

Debt Overhang and Economic Growth in HIPC Countries: The Case of Southern African Development Community (SADC)

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Received: July 10, 2012

Accepted: August 13, 2012

Online Published: September 5, 2012

doi:10.5539/ijef.v4n10p82

URL: <http://dx.doi.org/10.5539/ijef.v4n10p82>

Abstract

This paper examines the paradox of debt overhang in the Heavily Indebted Poor Countries (HIPC) of the Southern African Development Community (SADC). The purpose is to show debt overhang existence and the effect of debt relief (HIPC) on these countries. We used a combination of models to highlight the empirical evidence of the debt overhang theory in particular for SADC HIPC completion countries. Financial modeling was conducted to where a linear relationship was measured of debt indicators on economic output. A typical debt overhang model was adapted that was modified to show the effect of debt relief effects on both the economic output and private capital, eventually a causality test is done on economic output, private capital and debt service obligations using the Granger causality test. Results demonstrate that a significant relationship does exist between external debt and GDP. As external debt decreases it shows an increase in GDP. Also as countries in the region attain HIPC completion it greatly increases GDP, assumed to be due to a decrease in debt service obligations. Terms of trade significantly affects the private capital. As government capital expenditure decreases it shows an increase in private capital that can be used in investment and economic development within these countries. Debt service does not have any direct effect on GDP or private capital unless via forms of macroeconomic variables like debt. In conclusion debt overhang is still a paradox that may exist but debt relief plays a major role in GDP growth for these countries.

Keywords: HIPC completion point countries, SADC, external debt, economic growth, debt servicing, and debt overhang

1. Introduction

There have been various definitions in research that underline the external debt and economic growth relationship but the most common one is the debt overhang. Many have called it the debt overhang paradox. The theory was first discussed as far back as 1977 by Myers. His concept was based on a company's decision of borrowing. Later writers like Krugman (1998) and Sachs (1984, 1986) likened it to the debt situation of a country and its ability to meet debt servicing obligations and how debt relief would actually benefit the creditor receiving some payment. Debt overhang occurs if the stock of external debt in a country exceeds a country's repayment ability with some future probability, such as expected debt service increasingly depends on a country's output level. Krugman (1988) and Sachs (1989) stated that debt overhang exists when the country's debt service burden is so heavy that a large portion of the current output accrues to foreign lenders and consequently creates disincentive to invest. Debt service is therefore considered as an implicit tax, thereby discouraging investment and stifling economic growth which makes it virtually impossible for highly indebted countries to escape poverty (Clements et al. 2005 et al. Fonchamayo 2009). The hypothesis suggests that if there is some likelihood in the future that external debt will be larger than the country's repayment ability, the expected debt-service costs would discourage further domestic and foreign investment and harm economic growth (Pattillio, 2002). It has been postulated that debt overhang occurs at the peak of the debt Laffer curve. High debt service burden increases expected future taxes on the private sector and lowers private investment. Resources that might have funded investments are consumed by debt servicing. In addition, debt overhang can worsen economic performance by changing the quality of investment.

Debt relief is expected to stimulate growth by releasing resources from debt service to investments in infrastructure and institutions. Such investments in turn enhance domestic investment as well as attract private foreign investment. This began the discussion and the birth of initiatives of debt relief like HIPC (Heavily

Indebted Poor Countries). Observers note that growth declined during the 1980s when debt accumulated and growth accelerated during the 1990s when debt reduction occurred. Many models have been developed and tested on low income countries to show that the main way that the accumulation of external debt affects economic growth is via the reduction of investment. Other models developed using panel data for 29 HIPC countries from 1984 to 2000 have shown variables that affect the accumulation of external debt. These variables may vary from exchange rate, interest payments and control variables like governance indicators (Anoruo, Dimkpah and Ahmad, 2006). A key model often used to show this relationship is the neoclassical growth model. It tends to be the base of most research concerning this relationship and variables may be altered to show which variables show the most significant link, as we have done in this paper (Adegbite and Ayadi, 2008).

The model used to show our Debt overhang effect is based on a variant of Elbadawi, Ndulu and Ndungu (1999) model of external debt sustainability. The model has two versions namely: rate of growth and external debt relationship which investigates the debt overhang and financial constraint hypothesis; private investment and external debt relationship which investigates both demand side and the credit constraints.

In conclusion the purpose of this paper is to highlight the existence of debt overhang not only in this region but in general. Also to show the effect of debt relief (HIPC) on growth and private investment that are the main factors behind the debt overhang concept.

