THE INCENTIVE EFFECTS FROM DEBT RELIEF

- A Theoretical Analysis of Two Opposing Views

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ABSTRACT

This thesis seeks to provide an extensive theoretical framework for the potential incentive effects from debt relief. The objective is achieved by integrating the positive incentive model by Krugman with a negative incentive framework developed by drawing on the theories of a soft budget constraint. The analysis shows that the existence of bailouts offers the possibility that debt relief can produce negative incentives for the debtor instead of positive incentives for improved performance. Taking on a game theoretical perspective suggests that strategic behavior in the interaction between the debtor and the creditor can increase the likelihood of a specific incentive effect to prevail. Such an interactive game also highlights the importance for the creditor to obtain reliable information about the behavior of the debtor.

Keywords: bailout, debt relief, HIPC Initiative, incentives, Krugman model

“Economics is all about incentives”.

- Robert J. Aumann, Nobel Prize laureate, Nobel lecture at Uppsala University December 13, 2005.
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1. Introduction

Ever since the Second World War there has been a vivid debate, in developed and developing countries alike, on how to enhance economic development and poverty reduction in the underdeveloped regions of the world. Yet, there has been limited progress and a lack of consensus on how this should be achieved. Even though some countries have managed to accomplish fast economic improvement, a magical potion for widespread economic growth has still not been discovered. In the theoretical literature various factors like investment, natural resources, physical and human capital, technological progress and the quality of policies and institutions have been topical at different times to explain the differences in the growth and level of incomes between countries (Solow, 1994 & Olson, 1995).

The situation of the world’s poor is however a pressing issue, which is why the search for quick fixes continues. One such quick fix for economic stagnation and widespread poverty that has been discussed since the 1970’s and that recently has been debated more frequently is debt relief. It has become increasingly popular to link the high debt burdens of the poor countries around the world to their inability to improve their economic performance. Cancellation of poor countries’ debts has been granted for about three decades but the extent of this debt relief has increased substantially since the 1990’s. Initiatives from the Paris Club (the club of official lenders), but even more so from the IMF and the World Bank through the Heavily Indebted Poor Countries (HIPC) Initiative, have contributed to the augmented debt relief over the last 15 years.

Two different reasons are prominent in the discussion on why poor countries should be given debt relief. First, it is not considered to be morally acceptable to collect the debts of countries whose population is living in deep poverty. Second, debt relief is expected to free up resources in the indebted countries that can be used for productive spending and investment instead of debt service (Chauvin & Kraay, 2005:1). In this way, these countries are thought to be able to achieve a higher growth rate as well as to introduce new poverty reducing strategies. However, providing debt relief is no guarantee for that
the debtor will make efforts to improve their performance even though it is often granted under the condition that policy reforms are undertaken in the recipient country. The existing literature mentions both the possibility that debt relief could lead to positive and negative incentives for improved performance in the debtor country.

A model by Krugman (1988) presents the theoretical argument for how debt relief could provide the debtor with positive incentives for improved performance. The intuition behind this result is that any gains from adjustment and reforms will accrue to the debtor, instead of the creditor in the form of repayments, after debt relief has been granted. On the other hand, the World Bank economist William Easterly (2002) is a proponent of the negative incentive view. The intuition behind his argument is that if highly indebted countries can expect to receive additional debt relief in the future they have no incentives to improve their performance since creditors will continue to bear part of their costs. I have not found anyone in the literature making an attempt to systematically present and evaluate these two contradictory arguments. This is of obvious importance since one view emphasizes the fact the debt relief will enforce the poor performance that is already existent in highly indebted countries, while the other view argues that debt relief could be the push that is needed to get developing countries onto a higher growth path.

The overarching objective of this study is to provide a theoretical foundation for the potential incentive effects from debt relief. More specifically this aim will be achieved in the following two ways:

1) By presenting a positive incentive model as well as developing a negative incentive framework.
2) By integrating these frameworks and from a game theoretical perspective discuss what some of the implications might be for the behavior of both the debtor and the creditor.

The Krugman model will be used as the positive incentive model due to the simple fact that it is the only one I have come across during my research. The negative incentives
from debt relief are only represented in the form of arguments in the literature. Therefore, I have chosen to extend a framework used by Rodden et al. (2003) to explain negative incentives for improved economic performance in the interaction between a local and a central government, which I believe is analogous to the debt relief case.

Following this brief introduction, section 2 will proceed by providing a definition of debt relief as well as a short history of different debt relief initiatives to gain a better understanding of the background of debt relief. Section 3 reviews some results from previous research on the effects of debt relief. In section 4 I introduce the theoretical frameworks for the opposing views of positive and negative incentives. Section 5 contains the integrated incentive model as well as the game theoretical perspective where I try to combine the two frameworks for further analysis. Finally, section 6 concludes and puts the results in a broader perspective.

2. Background: Debt relief

This section offers a short background on the core concept of this thesis; debt relief. First, a definition of debt relief is provided before the main debt relief initiatives over the past three decades are briefly introduced. Finally, a review of some of the responses by the creditor community to default problems by the debtor will be presented.

2.1. Definition

Pinpointing exactly what debt relief represents is not as straightforward as one might think. This also becomes apparent when comparing definitions originating from different sources. The American Friends Service Committee’s definition of debt relief illustrates this point: “[Debt relief is] a somewhat ambiguous term used to refer to rescheduling and refinancing debt; debt stock reduction and/or debt-service reduction”.¹ What most definitions of debt relief have in common is that they emphasize the fact that it is a

¹The American Friends Committee website, 05/12/07, http://www.afsc.org/africa-debt/jargon.htm
decrease in the debt burden of a country. This can, however, be achieved in a variety of ways.

There are a lot of words that occur frequently in the literature describing debt relief; rescheduling, refinancing, renegotiation, restructuring and reprofiling are some of them. Rescheduling and refinancing are probably the most commonly used ones. Rescheduling refers to a change in the terms and conditions of repayment of the existing debt.2 This can be done through, for example, changing the grace period, the date of maturity or the interest rate, or in other words the concessionality3 of the loan (Kitili, 2005:3). In this way, the face value of the loan will remain the same but the net present value (NPV) of future debt service obligations will be reduced. Refinancing instead means the granting of a new loan to enable the debtor to fulfill their debt service obligations. The new loan is often granted on more concessional terms than the original loan. A third and final measure of debt relief is outright debt stock reduction which means that the creditor writes off, the entire or part of the debtor’s outstanding debt.

2.2. The history of debt relief

2.2.1. Non-Paris Club debt relief

A combination of the implicit or explicit threat of default by debtors and the attempts by creditors to not decrease their claims too much have resulted in the variety of debt relief measures presented in the previous section. Since the early 1980’s when the first countries in Latin America experienced difficulties in servicing their debt there has been a multitude of initiatives focusing on solving the debt problem. During the 1980’s these initiatives received the names of their instigators and focused on everything from interest rate reduction, to increased aid inflows, and measures conditional on policy reform. The common feature of the Baker, Bradley, Schumer-Watkins and Mitterand Plan, for example, was that they did not manage to solve the debt problems in the most heavily

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3 A loan is concessional when it is given at more favorable terms than a loan granted at market-based terms and conditions, which is a non-concessional loan.
indebted countries nor did they solve the question of who was going to bear the costs of debt relief. The Brady Plan perhaps became the most influential and managed to solve the free rider problem⁴. However, the Brady Plan only comprised commercial debts, which is why it did not do much for some heavily indebted countries with large shares of official debt (Stambuli, 1999:8-20).

2.2.2. Paris Club debt relief

The Paris Club⁵ - an informal group of official lenders – provided bilateral debt relief during this period as well. However, the Paris Club was more focused on the potential benefits debt relief could produce for the debtor country, and to overcome debt as an obstacle for economic development in these countries. In the beginning they granted debt relief mainly to middle-income countries that adhered to structural adjustment programs. However, the Paris Club also provided rescheduling of debts for low-income countries, although strictly on non-concessional terms. The terms under which debt relief was granted took the names of the towns where they were negotiated. Concessional rescheduling was first introduced under the “Toronto terms” in 1988, which dealt with lower middle-income countries but it was not until 1991, under the “London terms”, that the focus had returned to the low-income countries (Stambuli, 1999:21-24).

