

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**THE IMPACT OF EXTERNAL DEBT ON ECONOMIC
GROWTH IN ETHIOPIA**

By

Abinet Gebrekidan

**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE
STUDIES OF ADDIS ABABA UNIVERSITY**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF SCIENCE IN ECONOMICS
(INTERNATIONAL ECONOMICS)**

**JULY 2005
ADDIS ABABA**



**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**The Impact of External Debt on Economic Growth
in Ethiopia**

**By
Abinet Gebrekidan Onkiso**

Approved by the Board of Examiners:

Gefnet Alemu

Advisor

[Signature]

Signature

Alemayehu Gesa

Examiner

[Signature]

Signature

C. Pante

Examiner

[Signature]

Signature

In Loving Memory of

*My cousin, Kebede Argago,
died in May 1992*

and

*My uncle, Birhanu Gebre,
died in April 2004.*

CHAPTER THREE: EXTERNAL DEBT AND ECONOMIC

PERFORMANCE: LITERATURE REVIEW.....	34
3.1 Theoretical Literature.....	34
3.1.1 The Need for External Finance.....	34
3.1.2 Africa's Debt Crisis and Its Origin.....	36
3.1.3 The Impact of External Debt on Growth.....	40
3.2 Empirical Literature.....	50
3.3 The Ethiopian Case.....	60

CHAPTER FOUR: ECONOMETRIC ANALYSIS AND ESTIMATION

RESULTS.....	62
4.1 Model Specification.....	62
4.2 Data Type, Sources and Description.....	64
4.3 Stationary and Non-stationary Series.....	66
4.4 Testing for Unit Roots.....	67
4.5 Cointegration Analysis.	68
4.6 Empirical Analysis and Results.....	72
4.6.1 Result for Unit Root Tests.....	72
4.6.2 Cointegration Analysis Adopting the Johansen Procedure	74

CHAPTER FIVE: CONCLUSION AND POLICY IMPLICATIONS.....

5.1 Conclusion.....	84
5.2 Policy Implications.....	87

REFERENCES.....

APPENDICES.....

ACKNOWLEDGMENTS

First and foremost, I am grateful to God Almighty for giving me grace, wisdom and strength in all my endeavours.

My special thanks and gratitude extended to Dr Getnet Alemu, my thesis advisor, for his unfailing guidance, invaluable comments and unreserved intellectual, material and moral assistance in undertaking this study.

I am also very grateful to my lovely family. Especially, I have no words for my father, Gebrekidan Onkiso, for his moral encouragement and financial support in all my academic achievements.

I wish to express my deep gratitude and appreciation to all my friends, individuals and institutions. Especially, I would like to thank my classmates, Mohammed and Ambachew. Their love and cooperation served as an inspiration to the completion of this work.

Finally, I am indebted to Nazareth College of Technical Teacher Education (NCTTE) and its management staff for sponsoring my study.

Abinet Gebrekidan

June 2005

LIST OF APPENDICES

	<i>Page</i>
Appendix I: Glossary of Terms.....	99
Appendix II: Paris Club Restructuring Terms for Low-Income Countries.....	102
Appendix III: Enhanced HIPC Initiative Flow Chart.....	103
Appendix IV:	
A) Debt Owed to Multilateral Creditors	104
B) Debt Owed to Non Paris Club Creditors	104
C) Debt Owed to Commercial Creditors	105
D) Debt Owed to Paris Club Creditors	106

ABSTRACT

A group of low-income countries classified as HIPCs have continued to experience difficulties in managing and servicing their huge stocks of external debt. Most of these countries including Ethiopia are in sub-Saharan Africa. The relatively high level of Ethiopia's external indebtedness and rising debt burden has serious implications on the country's development and debt sustainability initiatives. While the economic performance continue to deteriorate, there have been significant net outflow of resources to meet the debt obligations.

The study pin downs vital role of the emerging field of external debt and debt indicators in the Ethiopian economy with emphasis on empirical relationship of external debt and economic growth over the period 1963/64-2003/04. In doing so, this paper examines the magnitude and structure of the country's external debt, and its impact on economic growth across its three economic regimes. Using time series data for the same period, the empirical results indicated that past external debt accumulation has a negative impact on economic growth. Debt servicing also appears to affect economic growth adversely.

Several policy implications emerge from the study. The simultaneous attainment of sustainable levels of economic growth and external debt appear difficult at the moment and could remain elusive if aggressive measures are not undertaken. The results obtained from this study support the need for Ethiopia to be considered for comprehensive debt relief measures. In addition, creating credibility including political will to reforms is required to spur investor confidence for both local and foreign investments.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Many developing countries have been greatly exposed to external capital inflows in the past three to four decades. Such external flows are now becoming the source of external debt problems in Africa in general and Ethiopia in particular. The debt accumulated in many African countries including Ethiopia has reached unprecedented level (Alemayehu and Daniel, 1998).

In recent times, Third World debt crisis has been a subject of much political and economic debate. Development experiments in the 1980s have not only failed to bring about economic growth and improvements in living standards for the majority of people living in the developing world, but these policies have also created conditions for an astronomical growth in Third World's external debt. The flawed and sometimes ill-conceived economic policies pursued by the World Bank, the International Monetary Fund (IMF) and other International Financial Institutions (IFIs) in relation to the developing countries is partly responsible for what is now known as Third World debt crisis.

During the three decades beginning in the 1950s, deficits in the current account were considered normal. Countries were encouraged to borrow abroad and create an environment conducive to foreign investment to boost their economic growth. In the process little attention was paid to the liabilities side of the current account deficit which increased the external indebtedness of these countries, until when Mexico, despite being an oil exporter, declared in August 1982, that it could not service her debts. Ever since, the issue of external debt and its servicing has assumed critical importance and introduced the 'debt crisis' debate.

Quite rightly, some scholars have referred to the 1980s as the 'lost decade' of development opportunities (Iyoha, 1999). The debt crisis that started during this period shows no sign of abating even as we approach the new Millennium. The extent of the debt crisis facing many poor nations is now a common knowledge and a matter of public concern. In 1997, the total debt stock ¹ owed by the developing world to the developed world was USD 2.17 trillion, up from USD 1.4 trillion in 1990. Each day, developing countries pay the rich nations USD 717 million in debt service. Every baby born in the developing world owes USD 482 at birth (World Bank, 2003).

To many observers, debt is a new form of colonialism, different kind of North-South relations, a relation in which Western creditors, IFIs and other lenders hold the poor countries in perpetual state of domination and control. A war in which instead of bombing bridges, infrastructures etc. with military hardware, communities, households and peoples lives are being systematically destroyed using debt as a principal weapon.

To this effect, the problem posed by Africa's debt was addressed by the conference of African Ministers in 1997, in their resolution on the debt problem and its impact on Africa's development process (ECA, 1997:6-7):

Considering the amount of resources devoted by African countries to servicing their external debts which could be used for the development of their social sectors and improvement in their infrastructures; aware of the impact of the debt overhang on the continent's capabilities to attract non-debt cresting flows, and in particular foreign direct investment; the Conference of African Ministers calls upon African countries, in collaboration with the international community and multilateral institutions to intensify their efforts to final lasting solution to the problems.

¹ See Appendix I for the common definitions of external debt and related issues.

Africa's debt rose sharply in the past decade and is now equivalent to over 100 percent of its gross national product (about USD 200 billion). Debt servicing payments have soared and account for 30 to 40 percent of the continent's export earnings which themselves are subject to commodity price decreases. It is estimated that by the year 2004, Sub-Saharan Africa will have to spend a staggering 70 percent of its export earnings on external debt servicing. Given the fragile structure of Africa's economy, the debt burden is one of the continent's most crippling constraining factors.

Despite the tremendous improvement made in the debt situation of most middle-income debtor countries since the onset of the debt crisis in 1982, a group of low income countries classified as heavily indebted poor countries (HIPCs) has continued to experience serious difficulties in managing the servicing of their relatively high stocks of external debt. Out of the 41 countries classified as HIPCs, 33 (or 80 percent) including Ethiopia are in Sub-Saharan Africa (SSA). The majority of these countries also fall under the existing classification of countries with low income (World Bank) and low human development (UNDP).

The accumulated debt stock is an obstacle for developing countries through 'debt overhang' problems, which tend to undermine the confidence of investors and this in turn affects the economic growth of a country. Befekadu and Berhanu (1999/2000) described the relationship between debt and growth as follows:

Transmission mechanism from debt to growth take various channels including the constraint it imposes on the governments fiscal balance, reducing investment by draining foreign exchange, reducing domestic saving which may be channeled to debt servicing and the debt overhang which reduces current investment since all the gains from it may be transferred abroad to pay for debt that was contracted in the past.

Ethiopia, being a developing country has not been spared either, the country is incapable of servicing its debt and attaining a reasonable level of economic growth. Thus, this is the main problem that will be discussed in this study.

1.2 STATEMENT OF THE PROBLEM

Perhaps one of the most important constraints on the resumption of growth in Ethiopia has been the external debt burden. Ethiopia is one of the developing countries classified as HIPC's. The external debt of the country which was 1344.7 million Birr in 1970 rose to 30212.7 million Birr in 1996. These were about 151.8 percent and 1139.8 percent of the export earnings of the Ethiopian respectively for these years. External debt as a percentage of GDP was 10.5 percent and 80.2 percent for the year 1973 and 1996 respectively.²

In the year 2000, debt service due as percent of export was 56.3 while actual repayment was only 25.2 percent. During the same year, debt as percent of export was 556.9 while debt as percent of GDP was 92.3. In servicing its external debt, Ethiopia has been put in extremely distressed fiscal positions; the result was severely compressed development budgets and a shrinking fiscal base for essential public services.

During fiscal year 2003/04, a total of Birr 659.4 million paid out to settle external loans of which 60 percent for the payment of principal while interest payment accounted for the rest balance (40 percent). As compared to the previous fiscal year, the amount of external debt service payments increased by about 22 percent. During the same fiscal year, Birr 677.9 million debt-relief (64.6 percent principal and 35.4 percent interest) obtained from external creditors. As a result, the ratio of external debt services to

² The debt to GDP and debt to export ratio for HIPC's in North Africa was 77.75 percent and 235 percent, respectively. The comparable figure for SSA was 188 percent and 345 percent respectively (Alemayehu and Daniel, 1998:231).

export earnings declined from 13.1 percent in 2002/03 to 12.7 percent in 2003/04 (MoFED, 2004).

The country's external outstanding debt including arrears, as at end of fiscal year 2003/04, reached 7.2 billion USD (about 62.1 billion Birr), showed a 6.2 percent increase over the level of the preceding fiscal year. The increase mainly attributed to the increase (by 9.5 percent) contracted from multilateral organizations. As at the end of fiscal year 2003/04, from the total external debt stock, the amount owed to multilateral creditors stood at 65 percent while that of Paris club, the Non-Paris club and commercial creditors stood at about 26 percent, 8 percent and 1 percent respectively (ibid).

The ratio of external debt stock to GDP at current market prices, however, declined to 89.7 percent in 2003/04 from 101.7 percent of 2002/03. Similarly, the ratio of external debt-to-exports, declined from 1377.9 to 1336.7 percent during the same period.³ Thus, the country's external debt position said to be still unsustainable since the government could not meet its external obligations in full without rescheduling its debt, seeking debt relief or accumulating arrears over the medium or long term.

In this regard, "The 3.3 billion dollar recent debt reduction, which Ethiopia secured, would help to use for its development the financial resources that it would otherwise pay to settle its debt." (The Reporter Newspaper, May 5, 2004) Due to the debt reduction, the 100 million dollar on average annually spent on debt-service could be now used for financing development projects.

The debt burden creates uncertainty about the credibility and sustainability of reforms and constitutes a potential threat to investment. If foreign investors find out that a

³ Calculated from the data obtained from National Bank of Ethiopia, Annual Report, 2002/03.

country is highly indebted they would refrain from investing there. High debt stocks can discourage investment.

It would be extremely difficult to attain long-run sustainable growth, if not impossible, without addressing the debt overhang problem. The channels through which debt overhang translates into a drag on growth are multifaceted. First, the rising debt-service ratios in the face of rapidly growing debt stock reduce the availability of resources for initiating growth. Second, in the face of stagnating exports, rising debt-service payments have entailed either payment defaults or a drain on scarce foreign exchange needed to import machinery and inputs of production.

1.3 OBJECTIVES OF THE STUDY

The prime concern of this study is to focus on investigating the impact of Ethiopia's external debt on economic growth of the country. Specifically, the objectives are to:

1. Examine structure, type and composition of Ethiopia's external debt in three different regimes
2. Identify the transmission mechanism of external debt influences on economic growth of the country
3. Empirically investigate the link between external debt on economic growth in Ethiopia using time series estimation method
4. Draw policy implications based on the findings of the study for macroeconomic management of external debt situation.

1.4 SIGNIFICANCE OF THE STUDY

So far, little has been done on the impact of foreign debt on economic growth in Ethiopia. But, a number of studies have been undertaken based on cross-country analysis of less developed countries (LDCs). Cross-country analysis is an approach in which each country is treated as a sample point assuming that the impact of foreign inflow is constant across countries, that is the same in all LDCs.⁴ Most studies in this area consider only a small number of explanatory variables in trying to establish a statistically significant relationship between debt and growth. However, economic theory doesn't provide a complete specification of which variables are to be held constant when statistical tests are performed on the relation between debt and growth (Cooley and LeRoy, 1981). For instance, Ajayi (1991) on Nigeria, Koussy and Bohoun (1993) on Ivory Coast and Befekadu (1992) on Ethiopia and a host of others. However, most of these studies used models that are largely *ad hoc*.

One of the basic significance of this study is that it employs an econometric model with strong theoretical underpinnings that relate external debt and growth. Second, given the dearth of empirical studies on the relationship between debt and economic growth in Ethiopia, and the growing concern of the subject of debt, it would be useful to explore the aforementioned issues and come up with result that would help in the policy building up of the Ethiopian economy.