2. Literature Review

In most literature that confirms the hypothesis, a major limitation is that it does not elaborate on the details of the relationship—in particular, it does not address the question of whether there is a perceptible difference in the initial period of a debt build-up, and the later period when the repayment pressures become overwhelming.

The aspect of debt servicing is the key element to external debt management by a country. Writers like Domar (1944) and Krugman (1988) and Sachs (1989) felt that debt service is similar to an implicit tax, that has the ability to discourage investment and hence stifling economic growth which makes it virtually impossible for highly indebted countries to escape poverty (Clements et al. 2005). This concept is famously coined as “Debt overhang”. They presented models addressing the incentive effects of debt reduction for a country suffering from debt overhang. The tenant of these models is that in reducing the face value of external debt, investment will be increased and debt service payments encouraged. Claessens (1990)’s paper presents some estimates, using secondary market prices of commercial bank debt of the Debt Laffer curves for highly indebted and sub-Saharan African countries. He shows evidence that only a few indebted countries are actually on the wrong side of their Debt Laffer curve. Writers like Bulow and Rogoff (1991) disagreed and suggested that the borrower’s underdevelopment was due more to their own economic mismanagement than to the burden of external debt and thus debt overhang was a symptom rather than a cause of low economic growth in the indebted countries.

Deshpande (1997)’s paper attempts to explore the debt overhang hypothesis by an empirical examination of the investment experience of 13 severely indebted countries (HICs). He is able to demonstrate that, in countries with a debt overhang; external debt captures many of the effects of other explanatory variables that traditionally explain investment, the relationship between external debt and investment is consistently a negative one; His paper attempts to examine empirically the linkages between external debt and domestic investment on the basis of the experience of the above mentioned HICs during 1971-1991. Basically it attempts to demonstrate that in the countries with debt overhang, the pressure of debt repayment not only dominates policies, which affect investment, but also shape expectations. This is in addition to an earlier exercise by himself in 1993 where he tried to address the problem of debt overhang both theoretically and empirically. The result was that over the 20-year period between 1970 and 1990, the investment to GDP ratio was found to exhibit an inverse U-shape, with the negative relationship holding only after a certain debt to GDP ratio has been reached. The debt burden of HIPC countries was massive, for example in 1998 the ratio of debt stock to GNP for Sao Tome and Guinea-Bissau was 680% and 500%, while in 1995, Rwanda and Malawi spent 79% and 76% of their export revenue on debt servicing (World Bank, 2000). Prompting other studies of debt overhang as an IMF paper done by Pattillio, Poirson and Ricci (2002) that found that reasonable levels of external debt help finance productive investment that may be expected to enhance growth, but beyond a certain level additional indebtedness may reduce growth. Their argument is represented in the debt “Laffer curve”, which posits that larger debt stocks tend to be associated with lower probabilities of debt repayment. This concept was coined by Sachs (1989) through the notion of “debt overhang”. Debt overhang for a country exists when the country’s debt service burden is so heavy that a large portion of the current output accrues to foreign lenders and consequently creates disincentive to invest. Pattillio, Poirson and Ricci (2003) extend and translate the debt Laffer curve and try and use this instrument to show the effects of debt on growth, by identifying

the peak point where debt begins to have a negative effect on growth. In their paper they go deeper into analyzing through what channels external debt affects growth. They investigate whether debt affects growth mostly through an effect on factor accumulation or on total productivity growth. They discover that the negative impact of high debt on growth appears to operate both through a strong negative effect on physical capital accumulation and total factor productivity growth. Similar supports of the debt overhang concept were Elbadawi, Ndulu and Ndungu (1997) that found that while current debt inflows enhanced economic growth, past debt accumulation, which was viewed as a proxy for debt overhang had a negative impact on economic growth. They were able to also confirm that the liquidity constraints caused by rising external debt servicing payments, reduced exports and thus hampered economic growth. It is fair to say that most literature shows that no one debt overhang model analyzes the effects on growth explicitly; most are by implication of an economic variable like investment or others. This view was not accepted by Easterly (2002) who felt that HIPC provided with debt relief in the past, merely led to poor behavior and more debt accumulation. Cordella (2005) found a negative marginal relationship between debt and growth at “intermediate” levels of debt. Kasibhatla, Sen and Stewart (2007) in their paper, try to raise the empirical validity of the debt overhang hypothesis. They discover that debt overhang impedes growth in Latin American economies severely and the impact was moderately negative in the Asian region. Their results are consistent with Battacharya and Clements (2004) who found that for 55 low income countries over the period 1970-1999 with high levels of debt depressed economic growth after present value of debt reached 15-20% of GDP. In their 2004 paper, Arslanalp and Henry claimed that the HIPCs do not suffer from debt overhang. Rather than most writers these did not align to the concept of debt overhang.