The “London terms” increased the cancellation of the debts for eligible countries, from 33 % under the “Toronto terms”, to 50 %. Thereafter, the Paris Club has increased their use of debt reduction while simultaneously adjusting other conditions for their loans, such as grace periods and maturity dates. The level of cancellation was raised all the way from 50 % to 67 % with the “Naples terms” in 1995, to 80 % under the “Lyon terms” in 1996 for countries eligible for the HIPC Initiative, and finally to 90 % or more under the “Cologne terms” following the Enhanced HIPC Initiative in 1999. Of course there are a lot more technicalities involved in the terms and conditions for this kind of debt relief but I will only convey two of them here. First, debt relief from the Paris Club is granted

⁴ The free rider problem alludes to the problem of some creditors not fulfilling their debt relief obligations so that they can escape bearing part of the costs.
⁵ For more facts about the Paris Club, see Appendix I.
under conditionality. This means that the debtor country needs to implement policy reforms under a program supported by the IMF to be eligible for debt relief. Second, the debtor country is also obliged to try to obtain rescheduling terms with all its creditors – except for multilateral creditors – comparable to those agreed with the Paris Club. Eligibility for debt relief is determined by the Paris Club on a case-by-case basis.6

2.2.3. The HIPC Initiative

The IMF and the World Bank launched a new debt relief scheme in 1996, called the Heavily Indebted Poor Countries (HIPC) Initiative7. They were worried that the still high debts of the poorest countries were stifling economic growth and inhibiting public expenditure on poverty reducing strategies. The HIPC Initiative is the first strategy involving serious multilateral debt relief. At the same time the Initiative is an unprecedented joint effort of many actors – debtors, donors, NGO’s and multilateral and bilateral creditors – and it enjoys the support and is endorsed by some 180 governments around the world. The largest part of the costs of HIPC debt relief is borne by the multilateral organizations but the support from, primarily bilateral creditors, is also considerable (MacArthur & van Trotsenberg, 1999:1-7).

The goal of the HIPC Initiative is to reduce the debt burden of low-income countries to sustainable levels. The external debt situation of a country can be considered sustainable when the country is able to fulfill its current and future external debt service obligations without falling back on further debt relief, and without it hampering economic growth. HIPC debt relief is granted – just like Paris Club debt relief – on a case-by-case basis. A heavily indebted low-income country can become eligible for debt relief after a 3-year period of public sector reforms, economic stabilization programs and targeted public spending towards poverty reduction. At this point, called the decision point, creditors can commit to granting sufficient debt relief in order to reduce the debtor country’s external debt to sustainable levels. After another 3-year period of good policy performance the

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7 For more facts about the HIPC Initiative, see Appendix II.
debt relief is supposed to be carried out. This is called the completion point and after this point the debt relief becomes irrevocable. Creditors can provide some interim debt relief between the decision point and the completion point but after the entire debt relief has been granted the debtor should be able to service the remaining debt without resorting to further debt relief measures. In case of extraordinary circumstances, outside the control of the debtor government, the creditor community may provide additional debt cancellation through a process called “topping up” (Boote & Thugge, 1997:17-22).

In 1999 the HIPC Initiative was modified to include a larger number of low-income countries. The Enhanced HIPC Initiative is supposed to provide broader, deeper, faster and more effective debt relief through three main adjustments. First, the debt threshold levels are lowered to make more countries eligible for debt relief under the HIPC Initiative (see Appendix II for more details). At the same time some countries qualify for larger debt relief than under the original framework. Second, the stipulation of a long track record of macroeconomic stability and reform is somewhat loosened. Under the new framework a country can be accepted to join the Initiative through demonstrating a credible plan of reform programs. In other words, the country is able to reach the decision point faster. The Enhanced Initiative also allows well-performing countries to reach the completion point faster. Third, the new framework requires a stronger link between debt relief and efforts to alleviate poverty. Each debtor government should, in consultation with civil society groups, set up a Poverty Reducing Strategy Paper (PRSP) that states how freed up resources from debt relief is to be used in the purpose of fighting poverty.8

As has become apparent by the presentation above, debt relief can and has taken many different forms over the years. Although this presentation has hopefully provided a valuable background for the forthcoming analysis the type of debt relief employed is not the main topic of this thesis. Instead, the incentive effects incurred by any reduction in the debt burden of the debtor country are the focal point of this study. However, throughout the analysis I have chosen to relate back to the debt relief as it is provided under the HIPC Initiative. This should be kept in mind since multilateral creditors like the

8 The World Bank website, 05/12/12, www.worldbank.org/debt
World Bank and the IMF might have other objectives than bilateral and commercial creditors which will be discussed later on in the paper.

2.2.4. Consequences of default on debt service obligations

As already mentioned, debt relief was introduced as a response to the difficulties that debtor countries started to experience in servicing their increasing debts. Of interest and relevance for the incentive effects created by debt relief that will be discussed in this paper is the cost to debtor countries of defaulting on debt service obligations. However, there is not one clear-cut way of establishing exactly what these costs might consist of. This varies to a large extent with the characteristics of the creditors and debtors involved. The first types of debtors that experienced difficulties to repay their debts were middle-income countries and in those cases “defensive lending” were a common response among creditors. This means that creditors granted new loans to enable repayments on the old loan, to avoid lowering their claims on the debtor. This strategy was also used to some extent in low-income countries and was one of the contributing factors for the massive accumulation of debts during the 1980’s. The Paris Club, instead, has tended to use rescheduling as a response to threats of default from debtors.9

A more costly consequence facing debtors who default on their debt service obligations have been in relation to some non-Paris Club creditors in general, and to commercial creditors in particular. Some of these creditors have started litigation processes against debtors who cannot repay their debts. Even though debt owed to these types of creditors only constitutes a small portion of the overall debt, such legal proceedings can become very costly for the debtor country since they often include attorney fees, penalties and other charges on top of the original debt (Dodhia, 2005:15-16). However, even if debtors are subject to debt relief measures, such as rescheduling practices, as a response to the

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9 Email correspondence with Luca Bandiera and Jean-Francois Perrault, who are experts on the HIPC Initiative at the World Bank, 05/12/05.
lion’s share of their debt default problems, this can also involve more direct costs such as
the inability to attract new lending and an increased risk premium for the country.10

3. The effects of debt relief

When looking at the effects of debt relief one has to keep in mind the stated objectives of
the different debt relief schemes. The main goal of the early debt relief programs, such as
the Paris Club, was to reduce the external debts of heavily indebted countries to
sustainable levels. It was not until the HIPC Initiative, and especially the Enhanced
Initiative, was put in place that the debt relief was clearly linked to improved
performance in the form of increased economic growth and faster poverty reduction,
additional to its purpose of reducing the debt burdens of the poor countries it targeted.
However, some economists have investigated the impact of debt relief on economic
growth and public expenditure on poverty reducing strategies while others have focused
on its effects on the debt burdens in the debtor countries. For example, since 1983 the
Paris Club agreements with debtor countries have rescheduled debt covering the total
amount of $ 504 billion and the HIPC Initiative have approved nominal debt relief for 28
countries amounting to $ 56 billion, reducing the net present value of their external debt
by about two-thirds.11 So, what has some of the previous research found out about the
effects of this debt relief?

The empirical literature on the effects of debt relief is limited and the results are mixed.
Many studies mentions the difficulties in obtaining a good measure of debt relief due to
the many different forms such relief can take as well as the poor documentation of
pre-HIPC debt relief. To measure the effects of debt relief is also problematic due to
difficulties in discerning its impact on macroeconomic variables in the debtor country.
Omitted variable biases as well as endogeneity are common pitfalls here. This might

10 Email correspondence with Luca Bandiera and Jean-Francois Perrault, who are experts on the HIPC
Initiative at the World Bank, 05/12/05.
explain why there is so much debate over the effectiveness of debt relief as a means to enhance economic development. Chauvin & Kraay (2005:1-59) looks at the impact of debt relief on some macroeconomic variables in 62 low-income countries between 1989 and 2003. They do not find a significant impact of debt relief on growth or investment. However, more interestingly for this study is that they do not find a significant impact of debt relief on the quality of policies and institutions in the debtor country as well as very little evidence in favor of a positive effect on the level and composition of public spending. In other words, it does not seem as if countries subject to debt relief measures increased or shifted their social spending to target, for example, the education and health sectors. Hepp (2005:1-34) investigates the connection between debt relief and economic growth in 122 low and middle-income countries during the 1980’s and 1990’s. He also finds that debt relief has no impact on economic growth in countries classified as HIPC during this time period. However, non-HIPC countries seem to have benefited significantly from debt relief. Using an alternative measure of debt relief, on the other hand, he finds that the results are reversed. This suggests that the measurement techniques of debt relief need to be improved to increase the reliability of these types of studies.