Thus, the outcomes of this study may be used to fill this gap through analyzing the impact of external debt burden on economic growth. The empirical findings of this study are also expected to have insightful implications for policy.

⁴ See the literature review section for detail explanations for the differences between cross-section and time series studies and the methodology adopted for the case of Ethiopia.

1.5 WORKING HYPOTHESIS

The high level of debt to GDP ratio in Ethiopia has contributed negatively to growth. This hypothesis is developed supporting the idea that debt service payment obligation implies the borrower country has to forgo a certain amount of purchasing power which could have otherwise been used for investment and hence economic growth.

1.6 SCOPE AND LIMITATIONS OF THE STUDY

The study would explore the possible ways through which external debt burden affects growth and also inspect the direction and examine the transmission channels of this relationship. To achieve this objective, the period range from 1963/64 to 2003/04 is chosen. The period begins in 1963/64, a date chosen not only the appearance of dark spots on the economy but also because it marks the beginning of the country's indebtedness. In addition, the whole period is chosen because published data was available for all the variables involved in the model.

The results of this study could be limited by the quality of the data series available. As a result of the difficulties in obtaining quality data, more than one source was sometimes employed to obtain the data series. This limitation arises from the problem of inconsistency of data as reported by different institutions. Even data from the same institution shows different figures for the same year. Besides, some important variables were missing i.e. difficult to get all the acquired variables either from domestic or international sources. With this regard, there is no data available for national consumer price index (CPI), which can be used to calculate inflation rate. The Addis Ababa CPI is used as a proxy for the national CPI. The Addis Ababa CPI has one problem that there are two series with two series with two different base years (1963 and 2000).

1.7 ORGANIZATION OF THE PAPER

In order to carry out the above mentioned objectives, the remainder of the paper is structured as follows: Chapter two provides the factual information relating Ethiopian external debt scenario and summarizes macroeconomic performance of the Ethiopian economy. Chapter three is devoted to a brief review of theoretical issues and empirical evidences relating external debt and growth. In chapter four, an empirical analysis relating the link between foreign debt and economic growth and estimated results are presented. The last chapter wraps up the study by offering conclusion and forwarding policy recommendations based on the findings obtained from the analysis. The paper also contains appendices which present an extensive data on Ethiopian external debt. The figures in the text of this paper are rather brief and are extracted from the appendices.

CHAPTER TWO

MACROECONOMIC PERFORMANCE OF THE ETHIOPIAN ECONOMY

2.1 REAL GDP AND ITS SECTORAL CONTRIBUTION

According to the World Development Indicators 2003, with gross national income per capita of USD 100 in year 2001, Ethiopia was ranked 206th exceeding Democratic Republic of Congo (one with gross national income per capita of USD of 80) (World Bank, 2003). This is a very low figure even compared with other developing countries. Using the conventional measure of poverty (1 USD a day), about 44 percent of Ethiopia's population falls under the poverty line, which is close to the African average but very low by LDCs standards. According to World Bank Development Indicators (2004), if one uses the 2 USD a day measure, the percent of population that falls under the poverty line exceeds 80 percent. By any standard, the country is one of the poorest nations in the world.

During the Imperial era, the economy had been growing at a linear growth rate of 4.1 percent per annum while population and per capita income was growing by 2.3 percent and 1.8 percent per annum, respectively. Even though agriculture had a great share to GDP (i.e. 60.8 percent), it accounted only 31.2 percent of the growth of GDP. In the same period, the values added in the agricultural sector were growing by 2.1 percent while the other sectors were growing by more than 6.8 percent per annum.

The performance of the Ethiopian economy during the *Derg*⁵ period has been unsatisfactory on account of civil war, recurrent drought, high population growth and inappropriate economic policy and management. The average GDP growth for the *Derg* period was 1.9 percent per year compared with an average population growth of 2.8 percent per annum that leads to a decline in per capita income. During that period (1974/75-1990/91), the growth performance of the economy was dismal. In this period, the GDP growth rate of 2.1 percent per annum was not even enough to keep the level of per capita income constant with a population growth rate of 2.8 per annum, per capita income declined by about 0.7 percent (Alemayehu, 2002).

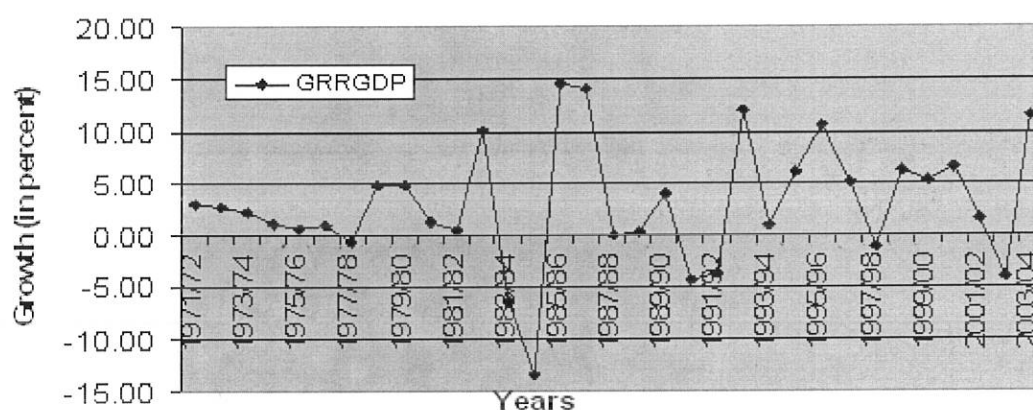
Post 1991, the new regime adopted typical structural adjustment policies with the support of the Bretton Wood institutions. Therefore, in terms of economic policy, this period witnessed a marked departure from the previous 'Socialist' system of command economy that represses private sector. As a result, during this period, relatively good economic performance is recorded though it experienced fluctuations. On the average, the economy and per capita income have been growing by about 5.04 and 2.06 percent per annum respectively during 1991/92-2000/01. If there had not been frequent drought and the Eritrean regression of May 1998, the growth rate of GDP would have been expected to be higher (Befkadu and Birhanu, 2000/01).

Ethiopia's real GDP growth rebounded strongly by 11.6 percent during 2003/04, as agricultural production recovered fully from the drought-affected levels of 2001/02-2002/03. Real GDP declined by 3.8 percent in 2002/03 following modest growth in 2001/02 (See figure 2.1). The drought in 2001/02-2002/03 was the most severe since 1984/85, with cereal production declining by 6 percent in 2001/02 and 26 percent in

⁵ *Derg* is an Amharic word for military group. Throughout the paper, the terms *Derg*, socialist and military regimes are used interchangeably.

2002/03.⁶ As a result of food shortages, inflation accelerated to 15 percent in 2002/03 from negative 7 percent in 2001/02, although core inflation remained stable at around 3 percent, consistent with core inflation projected at the decision point (NBE, 2002/03).

Figure 2.1 Real GDP Growth Rate



This dismal performance is reflected in all sectors except for the service sector. During 1980/81-1990/91 agricultural production grew by a mere 2 percent per annum while industry and distributive service grew by 0.75 percent per annum on average. During this period, aggregate expenditure exceeded GDP by 6 percent that is higher than under per 1974 period average by 5 percent. This is mainly due to the expansion of public sectors as the result of socialist ideology that encouraged expenditure on public enterprises, state farms expansion and civil war.

The growth rates in the real GDP can also be looked from its sectoral components. In 1997/98 and 1998/99 the poor performance in the agricultural sector owing to the drought which severely affected the agricultural sector lowered the share of agriculture in GDP significantly. As a result, real GDP fell by 1.4 percent. Since 1998/99, however, real GDP recovered and recorded increase of 6 percent over the preceding

⁶ For more details, see IMF Country Report No. 03/272 (9/11/2003) and IMF Country Report No. 04/65 (3/18/2004).

year. During the fiscal year 1998/99 ⁷ industry grew by 8.6 percent which was mainly due to the 20 percent increase in the large and medium scale manufacturing. Despite the impressive growth recorded in the 1998/99, the contribution of the industrial sector remained almost constant at about 11 percent over the years except in 2000/01 when it declined to 6.7 percent. On the other hand, the share of services sectors (distributive and other services), at 44.4 percent of the total GDP in 1998/99, showed a jump, though still lower than agricultural sector (See Table 2.1 below).

Table 2.1 Growth rates in real GDP and its components in percent (1991/92-2002/03)

Year	Growth rate of real GDP	agriculture		industry		Distributive service		Other services	
		As % of GDP	Growth rate	As % of GDP	Growth rate	As % of GDP	Growth rate	As % of GDP	Growth rate
1991/92	-3.7	56.5	-2.7	9	-7.1	12.1	-2.5	22.4	-5.2
1992/93	12	53.5	6.1	10.4	28.5	13.2	22.2	23	14.8
1993/94	1.7	50.7	-3.7	10.9	7	13.8	6.2	24.7	9.2
1994/95	5.4	49.7	3.4	11.2	8.1	13.9	6.4	25.2	7.7
1995/96	10.6	51.5	14.7	10.6	5.4	13.7	9	24.1	5.9
1996/97	5.1	50.9	3.4	10.5	2.8	14	7.7	24.5	6.4
1997/98	-1.4	45.9	-10.8	10.9	2.4	15.1	5.6	28	13.1
1998/99	6	44.9	3.8	11.1	8.6	16.7	3.5	29.2	10
1999/00	5.4	43.6	2.2	10.7	1.8	15.04	7.5	30.6	10.5
2000/01	7.7	45.1	11.5	10.5	5	14.7	5.2	29.7	4.5
2001/02	1.2	43.2	-3.1	10.9	5.1	15.2	4.4	30.7	4.7
2002/03	-3.7	39.4	-12.2	11.9	5.6	16.3	3.3	32.4	1.4
average	3.85	48	1.05	10.7	6.1	14.5	6.5	25.4	6.9

Source: MoFED, 2004

As is the case in most developing countries, agriculture remained to be the key factor contributing the lion's share to total output. Dominance of the sector is still feasible as

⁷ The Ethiopian fiscal year runs from July 8 to July 7 of the following year.

it accounts for about 45 percent of total output and employs 85 percent of the total population and contributes to more than 95 percent of the country's export earnings. Although not dynamic, as shown in Table 2.1, a significant shift was observed as its share has declined from 70.2 percent in 1960s to 39.4 percent very recently.

The huge drop (30.8 percent) in the share of agricultural output was counterbalanced by 24.2 percent increase in service sector and 2.4 percent increase in industrial sector. Such a slight increase in the share of industrial output over a long period is indicative of how stagnant and import dependent the economy is. The service sector, which took the leading position currently, is contributing 48.7 percent to total output and its growth performance is also exciting. Among service sectors, the share of other services sub-sector has grown by 20.6 percent over 1960s to 2002/03, while distributive services has showed only a slight progress which is attributed to expansion in education, health, banking and insurance services.

2.2 TRENDS IN SAVING AND INVESTMENT

Gross domestic saving (GDS)⁸ as percent of GDP was reasonably steady over time reaching 13 percent in the last years of the Imperial regime. During the Derg regime, though the Socialist State was supposed to increase savings by increasing taxes on luxuries commodities and introducing mechanisms to increase savings from working people, the rate of saving was quite low. Moreover, there was a tremendous fluctuation in saving ranging from a high of 12.5 percent in 1987/88 and a low of 3.4 percent in the last year of the Derg regime.

On the average, GDS as percentage of GDP for the last 10 years of the Derg period was 7.1 percent per annum. Thus, domestic saving was quite low not only in

⁸ It is given as a sum of private savings and public savings.

comparison with the pre-revolution period, but also in view of the country's investment demand. When we see the performance of GDS to GDP ratio during the 1992/93-2000/01 the sign of recovery is observed being 8.0 percent of GDP on average.⁹ On the average in Ethiopia the ratio of GDS to GDP has been lowered compared with the SSA which on average had been 16 percent and 14 percent in 1970s and 1991 respectively (World Bank, 1993).

In the 1960s, total investment was growing at an annual compound growth rate of 5.3 percent and in 1970s it was 9.9 percent. The growth rate reached 14.6 percent in the 1980s. In the last period of the Derg regime, however, it became negative as the result of severe misguided economic policy prevailed in the entire period and particularly because of the height of political crisis and the devastating war of the period.

During the period 1991/92-2000/01 the ratio of total investment to GDP was 17.2 percent which showed an increasing trend due to the relatively conducive environment that is institutional shift from public to private that favours the post reform period of the current government. In general, investment has showed a slight progress and grown by 3.3 percent over the last four decades. The recent investment record of 19.8 percent of GDP was comparable to low-income SSA averages of 20 percent and 17 percent respectively in the year 2001 (World Bank, 2003).

The difference between domestic saving and domestic investment, commonly called resource gap, was 1.30 percent of GDP per annum in 1960s, 2.23 percent in 1970s and 7.1 percent in 1980s. The gap magnified and reached about 9.7 percent of GDP between 1991/92-2000/01.

⁹ During the 1999/00-2000/01 the saving to GDP ratio is significantly reduced due to the war with Eritrea and natural disaster witnessed across that time, especially 1998/99.

2.3 PUBLIC SECTOR

The Ethiopian government fiscal position has showed a significant change over the last four decades. The government budget, which was in surplus in 1950s and 1960s, has adapted to continuous and growing deficit (MEDaC, 1999; Befekadu and Birhanu, 1999/2000). Compared to other African countries like Kenya, Zimbabwe and Burundi, the overall deficit including grant as percentage of GDP is among the highest in Ethiopia over the period.¹⁰ Although domestic financing is equally important source of financing, the switch to foreign ones in fear of negative consequences like inflation, however, has resulted in growing debt burden, which was averaged to 96.9 percent of GDP over the period 2001/01 to 2002/03.