Adegbite, Ayadi and Ayadi (2008) investigated the impact of huge external debt with its servicing requirements on economic growth on the Nigerian economy to make meaningful inference of the impact of debt relief given to the country in 2006. Their research focus was on investigating the linear and nonlinear effects of debt on growth and investment using OLS and GLS. In summary the paper explores the impact of external debt burden on the economy by analyzing the applicability of “debt overhang theory” and the “crowding out” effect of debt in Nigeria.

Koeda (2008) paper presents a theoretical model to explain how debt overhang generated in low-income countries and discusses its implications for aid design and debt relief. It finds that the extent of debt overhang and the effectiveness of debt relief depend on a recipient country’s initial economic conditions and level of total factor productivity, showing that an LIC that has no effective tools to raise the country’s total factor productivity (TFP) may have an incentive to accumulate a significant amount of concessional debt and allocate resources to consumption rather than investment. His paper was an extension to Cohen and Sachs (1986)’s sovereign debt model as a concessional lending problems and numerically demonstrates how a link between debt and low growth may be generated in LICs.

3. Methodology and Model

3.1 Data

This study is carried out over the period 1970-2011, which is the period of time within which these countries accumulated debt and past the HIPC period upon which they received extensive debt relief. This data is obtained from the World Development Indicators (WDI) and Global Financial indicators (GFI). The paper focuses on panel data taken from the 5 SADC HIPC completion point countries namely; Zambia, Mozambique, Malawi, Tanzania and Madagascar. Besides being completion countries in the region these countries were chosen due to their strong regional similarities. These countries are Southern African based countries heavily reliant on natural resources for growth and trade heavily with China. They have in place Poverty Reduction Strategy Paper (PRSP), the maintenance of a sound macroeconomic policy framework, regular publication of information on public finances, and reform of the governance of their resources. In these countries, the basis of a virtuous circle of improved domestic saving and investment, increased external assistance, sustained higher economic growth, and improved prospects for achieving the Millennium Development Goals have been established. These countries do not yet, unfortunately, constitute a critical mass to drive the entire region on a generalized path of higher growth and poverty reduction. Basically the 5 countries reached completion point around the 2001-2006. The completion point marks the end of the HIPC process, after countries have met the requirements for reaching the decision point, this the stage at which countries start receiving debt relief on an interim basis. I represent this variable by inserting a dummy variable from the year of completion (HIPC). The growth model chosen is adapted from the Solow (1956) type neoclassical growth model.

3.2 Econometric Model

The debt overhang theory as stated is a theory that postulates that if there is likelihood in the future that the debt of country will become much larger than the country's ability to repay the debt, expected debt service obligations will have an ability to discourage further domestic investment and thus harm growth. It therefore acts as a tax towards investors. It is a variant of the model used by Elbadawi, Ndulu and Ndung'u (1999) of external debt sustainability.

The equations below investigate the impact of large external debt stock with its servicing requirements and the completion point effect on growth and its resultant fiscal deficit on private investment. A dummy variable is placed into the equation to account for activity before most of the countries' HIPC completion points when debt was not yet written off and after 2001-2006 (period of time all 5 countries had reached completion point) to show the effect of reaching the completion point on growth. The equation is given below:

$$Y_{git} = \alpha_0 + \alpha_1 \frac{EXDEBT}{GNI} it + \alpha_2 \frac{GCAPIT}{GDP} it + \alpha_3 \frac{DSERV}{GDP} it + \alpha_4 TOT_{it} + \alpha_5 HIPC_{it} + \alpha_6 EXR_{it} + \alpha_7 CP_{it} + \mu_t \quad (1)$$

$$PRIVCAP_{it} = \beta_0 + \beta_1 \frac{EXDEBT}{GNI} it + \beta_2 \frac{GCAPIT}{GDP} it + \beta_3 \frac{DSERV}{GDP} it + \beta_4 TOT_{it} + \beta_5 HIPC_{it} + \beta_6 EXR_{it} + \beta_7 CP_{it} + \mu_t \quad (2)$$