The World Bank and the IMF (2005:10-11) shows that the debt service obligations of the HIPC countries have decreased and that the public expenditure on poverty reducing programs has increased when evaluating the Enhanced HIPC Initiative. Their forecasts also predict this trend to be maintained. Easterly (2002:128-129), on the other hand, claims that debt service obligations have not been lowered between the years 1979 and 1997, because the amounts of debt relief provided has only been replaced by an equivalent or larger amount of new borrowing by the debtor countries. Within this time period it was only between 1995 and 1997 that the debt burden of the 41 heavily indebted countries that he studied actually declined. This might suggest that the HIPC Initiative, on the contrary to earlier debt relief programs, has been successful in lowering the debt service obligations of these countries. To sum up, the record of previous debt relief initiatives has been mixed but there are some indications that the HIPC Initiative at least has taken some steps to meet some of its objectives.
4. Theoretical framework

The notion that debt relief will improve performance and have a positive impact on economic growth and poverty alleviation stems from a couple of facts already mentioned. First, it is thought to free up resources that would otherwise be tied to debt service obligations. These resources can be used for productive spending, policy reform or other measures that can enhance economic growth. According to Brobäck and Sjölander (2002:19), higher economic growth can be achieved both indirectly, through poverty reduction from increased public spending, and more directly through increased domestic investment as well as increased imported investment or input goods. Second, the fact that debt relief is granted conditional on policy reform is used as a means for putting pressure on the recipient government to actually commit to a reform program. Under the HIPC-Initiative, as we have seen, this is done through requiring the establishment of a track record of good policy performance and under the Enhanced Initiative by demanding the creation of a Poverty Reducing Strategy Paper (PRSP).

There are, however, a couple of reasons for why freed up resources and conditionality might not produce desirable outcomes. First, the fact that debt relief will free up resources is no guarantee for that these resources will be used in a productive manner. If these resources are used for undesirable purposes it will be a waste of the creditor countries’ money at the same time as it will not have any impact on economic conditions in the debtor country. Bird and Milne (2003:50-51) also object that debt relief most likely will not release any additional resources in the debtor country. This is because debt relief will crowd out other aid flows to low-income countries. However, the HIPC Initiative is set up around the principle of additionality, i.e. that all debt relief under the Initiative is to be financed with funds outside the traditional aid budget. Furthermore, Arslanalp and Henry (2004:19) conclude that resources freed up by debt relief are more fungible\(^{12}\) than direct foreign aid. This means that it is, to a large degree, up to the debtor government how they wish to allocate the freed up resources.

\(^{12}\) Fungibility of money refers to the fact that it is not earmarked for a specific project or purpose but could instead be used discretionarily by the debtor government.
This first problem of freed up resources used in inappropriate ways could, however, be remedied through the conditionality of debt relief. This is where my second objection comes in. For conditionality to work, the creditor needs to be able to hold the debtor country accountable for its actions and this might not always be the case. Accountability in this case means that the creditor needs to be able to monitor the behavior of the debtor country and at the same time be able to commit to a credible threat of no future debt relief in the case of default. If these two conditions do not hold debt relief might not produce the desirable outcome. In other words, it is in no way straightforward how the debtor country will respond to debt relief. Therefore, it becomes important to try to understand how the debtor countries’ behavior might be affected by debt relief.

Incentive effects are commonly used to refer to the outcome of measures that can be characterized as either carrot or stick. In other words, the promise from an actor of a reward or punishment, following a certain type of behavior, can produce either positive or negative incentives, respectively, for the other actor. In this paper, however, the incentive effects are the result of debt relief rather than the result of possible repercussions of their actions, which could potentially lead to some conceptual confusion. Positive incentives are in the forthcoming theoretical framework in some sense analogous to the intended effects from debt relief, i.e. that the debtor will prefer to make adjustments following debt relief. Similarly, negative incentives are analogous to the unintended effects, i.e. that the debtor will prefer to continue their irresponsible behavior following debt relief. The reason for why I have chosen to use incentive effects in this paper anyway is that Krugman is using this terminology in his model. I will now introduce the theoretical arguments for why debt relief could produce positive incentives for improved performance for a heavily indebted poor country, as presented by Krugman. Thereafter, I will continue to present some theoretical arguments for why debt relief might produce a completely opposite effect and provide the debtor country with negative incentives.
4.1. Positive Incentives

The main theoretical consideration proposing that debt relief will produce positive incentives for improved performance in heavily indebted poor countries is the theory of a debt overhang. A debt overhang is defined as a debt sufficiently large so that the debtor will not be able to repay it, given the net present value of its future resources. In this case, some of the returns from policy improvement and investment, for example, in the debtor country will be “taxed away” in the form of repayments to creditors, which is why this type of desirable behavior is discouraged. A reduction in the face value of the debt might therefore remove such a distortion and provide better incentives for policy improvements and good investments in the debtor country (Claessens et al., 1996:17-18).

Whether or not a debt overhang exists in today’s indebted countries has been controversial. In the literature this is closely connected to the solvency of a debtor country, or its ability to pay. Stambuli (1999:9-10) presents arguments by some authors that debtor countries in general are not insolvent. The main case for this point of view is that the net resource transfers to some of the most heavily indebted poor countries are positive despite their large debt service obligations, implying that there should be available resources that could be used to repay debts. However, Berthélemy (2001:5) points out that a distinction has to be made between resources that the government can discretionarily allocate and other resources over which the government has little influence on how to use. It may be the case that debtor countries are solvent and debtor governments are not. Some researchers have tried to pinpoint the levels of debt that might constitute a debt overhang. Imbs and Rancière (2005:1-3), for example, examines when a debt overhang exists and what level of debt has negative impact on subsequent growth. One of their limits for when a debt overhang exists is when the ratio of net present value of debt/exports exceeds 140 %. Since one of the limits to be eligible for the HIPC, and the Enhanced HIPC Initiative, is a NPV of debt/export ratio of 200-250 % and 150 %, respectively, a debt overhang problem seems to be present in many highly indebted poor countries today, according to the Imbs and Rancière definition. Let us now turn to a more formal model of how debt relief might produce positive incentives for improved performance.
4.2. The Krugman model

The Krugman model (1988) builds on the assumption that a debt overhang exists. It is a two-period model where the debtor country has an inherited debt \( D \) that needs to be repaid in the first period. The debtor country makes a given maximum resource transfer in the first period \( X_1 \) to repay the loan but due to the debt overhang this resource transfer will not cover the entire claim\(^{13}\). The size of the potential resource transfer in the second period is uncertain. The debtor country can affect the size of this potential resource transfer through, for example, policy reform and investments. Krugman refers to such measures as adjustment effort. The potential resource transfer in the second period then becomes \( X_H \) in the case of a high adjustment effort and \( X_L \) in the case of a low adjustment effort. If there are no gains for the debtor country from adjustment the debtor will prefer the lower adjustment effort since the model assumes that there are costs involved in making efforts to adjust. Equation (1) shows that creditors will have to lend \( L \), the difference between the inherited debt and the maximum resource transfer in the first period, in order to evade a liquidity crisis, which means avoiding that the debtor are not able to service the inherited debt.

\[
L = D - X_1
\]  

(1)

As we have already seen when reviewing historical responses to debtors’ difficulties in servicing their debts, refinancing has been a common way for creditors to approach these debtors. The only question then becomes under what terms the new lending should be given. The highest interest rate that the creditors could charge on this new loan, making it possible for the debtor to repay it, is given by equation (2):

\[
L(1 + r) = X_H
\]  

(2)

\(^{13}\) To take the first-period resource transfer as given is of course a simplification. The size of this transfer will constitute some fraction of total national income. This fraction of national income will most likely not be fixed but instead determined by the debtor government’s willingness to pay, which in turn will be a result of many other factors, such as the cost of defaulting on debt service obligations and political pressure.
where $r$ is the interest rate. This suggests that the entire earnings from the high adjustment effort made by the debtor country will accrue to the creditor. If this is the case, there will be no incentives for the debtor to achieve the high adjustment and thus it will not be optimal for the creditor to charge an interest rate as high as the maximum resource transfer. Therefore, it will be in all parties’ interest if the creditor reduces the face value of the loan since this might promote a higher adjustment effort, which in turn will raise the market value of the loan. Krugman’s assumption that there will be no gains to the debtor from a high adjustment effort if the interest rate ($r$) is set to satisfy equation (2) can however be questioned. It is of course possible that the debtor government identifies other positive consequences of a high adjustment effort even though most of the government revenues resulting from this adjustment accrue to the creditor. This might be improving conditions and higher revenues in the private sector but also positive consequences other than financial gains, such as increased political support. However, since adjustment effort can be viewed as a matter of degree it should still be true that a lower interest rate will produce larger incentives for improved performance in the debtor country, as we will see below.

