DC.*
- World Bank (2001b): Global Development Finance, Washington, DC.*
- World Bank (2002): World Development Indicators 2002, Washington, DC.*

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## IMPRESSUM

Erscheinungsort: Bayreuth

Herausgeber: Universität Bayreuth, Institut für Philosophie  
Dr. Dr. Alexander Brink (Schriftleitung)  
Professor Dr. Rainer Hegselmann  
Professor Dr. Bernhard Herz  
Professor Dr. Martin Leschke  
Professor Dr. Rudolf Schüßler  
unter der Mitarbeit von Jörg Viebranz

Postanschrift: Universität Bayreuth  
Institut für Philosophie  
Universitätsstr. 30  
D-95447 Bayreuth

Homepage: <http://pe.uni-bayreuth.de>

ISSN: 1612-9679



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