Where Y_g measures the rate of output growth which is GDP growth (annual). The TOT (Terms of Trade) that measures external shock (measured as terms of trade variability) that is normally included in such an equation. We place a dummy variable to account for debt relief (HIPC completion year for the country), this is represented by HIPC. The GCAPIT/GDP is the public investment (measured as capital expenditure) to GDP while EXDEBT/GNI is the ratio of external debt to gross national income. Investment is, to a large extent, a country specific issue, and therefore, variables determining it, are likely to vary considerably across countries. Hence we attempt to adopt a standard approach to make inter-country comparisons meaningful. We use the variable PRIVCAP as the measure of private investment. Inventory investment variable faces a problem of volatility and also that factors explaining it are far too varied to permit cross-country standardization (Deshpande, 1997). Private capital is deflated by GDP to overcome the variation in country sizes. The separation of public and private investment is the most desirable, but limitations in data availability prevent this. For developed and developing countries alike, econometric estimation of the investment function has not been very robust, and there is no consensus on which variables are most important in explaining investment. DSERV/GDP is the debt service to GDP calculation. Two other explanatory variables are included that of exchange rate (EXR) and corruption index (CP). Dependent and independent variables tend to be proxy based on theoretical and/or empirical justifications. It is needed to emphasize that the purpose of this exercise is basically to see the nature of the relationship between external debt burden and the levels of domestic investment and not to build a model for investment behavior per se. The latter part of this equation tries to measure the effects of debt overhang concept. Each of the different models in circulation – the neoclassical model, the accelerator model, the profits model, the Q model and so forth-has its adherents and its critics, and the results clearly vary according to the theoretical framework used. Due to the importance of expectations, the relationship between external debt and investment would actually be a dynamic one with debt affecting investment with a lag.

To finally explore our debt overhang relationship we carry out a Granger causality test. This test is a statistical hypothesis test for determining whether one time series statistically causes another. In this case we test if the time series of GDP can causes private capital investment We also check the effect of debt servicing on GDP and private capital investment using the following equations:

$$Y_t = \alpha_0 + \sum_{i=1}^{K_1} \alpha_i Y_{t-i} + \sum_{i=1}^{K_2} \beta_i X_{t-i} + \varepsilon_t \quad (3)$$

$$X_t = \gamma_0 + \sum_{i=1}^{K_3} \gamma_i Y_{t-i} + \sum_{i=1}^{K_4} \delta_i X_{t-i} + \vartheta_t \quad (4)$$

Hsiao (1981) suggests searching over the lag lengths (k1 to k4) and applying an information criterion to determine the optimal length of the lag structure.

4. Results and Discussion

Table 1. Descriptive statistics

	TOT	DSERV_GDP	GCAPIT_GDP	EXDEBT_GNI	GDP	PRIVCAP
Mean	111.1000	3.612500	112.6250	132.6625	4.225000	2.862500
Median	100.0000	3.000000	111.0000	126.5000	5.000000	2.000000
Maximum	207.0000	18.00000	134.0000	367.0000	17.00000	12.00000
Minimum	71.00000	0.000000	92.00000	24.00000	-13.00000	0.000000
Std. Dev.	30.31923	2.978802	8.549743	71.94846	4.472065	2.773034
Skewness	1.350231	1.898088	0.631326	0.836747	-1.056120	1.046460
Kurtosis	4.388705	8.987589	3.455654	4.026374	6.287523	3.426729
Jarque-Bera	30.73664	167.5406	6.006375	12.84675	50.89787	15.20804
Probability	0.000000	0.000000	0.049629	0.001623	0.000000	0.000498
Sum	8888.000	289.0000	9010.000	10613.00	338.0000	229.0000
Sum Sq. Dev.	72621.20	700.9875	5774.750	408949.9	1579.950	607.4875
Observations	80	80	80	80	80	80

As shown in Table 1 we carry out some basic descriptive statistics on the key variables used in our model. This describes features of a collection of data.

Table 2. Correlation matrix

	GDP	EXDEBT_GNI	GCAPIT_GDP	DSERV_GDP	TOT
GDP	1.000000	-0.111275	0.089802	-0.233207	-0.039893
EXDEBT_GNI	-0.111275	1.000000	0.172932	0.371277	0.273615
GCAPIT_GDP	0.089802	0.172932	1.000000	-0.184438	-0.269359
DSERV_GDP	-0.233207	0.371277	-0.184438	1.000000	0.273369
TOT	-0.039893	0.273615	-0.269359	0.273369	1.000000

As shown in table 2, we formulate a correlation matrix on the key variables in our formula. This merely shows correlation coefficients between variables.