The concept of a debt relief Laffer curve (Berthélemy, 2001:4) illustrates the fact that a very high debt stock will finally lead to high enough disincentives for good performance that the expected net present value of debt service actually will decrease as the debt stock increases. This phenomenon is illustrated in figure 1 below, where the expected net present value of debt service starts to decline when the debt stock exceeds a threshold value represented by X in figure 1. A debt overhang exists to the right of this point in the figure.
Krugman (1988) continues to extend this reasoning into a more formal model. Now the potential resources transfer in the second period depends on both the adjustment effort \( z \) and a random variable \( s \) that captures the state of nature that lies outside the debtor country’s control, like macroeconomic shocks for example. Equation (3) presents this relationship:

\[
X_2 = s + z
\]  

(3)

The debtor is assumed to be concerned with both the size of the adjustment effort it has to undertake and how much resources there are left for its own use in the second period \( (C_2) \). If \( P \) is the size of the debtor’s actual repayment to the creditor in the second period we get the following relationship:

\[
C_2 = X_2 - P
\]  

(4)

The debtor’s utility function, if assumed linear in \( C \), then becomes:
where the function \( \nu(z) \) represents the dislike of the debtor for any adjustment effort that will benefit the creditor in the form of increased future repayments. From equation (5) we see that the debtor’s utility is positively related to \( C_2 \) and from equation (4) and (3) it therefore follows that the debtor’s utility is implicitly positively related to the adjustment effort \( z \), through the \( C_2 \)-term. However, the debtor’s utility is negatively related to the size of the repayment \( P \) as can be seen from (4) and (5). \( P \) also enters the \( \nu(z) \) function since a larger \( P \) means a larger dislike for any adjustment effort because a larger share of future gains will accrue to the creditor. Therefore, it should be true that a smaller \( P \), through debt relief for example, will lead to positive incentives for a greater adjustment effort. With some further assumptions Krugman also shows that the interest rate of a new loan is inversely related to a country’s adjustment effort.

One of the implications of the Krugman model is that a creditor has two choices when facing a debtor that will not be able to fully repay its loans. First, it can grant more loans so that the debtor can fulfill its debt service payments and hopefully in the future, due to better performance, be able to repay the entire initial debt. In this way the creditor still have the same net claims and will not lose any money. Second, the creditor can provide debt relief in order for the debtor to at least be able to pay back the remaining debt. The problem with the first case is that it distorts the incentives of the debtor to perform well since most of the gains will accrue to the creditor in the form of repayments. Therefore, there is a trade-off between debt relief, where you reduce your net claims on the debtor, and debt financing, where you distort the incentives for good performance, thus reducing the probability of full repayment.

One major difference between the Krugman analysis and the real world debt relief is that the creditors in the formal model act as if to maximize the returns on their claims whereas multilateral creditors like the IMF and the World Bank have explicitly stated goals of promoting economic development in poor countries. Thus, I find it likely that the trade-
off presented above between debt financing and debt relief is not an appropriate
description of the debt relief we have seen under the HIPC Initiative for example. The
IMF and the World Bank are of course also concerned with their economic situation and
cannot afford to write off debts indiscriminately. However, due to the nature of these
organizations they should be more anxious to inspire adjustment efforts in the debtor
countries than a purely return-maximizing creditor. Debt relief to produce incentive
effects for improved performance therefore seems like an apposite measure when facing
debtors with excessive debt burdens.

4.3. Negative incentives

Debt relief based on conditionality is, as already mentioned, imposed to put some
pressure on the debtor to actually make an effort to adjust and introduce policy reforms
that will promote economic development. In terms of the Krugman model, creditors
require a high adjustment effort \( X_H \) in order to commit to a low interest rate \( r \) on the
new loan in equation (2). However, if the debtor cannot repay its debts it may still remain
in the interest of the creditor to provide debt relief even if the debtor makes no endeavors
to adjust \( X_L \). This dilemma became evident in the analysis above where reducing the
face value of the loans actually increased their market value. In figure 1, this was the case
if the debtor country found itself on the “wrong” side of the debt Laffer curve. In other
words, the threat of conditionality from the creditors might not be a credible one, which
is why the incentives for improved performance might be weak or absent altogether.
Instead, some scholars have emphasized the possibility that debt relief might lead to
perverse incentives, which is the issue investigated next.

There does not seem to exist a formal model investigating the possibility of negative
incentives as a result of debt relief. However, Easterly (2002:128-136) points out that it is
countries with very high debt burdens that have been eligible for debt relief in the past.
He goes on to investigate whether these debt burdens can be ascribed to irresponsible
behavior or to bad luck, and concludes that there is more evidence in favor of the
hypothesis that poor performance due to irresponsible behavior has lead to high debts. It
seems likely then, that countries with irresponsible governments, if not faced with the right incentives, will only continue to incur new debts without any adjustment effort after they have received debt relief. Easterly presents many subtle arguments that he means together adds up to support the hypothesis that irresponsible governments, willing to mortgage the future, will be likely to incur new debts after receiving debt relief. He investigates 41 heavily indebted poor countries that, during the period 1989-1997, received $33 billion in debt relief while borrowing an additional $41 billion during the same period. Other pieces of evidence of irresponsible behavior, according to Easterly, are that HIPC countries tended to sell of national assets as well as state enterprises at a disproportionately higher rate than other non-HIPC countries. If debtors can keep borrowing money without improving their performance after they have received debt relief, and Easterly is right about the fact that it is irresponsible behavior that has created the debt crisis in the first place, it is possible that debt relief rather than producing positive incentives will provide negative incentives for improved performance.

There exists a theoretical framework dealing with fiscal budget constraints and bailouts in a decentralized government setting, which I believe is very similar and can be extended to the debt relief case. In this framework it is irresponsible local governments that can lean on the central government for budget support instead of irresponsible debtor governments that rely on budget support from multilateral or bilateral creditors. It can be argued, of course, that a central government has stronger obligations towards a local government than a multilateral lender, for example, has towards a debtor country. In the decentralized government setting, this leads to the underlying assumption that the central government will find it difficult to stay committed to a hard budget constraint at the local level (Dahlberg & Pettersson-Lidbom, 2005:73-74). Whether the multilateral lender will face such a commitment problem is then of outmost relevance when extending this framework to the debt relief case. As already discussed, one objective of the World Bank and the IMF, for example, is to promote economic development and poverty reduction in poor countries. Therefore, it seems quite possible that they will be inclined to allocate more funds, or provide more debt relief, if the debtor country is not able to meet the stated objectives of the debt relief initiative. In that case, the debtor is operating under a
soft budget constraint. Closely related to these issues is the creditor’s ability to monitor the behavior of the debtor, which will be discussed further in the next section.

János Kornai (1979) first introduced the distinction between a soft and a hard budget constraint when looking at the relationship between firms and a central government. I will start out by defining a couple of the main concepts of that framework by referring to a couple of other authors on this subject. First, the budget constraint of any entity can be soft or hard. Rather than being a binary variable, soft and hard should be viewed as two endpoints on a continuum. “A soft budget constraint arises whenever a funding source finds it impossible to keep an enterprise to a fixed budget, i.e., whenever the enterprise can extract ex post a bigger subsidy or loan than would have been considered efficient ex ante.” (Maskin, 1996:125). From this follows that a hard budget constraint arises whenever the funding source is committed to the allocated budget and is not ready to contribute with extra funds.

Second, a bailout is defined as extra instated additional funding provided to any entity that is not able to fulfill its obligations (Rodden et al., 2003:8). This could be a simple resource transfer, an additional loan or debt relief. The difference between debt relief and the other two measures is that debt relief will decrease the expenditure of the recipient whereas a transfer or a loan will increase the income. Either way, it will make additional resources available to the recipient. Expectations become important when trying to determine whether budget constraints are soft or not. If an entity expects to be bailed out in the future it can act irresponsibly since some of the costs will be shifted onto another funding source. In other words, expectations of future bailouts can be enough for a soft budget constraint to prevail (Rodden et al., 2003:8).

The intuition behind the fact that bailouts, or expectations of bailouts, can lead to negative incentives for improved performance is that a moral hazard problem arises. With soft budget constraints the local entity can shift some of its costs onto some external party. If the local entity takes advantage of the soft budget constraint, a cost-shifting strategy like recurring bailouts from the central funding source will only enforce
irresponsible behavior since the local entity does not have to face the full costs associated with its actions. In the theoretical framework of Rodden et al. (2003) irresponsible behavior from the decentralized government constitutes excessive public spending and budget deficits. Extending this analysis to developing countries, irresponsible behavior could instead consist of widespread corruption or spending on sectors that will benefit the incumbent government rather than the people as a whole.

