

Does the Heavily Indebted Poor Countries (HIPC) Initiative Realize its Goal of Poverty Alleviation?*

Clair APODACA & Pamela BLACKMON**

Abstract: The development of the Enhanced Heavily Indebted Poor Countries Initiative (HIPC) with the addition of country developed Poverty Reduction Strategy Papers (PRSPs) in 1999, represents a fundamental shift in International Monetary Fund and World Bank programs. The HIPC initiative was designed to re-direct resources (through bilateral and multilateral debt forgiveness) that had previously gone to servicing a country's debt towards country-specific poverty reduction programs aimed at social services such as health care and education. This article investigates whether HIPC countries have seen results in poverty alleviation. We provide statistical support for the conclusion that successful completion of the HIPC process has benefits for poverty eradication. The HIPC initiative is positively related to a reduction in infant mortality, and to a decrease in the poverty gap.

Keywords: HIPC initiative, Debt relief, Poverty alleviation, Infant mortality, World Bank, IMF

* This is an open-access article distributed under the terms of the Creative Commons license Attribution-Noncommercial-NoDerivs 3.0 Unported. Distribution and reproduction are permitted, provided that the original authors and JPAID as the source are credited.

** Clair Apodaca, Associate Professor, Department of Political Science, VirginiaTech; Pamela Blackmon (corresponding author), Associate Professor, Department of Political Science, Pennsylvania State University, Altoona. Email: peb13@psu.edu.

In the 1990s, a group of countries were identified as having excessively high levels of external debt. The risks inherent in excessive external debt, the possibility of default and loss of economic growth, led the World Bank and the International Monetary Fund (IMF) in 1996 to initiate a debt relief program for these countries: the Heavily Indebted Poor Countries (HIPC) Initiative. The ultimate outcome of the process when it was expanded in 1999 as the Enhanced HIPC Initiative, was to reallocate resources previously used to pay down a country's debt and to re-direct them to pro-poor social spending programs. High debt levels are a burden for developing countries because they will not be able to alleviate poverty and inequality if resources are used to service their external debt instead of being directed toward social programs. Do countries that successfully complete the HIPC process see benefits in poverty reduction? The purpose of this article is to investigate whether the completion point impacts poverty reduction.

Our assessment of HIPC is different than previous research that has focused on whether the debt relief provided can effectively reduce the debt of these countries or prevent them from returning to a situation of unsustainable debt (Birdsall, Claessens & Diwan 2003; Cohen 2001; Easterly 2001). Chauvin and Kraay (2005:4-5) acknowledge that "a key feature" of the HIPC Initiative is the requirement that resources from debt relief be redirected toward spending in health and education areas, but they also conclude that this type of conditionality does not improve the budget deficit or the debt accumulation of the country. We propose that it is more important for the longer-term prospects of these countries to enact sound economic and good governance policies in addition to effectively re-directing resources previously used to pay the debt in order to reduce poverty (Husain & Gunter 2005; Gilman & Wang 2003: 41).

The article will proceed as follows. First, we provide a brief review of the development of the HIPC process including the criteria that countries must meet in order to be considered for the debt relief initiative. Next, we review the literature on debt relief as an effective strategy for poverty reduction. The third section describes our research design and

the selection of our variables. In the findings and discussion section, we compare different measures of poverty before and after the completion point. We see graphical evidence that countries following the HIPC process show greater progress in poverty alleviation—measured as infant mortality rates and the poverty gap measured at \$1.90 a day—compared with those countries that do not follow the process. Furthermore, we find statistically significant evidence that passing the completion point under the HIPC also results in poverty reduction in our aforementioned measures of poverty alleviation within the recipient state.

Background and Development of HIPC

Since the mid-1950s, bilateral, private and commercial creditors have agreed during various time periods to reschedule and restructure debt from debtor countries in order to prevent default and to allow these countries to fix their economic problems. These previous arrangements were beneficial for the middle-income countries, but were not successful in easing debt burdens or in improving economic growth in the poorest or low-income countries, especially those in sub-Saharan Africa (Gamarra, Pollock & Primo Braga 2009: 25). As a result of increasing external debt difficulties in low-income countries, the IMF and the World Bank proposed a new debt relief initiative in 1996: the Heavily Indebted Poor Countries Initiative (HIPC). For the first time, debt relief on multilateral debt would be offered to low-income countries that agreed to follow IMF and World Bank supported programs of economic reform and adjustment.

In 1999, the IMF and World Bank launched a comprehensive review through a public consultative process of the HIPC. It concluded that while HIPC was a positive step toward dealing with unsustainable debt, the criteria of the Initiative should be modified in order to allow more countries to qualify for assistance. Specific changes undertaken to enhance the HIPC included the lowering of targets and thresholds (of debt-to-export ratios), shortening the performance criteria (thereby accelerating the delivery of debt relief), and strengthening the link

between debt relief and poverty reduction (Andrews et al. 1999: 11-13). This last change would specifically link debt relief to social development and poverty reduction through country designed reforms detailed in the preparation of a Poverty Reduction Strategy Paper (PRSP). The enhanced HIPC Initiative was designed to free up governmental financial resources that had previously gone to servicing a country's multilateral debt and re-direct these resources for use in specific poverty reduction programs as outlined by the PRSP (IMF & World Bank 2001; Gupta et al., 2004; IMF Independent Evaluation Office (IEO) 2004).¹ A World Bank and IMF joint report (1999: para 50) acknowledges that "debt relief is not an objective in itself but rather a means to promote the wider goals of poverty reduction and sustainable development."

However, countries must meet certain eligibility criteria to be considered for debt relief. First, the HIPC Initiative limits country eligibility to those countries authorized to borrow through the International Development Association (IDA) arm of the World Bank and the Enhanced Structural Adjustment Facility (ESAF) of the IMF.² In

¹ During an interview with an IMF economist conducted by Blackmon, the economist was asked whether the HIPC was fundamentally different from previous policies. The IMF economist responded that debt relief under HIPC was different because, prior to this, there was no mechanism to deal with debt from the multilateral institutions. Additionally, the economist remarked that the HIPC was developed specifically to create space for poverty alleviating initiatives (Blackmon interview, IMF economist, Washington, D.C., June 14, 2010).

² Beginning in 1999, the IMF would begin to use a new lending facility, the Poverty Reduction and Growth Facility (PRGF), as a "transformation" from the Enhanced Structural Adjustment Facility (ESAF) as the primary means to provide support for low-income countries as they implement their PRSPs (Gupta et al. 2002: 1-3). As a result of the global financial crisis in July 2009, the IMF proposed to replace the PRGF with the Extended Credit Facility (ECF) to allow low-income countries greater flexibility in financing and in the preparation of the PRSP (See: <http://www.imf.org/external/>

addition, these low-income countries must “have established strong track records of performance under programs supported by the IMF and the World Bank” and are “not expected to achieve a sustainable debt situation” after traditional debt-relief mechanisms are implemented (Andrews et al. 1999; Gamarra et al. 2009). Third, the country’s debt burden must be above HIPC thresholds after the use of traditional debt relief mechanisms. The enhancements to HIPC lowered the Net Present Value (NPV) of debt to exports to 150 percent, thus creating a lower single target as opposed to a target range of 200-250 percent which existed under the original HIPC (Andrews et al. 1999: 12-13). Once sufficient progress is made in these areas, the IMF and World Bank decide at the “decision point” how much debt reduction is required for the country to have a more “sustainable” debt level. At the decision point, the institutions also determine requirements necessary for the country to meet before reaching the “completion point” and to receive irrevocable debt relief that creditors agreed upon at the country’s decision point (Dörmeland & Kharas 2009). In addition, the decision point is when the country agrees to commit to a set of floating completion point triggers, which are commitments to reform listed in the PRSP of each country (Andrews et al. 1999: 14).