In Ethiopia it is quite clear that the government budget balance has never been in surplus since 1970s. Moreover, the extent of the deficit has undergone significant changes over the different periods. During the period 1955-65 balanced budget were maintained more or less while between 1965-74 deficits were kept small as the result of fiscal conservatism. Afterwards a large and persistently rising fiscal deficits were sustained. The budget deficit has also remained significant even after the introduction of various reform programs in 1992/93. In 1999/00 government expenditure was around 32 percent of GDP while total government revenue was 19.4 percent of GDP. This clearly indicates that there is an excess of government expenditure over revenue, which leads to huge budget deficit.

In 1998/99 and 1999/00 this fiscal deficit increased to 9.6 percent and 13.6 percent of GDP, respectively. This is due to the break out of war with Eritrea in 1998 and the natural disaster in the same year. In 2000/01 this figure decreased to 8.2 percent of GDP. Based on updated estimates, in 2003/04 the fiscal deficit (including grants) is

¹⁰ World Development Indicators 2000, CD ROM

likely to be about 4.8 percent of GDP. In nominal terms, revenue surpassed the program target because of strong indirect tax receipts stemming from buoyant import growth and improved customs administration, which more than offset lower-than-projected direct taxes that reflected weak corporate profits following the drought of 2001/02. Moreover, donors provided more external grants and less project loans, given the vulnerable debt situation. The external current account deficit (including grants) is estimated to narrow to 4 percent in 2003/04. However, deficits had been financed from both external and domestic sources. External sources include external borrowing and grants while domestic sources include borrowing from banking system and non banking sources.

2.4 EXTERNAL DEBT

The poor performance of the Ethiopian economy has made external assistance a prominent feature of the country's economic structure. Since 1974, at which Ethiopia applied for loan from the IMF, the country has grown more and more dependent on external assistance and has reached a stage where it cannot function without it (Befekadu and Birhanu, 1999/2000).

Ethiopia's external debt has changed significantly in its magnitude, structure and composition over the last quarter of the 20th century. To put it in a historical context, the size of the debt and its composition has changed since the mid 1970s. During the Imperial regime the size of the debt was modest. The magnitude of the debt in 1975 when the Imperial regime fell was only USD 371 million. But by the end of 1991, it reached USD 8790 million. More than half (USD 4744 million or 54 percent) of the total debt was contracted for defense purposes. Consequently, the major share (74.6 percent) of the debt was owed for bilateral creditors in which the Former Soviet Union alone accounted for about 78 percent of the total bilateral debt. In contrast to the

composition of the present debt, the share of Multilateral Institutions in the total debt was only 16.8 percent during the previous regime (Teklu, 2000).

According to IMF figures, Ethiopia's total debt stock at the end of fiscal year 2002/03 was about USD 6.8 billion (or USD 4.5 billion in net present value (NPV) terms). This debt is huge relative to the size of the economy and the performance of exports. That is, this constitutes about 100 percent of GDP or about 246 percent of exports. Even after the scheduled debt relief under the initiative is applied, the IMF projects that Ethiopia's outstanding debt in NPV terms will be reduced to USD 3.9 billion or to about 90 percent of the current GDP in nominal terms (Haile, 2005).

Ethiopia's debt grew at an average rate of 13.18 percent during 1970-74 (Imperial regime). The debt service grew at 3.11 percent during this regime. Infrastructure was given a major share in utilizing the long-term debt, which constituted 100 percent of the total debt. During the second regime (1974-91), imprudent economic policies led to inefficiencies in investments. As a consequence external debt increased by 13.21 percent and the debt service by 7.18 percent. Debt indicators have shown phenomenal increase during this period (Table 2.2), while debt servicing as a ratio of exports declined by 1991.

Table 2.2 - Summary of External Public Debt (in millions of birr)

External debt*	1991/92	1993/94	1995/96	1997/98	1999/00	2000/01	2001/02	2002/03
disbursed	6551.4	25722.2	27088	27916.88	44647.5	46268.8	52809.7 4	58591.8 2
undisbursed	Na	na	na	na	na	na	na	na
Drawings(gross)	566.4	2378.8	1611.3	1094.5	1432.4	27488.6	4613	3889.6
Repayment (1)	-126.5	-400	-488.5	-695.967	-998.9	857.8	857.8	-650.41
Debt servicing(2)	837.4	1832.5	1714	1370.7	2227.7	1680.6	1680.6	1251.2
Principal	649.8	1417.8	1189.3	970.7	1748.2	1163.6	1163.6	781.9
Interest (3)	187.6	414.7	524.7	400	479.5	517	517	469.3
Debt service ratio	82.5	56.9	34.5	19.2	27.8	21.1	14.7	12.5
Ratio of external debt to GDP (%)	31.5	90.8	71.4	62	86.1	89	103.4	102.9

*excludes state defense credits and ruble dominated debt

(1)-on cash basis; includes repayments of trust fund loans, and repurchase from IMF.

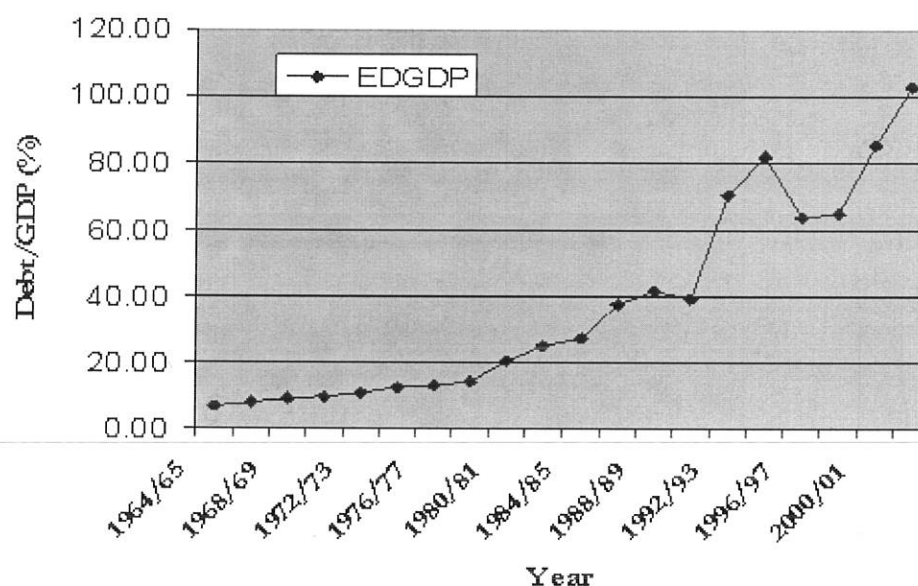
(2)-on accrual basis; includes repayments of trust fund loans, and repurchase from IMF.

(3)-includes IMF charge interest.

Source: National Bank of Ethiopia Annual Report 2002/03

During 1992 to 1998, the foreign debt of Ethiopia grew by 10.41 percent while the debt service dropped by 25.03 percent. Out of the total debt during this period, the long-term loan was 95.2 percent, the short-term debt was 4.23 percent and the IMF credit was 0.56 percent. According to World Bank (1998) Ethiopia's long term debt increased from 169 million USD in 1970 to 8843 million USD in 1991. This huge increase was due to increasing public finance deficit and current account deficit during the Derg regime. After the 1991 reform the external debt stock increased from 9003 million USD in 1992 to 9483 million USD in 1996.

Figure 2.2 Trends in Total External Debt to GDP Ratio



As noted above, Ethiopia is one of the severely indebted countries,¹¹ even by the standards of HIPC countries of Sub-Saharan Africa. Even though slightly decreased in recent years, owing to some cancellation and rescheduling, and mainly due to the granted debt relief amounting to USD 1.3 billion (in NPV terms) under the HIPC initiatives, the remaining balance is still high relative to GDP. The largest share of this debt is owed to the World Bank Group (IDA). Specifically, out of the total stock of debt outstanding, about 65 percent is owed to the IDA group of creditors.

To cope with its unsustainable debt, Ethiopia has been engaged in negotiations with its creditors since 1992. Consequently, a total of USD372.89 million was agreed to either be cancelled (USD 101.60 million) or rescheduled (the remaining USD 271.29 million).¹² In addition to these 'London Terms' or 'Enhanced Toronto Terms', the

¹¹ The World Bank classifies countries on three levels: severely indebted; moderately indebted; and less indebted. Countries are severely indebted if they have a debt/GDP ratio of 50 percent or more; a debt/export ratio of 275 percent or more; and a debt service/ export ratio of 30 percent or more. Even though the debt service/export ratio is low and has declined in the latter years for Ethiopia, the country faces severe debt/GDP and debt/export ratios.

¹² See Appendix II for the lists of countries that required Paris Club restructurings.

second round negotiations with the Paris Club Creditors for debts contracted before 1989 resulted in debt reduction on 'Naples Terms'. Accordingly, a 67 percent reduction on the net present value of the eligible debt was applied, which resulted in a total debt relief of USD 164.8 million (constituting 24.3 percent cancellation and 75.7 percent rescheduling). Owing to the HIPC initiative, recent IMF figures (IMF, 2004) show that to date Ethiopia has benefited a debt relief amounting to USD 1275 million in NPV terms.

Table 2.3 External Public Debt (In Millions of Birr)

Particulars	2000/01	2001/02	2002/03
Debt Outstanding^a			
Lender Total	46,268.8	52,9894.3	58,302.1
Multilateral	24,760.1	30,989.6	36,743.1
Bilateral	21,508.7	22,004.6	21,558.9
Debt Service			
Costs	1,680.6	1,177.0	1,342.2
Principal, Repayments	1,163.6	750.8	893.1
Interest Payments	517.0	426.2	449.1
Debt Service Ratio (%)^b	21.1	14.7	13.7
Arrears	345.6	83.5	7.1
Principal	260.4	83.0	2.8
Interest	85.2	0.5	4.3

^a Outstanding as at end period

^b Computed as a ratio of total debt service and total receipts from goods and non- factor services

Source: NBE, Annual Report 2002/03

More than two thirds of the long term Debt is owed to bilateral creditors, with the largest proportion of USD 5.5 billion owed to Russia. Just over one quarter of long term Debt is owed to multilateral institutions, mainly the World Bank's International Development Association (IDA) and the African Development Bank, with a relatively small amount due to private creditors ¹³ (See Table 2.4).

¹³ Appendix IV presents debt owed to multilateral, non-Paris, Commercial and Paris Club creditors in million USD.

Table 2.4 Total Disbursement (in million USD)

E.F.Y ^a	Multilateral				Bilateral			Grand Total
	IDA	ADB/F ^b	Others	Total	Paris Club	Non P.C.	Total	
1983	74.3	62.5	17.3	154.1	323	46.3	369.3	523.4
1984	76	50.8	5.1	131.9	135.5	23.3	158.8	290.7
1985	89.9	90.8	23	203.7	91.1	0.7	91.8	295.5
1986	253.9	139.3	35.6	428.8	5	0.5	5.5	434.3
1987	158.4	88.3	32	278.7	2.3	1.5	3.8	282.5
1988	129.8	134.3	3.6	267.7	0	0.4	0.4	268.1
1989	64.4	74	25.7	164.1	49	0	49	213.1
1990	79.7	58.6	10.3	148.6	7.7	0.3	8	156.6
1991	148.9	56.2	42.8	247.9	3.5	7.1	10.6	258.5
1992	105.1	30.6	29.5	165.2	0	16.1	16.1	181.3
1993	262.5	26.3	24.2	313	0.3	8.6	8.9	321.9
1994	447.4	78.4	88.4	614.2	5.5	10.6	16.1	630.3
1995	389.1	22.3	43.7	455.1	0	2.2	2.2	457.3
1996	230.8	45.1	23	298.9	0	213.1	213.1	512
Grand Total	2510.2	957.5	404.2	3871.9	622.9	330.7	953.6	4825.5

^a Ethiopian Fiscal Year

^b African Development Bank/Fund

Source: MoFED, 2004.

Reflecting the interim HIPC assistance by Multilateral and Paris Club creditors, however, Ethiopia's debt service burden has declined continuously from 21.1 percent in 2001/02 to 14.7 percent in 2001/02 and further to 13.7 percent in 2002/03. The debt relief obtained under the enhanced HIPC Initiative assistance is expected to boost spending on sectors that would have a strong positive effect on poverty reduction and economic growth.

Multilateral Creditors

Recently the debt owed to multilateral creditors has exhibited significant increase. It has increased from its level of USD1473.8 million (42 percent of the total excluding the Ruble denominated debt) as at end of June, 1992 to USD 2559.2 million (62 percent of

the total excluding the Ruble denominated debt) at the end of 1998, showing 57 percent increment over the years (See Table 2.5).

Among the multilateral creditors, the major ones are the World Bank, particularly the International Development Association (IDA) and the African Development Fund (ADF). As at June 30, 2000, out of the total debt owed to multilateral creditors, USD 1758.7 million (62 percent) was owed to IDA. The rest USD 834 (29 percent) was owed to the Africa Development Bank Group and USD 242.3 million (8.6 percent) was owed to the other creditors.

Table 2.5 External Debt Outstanding by Sources of Financing at June... (in MN USD)

Creditors	1996	1997	1998	1999	2000	2001	2002	2003
1. Multilateral	2528.1	2566.1	2559.2	2702.2	2795.2	2929.0	3629.6	4246.5
2. Official Bilateral	6948.6	6925.7	7040.3	7301.9	2482.9	2442.9	2485.3	2438.2
A. Paris Club	720.2	642.0	728.0	715.0	1868.5	1863.2	1888.8	1886.7
out of which Russia					1216.4	1268.9	1269.0	1268.9
B. Non-Paris Club	721.4	711.7	709.3	603.9	614.4	579.7	596.5	551.5
C. Russia Ruble Loan	5507.0	5572.0	5603.0	5983.0				
3. Commercial	309.6	144.0	134.1	126.5	116.2	106.8	95.1	86.5
out of which EAL ^a	242.0	76.1	66.4	58.5	49.9	41.3	37.4	
Total	9786.3	9635.8	9733.6	10130.6	5394.3	5478.7	6210.0	6771.2

^a Ethiopian Air Lines Credit

Source: MoFED, 2004.