4.1 Panel Unit Root Tests

We use the ADF test based on the hypothesis that all series in the panel are assumed to exhibit non stationary behavior. This null hypothesis might be rejected if a fraction of the series in the panel appears to be stationary. The unit root is to test if time series variables are stationary or not. We analyzed individual unit root tests for the variables included in our model. We apply the ADF unit root to check stationarity of the variables for all the 5 countries. The dependent variables of GDP and private capital (PRIVCAP) are all stationary at level. All other independent variables were also found to be stationary, except exchange rate which is made stationary at 2nd difference. The results of the unit root have been summarized in table 3;

Table 3. Unit root test

Variables	ADF-Statistics	Critical Value	Decision
External debt (% of GNI)	-2.693872	1% = -3.469451 5% = -2.878618 10% = -2.575954	Stationary at 10%
GDP	-6.681975	1% = -3.470179 5% = -2.878937 10% = -2.576124	Stationary at all critical values
Debt servicing (% of GDP)	-9.24736	1% = -3.470679 5% = -2.879155 10% = -2.576241	Stationary at all critical values
Private capital	-4.289114	1% = -3.487046 5% = -2.886290 10% = -2.580046	Stationary at all critical values
Terms of trade	-3.648358	1% = -3.476472 5% = -2.881685 10% = -2.577591	Stationary at all critical values
Exchange rate	-5.952236	1% = -3.483312 5% = -2.884665 10% = -2.579180	Stationary at 2 nd difference

4.2 Regression Analysis

The regression results have been summarized in the table 4. The equation involving GDP has an R-squared of 43% and a good Durbin Watson that may suggest no auto correlation. As expected as external debt decreases, these countries will show positive growth in GDP; this may be due to other factors like growth in exports being used to grow their economies. Most of these countries use government spending as a driving force towards development, in areas of infrastructure development. The coefficient of HIPC shows some statistical significance and shows that as more countries in this region reach the completion point the more positive their growth. This is due to their debt relief upon completion which allows them to free resources to invest in their economies.

The second debt overhang equation shows the results of a nonlinear private investment and cash-constraint model. This model is utilized to capture the disincentive nature of debt and its servicing requirements on investment. This equation has an R-squared of 15% and a favorable Durbin Watson, indicating that it leans more towards no auto correlation. As government capital expenditure decreases it shows a positive increase in private capital this may indicate private sector taking a more active role in building the economy. The HIPC dummy variable shows no significance but instead the terms of trade variables shows a positive effect on private investment as favorable terms of trade will induce the private sector into economic growth participation. Though its significance is debatable.

Table 4. Regression on GDP and private capital

Dependent Variables	EXDEBT/ GNI	GCAPIT/ GDP	DSERV/ GDP	HIPC	CP	EXR	TOT	R-Square	Adjusted R-Square	Durbin Watson	Constant
GDP	-0.359 (0.05)	-0.208 (0.9)	0.176 (0.37)	0.359 (0.22)	0.05 (0.75)	-0.02 (0.67)	0.068 (0.9)	0.43	0.28	2.1	3.44
PRIVCAP	0.0255 (0.93)	-0.322 (0.91)	0.09 (0.81)	-0.116 (0.84)	-0.135 (0.63)	0.03 (0.8)	1.28 (0.21)	0.15	-0.09	1.88	-3.09

4.3 Granger Causality Test

The results of Granger causality test in the table 5 show that private capital does Granger cause GDP and debt service. Private investment greatly contributes to the economic growth of any country and will have some bearing on the finance that is sourced by the government to maintain debt servicing. GDP does Granger cause private capital and debt servicing. The wealth of the economy will determine the status of the private sector. A

healthy economy with high GDP will attract high private sector participation. The health of the economy will determine the ability of a country to service its debt. A country with high growth will be more capable to service its debt. Debt service does not Granger cause GDP or cause private capital. This further may shed some light on the fact that debt service alone cannot directly cause GDP growth but must be via some avenue like private investment, as the debt overhang theory suggests.