For this article, we follow previous studies that have also examined differences between HIPCs at different stages of the HIPC process (Cassimon & van Campenhout 2007). For example, Crespo Cuaresma and Vincelette (2009) find that the post-completion point countries had higher shares of educational expenditure than the interim and pre-decision point HIPCs, and that these countries spent almost 30 percent more on education than the interim and pre-decision point HIPCs. Their study also uses educational measures for HIPCs at each stage of the process (pre-decision point, interim and post-completion point) in order to determine the effects of different stages of countries during the HIPC process. Specifically, their study compares HIPCs before and after

reaching the completion point and shows that post-completion point HIPC countries display lower primary school dropout rates and lower repetition rates in secondary school than do other HIPC countries (Crespo Cuaresma & Vincelette 2009: 40-41). Fonchamnyo (2009: 326) finds that HIPC countries performed better than non-HIPC countries on economic and social indicators, and the data indicate that those HIPC countries that reached the completion point showed “significant average improvement in health care and secondary education enrollment.” We will also examine whether improving women’s status impacts poverty reduction by including maternal mortality rates.

Progress past the completion point is important because even though countries do receive debt-service relief from multilateral creditors at the decision point, this is only a reduction in the “annual flows of debt service due (being) immediately reduced. The actual debt-stock reductions are delayed until the completion point” (Birdsall, Williamson & Deese 2002: 27). In addition, if the countries do not successfully implement the completion point triggers, they will not move on to the completion point, nor will they be granted full debt relief committed to by creditors at the decision point.³ Thus, we argue that countries have incentives (in the form of debt-stock reduction) to implement conditionality measures to get to the completion point, and we want to test whether countries that have reached the completion point are doing better on poverty indicators than those that have not reached the completion point.

Debt Relief and Poverty Alleviation

The high “cost” of sovereign debt affects people directly because it can reduce access to health care, education, clean water and often their productivity is affected by poor public infrastructure and failing economies (Jochnick & Preston 2006: 3). Large debt levels have thus

³ Debt Relief under the Heavily Indebted Poor Countries Initiative (HIPC), Factsheet, March 24, 2016, at <http://www.imf.org/external/np/exr/facts/hipc.htm>

been shown to correlate with reduced spending on social expenditures. Borenzstein, Yeyati and Panizza (2006) argue that “excessive” levels of debt have curtailed spending available for poverty-alleviating social expenditures. Lora and Olivera (2006) find that both health and education expenditures are negatively affected when debt levels increase in developing countries. Large levels of debt, also called “debt overhang” are also problematic for developing countries because they hamper economic performance (Arslanalp & Henry 2006: 175-6). While there have been many debt relief initiatives designed to deal with the problems of external debt of developing countries, poverty alleviation requires more than just reducing debt (Gamarra, Pollock & Primo Braga 2009: 2-3).

Dömeland and Primo Braga (2009: 2), economists at the World Bank, explain that, “[d]ebt-relief initiatives have never been only about reducing debt. They have been used as leverage to move the indebted country into a new mode of operations to ensure that resources freed up through debt relief are used to reduce poverty or increase growth.” Countries under the Enhanced HIPC Initiative were required to develop and implement a country-owned poverty reduction strategy. PRSPs are comprehensive plans that the government of each country prepares along with other domestic stakeholders such as civil society groups and non-governmental organizations, which outline how the country will alleviate poverty with the assistance of the international community. The Enhanced HIPC Initiative’s inclusion of the PRSP is one of the strongest direct *country initiatives* to date that has been specifically designed to alleviate poverty. The resources made available by the HIPC relief were to be spent according to the plans and priorities of each country. The PRSPs emphasize social sector allocations since they outline the country’s programs and policies that specify how they will increase public financing and improve the efficiency of public services in order to reduce poverty. The development of the country-owned PRSP was designed to emphasize the importance of social sector spending as an important component of poverty reduction (World Bank 2005).

However, one of the primary arguments against providing debt relief is that this will create a “moral hazard” situation in that countries will borrow recklessly believing that their debts will eventually be forgiven (Easterly 2001: 24). Indeed, Easterly (2001; 2002) has been highly critical of the HIPC debt relief proposal, including the fact that many of these countries became heavily indebted after previous private and bilateral debt relief initiatives although not from multilateral creditors and not with the requirements under HIPC. Mayr (2010: 25) also points out that while debt relief mechanisms under HIPC monitor macro-economic and structural reform that the initiative additionally tracks the fiscal deficit and public debt thereby reducing some of the moral hazard problems. Other scholars such as Stiglitz (2006: 226, 231) and Sachs (2005: 280-281) have been more supportive of the HIPC initiative arguing that debt relief is needed for the poorest countries to be able to provide for their citizens and for the countries to get out of poverty. Sachs (2006:vii) states emphatically, “[I] took up the cause of debt cancellation as opposed to debt servicing, arguing that both creditor and debtor interests would be improved by canceling a mountain of unpayable debt.”

It is important to note that the HIPC initiative for conditional debt relief based on the formation and implementation of a PRSP is different than some of the current debates about whether foreign aid (with relatively few conditions that the money be spent on poverty alleviation) actually helps a country’s citizens (Moyo 2009; Easterly 2007). In a recent paper Epstein and Gang (2009) examine the relationship between good governance and aid disbursement to determine whether “good governance” conditions for aid succeed in increasing growth and lowering poverty. Unfortunately, they find that leaders of recipient countries are more likely to use this aid for purposes other than poverty alleviation so as to continue to receive aid, resulting in a “poverty trap.”

Under the HIPC, this is less likely to happen for two reasons. First, the amount of debt relief for each country is determined at the decision point, although the country is eligible to receive interim relief from some

creditors at this stage.⁴ Second, until the country is able to implement its PRSP and maintain macroeconomic stability it will not reach the completion point where irrevocable debt relief is provided. Leaders of HIPC countries thus have a specific incentive to show progress during the time period from decision to completion point. Furthermore, a general time frame for the interim period between decision and completion point is quite lengthy (between 3 to 7 years) allowing for enough time to determine whether countries are making an effort to implement reforms necessary to reach the completion point.⁵ The lengthy two-stage process of the HIPC program with IMF and World Bank oversight, along with the requirement of the PRSPs which necessitate public consultation and participation, are intended to help ensure that economic reforms, poverty reduction programs, and investments in human capital continue after debt relief has been provided. Governments have an incentive to show progress from decision point to completion point which makes the HIPC initiative different from previous efforts to reduce poverty. Thus, we hypothesize that debt relief as designed by the HIPC will have a positive effect on poverty reduction because it frees up resources in indebted countries that, per PRSP, are to be channeled toward poverty alleviation programs.⁶ The results from our analysis will also indicate

⁴ An exception is that additional debt relief “topping up” can be provided at the completion point to countries if its debt burden indicators have gotten worse due to factors beyond the control of the country (Gamarra, Pollock & Braga 2009: 28-29).

⁵ A determination as to whether a country has reached the decision point was described as being “relatively simple”; however, countries will not move on to the completion point if the IMF determines that the country is in “bad economic shape” (Blackmon interview with World Bank economist, June 15, 2010).

⁶ HIPC was developed from the realization that the institutions needed to go beyond the Paris Club debt restructurings under which countries were already receiving debt relief from bilateral sources of loans (Blackmon interview with IMF economist, June 14, 2010).

whether increased spending on social services is a factor in poverty alleviation.

Framework for Analysis and Research Design

This study measures whether the completion point impacts poverty reduction. Recall that after states reach the completion point, full and irrevocable debt relief is provided. These resources are then to be reallocated toward poverty alleviating programs. Poverty alleviation is measured by several variables common in the literature: infant mortality and poverty gap at \$1.90 per day. To assess this effect, a statistical analysis (IV-2SLS) is conducted. We have collected data on 75 countries categorized as low income by the World Bank from 1997 to 2014⁷ (see Appendix A for a list of countries included in our study). Appendix B reports the descriptive statistics of the variables used in this study. All data on our variables are taken from *World Development Indicators* (WDI) database online unless otherwise noted.