Official Bilateral Creditors

The group of official bilateral creditors consists of the Paris Club creditors as well as the non-Paris Club Creditors. The debt owed to the group of creditors (excluding the Ruble denominated debt) has declined from USD 1464.75 million in 1992 to USD

1376.06 million in 1998. The debt relief obtained twice from the Paris Club Creditors could explain this decline. When the Ruble denominated debt is included, official bilateral debt in 1992 and June 30, 2000 would be USD 6713.97 million and USD 5230 million, respectively.

Official Paris Club Creditors

The major Paris Club Creditor of Ethiopia are Austria, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the Russian Federation, the United Kingdom and the United State of America.

The total debt owed to these countries, as at June 30, 2000 amounted to US 1868.3 million, which is lower than the figure for the last fiscal year (USD 6560.7 million) by USD 4692.4 million (71.5 percent). This remarkable decline can be mainly attributed to the 80 percent up front discount the country got from the Russian Federation.

In June 30, 2000 the most prominent ones in terms of volume of debt stock are Russia, Italy and USA, which constituted about 66.1 percent, 18 percent and 5.1 percent respectively of the total Paris Club debt.

The relative shares of the Paris Club and the non-Paris Club Creditors in 1992 were 52 percent and 48 percent respectively. The decline in the share of the Paris Club creditors over the years is due to debt cancellation and rescheduling, whereas the increase in the share of the non-Paris Club creditors is due to the increase in accumulated arrears. The 1999 stock of debt at USD 10.2 billion was the highest ever recorded. Thereafter the volume of debt continuously declined. By 30 June 2001 the volume has fallen to USD 5.6 billion.

The Non-Paris Club Creditors

The non-Paris Club Creditors group includes the former Socialist countries of Eastern Europe, namely, Bulgaria, Czech and Slovak Republics, Hungary, Poland, Rumania, Yugoslavia as well as Algeria, Libya, Israel, India, Peoples Republic of China and Peoples Democratic Republic of Korea.

The total debt owed to these countries, which amounted to USD 702.41 million in 1992, has increased to USD 4,618.4 million in June 30, 2000. This amount represented 51.8 percent of the total bilateral debt and 17.4 percent of the total debt stock (excluding the Ruble debt). Including Ruble, the share of non-Paris club creditors out of bilateral and total debt would be 10.2 percent and 7.4 percent, respectively. The increase in the share of the non-Paris Club creditors is because of the increase in the accumulation of interest arrears. Out of the total debt owed to the non-Paris club creditors, the highest amount, which USD 242 million or 39 percent is owed to Libya, followed by the former Yugoslavia USD 4124.2 million (20 percent) and North Korea USD 89.9 million (15 percent).

Commercial Creditors

The share of commercial creditors as June 30, 1992 stood at about USD 603.69 million (17 percent) of the total debt (excluding Ruble debt) of the country. Out of this, commercial credits amounting to USD 319.97 million (53 percent) of the total was Ethiopian Airlines credit. Over the years commercial credits have declined and at June 30, 2000 they reached USD 135.1 million (3.3 percent) of the total debt of the country. The main reason for the significant decline in the share of commercial credits was the

debt buy-back operation undertaken in April 1996,¹⁴ and by which a total amount of USD 226 million, excluding USD 30 million interest, had been extinguished. Out of the total commercial credits as at June 30, 2000, credit amounting to USD 67.7 million was Ethiopian Airlines credit, which is not eligible for the debt buy-back operation and the rest USD 67.4 million commercial credit was not yet been settled by the operation.

In general, analysis of foreign debt in Africa in general and in Ethiopia in particular depicts that the bulk share of external loan comes from official source, both bilateral and multilateral as the result their respective share in debt stock is increasing over time. Therefore, there is a need to provide debt-relief and rescheduling to countries like Ethiopia and hence HIPC is a case in point.

2.5 THE HIPC INITIATIVE

Africa has not seen much debt relief over the years despite a lot of rhetoric in this area. The best known of the more recent initiatives in the international economic environment is the Highly Indebted Poor Countries (HIPC) Initiative. The initiative is designed to provide debt relief for severely indebted countries with the belief that ‘without comprehensive debt relief, most of those countries would remain indefinitely dependent on exceptional financing in the form of flow rescheduling of official bilateral debt even with continued provision of concessional financing and their pursuit of sound economic policies’. This was to allow the poor countries to “exit, once and for all, from the rescheduling process” and to resume “normal relations with the international financial community, characterized by spontaneous financial flows and the full honoring of commitments.” The multilateral lenders for the first time would

¹⁴ Debt buy-back refers to entering the secondary market to buy debt that is trading at price below face value. The purpose is to wipe out debt by buying at discount prices in the secondary market.

“take action to reduce the burden of their claims on a given country,” albeit conditional on good policies in the recipient countries.¹⁵

Launched in 1996, the initiative marked for the first time that multilateral, Paris Club, and other official bilateral and commercial creditors united in a joint effort to reduce the debt stock of the world’s most-distressed poor countries. Accordingly, central to the initiative is the debtor country’s continued effort toward macroeconomic adjustment and structural reforms. To this end, the Paris Club at the same time agreed to go beyond Naples Terms and provide an 80 percent debt reduction in net present value terms. By September 1999, debt relief packages had been agreed for seven poor countries, totaling more than USD3.4 billion in debt relief in net present value terms.¹⁶

The IMF and World Bank classified 41 countries as highly indebted poor countries (HIPC).¹⁷ The countries are Angola, Benin, Bolivia, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo (Dem. Rep.), Congo (Rep.), Cote d’Ivoire, Equatorial Guinea, Ethiopia, Ghana, Guinea, Guinea-Bissau, Guyana, Honduras, Kenya, Lao PDR, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nicaragua, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda, Vietnam, Yemen and Zambia.

Since 1996, the original group of 41 HIPC has gone through some changes. Nigeria was soon ruled ineligible and eliminated, as it also borrowed from the World Bank’s

¹⁵ For further information on the HIPC initiative, go to: http://www.jubileeplus.org/hipc/what_is_hipc.htm

¹⁶ World Bank, 1999 and the web site www.worldbank.org/hipc. The seven countries are Bolivia, Burkina Faso, Cote d’Ivoire, Guyana, Mali, Mozambique, and Uganda. According to the Bank’s web site, in addition “Ethiopia, Guinea-Bissau, Nicaragua, Mauritania and Tanzania have completed a preliminary review and could qualify for billions more in debt relief.”

¹⁷ See the World Bank web site www.worldbank.org/hipc. See also IMF (1997).

non-concessional window, the International Bank for Reconstruction and Development (IBRD). In 1999, Malawi was included and in the summer of 2000, Gambia was added as well. Equatorial Guinea was declassified as a HIPC in early 2000, as, with the onset of oil production, GDP levels rose above those required for IDA-only assistance.

Ethiopia is one of the eligible countries for the Initiative and currently the Ethiopian government has submitted the Interim Poverty Reduction Strategy Paper, which is one of the requirements of the initiative. Accordingly, Ethiopia has reached a decision point enhanced HIPC relief in October 2001. The total amount of debt relief is estimated at amount 1,930 million, which accounted for 36 percent of the nominal debt stock as at July 7, 2001.

Phase one of HIPC required a 3-year record of compliance with an IMF programme that leads to a decision point. Acceptance at this stage required countries to show they were beyond debt sustainability by having a debt service ratio of 20-25 percent of exports and a present value of debt to export ratio of 200-250 percent. This entitled them to a two-thirds reduction of all external debt stock. In Phase 2, another three years of an IMF programme and an acceptance into the category was expected to lead to 80 percent reduction in debt stock.

The enhanced HIPC initiative ¹⁸ provides for countries to continue to borrow even as they receive debt relief in order to settle other obligations in the pursuit of poverty-reduction goals. The main issue is how to make debt relief growth enhancing in order to facilitate the achievement of sustained poverty-reduction. It is suggested that debt-relief is recognized by creditor countries as additional to new and increased ODA with a focus on enhancing and sustaining both growth and poverty-reduction explicitly.

¹⁸ The Enhanced HIPC initiative flow chart is presented in Appendix III.

non-concessional window, the International Bank for Reconstruction and Development (IBRD). In 1999, Malawi was included and in the summer of 2000, Gambia was added as well. Equatorial Guinea was declassified as a HIPC in early 2000, as, with the onset of oil production, GDP levels rose above those required for IDA-only assistance.

Ethiopia is one of the eligible countries for the Initiative and currently the Ethiopian government has submitted the Interim Poverty Reduction Strategy Paper, which is one of the requirements of the initiative. Accordingly, Ethiopia has reached a decision point enhanced HIPC relief in October 2001. The total amount of debt relief is estimated at amount 1,930 million, which accounted for 36 percent of the nominal debt stock as at July 7, 2001.

Phase one of HIPC required a 3-year record of compliance with an IMF programme that leads to a decision point. Acceptance at this stage required countries to show they were beyond debt sustainability by having a debt service ratio of 20-25 percent of exports and a present value of debt to export ratio of 200-250 percent. This entitled them to a two-thirds reduction of all external debt stock. In Phase 2, another three years of an IMF programme and an acceptance into the category was expected to lead to 80 percent reduction in debt stock.

The enhanced HIPC initiative ¹⁸ provides for countries to continue to borrow even as they receive debt relief in order to settle other obligations in the pursuit of poverty-reduction goals. The main issue is how to make debt relief growth enhancing in order to facilitate the achievement of sustained poverty-reduction. It is suggested that debt-relief is recognized by creditor countries as additional to new and increased ODA with a focus on enhancing and sustaining both growth and poverty-reduction explicitly.

¹⁸ The Enhanced HIPC initiative flow chart is presented in Appendix III.

Making debt-relief pro-growth requires that relief should come early rather than later. Presently, there is a tension between the desire for quick debt relief and the requirement to produce comprehensive country-owned poverty-reduction strategies, which take quite long to prepare.

With the resumption of sound macroeconomic management and structural reforms, and after completion of an interim poverty reduction strategy, the Executive Boards of IDA and the IMF agreed in November 2001 that Ethiopia had met the conditions for the decision point under the HIPC Initiative framework, and defined the conditions for reaching the floating completion point.¹⁹ Based on end-2000/01 data, the debt sustainability analysis at the decision point indicated that debt relief of USD1.3 billion in net present value (NPV) terms was required under the enhanced HIPC Initiative, to lower the NPV of debt-to-exports ratio to 150 percent.

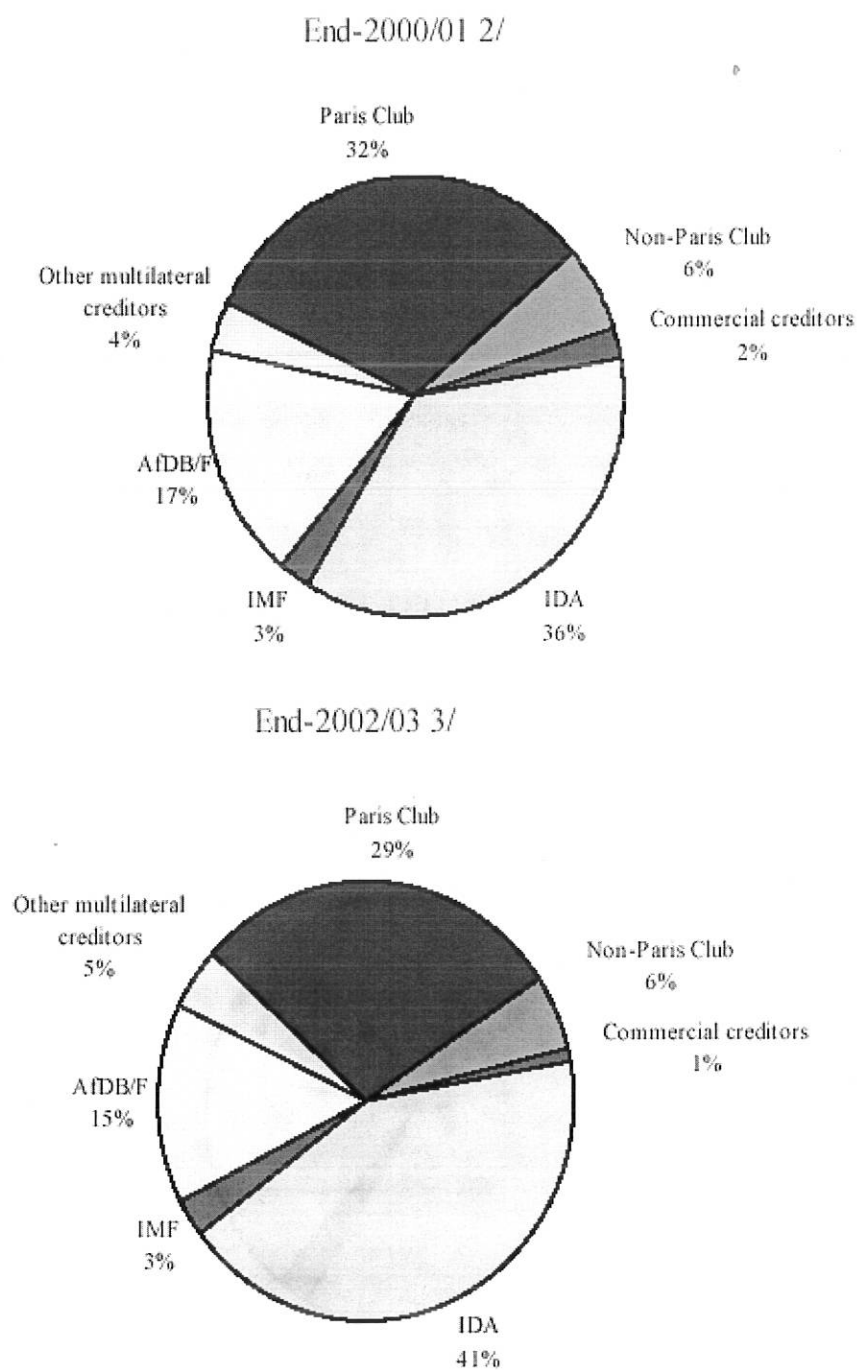
In the opinion of the staffs of IDA and the IMF, Ethiopia has made sufficient progress to reach the completion point under the HIPC Initiative. Ethiopia has prepared and satisfactorily implemented for a year a poverty reduction strategy paper (PRSP), and maintained a sound track record of macroeconomic management. This performance was achieved despite Ethiopia having been adversely affected by a severe drought and continued decline in coffee export prices. Progress with structural reforms has continued, and Ethiopia has achieved all the floating completion point triggers except those on public expenditure management, agriculture, and education. The government has made satisfactory progress on the remaining triggers, which justifies its request for waivers to reach the completion point.