To see how the practice of bailouts can turn into a sequential game, I am now going to consider the default-bailout model of Rodden, Eskeland and Litvack. I will modify their framework somewhat to make it fit the debt relief case. In my analysis a highly indebted country and the World Bank will be exchanged for a decentralized government and a central government, respectively.

### 4.4. A default-bailout game

After granting debt relief, the World Bank has the choice of being committed or not committed to a no-bailout policy. Let us say that the World Bank announces that it will never bail out an irresponsible government. The government in the developing country thereafter chooses whether to go through with policy reforms and act responsibly (ℜ) or to default on policy reform obligations and act irresponsibly (∆). If a government acts irresponsibly it will, in line with the argument presented above by Easterly, only incur new debt associated with little or no improved performance. The World Bank will then be faced with a choice of either providing a bailout (β) or staying committed to a no-bailout policy (η). There are costs for the World Bank associated with each of these strategies that can be labeled as $C^W_B$ and $C^W_\eta$, respectively. The net benefits for the heavily indebted poor country depending on the strategies of the World Bank can be labeled as $B_{\beta}^{HIPC}$ and $B_\eta^{HIPC}$, respectively. With similar notation the debtor country will enjoy benefits of $B_{\beta}^{HIPC}$ if it chooses to act responsibly in the first place. The different options in the sequential game can have the following structure:
There are two conditions that must hold for this to become a default-bailout sequential game. First, the World Bank prefers to provide the bailout ($\beta$), given that the HIPC has acted irresponsibly ($\Delta$). That is, $WBC_\beta < WBC_\eta$.

One reason for why the cost to the creditor of not providing a bailout could exceed the cost of providing a bailout, given that the indebted country has acted irresponsibly, has already been mentioned. That is, when the debtor cannot repay other loans that it owes the creditor it might be beneficial for the creditor to grant new debt relief, in order to increase the market value of the existing debt. Again, this might be the case if the debtor country finds itself on the “wrong” side of the debt Laffer curve in figure 1. There might also be high political costs involved in not providing debt relief. Easterly (2002:116-117) mentions the possibility, when talking about adjustment lending, of political embarrassment in admitting that their aid policies are ineffective and the fear of losing budgetary support at home, due to unsatisfactory results. This might just as well apply to debt relief.
There is another condition that is not directly connected to the cost of providing bailouts, under which a creditor can prefer to grant additional debt relief rather than stay committed to a no bailout policy. This is when it is difficult to monitor the behavior as well as the progress of the debtor. If there is limited insight into the budgetary processes of the debtor country it will be difficult to assess in what way they use the resources freed up by debt relief. Furthermore, if there are circumstances outside the control of the government in the debtor country that influence the economic outcome in the country it will also be difficult to determine the effectiveness of debt relief. If the creditor’s knowledge of the behavior and progress in the debtor country is limited, due to circumstantial factors or deliberately misleading information from the debtor country, they could very well continue to grant debt relief in good faith that the freed up resources will be used in a productive manner.

The second condition states that the heavily indebted poor country prefers to act irresponsibly ($\Delta$), given that they receive the bailout ($\beta$), but would prefer the responsible behavior ($\Re$), given that they do not receive the bailout ($\eta$). That is, $B_{\Re}^{\text{HPC}} > B_{\beta}^{\text{HPC}} > B_{\eta}^{\text{HPC}}$.

Why would the debtor choose to act irresponsibly in the first place, given that they will receive a bailout if they do? Easterly (2002:116), again provides intuition from adjustment lending where this leads to perverse incentives, which can be extended to debt relief. He argues that since creditors seem to care the most for the poorest countries, providing these countries with the most debt relief, debtors are given weak incentives to reduce poverty. The poor can be “held hostage” by the debtor country to extract more debt relief. For this argument to hold the debtor country’s government must care more about its own wellbeing than that of its people. If they expect to get continuous bailouts even though they act irresponsibly, it means that they can seize a large portion of the freed up resources for their own gain, while the costs are borne by the creditors.

When the creditor is committed to the no-bailout policy, however, this kind of behavior will only lead to a one-time gain and no improved future performance. If the debtor
country’s government does not expect future bailouts it seems likely that it will be in their interest to act responsibly. In that case they can enjoy the benefits from improved performance over a longer period of time and also receive some utility from the fact that the entire population will be better off. The possibility should also be mentioned, however, that irresponsible behavior in order to attract a new bailout might enjoy the support of the population in the debtor country as well as of the government. This might for example be the case if the people do not believe in their own country’s ability to produce fast economic development. Then it might be in their interest to try to appropriate as much resources as possible in the short run even if that means supporting a low adjustment effort in order to attract more debt relief.

Easterly (2002:115-117) concludes that the possibility of future bailouts for the debtor increases the risks of getting stuck in a merry-go-round of crisis-bailout-crisis-bailout. As an example of irresponsible behavior from a debtor country he draws on the case of adjustment lending to Kenya. Kenya has employed a kind of zigzagging adjustment where they, as soon as they become eligible for foreign aid, start to backtrack on policy reform only to embark on new adjustment efforts later on, to be able to attract new foreign aid. This could be the result, if negative incentives from debt relief are important determinants of the behavior of debtors.

5. Analysis

This section attempts to combine the contradictory incentive frameworks of the Krugman model and the default-bailout game already presented to facilitate a discussion of the merits of the respective arguments.

5.1. An integrated incentive model

When comparing the positive incentive model by Krugman (1988) with the negative incentive default-bailout game by Rodden et al. (2003) the most important difference is the presence of the possibility of bailouts, or repeated approval of extended debt relief by
the creditor in the latter model. However, I will argue that there are important similarities between the two frameworks and in this section an attempt is made to integrate them as much as possible.

Since both frameworks are concerned with incentive effects for improved performance in the debtor country the main similarity between them is that they both build on some measure of performance. The Krugman model is based on the concept of adjustment effort where debt relief is supposed to encourage a high adjustment effort. The default-bailout game, on the other hand, is based on the concept of responsible versus irresponsible behavior, where continuous bailouts in the form of debt relief are supposed to discourage responsible behavior. I am going to assume here that the high and low adjustment effort of the Krugman model can be substituted for responsible and irresponsible behavior, respectively. It is not obvious why a low adjustment effort should constitute irresponsible behavior from the debtor’s point of view. It could be that a low adjustment effort brings the country the best possible outcome and would then seem like the responsible way to act. However, from the point of view of a person who is concerned with the development of the debtor country, it seems safe to say that responsible behavior and a high adjustment effort should be more or less synonymous. Therefore, from now on, the Krugman variables high and low adjustment effort will correspond to responsible and irresponsible behavior, respectively.

By letting high and low adjustment effort represent two values of the continuous variable \( z \) (adjustment effort) in equation (3) and by introducing the possibility of a future bailout \((\beta)\) we are now opening up for variations in equation (4). As before, the debtor is concerned with both the size of its adjustment effort as well as the amount of resources that are left for its own use \((C_2)\) in period 2. Equations (6) and (7) present the possible variations of equation (4) depending on the adjustment effort:

\[
C_{2,H} = X_{2,H} - P
\]
\[ C_{2,H} = X_{2,H} - P \] (7)

where \( X_2 \) represents the potential resource transfer in the second period, the subscripts H and L represent a high and a low adjustment effort, respectively, and \( P \) stands for the size of the debtor’s actual repayment to the creditor in the second period. However, if the debtor expects to be bailed out in the case of a low adjustment effort, where \( P \) cannot be repaid, as in the default-bailout game, the outcome presented in equation (8) is also possible:

\[ C_{2,L} = X_{2,L} - P + \beta \] (8)

where the bailout, if it is provided, increases the available resources to the debtor in the second period. If the debtor’s expectations of a bailout are not fulfilled, \( \beta = 0 \). Equation (9) shows the same debtor utility function as in equation (5):

\[ U = C_2 - v(z) \] (9)

where the \( v(z) \)-function, again, represents the dislike to the debtor of any adjustment effort that will result in gains accruing to the creditor in the form of repayments. The main prediction of the Krugman model is that debt relief in the first period will increase the incentives for a high adjustment effort. In other words, the debtor country will be more likely to choose equation (6) over equation (7). The main prediction of the default-bailout game is that the debtor will choose a low adjustment effort if they expect to receive a bailout. It would then be interesting to compare the outcomes of equations (6) and (8).