Estimation strategy

It is reasonable to believe that many of the random shocks that affect poverty reduction probably also affect a country's ability to maintain the macroeconomic stability needed to reach the completion point. Thus, HIPC completion is correlated with the error term, and we must treat the completion point as an endogenous variable. Endogeneity can be a serious problem—neglecting the endogenous properties of HIPC completion could lead to spurious inferences. The problem of endogeneity can be remedied by using instrumental variable techniques. Thus, the equations are estimated using two-stage least squares for panel

⁷ It should be noted that several countries moved out of the low-income category into the low-medium grouping during the time period under study. If a country was classified as low income at any time during 1997 to 2014, it was included in our population of countries.

data that treat HIPC completion point as an endogenous variable. The 2SLS estimation strategy has the added benefit of rectifying omitted-variable bias and measurement error in the regressors (Baum 2006). As Wonnacott and Wonnacott (1990) explain, because the exogenous variables (those variables that determine the outcome of the endogenous first-stage variable) are predetermined, they are statistically independent of the error term. Therefore, if they are statistically significant in explaining the endogenous first-stage variable, they ought to be correlated with it and uncorrelated with the error term. As is often reported, the IV-2SLS is the preferred method even in cases where the dependent variable is dichotomous (Angrist & Krueger 2001; Wooldridge 2002). Note that our endogenous dependent variable has two possible outcomes: 0 = not reached the completion point; 1 = reached the completion point. The structural model can be written as

$$y_{1it} = \beta_{0i} + \beta_1 y_{2it} + \beta_2 x_{1it} + \beta_3 x_{2it} \dots + u_{1it}$$

where y_2 is endogenous, and $x_1, x_2 \dots$ are exogenous. Let z_1 be the instrument, so $\text{Cov}(z_1, u_1) = 0$ then $y_2 = \pi_0 + \pi_1 z_1 + \pi_2 x_1 + \pi_3 x_2 + \dots + v_1$ where $\pi_1 \neq 0$.

The dependent variables

Our dependent variable is poverty. However, there is no universally accepted definition of poverty. Defining and measuring poverty is still a contentious endeavor. Poverty has variously been defined as a lack of income or consumption, a lack of capabilities, social exclusion, or the deprivation of basic human needs (Sen 1999; Hemmer & Wilhelm 2000). This study will utilize two of the most commonly accepted measures of poverty: infant mortality rates and the poverty gap.

Infant mortality may be the single best available indicator of poverty.⁸ Infant mortality is widely accepted as a proxy measure for

⁸ In fact, infant mortality is the variable of choice in an IMF Working Paper

estimating levels of poverty in general. Because infant mortality rates are quite sensitive to sudden changes in poverty and health conditions due to natural disasters, epidemics, famine, war and government, or international macroeconomic policies, it is an ideal variable for measuring improvements in the condition of the poor (Boone, 1996; Boone & Faguet, 1998). Masud and Yontcheva (2005) believe that infant mortality rate is a better physical and material measure of poverty than macroeconomic indicators. Furthermore, it can be collected with some accuracy and is easy to understand. Thus, a raw number of infant mortality (measured as the number of deaths per 1000 live births) is chosen as the proxy measure of poverty. The expectation is that the HIPC program, and the ensuing debt relief established by the IMF and World Bank, would reduce infant mortality rates. Data on infant mortality is taken from *World Development Indicators* (WDI) database online.

The poverty gap is the mean distance below the poverty line (set as \$1.90 per day) as a proportion of the poverty line, counting the nonpoor as having a zero poverty gap. Thus, this measure reveals the depth of poverty as well as its incidence because it captures the extent to which individuals fall below the poverty line as a proportion of the poverty line (World Bank 2005). We hypothesize that reaching the completion point would reduce the poverty gap.

Independent variables of interest

HIPC Completion Point

Once beginning the HIPC program, and upon reaching the decision point, the country in question is granted partial debt relief in order to support their adjustment program. If the country continues with its sound

(WP/05/100) investigating the relationship between foreign aid and poverty (Masud & Yontcheva 2005). The United States' Agency for International Development, when determining foreign aid allocations, uses infant mortality, along with other variables, to establish country need.

macroeconomic policies a completion point is determined for when “the remainder of the full stock-of-debt reduction pledge is delivered” (IMF 2001). The completion point is important for poverty reduction because, upon reaching the completion point, the country receives irrevocable debt relief not only from bilateral donors, but also from the IMF and World Bank.

We did not include the Multilateral Debt Relief Initiative (MDRI) in our analysis since the MDRI was not launched until 2005. According to the IMF, the MDRI framework became effective at the IMF on January 5, 2006, and at IDA on July 1, 2006.⁹ Since the time frame for our analysis is 1997-2014, this would reduce our data points and the number of countries we could include for our time frame. In addition, countries receiving MDRI relief would not necessarily have followed the HIPC and/or reached the completion point which is what we are measuring. In fact, the “IMF provided MDRI debt relief to all its members with a per capita income at or below \$380 including two non-HIPCs, Cambodia and Tajikistan.”¹⁰

If countries reach the completion point, they are coded as 1. If not, they are coded as 0. Data on completion point is taken from the IMF website.¹¹

Instruments

On the basis of IMF and World Bank reports and previous studies, we have included external debt stocks (as a percentage of GNI) and government effectiveness. In order to reach the completion point a

⁹ IMF Executive Board Discusses Issues Related to the Sunset Clause of the Heavily Indebted Poor Countries Initiative PIN No. 06/107 September 14, 2006 at <https://www.imf.org/external/np/sec/pn/2006/pn06107.htm>

¹⁰ IMF Executive Board Discusses Issues Related to the Sunset Clause of the Heavily Indebted Poor Countries Initiative PIN No. 06/107 September 14, 2006 at <https://www.imf.org/external/np/sec/pn/2006/pn06107.htm>

¹¹ Available from: <http://www.imf.org/external/np/exr/facts/pdf/hipc.pdf>

country must satisfactorily implement reforms and show progress in implementing the PRSP. If it fails to implement economic reforms, or fails to continue service its debt during that time it will not reach the completion point. Government effectiveness is important in moving a country to the completion point.¹² Indeed, Crespo Cuaresma and Vincelette (2009: 7) report that after reaching the decision point, HIPC countries agree to completion point triggers sending “strong signaling to the international community of the intention of the HIPC to reform, including its governance institutions.” Thus, Crespo Cuaresma and Vincelette believe that governance becomes an important determinant for reaching the completion point. High debt is one of the principle criteria for entering the program in the first place while the reduction in the debt stock is the primary benefit of completion. Data on external debt stocks (% of GNI) was taken from the *World Development Indicators* (WDI) database online. Government Effectiveness is taken from the Worldwide Governance Indicators project initiated by Kaufmann, Kraay and Mastruzzi supported by the Knowledge for Change Program of the World Bank.¹³

Control variables

Poverty is believed to be the outcome of the completion point, international financial transfers (aid, trade, and foreign investment) plus the policies and programs in the PRSP agreements (generally, the country agrees to increase government expenditures on health, improve access to primary education and clean water, and strengthen women’s status).¹⁴ Thus, we include a variety of control variables used in the

¹² Andrews et al. (1999: 21) explain that part of the enhancements to the HIPC Initiative include, “...greater emphasis (on) good governance—especially the full transparency and effective monitoring of government budgets and the efficiency of social expenditures.”

¹³ Data can be located at <http://info.worldbank.org/governance/wgi/index.asp>

literature. To overcome the inherent problems of heteroskedasticity, unequal error variance, and a deviation from the assumption of normality of the variables, when appropriate, the data are transformed using logged or square root procedures.