¹⁹ See www.imf.org, Ethiopia - HIPC Decision Point Document for the Enhanced Heavily Indebted Poor Countries (HIPC) Initiative (10/15/01), and IDA/R2001-0168 (11/06/01).

Ethiopia reached its completion point under the enhanced HIPC Initiative in April 2004 and is expected to receive debt relief of USD 1.3 billion in NPV terms (approximately USD 3.3 billion in nominal terms) as well as USD 0.7 billion in NPV terms in topping-up assistance. At completion point, the end-2003 NPV of debt-to-exports ratio after additional bilateral relief and topping up was estimated at 150 percent. The ratio peaks at 216 percent in 2006 before modestly declining over the medium term to 206 percent in 2010. This profile reflects an increase in the NPV of debt after full provision of relief, explained mainly by expected new debt disbursements in the years following the completion point. The debt-service ratio is projected to decrease from 7.7 percent in 2004 to 6.9 percent by end-2010. The relatively modest debt service level over the medium term reflects the impact of concessional new lending.

Creditors representing 92 percent of total HIPC Initiative debt relief estimated at the decision point have given satisfactory financing assurances. Paris Club creditors have agreed in principle to provide assistance under the enhanced HIPC Initiative on Cologne terms. Non-Paris Club bilateral and commercial creditors are expected to provide treatment comparable to that of Paris Club, however, as of June 2004 only Bulgaria, Hungary, and Poland have indicated their intentions to provide HIPC relief. The Ethiopian authorities will continue their effort to obtain HIPC Initiative relief from creditors that are not yet participating in the Initiative (See Figure 2.3)

Figure 2.3 Ethiopia: Composition of External Debt in NPV Terms 1/
(In millions of U.S. dollars)



Source: MoFED, 2004

2/ At end-2000/01 discount and exchange rates

3/ At end-2002/03 discount and exchange rates

Thus far, attempts to end the LDCs' everlasting cycle of poverty, aid dependency and unsustainable debt levels, have failed. As it currently stands, it is unlikely that the enhanced HIPC Initiative will achieve even its limited aim of offering an exit from the rescheduling process. More importantly, it is unlikely to release sufficient resources to tackle poverty in LDCs.

There are three main reasons for this. First, as indicated above, several LDCs with significant debt burdens are not included in the initiative. The problem is, first of all, that the threshold levels to measure debt sustainability are arbitrary and still too high. Another, more important problem is that sustainability is defined in economic terms and not in terms of human and social development, in spite of the fact that there is broad consensus in the international community that debt needs to be seen in a broader context and that the human development perspective must be incorporated in the HIPC Initiative.

The second main reason why the HIPC Initiative is not likely to reach its goal is that the debt reduction on offer is probably too small. Zambia and Niger will actually pay more after the initiative than they did before. For five out of sixteen HIPC-LDCs for which data are available, the NPV of their debt level in 2005 is still above the IMF and World Bank threshold ratio of 150 per cent. In addition, some countries will see large fluctuations in debt servicing, followed in most cases by significant drops in the following years. Furthermore, after 2005, debt service levels start rising again. For eleven out of the thirteen HIPC-LDCs for which post-2005 debt service data are available, debt service starts to increase after 2005 and for nine HIPC-LDCs, future levels are far above present debt service levels. The fact that all HIPC-LDCs are projected to have sustainable debt levels in 2018 cannot be attributed to declining debt levels, but to improved economic performance. As has been the case in the past,

however, the projections are very optimistic, and there is a real risk that in the long run, most HIPC-LDCs will be back to where they are now.

The third problem is the piling up of different sets of conditionalities. The introduction of the poverty reduction strategy paper (PRSP) as a condition for debt relief not only involves a change of emphasis, but also an extension of policy conditions. In addition to traditional macroeconomic and structural reforms, the country must also implement a number of agreed social development policies. This delays the road to the completion point, the point at which countries receive unconditional and irrevocable relief. Moreover, the linkage between the HIPC Initiative and the poverty reduction strategy (PRS) also erodes the quality of the PRS, as countries are in a rush to enter the initiative.

To summarize, the HIPC initiative has come to grips with three basic problems:

- i) The debt is owed by impoverished governments, and therefore should be based on the HIPC governments' capacity to pay, not on arbitrary numerical guidelines related to exports, which have little if anything to do with the countries' fiscal position or ability to pay;
- ii) Most HIPC governments have no capacity to repay debts in view of the urgent social crises that they must confront. These governments are in fact in need of large net resource transfers from the rest of the world;
- iii) Under current arrangements, debt service burdens are imperfectly offset via new loans, grants, rescheduling and outright arrears. The instability, unpredictability, and time consuming nature of these rollover mechanisms contribute to the incapacity of HIPC governments and the international community to formulate long-term solutions to the pressing social crises in the HIPC countries.

CHAPTER THREE

EXTERNAL DEBT AND ECONOMIC PERFORMANCE: LITERATURE REVIEW

3.1 THEORETICAL LITERATURE

3.1.1 THE NEED FOR EXTERNAL FINANCE

The crucial role of capital in the production process is well known. According to Nurske, there was a vicious circle of poverty, which could be broken by increasing savings. The role of increased savings in facilitating capital accumulation was advocated by Arthur Lewis (1954) and Rostow (1985). It was noted that the volume of savings in developing countries was too low on account of the low income and, therefore, domestic savings should be supplemented by foreign resources. At the end of the 1940s the flow of capital to developing countries was negligible. This shifted the issue from whether external resources are useful to developing countries, to how much was sufficient to help them realize their growth potential (Befekadu, 1992).

As the development efforts in most of the poor countries involve investments that are greater than their domestic savings, foreign finance in the form of external debt becomes absolutely necessary. Chenery and Strout (1966) feel that this finance in the form of aid contributes to growth by relieving some of the potential bottlenecks of savings and foreign exchange. However, many debt-ridden African nations witnessed slow growth in the late 1970s and early 1980s. This slow growth resulted in wide spread poverty and inability to honor the foreign liabilities incurred.

Chenery and others concluded that "in the short run, the effectiveness of external resources depends on their use to relieve shortages of skills, savings and imported

commodities “while the long run fate of these countries depends on “the use that is made of the initial increase in the output.” That notwithstanding, both economists and policy makers have had doubts about the beneficial impact of foreign resources on the economies of developing countries, especially since 1970s (Claessens *et al*, 1996).

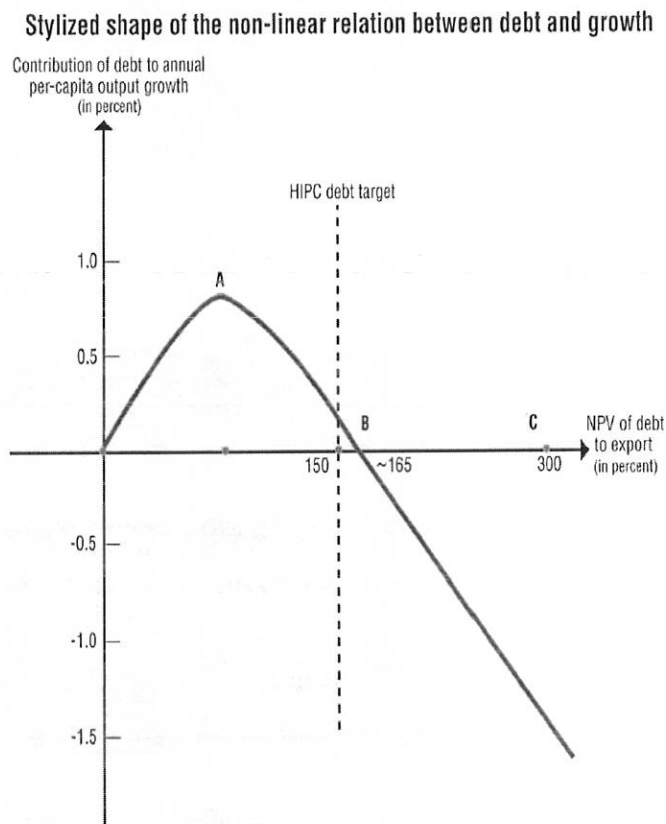
Economic theory suggests that reasonable levels of borrowing by a developing country are likely to enhance its economic growth. Countries at early stages of development have small stocks of capital and are likely to have investment opportunities with rates of return higher than those in advanced economies. As long as they use the borrowed funds for productive investment and do not suffer from macroeconomic instability, policies that distort economic incentives, or sizable adverse shocks, growth should increase and allow for timely debt repayments.

Thus, some considerations suggest that, at reasonable levels of debt, further borrowing would be expected to have a positive effect on growth. Others stress that large accumulated debt stocks may be a hindrance to growth. Both these elements together imply that debt is likely to have nonlinear effects on growth. External debt has an inverted U-relationship with growth. The effect is initially positive, but as debt ratios increase beyond point A, debt eventually slows growth. When debt reaches point B, the overall contribution of debt turns negative (See figure 3.1 below).

Turning to the effects of large external debt on growth, there are both direct and indirect channels (Elbadawi *et al*, 1996). In the direct channel, debt accumulation expressed as a ratio of debt to GDP stimulates debt initially, while past debt accumulation (debt overhang) impacts negatively on growth. These two channels produce a debt-Laffer curve, which shows that there is a limit at which debt accumulation stimulates growth. When this limit is reached further debt accumulation impacts negatively on growth. The third channel works through a liquidity constraint

where debt service payment obligations reduce export earnings available for expenditures and thus impacts negatively on growth.

Figure 3.1



Source: Authors' own calculations.
Notes: HIPC denote highly indebted poor countries; NPV denotes net present value.

There are also a few models that combine both these elements and imply that debt may have nonlinear effects on growth. Cohen (Cohen and Sachs, 1986; Cohen, 1993) presents an endogenous growth style model where capital accumulation is the sole force driving growth.

3.1.2 AFRICA'S DEBT CRISIS AND ITS ORIGIN

External debt is a central feature of economic crisis for a growing number of African countries. The size of a given country's debt is not the important issue; the ability to

service that debt is. Although African debt is very small by world standards, the ability of these countries to service it is very low. Africa's total debt in 1983 was less than that of Brazil alone and only slightly larger than that of Mexico.

Worldwide events in the 1970s and 1980s - particularly the oil price shocks, high interest rates and recessions in the developed countries, and then weak primary commodity prices - are usually referred to as the major contributors to debt explosion in the developing countries (IMF, 2000). The external debt crisis of Sub-Saharan Africa, like its Latin American counterpart, is not yet over. A significant number of countries in SSA have, in general, adopted a development strategy that lies heavily on foreign financing from both official and private sources. This, unfortunately, has meant that for many countries in the region the stock of external debt has built up over recent decades to a level that is widely viewed as unsustainable.

Relative to exports and economic activity (measured by the GNP), SSA's debt is the highest of any region in the world (Klien, 1987; Iyoha and Iyare, 1994; ILO, 1995). According to the ILO (1995:3),

Africa's external debt is the highest in the world as a proportion of GDP; some countries in the region are spending more than half of their export earnings to service foreign debts. The debts of many African countries are so large in relation to their foreign exchange earnings potential that would be impossible to pay them off even if growth resumed and was sustained at unrealistically high levels. Largely as a consequence of debt servicing, flow of capital from Africa is significantly more than flow of new capital to the region.

The external indebtedness of African countries is becoming more acute for a number of reasons (Ajayi and Khan, 2000). First, the external debt is enormous relative to the size of the economy and has led, in many cases, to capital flight and the

discouragement of investment, especially private investment. Second, debt servicing payments absorb a major proportion of export earnings and eat significantly into the funds that could be used to provide essential facilities to improve the welfare of a country's citizens. Third, debt burden threatens not only the execution but also the prospects of success of adjustment programs. Fourth, given the time spent on external debt negotiations and its management, debt has a negative impact on an economy's overall growth and growth prospects.

The growth of foreign debt in the 1970s and 1980s can be traced to a combination of internal and external factors. For example, in the 1970s, on the demand side there was a pressing need in oil-importing developing countries for foreign exchange in order to finance balance of payment deficits and public projects following the increase of oil price in the 1970s (Avery, 1990). Coupled with other domestic factors, such as, high trade and budget deficits, low savings rate, and poor project selection by donors exacerbated the dependence on external debt. On the supply side, the recessionary conditions in the developed countries forced the international banks to recycle their huge petro-dollar deposits in the developing countries (Bernal, 1987; Afxentiou and Serletis, 1996). This decision by the banks was also aided by the high interest rates in the developing countries.

On the other hand, the debt crisis in the 1980s was not only fueled by the over borrowing of the earlier years but was also caused by general domestic mismanagement and of certain external factors including, but not limited to, the deterioration of the terms of trade of borrowers and an increase in real interest rates (Krueger, 1987 and Afxentiou and Serletis, 1996). The factors behind the increase in the external debt burden in the developing countries are varied and interrelated.