Equations (6) and (8) will produce two different utility outcomes for the debtor when substituting them into equation (9). It seems likely that the available resources left to the debtor country will be larger if they commit to a high adjustment effort in (6) rather than the low adjustment effort in (8). In other words, \( C_{2,H} > C_{2,L} \) should hold. This is because
most of the potential resource transfer \((X_{2,L})\) in equation (8) should be used to cover as much as possible of the outstanding debt to creditors. The bailout, furthermore, should not be much larger than covering the rest of the debt owed. In other words, the resources available to the debtor in the second period should be a positive but small number in equation (8). However, if the bailout, in the form of further debt relief, is provided not just to cover the outstanding debt service obligations but is given as another attempt at considerably easing the debt burden of the debtor, it could leave more resources available to the debtor in the second period. If this is the case, the sign \(C_{2,H} \leq C_{2,L}\) is ambiguous.

The resources available to the debtor after a high adjustment effort \((C_{2,H})\) should also be a positive number but could potentially be quite large depending on how well the adjustment effort turns out.

There is also negative utility associated with a higher adjustment effort, when some of the gains accrue to the creditor, which is represented by the \(v(z)\)-function. Therefore, \(v(z)_H > v(z)_L\) must hold. Looking at the utility function it then becomes clear that it is ambiguous whether or not a debtor country will invest resources in a high adjustment effort or not. Equation (10) presents the condition under which the debtor country is indifferent between engaging in a high and low adjustment effort:

\[
C_{2,H} - v(z)_H = C_{2,L} - v(z)_L
\]  

(10)

Using equations (6) and (8), this expression can be rewritten as:

\[
X_{2,H} - (X_{2,L} + \beta) = v(z)_H - v(z)_L
\]  

(11)

That is, the difference in utility from a high and a low adjustment effort is represented on the left-hand side of equation (11) and the difference in disutility from a high and a low adjustment effort is represented on the right-hand side. When these differences are
equally big the debtor will be indifferent between a high and a low adjustment effort. Whether a high or a low effort will produce the greatest net utility is impossible to say.

To provide some more intuition I will now incorporate the Krugman predictions into the same structure as was provided by the default-bailout game. First, only considering the Krugman model and ignoring the possibility of a future bailout we would get the following structure:

**CURRENT PERIOD:**

<table>
<thead>
<tr>
<th>DEBT RELIEF NOT PROVIDED</th>
<th>DEBT RELIEF PROVIDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIPC adopts action:</td>
<td>HIPC adopts action:</td>
</tr>
<tr>
<td>$\Delta$ or $\Re$</td>
<td>$\Delta$ or $\Re$</td>
</tr>
</tbody>
</table>

**FUTURE:**

| PERIOD: | $B_{\Delta,N}^{\text{HIPC}}$ | $B_{\Delta,N}^{\text{HIPC}}$ | $B_{\Delta}^{\text{HIPC}}$ | $B_{\Re}^{\text{HIPC}}$ |

where the subscript $N$ stands for no debt relief. Krugman points out that if debt relief is provided more of the benefits from a high adjustment effort, or responsible behavior, will accrue to the debtor country. That is, $B_{\Delta}^{\text{HIPC}} > B_{\Re,N}^{\text{HIPC}}$ must hold. It should also be true that given that the debtor will commit to a low adjustment effort it would prefer to receive debt relief rather than to not receive debt relief. That is, $B_{\Delta}^{\text{HIPC}} > B_{\Re}^{\text{HIPC}}$ also holds. Finally, comparing the two outcomes when debt relief has been provided, I find that the debtor will prefer the high adjustment effort since this will generate the most resources for the debtor country’s own use. This can be seen comparing equations (6) and (7) above. Furthermore, the dislike from the high adjustment effort will be low since debt relief has been provided and only a small fraction of the gains will accrue to the creditor. That is, $B_{\Re}^{\text{HIPC}} > B_{\Delta}^{\text{HIPC}}$ will hold. In other words, the Krugman model predicts a higher adjustment effort, or more responsible behavior, in the debt relief case compared to the
no debt relief case. I will now introduce the possibility of a bailout in the second period, in the form of further debt relief, to the analysis above to explore how the incentives for improved performance for the debtor country might change. We would then get the following structure:

**CURRENT PERIOD:**

<table>
<thead>
<tr>
<th>DEBT RELIEF NOT PROVIDED</th>
<th>DEBT RELIEF PROVIDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIPC adopts action:</td>
<td>HIPC adopts action:</td>
</tr>
<tr>
<td>$\Delta$ or $\Re$</td>
<td>$\Delta$ or $\Re$</td>
</tr>
<tr>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
</tr>
</tbody>
</table>

**FUTURE PERIOD:**

<table>
<thead>
<tr>
<th>$B_{\Lambda,N}^{HIPC}$</th>
<th>$B_{\Re,N}^{HIPC}$</th>
</tr>
</thead>
</table>

World Bank adopts action:

<table>
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<tr>
<th>$\beta$ or $\eta$</th>
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<td>$\downarrow$</td>
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</table>

| $B_{\Lambda,\beta}^{HIPC}$ | $B_{\eta,\eta}^{HIPC}$ |

Introducing the concept of bailouts thus adds the possibility that debt relief might not be a one time measure but a recurring remedy to repayment difficulties for the debtor. Whether debt relief will produce positive or negative incentives for improved performance then comes to depend on the net benefits received by the debtor from the different strategies. In other words, it will depend on the relationship $B_{\Re,\eta}^{HIPC} \leq B_{\Lambda,\beta}^{HIPC}$.
The analysis above and the attempt to integrate these two incentive models has focused on the possible impact debt relief might have on the debtor country’s behavior. However, once the possibility of future bailouts is introduced as a complement to debt relief the behavior of the creditor also becomes important. The interaction between the creditor and the debtor becomes crucial in understanding the incentive effects produced by debt relief. As will be shown the expectations of the actors are a vital determinant of how this interaction will manifest itself. A game theoretical perspective is commonly used in the field of economics as a tool to better understand interactions between different actors and why certain outcomes are generated. Therefore, such a theoretical framework will now be used in the debt relief case to get a better overview of the possible and likely strategies of the debtor and the creditor.

5.2. A game theoretical perspective

As we have seen in the analysis above it is not always easy to determine which one of the two different outcomes that is preferable to the actor at hand. Evaluating the utility of a debtor, for example, from different outcomes demands good information about all the surrounding circumstances which of course is very difficult to come across. However, the ability to rank order different outcomes for the actors is necessary from a game theoretical perspective and is exactly what will be attempted in this section.

Since the incentive effects from debt relief is the topic of interest in my analysis I will assume that debt relief has been granted by the creditor; the World Bank in this case. That leaves two choices for the debtor and the creditor, respectively, in accordance with the previous analysis. The debtor can either make the low adjustment effort and act irresponsibly or it can make the high adjustment effort and act responsibly. The creditor has the choice of responding with a bailout, in the form of further debt relief, or no bailout. The benefits to the debtor, the heavily indebted poor country, and the costs to the creditor, the World Bank, are presented in figure 2 below. The possibility of further debt
relief can make this a repeated game where the different actors can utilize different strategies depending on what they expect in the interaction with the other actor.

**Figure 2. The bailout game.**

The World Bank

<table>
<thead>
<tr>
<th></th>
<th>η</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ</td>
<td>(C^{WB}_{\Delta,\eta})</td>
<td>(C^{WB}_{\Delta,\beta})</td>
</tr>
<tr>
<td>HIPC</td>
<td>(B_{\Delta,\eta}^{HIPC})</td>
<td>(B_{\Delta,\beta}^{HIPC})</td>
</tr>
<tr>
<td>(\mathcal{R})</td>
<td>(C^{WB}_{\mathcal{R},\eta})</td>
<td>(C^{WB}_{\mathcal{R},\beta})</td>
</tr>
</tbody>
</table>