Economic growth

It has been argued that a growing economy will lead to political and social development, thereby increasing the well-being of the poor. In fact, economic growth is believed to be the principal cause of reduction in poverty (Dollar & Kraay, 2002; Lustig et al., 2002; Bhagwati 2004). A strong economy can result in positive social goals, such as improved living standards, higher employment levels, and larger human capital expenditures. In answering the question “is growth good for the poor?,” Rodrik (2000: 9) writes that “the absolute number of people living in poverty has dropped in all of the developing countries that have sustained rapid growth over the past few decades.” Countries that have a growing economy are able to reduce their absolute levels of poverty.

Foreign aid (% of GNI)

Foreign aid often provides the sole source of funds for economic development and social programs that are required for poverty reduction. However, it is important to remember that although some of the additional aid given to HIPC countries is through grants, concessional loans must still be paid back, which adds to the debt problem. Therefore, the effect of aid on poverty alleviation is debatable.

¹⁴ While poverty reducing programs are specific to each country, an early paper produced by the IMF and the IDA noted that, in general, main features of country strategies have included: enhancing access of the poor to primary education, with emphasis on reducing gender and regional disparities; enhancing access to primary and preventive health services; and emphasizing infrastructure programs in the areas of water, roads, electricity, and communications (IMF & IDA 2006: 9).

Trade (% of GDP)

Participation in the global trading order indicates an increased level of integration in the global marketplace. Trade has long been considered the engine of economic growth and development.

Foreign direct investment, net inflows (% of GDP)

FDI is an important instrument for capital accumulation, higher productivity, and economic development. Proponents of barrier-free foreign direct investment claim that the international flow of capital is one of the main engines of economic growth and development.

Government spending on health

Because private health care may not provide adequate access to life-saving medical assistance to poor people, government spending is required. Without government spending, health services for poor and rural populations are deficient, leaving many people without access to life-saving care. In a study on public expenditures and health care, Ogbu and Gallagher (1992) found that governmental cutbacks in healthcare apportionment resulted in less healthcare delivery to the poor, both in quality and quantity. Improving health increases the human assets needed to reduce poverty. Data are from the WHO.

Primary school enrollments

Past studies have shown that increased levels of spending on education are critical for improving the lives of the poor (Smith & Haddad 2000). In addition, government investment in education can provide the poor with skills and training to move out of agricultural work towards better paid work opportunities. Given the poor coverage of government expenditures on education, the variable primary school enrollments will be used as a proxy.

*Access to improved or safe water:*¹⁵

Access to clean water reduces poverty by improving health and nutrition thereby reducing medical expenses and lost days from work or school. Access to safe water also reduces the incidence of water borne illnesses, such as diarrhea, cholera, dysentery, typhoid, guinea worm, and hepatitis, particularly in children (WHO 2005: 12). In fact, the WHO (2005) has identified clean water and sanitation as keys to ending poverty.

Women's empowerment

To achieve a sustained reduction in poverty rates requires the empowerment of women. A woman's increased empowerment will enhance her ability to protect and provide for her children. Furthermore, an increase in women's power increases her bargaining power both within the household and the society (Blackmon 2009). Without adequate bargaining power, resource allocations are made without input from women on what kind of local and national priorities should be funded. Reviewing the studies on political empowerment, Lopez-Claros and Zahidi (2005) determined that when women have authority over spending priorities, they tend to allocate greater resources toward community health and educational programs. Studies have shown that greater gender equality and empowerment enhances productivity and improves development outcomes for future generations (World Bank 2012). Women's empowerment is measured by maternal mortality rates. The UN Commission on the Status of Women (2011: 2) recognizes maternal mortality as "symptomatic of women's low status in society and of entrenched gender inequalities." The Commission further comments

¹⁵ As measured by the percent of the rural population with access to safe water, plus the percent of the rural population with access to adequate sanitation. Data downloaded from the WHO website at <http://www.who.int/statistics/en/>.

that maternal mortality reduction is an issue of human rights and social justice involving a women's right to life and freedom from discrimination.

Findings and Discussion

To begin our investigation of the effects of the HIPC on poverty levels, we will compare the different measures of poverty before and after the completion point. Since states reached the completion point at different times during our timeframe, we needed a way to compare their progress. Therefore, the completion point is set at 0, with $t-1$ (one year prior to reaching the completion point), $t-2$ (two years prior to reaching the completion point) etc and $t+1$ (one year after the completion point), $t+2$ (as two years after the completion point), etc. In this manner we can graph whether or not reaching the completion point actually affected infant mortality and poverty gap rates in the aggregate. Now, in order to compare states in the program with other low income states (as a comparison group but which do not have a completion point, so they do not have a 0 point) we used the middle year 2005 as the 0 point. Of the 36 countries that have reached the completion point, 18 did so prior to 2005 and 17 after 2005 (one country Chad reached the completion point in 2015). Using a modified two-group pre-post research design for the graph we can attempt to control for history or some world event which occurred at the same time that the program or treatment and was actually responsible for the change in the outcome measure. It is clear that HIPC countries' average social indicators are worse than non-HIPC countries before entering the debt-relief scheme.

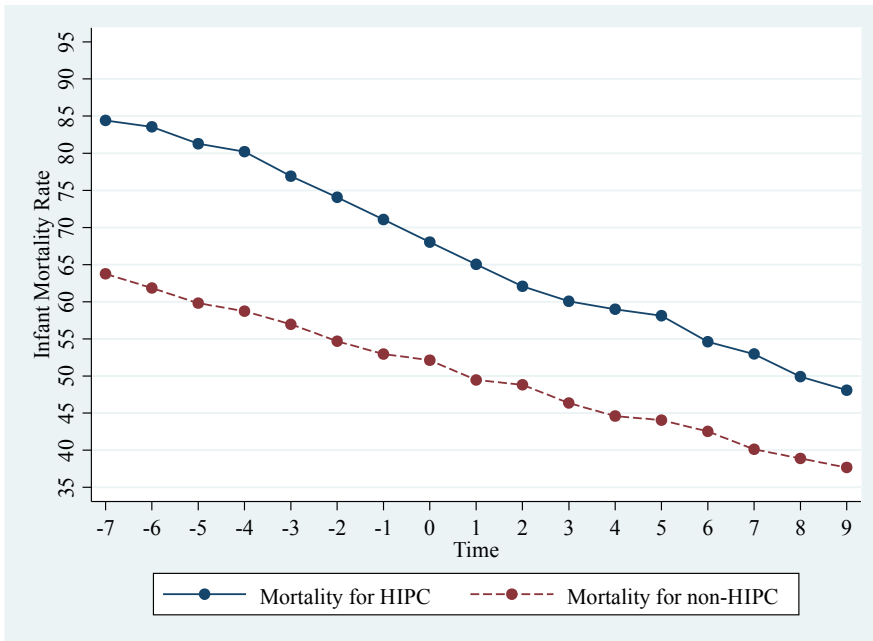


Figure 1. Infant mortality in HIPC and non-HIPC over time.

Using infant mortality rates as the measure of poverty, where zero represents the completion point year for HIPC countries and the year 2005 for low-income non-HIPC countries, Figure 1 shows higher infant deaths per 1000 births before the completion point compared to the infant mortality rate for low-income non-HIPC countries. This is to be expected since the HIPC program is geared towards the poorest and most highly indebted countries. Both HIPCs and low-income non-HIPCs show a decline in infant mortality rates. Yet, the graphical evidence indicates that HIPC countries improved their infant mortality rate at a slightly sharper rate immediately after the completion point.