However, a number of studies in the literature have summarized these factors to include, but not limited to, (1) exogenous factors, such as adverse terms of trade

shocks; (2) the absence of sustained adjustment policies, particularly when facing exogenous shocks, which gave rise to sizeable financing needs and failed to strengthen the capacity to service debt; this includes inadequate progress in most cases with structural reform that would promote sustainable growth of output and exports; (3) the lending and refinancing policies of creditors, particularly lending on commercial terms with short repayment periods by many creditors in the late 1970s and early 1980s and non-concessional rescheduling terms for most of the 1980s; (4) the lack of prudent debt management by debtor countries, driven in part by excessive optimism by creditors and debtors about the prospects for increasing export earnings and thereby building debt-servicing capacity; (5) lack of careful management of the currency composition of debt; and (6) political factors, such as civil war and conflict.²⁰

There are various explanations in the literature about the causes of SSA debt crisis. In this paper a brief look at is made only to the explanations provided by the World Bank. The World Bank Report argues that an inadequate government policy in SSA countries is the major causes of their debt crisis in the 1970s. It emphasized over-valued exchange rates, inappropriate pricing policies, excessive state intervention and policies of import substitution. The report concentrates on three policies that it considers to have been the main impediments to economic growth.

First, inward-oriented SSA economies are characterized by import substituting industries, discriminatory taxation of exports and appreciating real exchange rates. This economies face problem of adjustment when they encounter balance of payment difficulties. The net result is, therefore, deflation and slower growth.

Second, it is argued that there is excessive state intervention in SSA economies. Moreover, the economy is dominated by technically incompetent governments and

²⁰ See Brooks et al (1998) for a detailed discussion on this issue.

public sector. This leads to the efficiency of the economy due to lack of competitiveness and bad planning on the one hand and creates wrong decision making on the other hand due to the incompetence government and public sector.

The third policy problem according to the bank is the bias against agriculture. This is due to, first, highly protective policies in SSA countries raise the cost of imported inputs and lower the return on export and import competing goods. Second, excessive and inadequate state intervention has diverted resources away from agriculture.

3.1.3 THE IMPACT OF EXTERNAL DEBT ON GROWTH

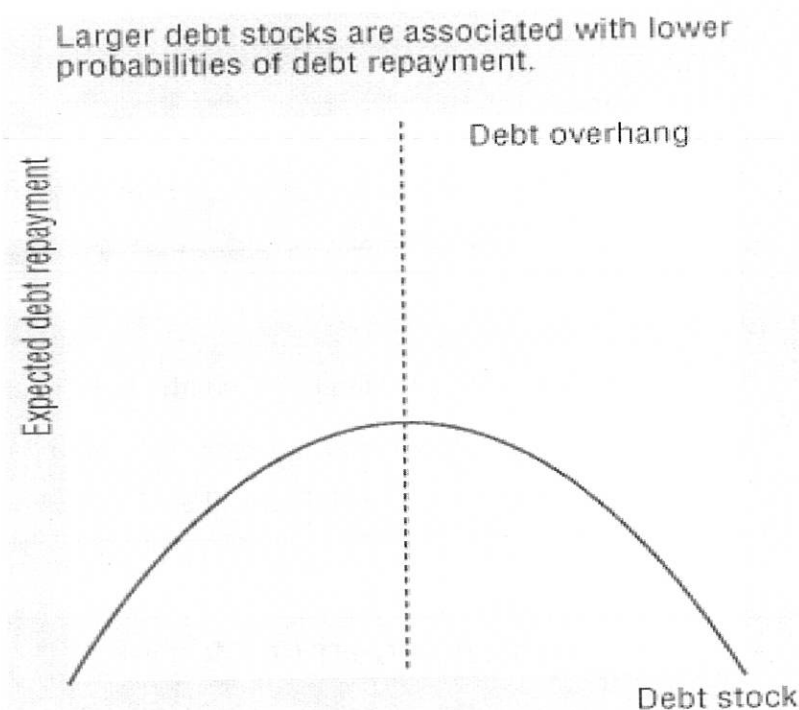
Because of the above macroeconomic implications of debt burden the issue of debt crisis must get considerable attention. The scope of debt overhang is much wider in that the effects of debt do not only affect investment in physical capital but any activity that involves incurring costs up-front for the sake of increased output in the future. Such activities include investment in human capital (in terms of education and health) and in technology acquisition whose effects on growth may be stronger over time. How a debt overhang discourages private investment depends on how the government is expected to raise the resources needed to finance external debt service and whether private and public investment are complementary. For example, if a government resorts to inflation tax or to a capital levy, private investment is likely to be discouraged.

It is generally accepted that a large debt stock can impair development, but there is less agreement on how this impact might occur, particularly in the case of highly indebted poor countries (HIPC's). The dominant theory underlying the adverse consequences of an excessive debt stock is the 'debt overhang' hypothesis²¹ (Krugman, 1989; Sachs, 1989). It posits that external financial flows are a positive factor in promoting growth

²¹ The paper adopts the definition of debt overhang as discussed by Claessens *et al* (1996).

and development, but there are limits to the benefits of borrowings and the accumulation of debt. Although the debt overhang theories have not explicitly traced the effect on growth, it may be possible to extend and translate the debt “Laffer curve” posited by these models into a “Laffer curve” for the effect of debt on growth.²²

Figure 3.2 The Debt “Laffer Curve”



Source: Pattillo, C., Poirson, H. and Ricci, L. (2001)

The debt “Laffer curve” is associated with Krugman (1989), Froot (1989) and Cohen (1993). Krugman’s argument has been that high debt results in efficiency losses. This argument is represented in the debt “Laffer curve” (see figure 3.2), which posits that larger debt stocks tend to be associated with lower probabilities of debt repayment. On the upward-sloping or “good” section of the curve, increases in the face value of debt

²² For detailed information about debt overhang and debt Laffer curve, see Claessens (1990), Cohen (1989) and (1993).

are associated with increases in expected debt repayment, while increases in debt reduce expected debt repayment on the downward-sloping or "bad" section of the curve (Krugman 1989: 264). This idea has been discussed first by Sachs and Huizinga (1987). The existence of debt "Laffer curve" has been used in the argument that 'it is in the creditors' collective interest to forgive some of the external debt of a heavily indebted country. Hussain (1997) shows that a country is on the wrong side of the debt Laffer curve only when it is on the wrong side of its domestic tax "Laffer curve". Nikbabakht (1984) concludes that external borrowing does not necessarily have a strong association with the values of economic indicators in developing countries.

There is a vast amount of literature on the linkages between external debt and economic performance (Elbadawi et al. 1996; Fosu, 1999). The theoretical framework through which the impact of external debt burden is felt on economic performance is through investment and/or growth. There is a large body of literature on the determinants of growth and investment in developing countries. Most econometric studies include a fairly standard set of domestic, external and exogenous explanatory variables. Some of these studies have included debt variables.

Almost all such studies find one or more debt variables to be significantly and negatively correlated with investment or growth. One of the important arguments in this area is based on the *debt-overhang theory*. Theory is based on the premise that, if debt will exceed the country's repayment ability with some probability in the future, then expected debt service is likely to be an increasing function of the country's output level. The debt overhang acts as an anticipated foreign tax on both current and future income. Thus, since part of the creditor as bigger debt service payments, it discourages capital accumulation and promotes capital flight.

Second, there is credit-rationing effect. An indebted country is likely to face credit constraint in the international market. This is equivalent to facing higher real interest

rates, which discourages investment. As a result of reduced access to international financing, this will shift the burden financing the budget to the domestic sector. Depending on how the financing is done, it can lead to increasing inflation and higher interest rates. Higher interest rates and rising inflation have deleterious effects on investment.

Third, as a result of the complementarities between public and private investment, the amount of money that is used to service debt crowds out public investment and discouraged private investments. Fitzgerald et al (1992) pointed out that, crowding out in LDCs can be hypothesized as occurring because:

Public investment displaces private investors from profitable project opportunities; domestic funding of public investment by bond issues reduces credit supply to the private sector; funding by monetary expansion causes inflation and business uncertainty; and funding by external debt increases the perceived risk by foreign and domestic investors (FitzGerald et al, 1992)

Fourth, there is high degree of uncertainty in the debt rescheduling exercises. Not only are some countries not too sure of what they face but a lot of time is spent negotiating. This degree of uncertainty creates instability in the pursuit of macroeconomic objectives and thereby discourages domestic investment. Disincentive effects to investment may also arise from the perspective of the investors' expectation about macroeconomic policies that are required to service large external debt. If investors expect, for example, that large swings in prices, aggregate demand, taxation of profits, and inappropriate compensation for investments may occur, then investment will be disappeared.

Jung and Marshal point out that there is inverse correlation between external debt and economic growth. Levy found that external economic aid and economic growth are

positively correlated. Fry suggested that foreign debt adversely affects savings in developing countries. Islam contended that foreign resources, in highly aggregative form, do not show any significant contribution to economic growth in Bangladesh. Murthy et al apply the technique of unit testing and Johansen's maximum likelihood procedure to show that foreign aid had positive contribution to economic growth in Cameroon during 1971 to 1990.

In middle-income countries, Warner concluded that the debt crisis did depress investment, while Elbadawi *et al* (1996) and Chowdhury (1994), on the other hand, find evidence in support of the debt overhang hypothesis. Fosu (1996), in his empirical study of thirty –five Sub-Saharan African countries, also finds support for the debt overhang hypothesis. Pattilo *et al.* (2001) find that the average impact of external debt on per capita of GDP growth is negative for net present value of debt levels above 160-170 percent of exports and 35-40 percent of GDP.

Whatever the reason that have led to the unprecedented surge in the debt volume, developing countries are faced with a mounting debt problem. Some poor countries increasingly resort to new borrowing simply to service debt IMF (2000). In order to protect their future credit worthiness, many countries have initiated certain restraining measures that were designed to limit inflationary pressures and protect the competitiveness of their exports (Afxentiou and Serletis, 1996). There is a substantial time lag for these measures to work their way through the economy and they often negatively affect the growth of the economy (Foxley, 1987).

The relationship between foreign debt and economic growth is not a one-way relationship. It is assumed that excessive debt affects a country's economic development in several ways. Firstly, the large debt service requirements dry up foreign exchange and capital, because they are transferred to principal and interest payments. A country benefits only partially from an increase in output or exports because a fraction

of the increase is used to service the debt and accrues to creditors (Savvides, 1992). Secondly, when the debtor countries are unable to meet their debt service obligations promptly, the debtor countries will face bad credit status and find it difficult to borrow. As a result, debtor countries will pay high rate to obtain new credit. Thirdly, the accumulation of debt causes a reduction in the countries' efficiency, since it is difficult to adjust efficaciously to some shocks and international financial fluctuations. Fourthly, to obtain more foreign exchange to meet debt obligations, many debtor countries reduced imports and trade; this causes poor trade performance (Geiger, 1990).

Debt repayment constrained a country's growth perspective by transferring resources to other countries. The problem is more serious in SSA countries where earnings from exports are very low. So an important question in analyzing the debt problem of a country is how and how far the debt problem constrained the country's economic performance. There are five major implications of debt burden on countries economic performance. Although the magnitude of debt is not ordinary an economic problem in itself, being tackled by rescheduling and similar temporary arrangements its relative capacity level and subsequent impact in the economy are serious problems (Alemayehu, 1998).

First, the servicing of external debt erodes the meager foreign exchange available for imports. This has led to import compression problem that adversely affect both public and private investment (Alemayehu, 1998). Since many of the imports of developing countries are essential inputs for their development of being investment of intermediate input, cutting these imports has a large loss both on present and future out put of the country.

Second, the debt shock creates a debt overhang problem which shatters the confidence of both foreign and domestic private investors who are usually sensitive to uncertainty (Alemayehu, 1998). The cause of this uncertainty is the anticipation by economic

agents of future tax liabilities for its servicing (Ajayi, 1991). Since investors are very sensitive to uncertainty, their expectation of future tax liabilities will lead them to invest in other country where tax burden is less or believed to be credit worthy. The diversion effect made the indebted country lose the benefit that would have gain if investors were eager to invest there.

Third, the resources used to service debt crowd out investment. Since current resources must be divided over some combination of domestic consumption, investment and external transfer the burden of debt servicing will crowd out investment (both public and private) because of the difficulty in lowering consumption below the minimum acceptable level (Ajayi, 1998).

Fourth, the huge expansion in the size of debt relative to income leads to capital flight (Osei, 1995). Although the definition of capital flight is controversial, most writers relate the concept to illegal capital out flows. Capital flight creates three major difficulties for Sub-Saharan African countries (Ajayi, 1998). First, any amount of money sent away to foreign lands can not contribute to domestic investment. Moreover, this money is not available for importation of equipment and materials that are, necessary for growth of domestic industry and the economy. Thus, capital flight leads to a net loss in the resources a country has available for purposes of investment. Second, income and wealth generated and held abroad are outside the overview of domestic authorities and therefore cannot be taxed. This leads to reduction of government revenue and constrained its capacity of debt servicing. Third, income distribution is negatively affected by capital flows. The poor citizens in the African SILICs ²³ are subject to austerity measures in order to pay for external debt obligations to international creditors, who in turn pay interest to citizens from these countries with assets abroad.

²³ Stands for severely indebted low-income countries under the HIPC initiative.

Finally, the huge expansion in the size of debt relative to income will discourage future external funding for development in the region (Osei, 1995). Nowadays, many developed countries prefer giving aid than loan for SSA countries because they recognize that many of these countries can't pay back their debt. The failure to be credit worthy highly affects their future growth prospects. Because in most of the cases the aid given by the donors is not available in the countries requirement and sometimes is highly conditional.

Growth is high in the early stages as the country borrows and invests. Then later, growth falls to a lower level, but one that Cohen stresses is still higher than it would be if there were no international borrowing and lending (financial autarky). Debts do not crowd out investment, but rather encourages it because lenders are more patient and value growth more than the debtor country itself. This result, however, depends on the ability of lenders to implement an optimal rescheduling policy. If they are not able to commit to this policy over the life of the lending relationship, a debt overhang scenario will occur and investment and growth in the later stages will be even lower than in financial autarky.