\(\mathcal{R}\) is a high adjustment effort, Δ is a low adjustment effort, β is a bailout and η represents the no bailout case. The World Bank’s first priority should be to try to promote a high adjustment effort in the debtor country. Partly, this is because, this will enable the debtor to repay the rest of the creditor’s claims but also because promoting economic development in poor countries is the goal and purpose of the World Bank. Therefore, when providing a bailout the World Bank would prefer a high to a low adjustment effort, \(C^{WB}_{\mathcal{R},\beta} < C^{WB}_{\Delta,\beta}\). Similarly, when they do not provide a bailout they will be in favor of the debtor choosing the higher adjustment effort, \(C^{WB}_{\mathcal{R},\eta} < C^{WB}_{\Delta,\eta}\). Given a high adjustment effort from the debtor the World Bank will, for financial reasons, prefer not to provide a bailout, \(C^{WB}_{\mathcal{R},\eta} < C^{WB}_{\mathcal{R},\beta}\). In an ideal world the original debt relief should reduce the debt burden to sustainable levels, meaning that the debtor should be able to service the remainder of the debt without resorting to further debt relief. However, if the HIPC does not manage this and a bailout is needed anyway, it is difficult to predict how the creditor will respond. Even though they ex ante preferred the no bailout option this might not be
preferable ex post. This is called the time consistency problem. A similar argument could be applicable given a low adjustment effort from the debtor. For purely financial reasons the World Bank would then prefer the no bailout option. However, considering other factors such as political costs of not being perceived as helping poor countries, embarrassment of admitting the failure of their development programs and fear of losing budgetary support, the bailout option could, given a low adjustment effort from the debtor, be preferable for the World Bank. The order of preferences for the World Bank could therefore be \( C^\text{WB}_{\beta,\eta} < C^\text{WB}_{\alpha,\beta} < C^\text{WB}_{\lambda,\beta} < C^\text{WB}_{\lambda,\eta} \). Each of these outcomes has a corresponding number from 4 to 1 in figure 3 below, where 4 represents the World Bank’s best outcome.

When trying to rank order the benefits of the HIPC it seems clear that given the choice of strategy of the HIPC, it will prefer to receive the bailout. That is, if the debtor chooses to act irresponsibly it would prefer to receive the bailout since this will decrease its debt service obligations, \( B^\text{HIPC}_{\alpha,\beta} > B^\text{HIPC}_{\alpha,\eta} \). Similarly, if the debtor acts responsibly it would also prefer the bailout for the same reason, \( B^\text{HIPC}_{\eta,\beta} > B^\text{HIPC}_{\eta,\eta} \). The debtor would also receive higher benefits from a high adjustment effort and a bailout than from a low adjustment effort with no bailout, \( B^\text{HIPC}_{\eta,\beta} > B^\text{HIPC}_{\lambda,\eta} \). The valuation of the relative benefits from a low adjustment effort with a bailout \( B^\text{HIPC}_{\alpha,\beta} \) compared to the benefits from a high adjustment effort with no bailout \( B^\text{HIPC}_{\eta,\eta} \) is however more difficult to make. The difficulty in assessing the magnitude of these benefits is exactly what we ended up with in section 5.1 above. In equation (11) we encountered the impossible task of determining the difference in benefits to the debtor from a high adjustment effort and a low adjustment effort accompanied by a bailout. The order of preferences for any HIPC could therefore be \( B^\text{HIPC}_{\eta,\beta} > B^\text{HIPC}_{\eta,\eta} > B^\text{HIPC}_{\alpha,\beta} > B^\text{HIPC}_{\lambda,\eta} \) if the country favors a high adjustment effort with no bailout over a low adjustment effort with a bailout. These preferences are represented in figure 3 as case 1. Alternatively, the two middle outcomes could switch places if the debtor prefers to act irresponsibly and receive a bailout rather than make the high
adjustment effort, $B^\text{HIPC}_{\eta,\beta} > B^\text{HIPC}_{\Delta,\beta} > B^\text{HIPC}_{\eta,\beta} > B^\text{HIPC}_{\Delta,\eta}$, which is represented in figure 3 as case 2. The debtor’s outcomes range from 4, most favorable, to 1, least favorable.

Figure 3. Potential preferences in the bailout game.

Whether a debtor has the preferences in case 1 or case 2 will probably depend on a lot of different factors like, for example, how well they expect the adjustment effort to turn out, how big they expect the bailout to be and the time horizon they are considering. The time aspect is especially interesting to investigate because this might provide hints to what types of governments would prefer one alternative before the other. It seems likely that it could take some time before the debtor can reap the fruits from a high adjustment effort. This could be due to still quite high debt service obligations following debt relief and high initial costs of adjustment in the form of investments. However, the high adjustment effort might lead to long term gains in the form of a higher growth rate. If the debtor chooses the low adjustment effort instead there will be no initial investment costs but they will most likely run into default problems on their debt service obligations rather
quickly. This might lead to short term gains in the form of a bailout but the general performance of the country will remain poor. In a long term perspective such behavior might also lead the creditor to lose confidence in the debtor’s willingness to adjust why they may become more reluctant to provide future bailouts. Irresponsible behavior by the debtor could, in other words, be favorable in the short run but unsustainable over a longer time span. The motives of the politicians and of the government could therefore be important determinants of whether debt relief will lead to positive or negative incentives for improved performance. Shortsighted opportunistic politicians might try to extract the bailout while more long-range planning politicians might believe it is in their own and their country’s interest to make the expected adjustments.

Let us look at what the outcome of the interaction between the HIPC and the World Bank in the bailout game could be. I should start out by pointing out that the lower right-hand corner is not a very plausible outcome. Since I have assumed that a high adjustment effort will lead to improved performance, this means that in choosing the high adjustment effort the debtor country enables itself to fulfill its future debt service obligations, i.e. a bailout will not be necessary. However, in the case of an external shock for example, the World Bank may choose to provide the bailout even though the country has improved its performance. In case 1, where the debtor preferred the high adjustment effort to the low adjustment effort accompanied by the bailout, the debtor has a dominant strategy as can be seen in figure 3. The HIPC will choose the high adjustment effort since this will produce a better outcome than any of the low adjustment options available. The World Bank will respond by not providing the bailout since this is not necessary to enable the debtor to continue its debt service payments. We will end up in the lower left-hand corner where the positive incentives from debt relief have produced improved performance in the HIPC.

In case 2, which also is represented in figure 3, there is no dominant strategy for the debtor. If the HIPC country expects to be bailed out by the World Bank it could abstain from any adjustment effort and receive the next best utility in the upper right-hand corner. The debtor’s best outcome in the lower right-hand corner is still unlikely to come
about. As already discussed the World Bank’s response to a low adjustment effort is not easily determined. Even if they would like to be able to stay committed to a no bailout policy there might be surrounding factors that are influential enough to change their preferences in favor of the bailout option. This is the order of preferences for the World Bank represented in both cases in figure 3. Difficulties in monitoring the adjustment effort of the debtor might also mislead the creditor into believing that the debtor has made strides towards better public policies but that they need more help to fully succeed. If the debtor’s expectations of a bailout are met we will end up in the upper right-hand corner and the negative incentives from debt relief have prevailed. This could potentially turn into a sequential default-bailout game similar to the one presented in section 4.4 above.

What then could alter the behavior in a case 2 repeated bailout game? The World Bank could announce that it will always stay committed to a no bailout policy. The creditor will have to make clear that debt relief was a one-time measure and that a bailout will not be provided if reforms do not take place in the HIPC. However, due to the time consistency problem, such a strategy will bring the concept of credibility to the fore. Is the commitment promise really a feasible strategy for the World Bank and more importantly, will the debtor believe in their ability to stay committed? As we have seen above there are a number of reasons for why the creditor might find it difficult to not provide a bailout if the debtor relapses into debt service difficulties. If the HIPC expects the bailout to be provided in spite of the commitment strategy we will end up either in the upper right-hand or left-hand corner, depending on if the World Bank stays committed or not. The upper left-hand corner, where the creditor sticks to the no bailout policy will produce the worst outcome for the debtor as well as for the creditor. However, such a commitment could potentially set an example for other debtors to show that a bailout should not be expected. If a commitment strategy from the creditor becomes credible the debtor would choose the high adjustment effort to end up in the lower left-hand corner instead. In that case, the strategy of the World Bank has made the positive incentives from debt relief dominant instead of the negative incentives.
The quality of information will surely have a crucial impact on the choice of strategy of the World Bank. First, they need a clear conception of what is to be considered a satisfactory behavioral change in the debtor country, or what in this paper has been called a high adjustment effort or responsible behavior. There must not be any uncertainty about the definition of such concepts. Second, good monitoring techniques of the adjustment efforts in the debtor country are also necessary to enable the World Bank to evaluate whether the conditionality of debt relief is being obeyed. If the creditor cannot properly verify whether the debtor has taken the appropriate measures needed to improve performance, it will be difficult to make an informed decision regarding whether or not to provide the bailout.