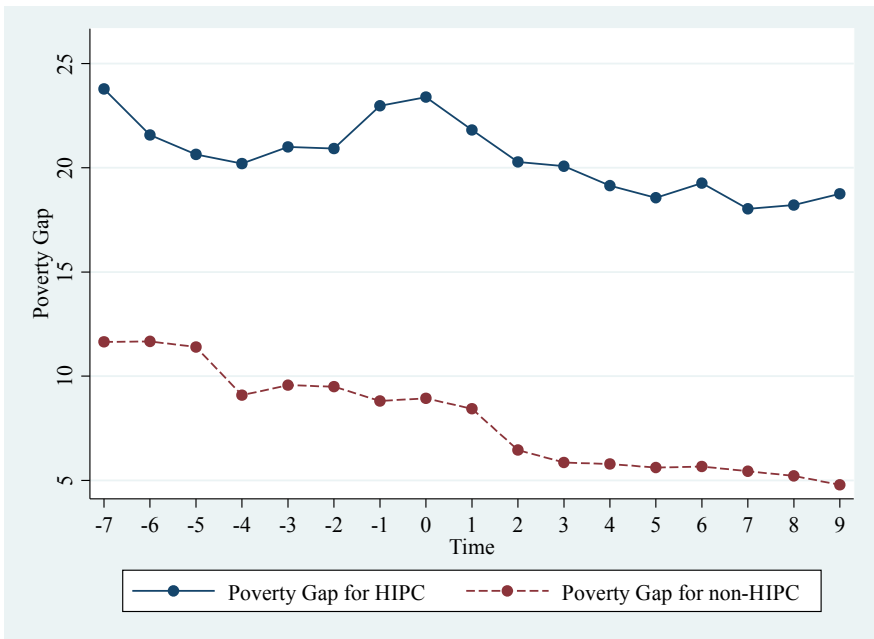


Figure 2. Poverty gap in HIPC and non-HIPC over time.

Figure 2 shows that the depth and severity of poverty are higher in HIPC countries, as expected. The years leading up to the HIPC completion point, we see a steady rise in the poverty gap for HIPC countries. But after the completion point, and its resultant debt relief, the graph indicates a decline in the poverty gap. Perhaps the economic policies needed for macroeconomic stability, required for reaching the completion point, take their toll on the poor. However, with debt relief, the poverty gap begins to fall.

Empirical Results for the Multivariable Analysis

The first-stage of our IV-2SLS model estimates the relationship between the instruments and the completion point. External debt and government effectiveness are used to instrument completion point in the first-stage with all the exogenous variables in the system. Table 1 presents the results of our first-stage IV-2SLS. The first important

statistic to note is the total number of countries in the poverty gap model (n=713). Just over half of the countries included in the model collect data on the poverty gap, which in turn greatly reduced the number of countries included in the statistical analysis. The available information on the poor is limited. Governments and International Non-Governmental Organizations (INGOs) do not collect poverty data as regularly or as fastidiously as they collect market or economic data.

Table 1.

The First-Stage Regression of Instruments on Completion Point

Model 1 IV-2SLS First Stage		
	Completion point for the Infant Mortality Equation Coefficient (se)	Completion point for the Poverty Gap Equation Coefficient (se)
External Debt (log)	-.269*** (.017)	-.364*** (.021)
Government Effectiveness	.080*** (.022)	.010*** (.025)
GDP growth	-.004* (.002)	-.012*** (.003)
Health Expend (log)	-.067** (.024)	.066* (.028)
Primary Enrollment	.002*** (.0005)	.001# (.0006)
Water	.002* (.001)	-.002# (.001)
Maternal Mortality (log)	.160*** (.015)	.121*** (.017)
Aid/GNI (log)	.188*** (.016)	.232*** (.019)
FDI (log)	.054*** (.009)	.043*** (.011)
Trade (log)	-.051# (.032)	-.017 (.048)

First-stage F statistic	61.44***	59.63***
Durban-Wu-Hausman	40.99***	5.94**
Anderson canon. Corr. LM	204.58***	295.94***
Cragg-Donald Wald F statistic	127.63***	145.49***
Stock-Yogo weak ID critical values 10% Maximal IV size	19.93	19.93

Note. ***= significant at the $p < 0.001$ level; ** = significant at 1 percent level ($p < 0.01$); * = significant at 5 percent level ($p < 0.05$).

The primary rationale for presenting the first-stage equation of a 2SLS is to determine the validity of the instruments. The benefit of 2SLS is negated when the excluded instruments are only weakly correlated with the endogenous variables (Bound et al. 1995). The 2SLS method of estimation performs poorly when the instruments are weak. Weak instruments are not consistent, tests of significance are incorrect, and confidence intervals are wrong. Table 1 presents the statistical tests run from the first stage regression. The Cragg-Donald Wald F statistic is a test for weak identification (when instruments are weakly correlated with the endogenous variable). The Cragg-Donald F-statistic indicates that instrumental variables are strongly relevant for reaching the completion point. The first-stage results confirm that the instruments for completion point—government effectiveness and external debt—are strong and relevant. The Cragg-Donald test of weak instruments needs to be compared to critical values contained in Stock and Yogo (2005). This is confirmed with the Stock-Yogo critical values test. Stock and Yogo (2005) assembled critical values for the Cragg-Donald F statistic. Comparing the F statistic to the 10% Maximal IV size distortion confirms that the models do not suffer from weak instruments. Thus, both the Cragg-Donald Wald F statistic and the Stock-Yogo weak ID critical values allow us to reject the null hypothesis of weak instruments. The Anderson canonical correlations LR is a test for relevance of the instruments. The Anderson test gauges the relevance of the excluded instruments (the exogenous variables not included in the second stage regression). The size of the Anderson test statistic, along with the small

p-values, indicates that the instruments are relevant and the models are identified. For each model, the F-statistic is larger than 10. The Durbin-Wu-Hausman test for endogeneity assesses whether the variables are endogenous. The null hypothesis is that the endogenous regressor can be treated as exogenous. The test statistic is distributed as a chi2 with degrees of freedom equal to the number of regressors tested (Stata 12). The test statistics indicate that the instrumental variables analysis is the appropriate estimation method. In sum, the post-estimation diagnostic tests confirm the model is correctly specified and modeled. The test statistics indicate that the instrumental variables analysis is the appropriate estimation method.

The relationship between debt and the completion point is strongly negative: external debt stocks are related to the completion point at well over 95 percent confidence for both models. Without reducing their external debt stock, states are less likely to reach the completion point. After qualifying for the HIPC process, eligible countries are given a modicum of debt relief as an incentive for enacting macroeconomic stability policies to reduce their external debt. Thus, a large external debt will make the probability of reaching the completion point more difficult because it indicates a failure to reduce large arrears to past creditors, or enact the required programs necessary to establish macroeconomic stability and reduce the debt.

Government effectiveness is also highly correlated with completion point in both models. The impact of market reforms on economic performance depends on the competence of the government to provide public services effectively (government effectiveness). The IMF and World Bank now understand the importance of an effective government bureaucracy in achieving long-term debt sustainability. Government effectiveness measures the “the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies” (Kaufman et. al. 2007: 3). Both instrumental variables appear to be strongly relevant

for reaching the completion point.

This study attempts to determine how successful the completion point and full debt relief are for poverty alleviation. The second-stage equation estimates the impact of reaching the completion point on the measures of poverty.

Table 2.

The Second-Stage of the Two Stage Least Squares Regression Results on the Effects of HIPC Completion on Poverty

	Model 1 IV-2SLS Second Stage	
	Infant Mortality Coefficient (se)	Poverty gap Coefficient (se)
HIPC Completion	-24.69*** (2.77)	-5.36*** (1.46)
GDP growth	.395*** (.093)	.078 (.173)
Health Expend (log)	-2.83** (1.11)	-8.05*** (.694)
Primary Enrollment	-.128*** (.028)	.005 (.018)
Water	-.195*** (.042)	-.062* (.028)
Maternal Mortality (log)	18.22*** (.808)	1.32** (.464)
Aid/GNI (log)	1.68** (.786)	.793# (.481)
FDI (log)	1.21** (.426)	-.075 (.284)
Trade (log)	-6.86*** (1.46)	-.758 (.919)
Cons	24.43** (9.80)	49.31*** (6.00)
R-squared	.701	.538

Note. ***= significant at the $p < .001$ level; ** = significant at 1 percent level ($p < 0.01$); * = significant at 5 percent level ($p < 0.05$).