Another relevant model is Calvo (1998), which links the debt and growth problem to capital flight. In a relatively simple model, high debt is associated with low growth since a higher distortionary tax burden on capital is required to service the debt, leading to a lower rate of return on capital, lower investment and growth. Low debt regimes have high growth for the opposite reasons. In intermediate ranges of debt, however, the effect on growth is indeterminate. The mechanism behind the possibility of multiple equilibria is a reverse causation from growth to the tax burden: if the economy grows more slowly, then the tax rate necessary to obtain enough resources to repay a given debt will have to be higher, and vice- versa. The likely empirical implications of this type of model are nonlinear effects of debt on growth in the cross-sectional dimension of the data.

The empirical growth literature has grown extremely large, and a few papers have found some negative effect of debt on growth. It is important, however, to isolate the channel through which debt effects growth. Most existing studies do not attempt to distinguish the crowding out effect from the debt overhang effect. To isolate the debt overhang effect (which can be captured with a variable representing the burden of future debt service, such as the debt stock), it is important to also control for potential crowding out, (proxied by a contemporaneous debt service ratio). In addition, previous studies use the face value of debt stocks, rather than the net present value of debt. The latter reflects the degree of concessionality of loans and thus more accurately measures the expected burden of future debt service across countries.

Cohen (1997) does not use the debt stock directly in a growth regression, but rather finds that a variable representing the predicted risk of a debt rescheduling (or debt crisis) significantly lowers growth. Such a probability of rescheduling depends positively on external indebtedness. He uses this method to find debt ratios above which the probability of rescheduling becomes excessive: debt to GDP of 50 percent, and debt to exports of 200 percent.

Elbadawi *et al.* (1996) is the only empirical study we are aware of that considers nonlinear effects of debt on growth. They present fixed and random effects panel estimates of a growth regression in which debt to GDP enters both in linear and quadratic form. The results imply growth maximizing debt to GDP ratio of 97 percent, although other ratios are also discussed in the context of debt sustainability.

Were (2001) shows a negative relationship between external debt accumulation growth and investment for Kenya. Osei (1995) suggests that external debt is a major constraint to the economic performance of Nigeria and Ghana. Metwally (1994) concludes that the effect of debt service ratio on economic growth is negative in some of the Asian

economies. Befekadu (1992), using a growth-debt model for Ethiopia, concludes that external capital had a differential impact on growth during the Derg and Imperial regimes and it adversely affected economic growth. The study by Alemayehu and Daniel (1998) reveals that Ethiopia's foreign debt has been increasing in its magnitude and has become large relative to the size of its economy and level of exports.

Claessens *et al* (1996) argues that where foreign assistance is related to the debt and debt service of HIPC's, the effects of a debt overhang on economic performance is a more complex question. Debt servicing difficulties lead to a deterioration of relations with creditors, thus reducing the amount of finance HIPC's can access (Khan and Villaneuva, 1991).

Corden (1989) and Helpman (1989) note that debt forgiveness could increase investment by reducing future debt payments. Sachs' (1989) studies decapitalization and the decline in the rate of capital accumulation in the highly indebted countries. Using panel data econometric methods, Hajivassiliou (1989) sheds more light on illiquidity and disincentives. He provides evidence for illiquidity not being the sole reason for payment problems. Dornbusch and Fischer (1985) have concluded that imprudent borrowing by debtor countries and lending by commercial banks had led to unfavorable world macroeconomic conditions and exposed the vulnerability of both the debtors and the creditors. Green (1989) and Ajayi (1991) argue that both external and internal factors explain Africa's debt burden. Alemayehu (1997) shows that debt to GDP ratio of Africa has grown from 22 percent in 1972 to 130 percent in 1992. A study by Oxfam International (1997) reveals that African debt servicing absorbs one quarter to one third of foreign exchange earnings, diverting the resources from investment.

3.2 EMPIRICAL LITERATURE

There have been several attempts to empirically assess the external debt-economic growth link—the debt overhang and crowding out effects—mainly by using OLS. Most of the empirical studies include a fairly standard set of domestic, debt, policy and other exogenous explanatory variables. The majority find one or more debt variables to be significantly and negatively correlated with investment or growth (depending on the focus of the study). For instance, Borensztein (1990) found that debt overhang had an adverse effect on private investment in Philippines by estimating a standard neoclassical investment demand function and testing the significance of the addition of a term representing the extent of the foreign debt burden. The effect was strongest when private debt rather than total debt was used as a measure of the debt overhang. His results pointed out that the debt overhang did in fact contributed to the decline in gross (foreign plus domestic) investment relative to the GDP that occurred in the Philippines between 1982 and 1989.

Iyoha (1997) found similar results for SSA countries. He concluded that heavy debt burden acts to reduce investment through both the debt overhang and the 'crowding out' effect. However, Cohen's (1993) results on the correlation between LDCs debt and investment in the 1980s showed that the level of stock of debt does not appear to have much power to explain the slowdown of investment in developing countries during the 1980s. It is the actual flows of net transfers that matter. He found that the actual service of debt 'crowded out' investment.

According to Borensztein (1990), there are two channels through which the foreign debt may affect investment. The 'debt overhang' channel and the 'credit rationing' channel. According to the debt overhang when foreign debt obligations cannot be fully met with existing resources and some negotiation process between the debtor country

and its creditors determines actual debt payments. The amount of payments can become linked to the economic performance of the debtor country. As a consequence, at least part of the return to any increase in production would be devoted to debt servicing. This creates a disincentive to invest from the debtor country's point of view. For the same reason, the debt overhang is also likely to discourage government efforts to undertake adjustment policies and, through actual or expected economic policies, it is likely to spread to the private sector discouraging investment. Thus, Borensztein argued that the debt overhang had an adverse effect on private investment, which was strongest when private debt, rather than total debt, was used as a measure of debt overhang.

The second channel is the credit rationing effect (or inability to obtain new financing), which is more indirect and arises from the higher domestic interest rates that prevail in a debtor economy as a consequence of its unfavourable standing in international financial markets. Thus, it refers to the situation where debtor country can not obtain new loans because it would not be able (or willing) to service them. It may arise from the fact that a highly indebted and non-performing debtor is unlikely to obtain any foreign borrowing beyond the involuntary rollover of interest and amortization payments that are not met.

While the debt overhang hypothesis may seem attractive as an explanation for the observed combination of reduced growth and investment together with increased negative net resources transfers, the empirical evidence on the existence of a debt overhang has been rather mixed. Claessens (1990) finds a debt overhang only for a very limited number of LDCs. Oks and Wijnbergen (1995) test the debt-overhang hypothesis for Mexico and conclude that it does not exist. Borensztein (1990), based on a simulated growth model for a typical debtor country, concludes that debt relief does not have important effects on growth. Cohen (1993) finds no evidence for the

general existence of a debt overhang using data for a sample of 81 LDCs. Yet, for the Latin American countries he shows that high debt had a negative impact on their growth performance.

This result is reconfirmed later by the same author (Cohen 1997) and by Weeks (2000). However, Cohen (1997) also explicitly states that for African countries high debt is not a major cause for the low levels of economic growth in the 1980s and 1990s. Desphande (1997) shows that a debt overhang might exist for 13 severely indebted countries. Kaminsky and Pereira (1996) find evidence for a debt overhang for Latin American countries, once social inequality and its impact on government policy and consumption are explicitly taken into account. With high social inequality, governments are too weak to resist the demands of strong pressure groups, impeding the implementation of reforms. Therefore, overlooking the empirical evidence, the existence of a debt overhang for LDCs is not undisputed.

In two recent papers, Elbadawi *et al.* (1996) generated a “Laffer curve” of debt establishing a critical threshold beyond which debt impacts negatively on growth and investment. On the basis of their results, debt in excess of 97 percent of GDP is likely to have a negative impact on investment and growth. With respect to the private sector investment, they posit that a debt to GDP ratio greater than 33.5 percent would generate a depressive effect by reducing investment.

Elbadawi, *et al.* (1996) also confirmed a debt overhang effect on economic growth using crossection regression for 99 developing countries spanning SSA, Latin America, Asia and Middle East. They identified three direct channels in which indebtedness in SSA works against growth: current debt inflows as a ratio of GDP (which should stimulate growth), past debt accumulation (capturing debt overhang) and debt service ratio. The fourth indirect channel works through the impacts of the above channels on public sector expenditures. They found that debt accumulation

deters growth while debt stock spurs growth. Their results also showed that the debt burden has led to fiscal distress as manifested by severely compressed budgets. Using data for Cameroon, Mbanga and Sikod (2001) found that there exists a debt overhang and crowding out effects on private and public investments respectively. Other studies that have found a negative effect of external debt on growth include Befekadu (1992). Some studies simply use the simulation analysis to show the impact of the debt burden indicators on economic growth under different scenarios (e.g. Ajayi, 1991; Osei, 1995 and Mbire and Atingi, 1997).

The role of external debt in economic growth of SSA countries has been receiving some attention recently. Generally, its effect has been observed to be deleterious to GDP growth (Ojo and Oshikoya, 1995; Elbadawi et al. 1996; Fosu, 1999). These studies use different measures of the debt burden, however. Ojo and Oshikoya employ external debt outstanding as a proportion of GNP in a per capita GDP growth model for 17 African countries over the 1970-1991 period; they find a highly significant coefficient for their debt variable, suggesting the adverse effect of external debt.

Fosu (1996) specifies external debt interactively with investment (as a ratio of GNP) in a GDP growth equation. He estimates several cross-country models on data for 29 SSA countries over the 1970-1986 period, using various measures of the external debt burden based on debt outstanding and debt service. Estimating both "continuous interactive models" (CIM) and "discontinuous interactive models" (DIM), he reports significantly negative impacts of external debt on average for all the debt measures used. The absolute elasticities at the sample means (on the basis of CIM) range from 0.2 to 0.3 for the various debt measures, with 0.33 considered the "best" estimate based on the relative goodness of fit (GOF) of the models. Similarly, based on DIM, he estimates that associated with "high indebtedness" was a reduction in growth of 25 percent to 52 percent, depending on the debt measure used, with 35 percent as the "best" estimate according to GOF.

In a more recent study, Fosu (1999:12) estimates the impact of external debt on GDP growth in the 1980s, based on a cross-country analysis of 35 SSA countries. He observes that "net external debt", measured as total external debt outstanding less total reserves, as a proportion of GDP, is probably the best measure of the debt burden. In an attempt to circumvent the potential problem of causation, he uses the external debt measure for the first half of the period as well as that for the entire period. He finds a partial elasticity of growth with respect to external debt of 0.5 for either measure. He concludes that "SSA's growth could have averaged 1.2 percentage points, nearly 50 percent, higher during the decade of the 1980s" in the absence of the external debt burden.

In addition, Fosu (1996:108) observes that the GDP growth-external debt relationship is indeed non-monotonic: "positive at low levels of investment and, after a GDI/GDP threshold of about 16 percent, it becomes negative." Using this threshold criterion, he observes that for the majority of SSA countries in the sample (20 out of the 29), external debt was adverse to growth, and that "associated with a high-debt country is a fall in GDP growth of about 1 percentage point annually...approximately one-third of the sample mean growth of GDP."

According to Elbadawi, *et al.* (1996), these debt burden indicators also affect growth indirectly through their impact on public sector expenditures. As economic conditions worsen, governments find themselves with fewer resources and public expenditure is cut. Part of this expenditure destined for social programs has severe effects on the very poor. Most studies confirm debt overhang/crowding out effects. Studies that have shown favourable effects of external debt are rare. As quoted by Mutiso (2001), they include World Bank (1988) study for the period 1980-86 and Chowdhury (1994) for Bangladesh, Indonesia and South Korea.

Chowdhury (1994) investigated the direct, indirect and full effects of external debt on GNP and vice versa, by using a system of simultaneous equations. This study used panel data for the period 1970-1988 on selected countries in Asia and the Pacific, namely Bangladesh, Indonesia, Malaysia, Philippines, South Korea, Sri Lanka and Thailand. This relationship is not a simple one, therefore, a structural simultaneous equation model is set to examine the interrelationships between public and private external debt, capital accumulation and production. The results of the structural model show that the effects of public and private external debts on the GNP level in these countries are small.

These results do not support debt overhang argument. It is argued that debt overhang is the main reason for slowing economic growth in indebted countries. Heavy debt burdens prevent countries from investing in their productive capacity, investment necessary to spur economic growth. Disincentives to investment arise for reasons largely related to investor's expectations about the economic policies required to service debts.

The results support the idea which is claimed by Bulow-Rogoff (1990) that there is no urgent need for establishing an international institution for organizing debt relief. Metwally and Tamaschke (1994) examined the interaction between debt servicing, capital inflows and growth for each of the sample countries, namely Algeria, Egypt and Morocco during the period 1975-1992. In this study, the method of two-stage least squares (2SLS) and ordinary least squares (OLS) were employed to estimate the equations. It is argued that the relationship between foreign debt and economic growth is not explained by one-way relationship. Because of the complex relationship between debt servicing, capital flow and economic growth, they are best examined by simultaneous models.

After applying the simultaneous model a number of important results were obtained;

- i) The debt servicing and growth interaction should be examined with a two way relationship.
- ii) The rise in debt servicing ratio affects economic growth negatively.
- iii) The debt servicing reduces the economy's growth potential. Thus, debt servicing may make worse the debt problem of the heavily indebted countries.
- iv) It is also argued that direct private investment is important in the debt growth relationship, since direct private investment does not affect economic growth but it is also affected.
- v) High growth rates attract equity capital and large inflows of equity capital contribute toward accelerated growth. It does so not only through its direct impact on the productive capacity of economy, but also by lessening the country's dependence on foreign debt and alleviating the adverse impact of debt-servicing on the economy.

The results of the simultaneous model show that capital inflows have a significant impact on the growth-debt relationship. If direct foreign investment flows in at considerable rates, growth will be accelerated and the need for additional foreign borrowing will be decreased. In addition, it is shown that equity capital flows are not the result of economic growth, also affect economic growth.