Such a lack of information will also undermine the credibility of any World Bank strategy since it most likely will be difficult for the World Bank to stay committed to a no bailout policy, and hold the debtor accountable, if they risk basing their decision on unreliable information. This could have implications from the game theoretical perspective since the World Bank might have to rely on the debtor’s own testimony about the efforts carried out, which might be distorted to suit the debtor’s own interests. If the creditor becomes more inclined to provide a bailout due to the difficulties in observing the debtor’s behavior, the debtor will probably expect a bailout more often. In case 2, represented in figure 3, this would mean an increased likelihood of ending up in the upper right-hand corner compared to a situation where the World Bank had perfect information about the efforts made by the debtor. Good monitoring techniques would therefore strengthen the positive incentives from debt relief if this also means that the creditor could commit to a no bailout policy.
6. Concluding remarks

Debt relief has become an increasingly used measure to provide assistance to heavily indebted poor countries and today the relief encompasses large amounts of resources which accentuate the relevance of this study. The fact that earlier academic work has found it problematic to bring forward convincing evidence that debt relief has had the expected positive effects on the debtor countries’ performance adds to the importance of further research on this topic. It is in light of this that I set out in this paper to provide an exhaustive theoretical foundation for the potential incentive effects from debt relief and what implications this might have on the behavior of the debtor and the creditor.

The Krugman model works under the somewhat controversial assumption that a debt overhang exists in the debtor country. The implication of this debt overhang is that it discourages any adjustment effort since the gains resulting from the improved performance will accrue to the creditor in the form of debt repayments. A reduction in the debt service obligations of the debtor will therefore produce positive incentives for improved performance since the debtor will benefit from an adjustment effort. Introducing the possibility that the debtor might be operating under a soft budget constraint, however, allows the debtor to shift some of its costs onto another funding source. This means that the debtor does not have to take full responsibility for its actions but can instead lean on the creditor to provide additional debt relief when necessary. If the creditor provides such bailouts, debt relief might instead provide negative incentives for improved performance, since irresponsible behavior will be “rewarded” with bailouts.

From a theoretical perspective debt relief could, in other words, potentially produce both negative incentives for improved performance as well as positive incentives. The crucial question then becomes whether the debtor will respond to the positive or the negative incentives. When combining the opposing views in the integrated framework the answer to this question comes down to how the debtor values two of its options. Do they prefer to make a low adjustment effort accompanied by a bailout or do they prefer to make the high adjustment effort without receiving the bailout? In the latter case debt relief has
provided positive incentives. However, if the debtor prefers the low adjustment effort and they expect to be bailed out, they will act irresponsibly and the debt relief has provided negative incentives for improved performance. The characteristics and motives of the politicians and the incumbent government in the debtor country might be one important determinant of how they will value these different strategies where the bailout option seems to be a more shortsighted and less sustainable strategy.

A game theoretical perspective can incorporate the behavior of the creditor as well as the behavior of the debtor and is therefore useful when considering the interaction between these actors. We have also seen that strategic behavior from the creditor potentially could influence the behavior of the debtor. Since the debtor will only choose a low adjustment effort if it expects to receive the bailout, a credible no bailout commitment from the creditor would force the debtor to make the high adjustment effort. In this way, the strategy of the creditor brings forward the positive incentives from debt relief. To keep debt relief to a one-time measure like this can however be quite difficult for the creditor. A commitment to a no bailout policy requires both that the creditor can resist the pressure of granting the bailout given that the debtor has acted irresponsibly and that they have the ability to monitor and procure the information needed to hold the debtor accountable for its actions. The need for reliable information about the behavior of the debtor becomes crucial for the creditor since lack thereof will weaken the credibility of a commitment to a no bailout strategy. Since the debtor uses expectations as a cue for choosing how to act, such a loss of credibility will enforce the negative incentives from debt relief.

Although this paper has treated debt relief in a very abstract and simplified manner, I believe that such a theoretical discussion can clarify some ideas that can be useful in thinking about this issue. Hopefully this theoretical groundwork can also serve as a starting point for more empirical studies on the incentive effects from debt relief. It would, for example, be interesting to investigate further if there are certain characteristics within countries or governments that would make them more prone to responding to either one of these incentive effects. I have mentioned the possibility that shortsighted and opportunistic politicians might tend to respond to the negative incentives. Variables
such as corruption, institutional quality and whether the country is a democracy or not, could be closely related issues why they would be interesting to include in an empirical study. Any such study would of course have to attempt to overcome the difficulties in observing and measuring the adjustment efforts in the debtor country.

Writing off 100 percent of all heavily indebted poor countries’ debts is not realistic. Therefore, it is essential to make an effort to better understand which countries might make the best use of the limited debt relief that can be granted. Otherwise, a lot of resources could go to waste with little or no improved performance in the targeted countries. It is still a little too early to be able to evaluate the full effect of the HIPC Initiative but some reports point towards decreased debt service obligations and increased public spending on poverty reducing strategies in the HIPC countries. The Initiative also incorporates a clear statement that it will not resort to further debt relief after the completion point unless extraordinary circumstances are at hand. According to the analysis this could be an effective way of influencing the behavior of the debtor and forcing them to choose the high adjustment effort. It remains to be seen if the HIPC Initiative will produce the positive incentives that is needed to improve the lot of the poor in these countries.
REFERENCES


APPENDIX I: The Paris Club\textsuperscript{14}

HISTORY

The Paris Club has as its goal to find solutions to payment difficulties for debtor countries due to excessive debt burdens. It is an informal group of official creditors that first met with a debtor in 1956 when Argentina agreed to discuss its debt with its creditors. The Paris Club does not have a legal status but their agreements follows certain “rules and principles” that the creditors have agreed to. They meet every 5 weeks in Paris for negotiation sessions.

MEMBER COUNTRIES

The following 19 countries are permanent members of the Paris Club but other official creditors are also welcome to join the negotiation sessions on an ad hoc basis with the approval of these members and the debtor country:

Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, The Netherlands, Norway, The Russian Federation, Spain, Sweden, Switzerland, United Kingdom and the United States of America.

SOME RULES AND PRINCIPLES

The Paris Club only deals with public debts and not privately owned debts in the debtor countries. Privately owned debts that are publicly guaranteed are considered to be public debts. They grant debt relief on a case-by-case basis where they have to reach a consensus among all participating creditor countries to take a decision. The members act under solidarity, meaning that they must implement the terms as decided by the Paris Club.

\textsuperscript{14} The Paris Club website, 06/01/04, http://www.clubdeparis.org
APPENDIX II: The HIPC Initiative

The HIPC Initiative set out to decrease the debt burden of heavily indebted poor countries to sustainable levels as well as increase their poverty reducing efforts and promote economic growth. The Initiative enjoys the unprecedented support of a broad set of organizations and institutions why the costs are shared among many creditors. Table A1, and figures A1 and A2, below, shows some key statistics for the Initiative.

Table A1. Increased poverty reducing expenditures for decision point countries (%).

<table>
<thead>
<tr>
<th></th>
<th>Africa</th>
<th>Latin America</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio of poverty reducing expenditures to government revenue</td>
<td>1999 33.2</td>
<td>47.6</td>
<td>36.9</td>
</tr>
<tr>
<td></td>
<td>2004 48.5</td>
<td>48.6</td>
<td>48.5</td>
</tr>
<tr>
<td>Ratio of poverty reducing expenditures to GDP</td>
<td>1999 4.8</td>
<td>10.8</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>2004 7.7</td>
<td>10.9</td>
<td>8.2</td>
</tr>
</tbody>
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Figure A1. Debt service ratios after HIPC debt relief – 28 decision point countries (weighted averages).

To be eligible for the HIPC Initiative the country has to:

1) Be “poor enough” as determined by the International Development Association (IDA).

2) Establish a track record of good policy and develop a Poverty Reducing Strategy Paper (PRSP).

3) Face an unsustainable debt situation. The thresholds have been reduced under the Enhanced HIPC Initiative, compared to the original Initiative. Some examples: present value of debt/exports – from 200-250 % to 150 %, present value of debt/budget revenues – from 280 % to 250 % (Brobäck & Sjölander, 2002:20).

The heavily indebted poor countries which, by August 2005, were eligible for debt relief under the Initiative are presented below:

**HIPC’S AT COMPLETION POINT (18)**

Benin, Bolivia, Burkina Faso, Ethiopia, Ghana, Guyana, Honduras, Madagascar, Mali, Mauritania, Mozambique, Nicaragua, Niger, Rwanda, Senegal, Tanzania, Uganda and Zambia.
HIPC’S AT DECISION POINT (10)

Burundi, Cameroon, Chad, Dem. Rep. of Congo, The Gambia, Guinea, Guinea-Bissau, Malawi, Sao Tomé and Principé and Sierra Leone.

HIPC’S AT PRE-DECISION POINT (10)