The HIPC is designed to help a country stabilize its economy and provide debt-relief so that the country can reduce its balance of payments deficits and redirect revenue toward poverty reduction spending. The results presented in Table 2 indicate that reaching the completion point under the HIPC does assist in reducing poverty as measured by infant mortality rates and the poverty gap (set at \$1.90 a day) in a statistically significant manner.¹⁶ Reaching the completion point reduces infant mortality by an average of over 24 infant deaths per 1,000 live births. The effects of HIPC completion also shrink the depth of poverty, as measured by the poverty gap index, by a coefficient of 5.36. Thus, passing the HIPC completion point and the resultant debt relief provided reduces poverty within the recipient state. Perhaps the IMF and World Bank imposed economic reforms do stabilize the economy and the resultant debt relief is important for poverty eradication.

Economic growth is associated with increasing child mortality but is statistically insignificant for reducing the poverty gap. The policies that promote economic growth, at least in the short term, have a detrimental effect on the welfare of infants. Unless economic growth is accompanied by a more equitable distribution of income, the benefits of economic growth will not spread to the poor. The policies needed to increase the opportunities and assets of the poor may slow economic growth in the short term since they require investing in social infrastructure, expanding and improving social services, and creating safety nets to protect select groups (children, the disabled, and the elderly). Poverty alleviation requires policies that are pro-poor. Pro-poor policies include increasing employment opportunities, income-earning assets, and the human capital of the poor. These actions will not have an immediate impact on economic growth (as it takes time to increase physical and human assets).

¹⁶ Our dependent variable here is completion point and we are running two models: one model is for infant mortality rates and the second is for poverty gap.

In fact, economic growth often reinforces inequality, in turn leading to a more unequal distribution of income (Stiglitz 2006). The first and primary beneficiaries of economic growth are the better off sections of the country. But after a certain critical point is reached, the benefits of economic growth are enjoyed by the poor too. Proponents of the Kuznets Curve (that is to say, the theory that, as a country becomes more economically developed, its level of income inequality increases but only until it reaches some undetermined average income, at which time inequality then gradually declines) believe that, in time, economic growth will increase human development equitably.

One of the goals of the HIPC Initiative is to free up additional resources for basic health care to increase the welfare of the poor. In poor countries, the government is often the primary financer of health services. A study by Makinen et al. (2000) found that all economic groups within society benefit from governmental spending on health care. Smith et al. (2004) suggest that among the reasons urban children have a lower malnutrition rate than rural children is their greater access to health services and the better quality of healthcare found in urban areas. Furthermore, public expenditures for health services are needed to evaluate, diagnose, and treat health issues that can cause or complicate illness and disease. An increase in governmental expenditure on health is an important component of poverty reduction.

Access to clean water can reduce poverty as measured by infant mortality rates and the poverty gap. The United Nations Development Program (UNDP) (1999) reports that it is not unusual for water collection to take up to six hours a day, every day. Women and girls are almost always responsible for going out to collect water, which is an additional impediment to the ability of girls to attend school (WHO 2005; Sachs 2005). Thus the laborious task of water collection also prevents women from engaging in income-generating work in addition to keeping girls away from school. Clean water also reduces incidences of waterborne illnesses whereby people are sickened by contaminated or polluted drinking water. Improving people's access to clean water will

improve people's lives by decreasing waterborne illnesses which also reduces infant mortality (World Bank 2012: 126).

An increase in primary school enrollments is also associated with improvement in infant mortality rates. Education can empower and emancipate the poor. The Asian Development Bank (2002) concludes:

[T]he relationship between education and poverty reduction is very clear: educated people have higher income earning potential, and are better able to improve the quality of their lives. Persons with at least a basic education are more likely to avail of a range of social services, and to participate more actively in local and national government through voting and community involvement. They are less likely to be marginalized within the larger society. Education empowers; it helps people become more proactive, gain control over their lives, and widen the range of available choices. (p. 5, para 6)

People with more education, particularly women, can make more informed decisions regarding health and disease issues which can lead to fewer infant deaths. Moreover, education is associated with reduced fertility and greater spacing between births increasing the chances of infant survival.

Trade can be a powerful force for the reduction of infant mortality rates. Trade can provide goods and services for consumption, often giving the poor cheaper and better quality products. As Oxfam (2004) notes, trade is a significant source of wealth creation. Trade can provide employment opportunities for "surplus labor" (the unemployed) that was underutilized by low domestic demand for goods and services. Increases in trade would mean greater employment opportunities, improved livelihoods for the poor, higher nutritional levels, and increased revenue for poor governments.

On the other hand, foreign direct investment is statistically insignificant. FDI is attracted to politically stable countries with large thriving economies and a skilled work force, qualities often absent in low-income countries. The raw data indicates that 4 percent of the country-year cases

had negative FDI, 9 percent of our cases had no FDI, and 22 percent received FDI equivalent to less than 1 percent of their GDP. However, trade and FDI were similar in terms of poverty gap, with both statistically insignificant.

Surprisingly, aid is positive and statistically significant in increasing both the poverty gap and infant mortality rates. The Clements et al. (2004) study explains that although aid to lower income countries is generally provided as grants, some aid is still in the form of concessional loans which must be paid back. There are also fears that grants to recipient countries can lead to aid dependency thus reducing the need for governments to employ good governance policies or respond to the wishes of their citizens. The volatility of grant aid can also make budget planning more difficult since aid is given at the whim and caprice of the donor. Furthermore, aid may not be motivated by humanitarian concerns. Donor strategic and economic interests may dictate the category of aid given.

Finally, our data indicate that eliminating poverty and increasing human development will be extremely difficult without improving the status of women. Higher levels of maternal mortality rates are associated with an increase in infant mortality rates and an increase in the poverty gap. The World Food Program (2002) identifies women's role in society and economy as key to achieving food security and to reducing infant mortality rates. The UN Millennium Project Task Force on Hunger (2005: 93) concludes: "The low social, economic, and legal status of women is therefore a major barrier to increased food production and improved nutrition at the intrahousehold and community levels." The lack of status for women limits their employment opportunities, lowers their self-esteem, and restricts their decision-making power, both within the household and in society at large. An increase in women's ability to control state and household income and spending decisions also improves poverty measures. Thus, protecting and expanding women's status is a vitally important aspect of any increase in human welfare.

Conclusion

The HIPC programs in the mid- and late-1990s were in many ways a logical step toward fully addressing the two main problems encountered by many of the poorest countries: poverty and the debt crisis. While the early HIPC Initiative really only addressed the latter problem, the Enhanced HIPC Initiative (with the introduction of the PRSP) combined debt forgiveness with the re-allocation of those resources to social services and programs known to reduce poverty. This article has provided statistical support for the conclusion that successful completion of the HIPC process has positive benefits in human capital. The HIPC initiative is positively related to a reduction in infant mortality and to a decrease in the poverty gap. Part of the increase in the poverty alleviation measures is related to increases in health expenditures, primary school enrollments, access to clean water, and improvements in women's status. The continued allocation of resources, once used to service the debt, to pro-poor social expenditures is the key to reducing poverty. Studies have shown that lower debt relief, which is fully and irrevocably granted to a country passing through the completion point, provides the government with resources for pro-poor social spending (Lora & Olivera 2006). On the other hand, the Lora and Olivera (2006) study also shows that defaulting on the debt increases social expenditures by freeing up additional resources at least in the short term. However, it is the conditionalities in the HIPC initiative (such as a track record of economic stability and fulfilling the PRSPs) that will better ensure continued progress. As Schmid (2009: 66), of the World Bank, concludes, "the conditionality built into the HIPC process aims to strengthen the link between debt relief, poverty reduction, and social services, so that countries experience improvements in basic service provision that go beyond higher expenditure." HIPC country graduates have not only benefited from the debt relief, but they also developed country plans for poverty reduction, experienced at least a short history of macroeconomic stability, and perhaps, have earned a fresh start (even if they still face an

array of economic and political challenges). First and foremost, successful HIPC graduates must be mindful of excessive borrowing and debt accumulation so as not to fall into the debt trap of the past. The international financial institutions can aid in this quest by promoting responsible lending.