Table 5. Granger causality test results

Hypothesis:	Obs	F-Statistic	Probability	Decision
PRIVCAP does Granger Cause GDP	109	2.41249	0.09459	Yes
GDP does Granger Cause PRIVCAP		1.73578	0.18133	Yes
DSERV_GDP does Granger Cause GDP	157	0.45080	0.63797	No
GDP does Granger Cause DSERV_GDP		5.63029	0.00438	Yes
DSERV_GDP Granger Cause PRIVCAP	106	0.32508	0.72323	No
PRIVCAP does Granger Cause DSERV_GDP		1.76602	0.17625	Yes

5. Conclusion

The role that external debt plays in a country cannot be overstated. High external debts can erode confidence in economic reforms and thus diminish the sustainability of what might be an otherwise sound economic strategy. Its ability to build an economy and also reduce growth is a very powerful macroeconomic concept. Its use is based on the ability to acquire and manage it. External debt granted in concessional loans, with conditions attached and as grants still have the ability to increase the external debt servicing problems of most HIPC countries. Most literature points to the debt overhang as playing a major role in reducing growth via debt. The debt overhang concept is based on external debt affecting economic growth via investment. As external debt grows its debt service payments act as a disincentive to investors and affects economic growth. As our paper shows, HIPC countries that have for years suffered the brunt of external debt burdens by having high debt service obligations have suffered from economic decline. The initiative was meant to alleviate these problems by offering some debt relief. It is obvious from the result of completion point countries (that are given high debt relief upon meeting certain conditions) that one of the biggest effects of completion is economic growth. This might be true for the SADC region and not for other HIPC completion countries in other regions. Further research will definitely yield better conclusions on the role of completion in alleviating debt and causing economic growth. It would also give an overall indication of the success of the initiative.

Many factors led to the growth of external debts in these HIPC countries and the vicious circle went on for most of them in this region after gaining independence. As these countries gained knowledge of their economies they began to acquire more debts for infrastructure development at the peril of creditors "hungry" for higher yields on their money. This led to higher interest payments and a need to borrow to sustain this. Variables like exchange rate and corruption have the ability to cause growth in external debt, as resources are easily misdirected to personal ventures by government officials. This aspect is very prevalent not only in the SADC region but in Africa as a whole. The whole concept became a vicious circle that failed to move these countries out of the debt-poverty trap. Though African data is very insufficient to show a more meaningful relationship.

Reduction of external debt and HIPC completion point attainment are the key forms of growth in these countries. As these countries are resource based heavily dependent on the demand from China. Unlike other growth variables like savings and export growth are hardly used, showing the need for these countries to diversify into such variables for growth rather than external debt. The role of HIPC completion point in increasing growth cannot be overstated. It has the ability to reduce debt servicing obligations. The private capital equations show an interesting observation: as governments reduce capital expenditure it actually shows an increase in private capital with favorable terms of trade playing a key positive role in increasing private capital. It is debatable on the factors that actually cause external debt to reduce economic growth and private capital maybe just one of the many measures as evidenced from the huge amounts of literature devoted to this relationship. There is no direct debt overhang model that directly targets investment, but our causality test shows that a debt servicing does not directly cause GDP or private capital but ultimately it must via some macroeconomic variable like debt. Most of the countries in our study have long relied on foreign direct investment as a means of economic growth.

It must be noted that the initiative goals and mandate was enhanced to include a general benefit to the living standards rather than focus on arbitrary indicators in the economy. This saw the birth of the MDGs that focus on halving poverty by more than half by 2015 and hence improving living standards in these areas. In conclusion the benefit of HIPC completion point countries in the SADC region cannot be debated and also the balancing act required maintaining the relationship between external debt and economic growth cannot be over emphasized. Its effect may or may not be caused by investment as a standalone but maybe with other economic variables lending a hand. This should act as an incentive for HIPC non completion countries to attain completion.

Countries within SADC must maintain external debt at levels that ensure manageable debt servicing. No country can grow without debt but thresholds of how much debt can actually hinder growth must be drawn up. Diversification in other growth methods using savings and sophisticated export sector must be investigated. The SADC grouping must introduce a regulation sector concerning debt and management of it for the region. This can be done by working closely with the IMF and World Bank in initiatives like HIPC and MDGs. This would require more data availability from the countries in the region and in Africa in general.

Acknowledgements

I would like to thank God the almighty and most high for this opportunity, your name forever be praised for purpose and direction. To my husband Sam Mulligan for pushing and supporting me, you are indeed a true vessel of God. To my supervisor Xu Xiaoping for correction and encouragement. To Dr Ake Boubakari for the help and countless advice of improvement. Your future is very bright.

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