Future research on the post-completion point countries should continue to track their progress in poverty alleviation. If these countries continue to show improvement in poverty indicators compared to countries that have not passed the completion point, a more detailed examination of the specific policies implemented by these countries will be needed. In addition, the IMF and the World Bank may conclude that this new initiative serves as a fundamental change to the ways that they formulate their policies for the poorest countries.

References

- Andrews, D., Boote, A., Rizavi, S., & Singh, S. (1999). *Debt relief for low-income countries: The enhanced HIPC initiative* (IMF Pamphlet No. 51). Washington, DC: IMF.
- Angrist, J., & Krueger, A. (2001). Instrumental variables and the search for identification: From supply and demand to natural experiments. *Journal of Economic Perspectives*, 15(4), 69-85.
- Arslanalp, S. & Henry, P. B. (2006). Helping the poor to help themselves: Debt relief or aid?" In C. Jochnick and F. Preston (Eds.), *Sovereign debt at the crossroads*, pp. 174-193. Oxford: Oxford University Press.
- Asian Development Bank. (2002). *Policy on education*. Author: Manila. Retrieved from: <http://www.adb.org/Documents/Policies/Education/preface.asp?>
- Baum, C. (2006). *Introduction to modern econometrics using stata*. College Station, TX: Stata Press.
- Bhagwati, J. (2004). *In defense of globalization*. Oxford: Oxford University Press.
- Birdsall, N., Claessens, S. & Diwan, I. (2003). Policy selectivity forgone: Debt and donor behavior in Africa. *The World Bank Economic Review* 17(3), 409-435.

- Blackmon, P. (2009). Factoring gender into economic development: Changing the policies of the International Monetary Fund and the World Bank. *Women's Studies*, 38(2), 213-237.
- Boone, P. (1996). Politics and the effectiveness of foreign aid. *European Economic Review*, 40: 289-329.
- Boone, P. & Faguet, J. P. (1998). Multilateral aid, politics and poverty. In R. Grant & J. Nijman (Eds.), *The global crisis in foreign aid*, pp. 11-28. Syracuse: Syracuse University Press.
- Borensztein, E., Yeyati, E. L. & Panizza, U. (2006). *Living with debt: How to limit the risks of sovereign finance*. Washington, DC: Inter-American Development Bank.
- Bound, J., Jaeger, D., & Baker, R. (1995). Problems with instrumental variables estimation when the correlation between the instruments and the endogenous explanatory variables is weak. *Journal of the American Statistical Association*, 90(430), 443-450.
- Cassimon, D. & van Campenhout, B. (2007). Debt relief and public finance response: Evidence from a panel of HIPC countries. *Review of World Economics* 143(4), 742-763.
- Chauvin, N. & Kraay, A. (2005). *What has 100 billion dollars of debt relief done for low-income countries?* Retrieved from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=818504
- Clements, B., Gupta, S., Pivovarsky, A. & Tiongson, E. (2004). Foreign aid: Grants versus loans. *Finance and Development*, September, 46-49.
- Cohen, D. (2001). The HIPC initiative: True and false promises. *International Finance*, 4(3), 363-380.
- Crespo Cuaresma, J. & Vincelette, G. (2009). Debt relief and education in heavily indebted poor countries." In C. A. Primo Braga & D. Dömeland (Ed.), *Debt relief and beyond: Lessons learned and challenges ahead*, pp. 35-48. Washington DC: The World Bank.
- Dollar, D. & Kraay, A. (2002). "Growth is Good for the Poor." *Journal of Economic Growth*, 7(3), 195-225.
- Dömeland, D. & Primo Braga, C. A. (2009). Introduction. In C. A. Primo Braga & D. Dömeland (Ed.), *Debt relief and beyond: Lessons learned and challenges ahead*, pp. 1-8. Washington DC: The World Bank.
- Dömeland, D. & Kharas, H. (2009). Debt relief and sustainable financing to meet the MDGs. In C. A. Primo Braga & D. Dömeland (Ed.), *Debt*

- relief and beyond: Lessons learned and challenges ahead*, pp. 117-140. Washington DC: The World Bank.
- Easterly, W. (2001). Think again: Debt relief. *Foreign Policy*, 127, 20-26.
- Easterly, W. (2002). How did the heavily indebted poor countries become heavily indebted? *World Development*, 30(10), 1677-1696.
- Easterly, W. (2007). *White man's burden: Why the west's efforts to aid the rest have done so much ill and so little good*. New York: Penguin Press.
- Epstein, G. & Gang, I. (2009). Good governance and good aid allocation. *Journal of Development Economics*, 89: 12-18.
- Fonchamnyo, D. (2009). Debt relief incentives in Highly Indebted Poor Countries (HIPC): An empirical assessment. *International Advances in Economic Research*, 15, 322-335.
- Gamarra, B., Pollock, M. & Primo Braga, C. A. (2009). Debt relief to low-income countries: A retrospective." In C. A. Primo Braga & D. Dömeland (Ed.), *Debt relief and beyond: Lessons learned and challenges ahead*, pp. 11-34. Washington DC: The World Bank.
- Gilman, M. & Wang, J. Y. (2003). *Official financing: Recent developments and selected issues*. Washington, DC: International Monetary Fund.
- Gupta, S., Clemens, B., Guin-Siu, M. T., & Leruth, L. (2004). Debt relief and public health spending in heavily indebted poor countries." In *Health and Development*, pp. 26-29. Washington, DC: International Monetary Fund.
- Hemmer, H. R. & Wilhelm, R. (2000). *Fighting poverty in developing countries: Principle for economic policy*. Berlin: Peter Lang.
- Husain, M. N. & Gunter, B. (2005). *External shocks and the HIPC initiative: Impacts on growth and poverty in Africa* (ADB Economic Research Working Paper no. 75). Nairobi: African Development Bank.
- International Development Association (IDA) and International Monetary Fund (IMF). (2006). *Heavily Indebted Poor Countries (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI): Status of implementation* (IDA/SecM99-155). Washington, DC: Authors.
- International Monetary Fund and the World Bank. (2001). *Debt relief for poverty reduction: The role of the enhanced HIPC initiative*. Washington, DC: IMF.
- International Monetary Fund, Independent Evaluation Office. (2004). *Evaluation of the IMF's role in poverty reduction strategy papers and the*

- poverty reduction and growth facility*. Washington, DC: Author.
- Jochnick, C. & Preston, F. A. (2006). Introduction. In C. Jochnick & F. Preston (Eds.), *Sovereign debt at the crossroads*. Oxford: Oxford University Press.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2007). *The worldwide governance indicators methodology and analytical issues* (Policy Research Working Paper 5430). Washington, DC: The World Bank. Retrieved from: <http://info.worldbank.org/governance/wgi/index.aspx#home>
- Lopez-Claros, A. & Zahidi, S. (2005). *Women's empowerment: Measuring the global gender gap*. Geneva, Switzerland: World Economic Forum.
- Lora, E. & Olivera, M. (2006). *Public Debt and Social Expenditure: Friends or Foes*. Research Department Working Paper 563, Washington, DC: Inter-American Development Bank.
- Lustig, N., Arias, O., & Rigolini, J. (2002). *Poverty reduction and economic growth: A two-way causality* (Sustainable Development Department Technical Papers Series, Poverty and Inequality Unit Technical Paper 111). Washington, DC: Inter-American Development Bank.
- Makinen, M., Waters, H., Rauch, M., Almagambetova, N., Bitran, R., Gilson, L., McIntyre, D., Pannarunothai, S., Prieto, A., Ubilla, G., & Ram, S. (2000). Inequalities in health care use and expenditures: Empirical data from eight developing countries and countries in transition. *Bulletin of the World Health Organization*, 78(1), 55-65.
- Masud, N., & Yontcheva, B. (2005). *Does foreign aid reduce poverty? Empirical evidence from nongovernmental and bilateral aid* (IMF Working Paper WP/05/100). Washington, DC: IMF.
- Mayr, K. (2010). Optimal deficit and debt in the presence of foreign aid. *World Development*, 38(1), 19-27.
- Moyo, D. (2009). *Dead aid: Why aid is not working and how there is a better way for Africa*. New York: Penguin Publishing.
- Ogbu, O. & Gallagher, M. (1992). Public expenditures and health care in Africa. *Social Science and Medicine*, 34(6), 615-24.
- Oxfam (2004) *Rigged rules and double standards: Trade, globalisation and the fight against poverty*. Oxford: Oxfam Publishing.
- Rodrik, D. (2000). Growth versus poverty reduction: A hollow debate. *Finance and Development*, 37(4), 9-10.
- Sachs, J. (2005). *The end of poverty: Economic possibilities for our time*. New

- York: Penguin Press.
- Sachs, J. (2006). Foreword. In C. Jochnick & F. Preston (Eds.), *Sovereign debt at the crossroads*. Oxford: Oxford University Press.
- Schmid, J. (2009). Is debt relief good for the poor? The effects of the HIPC initiative on infant mortality. In C. A. Primo Braga & D. Dömeland (Ed.), *Debt relief and beyond: Lessons learned and challenges ahead*, pp. 49-70. Washington DC: The World Bank.
- Sen, A. (1999). *Development as freedom*. New York: Knopf.
- Smith, L. & Haddad, L. (2000). *Explaining child malnutrition in developing countries*. Washington, DC: International Food Policy Research Institute.
- Smith, L., Ruel, M., & Ndiaye, A. (2004). Why is child malnutrition lower in urban than rural areas? Evidence from 36 developing countries. *World Development* 33: 1285-1305.
- Stiglitz, J. (2006). *Making globalization work*. New York: W.W. Norton and Co.
- Stock J, Yogo M. 2005. Testing for weak instruments in linear IV regression. In D. W. K. Andrews, (Ed.), *Identification and Inference for Econometric Models* (pp. 80-108). New York: Cambridge University Press.
- United Nations Commission on the Status of Women. (2011). *Elimination of preventable maternal mortality and morbidity and the empowerment of women*. New York: United Nations. Retrieved from: <http://www.un.org/womenwatch/daw/csw/csw55/panels/Panel5-English.pdf>
- United Nations Development Program (1999). *Human development reports*. New York: Author.
- United Nations Millennium Project Task Force on Hunger. (2005). *Halving hunger: It can be done*. London: EarthScan.
- Wonnacott, T. & Wonnacott, R. (1990). *Introductory statistics for business and economics*. New York: John Wiley and Sons.
- Wooldridge, J. (2002). *Econometric analysis of cross section and panel data*. Cambridge, MA: MIT Press.
- World Bank and IMF. (1999). *Modifications to the Heavily Indebted Poor Countries (HIPC) Initiative* (PIN No. 99/76). Washington, DC: IMF. Retrieved from: <http://www.imf.org/external/np/hipc/modify/hipc.htm#II>
- World Bank. (2005). *Introduction to poverty analysis*. Washington, DC: Author. Retrieved from: <http://siteresources.worldbank.org/PGLP/Re->

sources/PovertyManual.pdf.

World Bank. (2012). *World development report: Gender equality and development*. Washington, DC: Author.

World Food Program. (2002). How WFP fights the global war on hunger: Women. *World Food Program Action*.

World Health Organization (WHO). (2005) Water for life: Decade for Action 2005-2015. Geneva, Switzerland: World Health Organization. Retrieved from: http://www.who.int/water_sanitation_health/waterforlife.pdf.

Appendix

A: Countries Included in Analysis

HIPC Countries	Completion Date	Non-HIPC Countries
Afghanistan	Jan-10	Albania
Benin	Mar-03	Angola
Bolivia	Jun-01	Armenia
Burkina Faso	Apr-02	Azerbaijan
Burundi	Jan-09	Bangladesh
Cameroon	Apr-06	Bhutan
Central African Republic	Jun-09	Bosnia-Herzegovina
Chad	Apr-15*	Cambodia
Comoros	Dec-12	China
Congo, Dem. Rep.	Jul-10	Equatorial Guinea
Congo, Rep.	Jan-10	Eritrea
Cote d'Ivoire	Jun-12	Georgia
Ethiopia	Apr-04	India
Gambia	Dec-07	Indonesia
Ghana	Jul-04	Kenya
Guinea	Sep-12	Korea, Dem. Rep.
Guinea-Bissau	Dec-10	Kyrgyz Republic
Guyana	Dec-03	Laos
Haiti	Jun-09	Lesotho
Honduras	Apr-05	Moldova
Liberia	Jun-10	Mongolia
Madagascar	Oct-04	Myanmar
Malawi	Aug-06	Nepal
Mali	Mar-03	Nigeria
Mauritania	Jun-02	Pakistan
Mozambique	Sep-01	Papua New Guinea
Nicaragua	Jan-04	Solomon Islands
Niger	Apr-04	Somalia
Rwanda	Apr-05	Sri Lanka
Sao Tome & Principe	Mar-07	Sudan
Senegal	Apr-04	Tajikistan
Sierra Leone	Dec-06	Timor-Leste
Tanzania	Nov-01	Turkmenistan
Togo	Dec-10	Ukraine
Uganda	May-00	Uzbekistan
Zambia	Apr-05	Viet Nam
		Yemen
		Zimbabwe

Note. * Chad is included in the HIPC country list but did not reach the Completion point until 2015. However, since Chad was in the HIPC process it was included in the study in the decision phase only. The time-frame for this study is 1997-2014.

B: Variable Summary Table

Variable	Description	Obs.	Mean	Std. Dev.	Min.	Max.
Infant Mortality Rate	Mortality rate, infant (per 1,000 live births)	1350	60.74	29.25	5.4	150.1
Poverty Gap	Poverty gap at \$1.90 a day (2011 PPP) (%)	848	14.04	12.13	0	59.26
Completion	0= no; 1= yes	1350	.231	.422	0	1
Expenditures on Health (log)	Health expenditure per capita (PPP const 2011 \$)	1280	4.69	.858	1.81	7.52
Primary Enrollment	Gross enrollment ratio, primary (% gross)	1171	97.36	21.68	22.20	175.33
Water	Improved water sources (% of pop with access)	1324	69.71	17.73	21.1	100
Maternal Mortality (log)	Maternal mortality ratio (per 100,000 live births)	1350	5.70	1.14	2.49	7.96
GDP growth	(Annual %)	1286	5.34	7.28	-46.08	141.6
FDI (log)	Net inflows (% of GDP)	1211	.8.57	1. 15	-11.49	4.49
Aid GNI (log)	Net ODA (% of GNI)	1265	2.02	.913	-.112	5.21
Trade (log)	(% of GDP)	1237	4.23	.626	-1.18	6.28
Government Effectiveness	% Rank Governance Matters	1330	-.796	.606	-2.45	1.97
External Debt (% GNI) (log)	External debt stocks (% of GNI)	1228	3.92	.836	-.019	7.23