Olgun *et al.* (1998) empirically tested interactions between capital inflows, foreign debt stock, economic growth and investment using time series Turkish data pertaining to the 1965-1997 period. Two-stage least squares (2SLS) and three-stage least squares (3SLS) methods were applied to the equations. The model includes five equations similar to Metwally and Tamaschke (1994) with a few different equations and exogenous variables in their equations. Their results show that there is a statistically significant two

way relationship between the debt stock and debt service, an increase in the growth rate of debt stock can cause debt servicing to increase. In turn an increase in the growth rate of debt servicing raises the growth rate of the debt stock. Another important finding is that the debt service does not affect the rate of economic growth.

Levy and Chowdhury (1994) examined the direct, indirect and full effects of external debt on GNP and vice versa, by utilizing a system of simultaneous equations which show the possible interactions between GNP, capital stock accumulation, public and publicly guaranteed external debt and private external debt accumulation. This was estimated using panel data for the period 1970-1988 on thirty six highly indebted developing countries grouped into three distinct regions: Latin America, Asia-Pacific and Sub-Saharan. They argue that a country's level of indebtedness may affect the GNP in the following ways: the higher the level of indebtedness, the larger the country's leverage, the more limited the external sources of credit, and the greater the number of incidences of financial distress and liquidation adversely affecting the GNP directly and indirectly through discouraging the GNP level directly and indirectly through discouraging domestic investment. Furthermore, an increase in the public and publicly guaranteed external debt may indirectly depress the level of GNP by discouraging capital formation and encouraging capital flight due to tax increase expectations. Governments raise taxes in order to finance external debt obligations.

Savvides (1992) states that the debt induced taxation of capital decreases net returns to investment in indebted countries. Thus, from the perspective of the debtor country as a whole, the debt overhang acts like a high marginal tax rate on the country lowering the return to investment and providing a disincentive to domestic capital formation. They also investigated Bulow-Rogoff's (1990) claim that the external debt of developing countries is not a primary cause of economic slow down. The results of this study support this claim and it is also argued that there is no urgent need for

establishing an international institution for organizing debt relief and debt rescheduling negotiation between indebted developing countries and their private creditors. The direct effect of the public and publicly external debt on GNP is negative for Latin America.

Morisset (1991) examined the effect of debt reduction within a macroeconomic framework and tested various direct and indirect relationships between external debt, investment and economic growth. He estimated models and carried out simulations for Argentina during 1962-1986 using the three-stage least squares method. In order to explain the drastic reduction in private investment, some direct and indirect channels are considered. It is argued by most authors that if private sector is credit rationed, then the high level of foreign debt affects productive investment through a disincentive effect. Since the government in most debtor countries appeared unable (or unwilling) to meet increasing debt-service payments, private investors anticipated higher rates of taxation on real and financial assets as well as more instability in the economic environment. These changes affected private investment negatively through the debt overhang effect, which refers to the reduced incentives to invest. In addition, as foreign assets become more attractive relative to domestic assets, this often led to an increase in domestic interest rates, reducing private investment further. The results show that the effect of 30 percent debt relief is 2.43 percent and 5.40 percent on GDP level for the first and the fifth year respectively, since debt reduction includes a liquidity effect and an incentive effect; the liquidity effect includes the reduction in net transfers and the incentive effect comes from decline in the stock of debt.

Most studies about external debt and economic growth association have employed cross-country studies. While the findings are quite revealing, there is need for case-by-case studies in view of each country's unique characteristics. This is particularly important given the stringent conditionalities for debt relief initiatives. Although an

enormous body of literature exists on economic growth-debt relationship in cross-sectional analysis, less effort has been made to understand economic growth-debt service relationship in time series. Cross section studies face the following limitations:

First, cross-country analysis is not easy and has some difficulties. Developing countries in aggregate differ significantly in terms of their economic and political environment, organisations and institutions. The vast majority of studies have employed OLS method to investigate external debt and economic growth relationship in sample countries, where the sample countries are at different stages of development and have different debt burden. Hofman and Reisen (1991) argued that (IMF, 1989) picks group of middle-income debtor countries to consider as indebted countries. These countries are arbitrary and classified as indebted countries and also have not faced serious debt servicing problem. It is clear that the effect of debt burden may vary across these countries.

Second, previous studies have not employed cointegrating modeling techniques to examine the external debt and economic growth association in developing countries. Still, previous studies generally concentrate more particularly on how external debt influences investment or saving levels rather than GNP or GDP level (e.g Hoffman and Reisen, 1991; Savvides, 1992). Moreover, while a drag on investment rates will reduce economic growth; external debt could also affect the productivity of production factors in economic growth. External debt may still affect output growth even if investment levels are unaffected (Fosu, 1999). Even though some studies have used the Engle-Granger two step procedure, this method makes the implicit assumption that the cointegrating vector is unique, which means that we are bound to end with a model that is a linear combination of independent cointegrating vectors. In particular, the assumption is made that the cointegrating vector is unique, this may not however be

the case, and the two-step procedure provides no framework for addressing this question.

Third, single country data may give more reliable results than studies of the cross-country or specific areas of the world. Due to a lack of individual country studies and problems with cross-sectional studies, time series analysis for a single country is more reliable than cross section analyses (Sezgin, 1997).

3.3 THE ETHIOPIAN CASE

A number of studies have been undertaken to investigate the origin of Ethiopia's external debt crisis. Most of the findings indicate that the general causes are the same as the rest of the African countries. It is a combination of multiple domestic policies orientation and external shocks. Regarding the literature on Ethiopia debt sustainability, there are different views. According to Ghani and Zang (1995), Ethiopia's debt is unsustainable prior to the launch of the reform programme. But after launch of the reform program in 1992, Ethiopia has begun to make transition from unsustainable to sustainable debt path.

On the other hand Abdulhamid (1999), based on his descriptive analysis concluded that Ethiopia's debt is unsustainable and the economic reform effort is threatened by unsustainability of debt rather than assist the country to reduce to sustainable level. The debt sustainability analysis is also prepared by the World Bank, the IMF, and the African Development Bank jointly with Ethiopian authorities, who evaluates Ethiopian prospect for attaining external debt sustainability through an examination of Ethiopia's debt level in the context of 20 years macroeconomics and balance of payment framework.

Research attempting to link external assistance to growth, savings and government's fiscal position remains controversial. Two papers have attempted to evaluate that the impact (Befekadu, 1992; Alemayehu and Befekadu, 1999). Befekadu (1992) showed that there was positive correlation between external resource inflows and economic growth between 1960 and 1974, but negative correlation between 1975 and 1988. The different outcome was explained by the different policy regimes pursued by the two governments, that is, external capital contributed positively to growth in Ethiopia during the Imperial era and negatively during the Derg regime. He emphasized that the negative contribution of external capital during the Derg era was a result of the policies pursued. The policies in the Derg regime were diverted resources a way from agriculture to other sectors. As a result coffee which is the most important export commodity has its share of export earning declined 61 percent. Alemayehu and Befekadu (1999) used an error correction model (ECM), the results of which showed a positive long-run relationship between aid and growth, although the correlation was negative in the short run.

Tolessa (2001) examined the impact of foreign aid, loans and grants on domestic saving, investment and economic growth. The paper utilized a time series data from 1964/65 to 1999/2000 and employs the Johansen Maximum likelihood technique to investigate the impact. He found that foreign loan, among other factors, positively affects domestic saving and investment while foreign grants affect domestic saving and investment negatively. Likewise, foreign grants affect growth negatively while foreign loan contribute positively and significantly to economic growth.

CHAPTER FOUR

ECONOMETRIC ANALYSIS AND ESTIMATION RESULTS

4.1 MODEL SPECIFICATION

Recent literature has provided a significant body of evidence about the most relevant indicators and predictors of external and debt crises. The key macroeconomic indicators are output growth; terms of trade; monetary indicators; interest rates; external debt ratio to GDP, external debt service ratio to GDP, external debt service ratio to exports, and, ratios of short term debt to total debt, and debt service due to total debt.

To capture all relevant debt burden indicators, the model adopted is based on Elbadawi *et al's* (1996) model specification. Like in similar studies, the debt burden indicators enter the production function directly. Therefore, the regression equation is specified as:

$RGDP_t = f(EDGDP, DSR, PINV, TOT, INFL)$ ------(4.1)

Where $RGDP_t$ = Real GDP at time t

EDGDP = Stock of external debt to GDP ratio (-)

DSR = The debt service as a ratio of export earnings (reflect the ‘crowding out’ effect) (-)

PINV = Current real private investment as a ratio of GDP (+)

TOT = Terms of trade (captures external shocks) (- or +)

INFL = Rate of inflation (reflects macro- economic stability) (- or +)

Using equation (4.1) and expressing the variables in natural logarithmic form,²⁴ an attempt has made to look at the relative contributions (elasticities) of each variable to the growth process. Therefore, the model to be estimated is specified as

$$\text{LRGDP}_t = \beta_0 + \beta_1 \text{LEDGDP} + \beta_2 \text{LDSR} + \beta_3 \text{LPINV} + \beta_4 \text{LTOT} + \beta_5 \text{LINFL} + \varepsilon_t \text{.....} \quad (4.2)$$

In equation (4.2) above,

LRGDP_t = the natural logarithm of real GDP at time t

LEDGDP_t = the natural logarithm of stock of external debt to GDP ratio (-)

LDSR = the natural logarithm of debt service as a ratio of export values (-)

LPINV = the natural logarithm of current real private investment as a ratio of GDP (+)

LTOT = the natural logarithm of terms of trade (+ or -)

LINFL = the natural logarithm of rate of inflation (- or +)

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 are coefficients of elasticities, and ε_t is the random disturbance term. The expected signs of each variable input are shown in the bracket.

A traditional indicator for creditworthiness, debt-service ratio relates debt service requirements to export income. The higher the ratio of debt service to exports of goods and services, the greater will be the likelihood that in the event of a severe decline in export earnings the country will no longer be able to meet debt-service obligations. The probability that a country will seek a rescheduling rises as its debt-service ratio rises.

Private investment is included in the model to capture the accelerator principle. The model also incorporates other policy, fundamental and shock variables. The

²⁴ The growth rate is derived from the regression of the natural logarithmic values against time.

macroeconomic policy variables are captured by inflation rate. The shock variable is captured by terms of trade.²⁵ These variables show the extent of vulnerability of the economy to external factors and consequently to reliance on foreign resource financing. They also show the extent of credibility of policies and their effect on economic growth.

Inflation may also act as a proxy variable for the quality of economic management. A high rate of inflation is a sign of internal economic tension and of the inability or unwillingness of the government and the central bank to balance the budget and to restrict money supply. The higher the inflation rate, the more risky the government is perceived to be. Furthermore, inflation can influence the demand for foreign funds through its adverse impact on the trade accounts. That is, inflation would tend to cause export demand to fall and import demand to rise, and the growing trade deficit, in turn, would increase trade-financing requirements.

4.2 DATA TYPE, SOURCES AND DESCRIPTION

As the success of any econometric analysis ultimately depends on availability of appropriate data, it is, therefore, essential to discuss about the source and nature of the data. The study is conducted based on secondary data from domestic and foreign sources. For the domestic sources from documents of the former Ministry of

²⁵ *TOT (terms of trade)* is defined as the ratio of the domestic export unit value to the import unit value indices. However, no data is available on export and import unit value indices for Ethiopia over the study period. Thus, attempts were made to construct these indices using the Fisher's price index formula. The Fisher price index formula is a geometric average of the Laspeyres's and Paasche's index formula and is computed as follows (Gupta, 1973: 400). These indices are constructed based on the value and volume of exports and imports by major commodity groups; as reported by NBE, quarterly bulletin. Since this general category is used to construct the indices, the resulting TOT can no more than is a proxy.

Economic Development and Cooperation (MEDaC) the now Ministry of Finance and Economic Development (MoFED) and National Bank of Ethiopia (NBE) while for external sources from World Debt Tables, Global Development Finance, different World Bank Reports and IMF publications are utilized.²⁶

Different publications showed different figures for the same variable in the same period. Debt figures obtained from MoFED are not the same as that of NBE. Similarly, data obtained from World Bank, World Debt Tables is not consistent with the publications of International Financial Statistics (IFS) year book. Besides, some important variables were missing i.e. difficult to get all the acquired variables either from domestic or international sources. As a result, both sources are used jointly.

However, most of the data is employed from national sources to its advantage by giving consistent figures when the sectoral distribution and debt burden implication are considered. But this source doesn't provide the military related debt which is very important not only because of its magnitude but also it does not leave behind productive projects which could provide export earnings to service it (Befekadu, 1992).

To estimate the model and examine the statistical significance of the explanatory variables on RGDP, econometric analysis will be employed using time-series data. The sample period for this study is from 1963/64 to 2003/04.

The data series on gross capital formation (at current market price) was computed by subtracting aggregate consumption expenditure (public and private consumption) from the gross domestic expenditure series. Government capital expenditure is used as a proxy for public investment. Hence, private investment is calculated as the difference between gross capital formation and public investment. Gross domestic product at

²⁶ There is substantial variation between data (on external debt and debt related figures) from international and locally available publications.

constant 1980/81 factor cost was used for real output. Inflation rates were derived as percentage changes in the consumer price index in each period.

4.3 STATIONARY AND NON-STATIONARY SERIES

In constructing an econometric model between economic variables time series data on the variables are needed. But such data create several problems in an attempt to build an econometric model for the following reasons. First, empirical studies on time series assume that the underlying time series is stationary. Second, in regressing a time series variable on another one, one often obtains a very high R^2 although there is no meaningful relationship between the two. This situation exemplifies the problem of spurious regression.

Regression analysis based on time data implicitly assumes that the underlying time series data are stationary (Gujarati, 1995). Stationary time series have time independent value, a finite variance, transitory innovation from the mean and a tendency to return to its mean value. However, in practice most econometric time series are non stationary, in perception that the mean and variance depend on time and thus there are no tendencies for them to hold back to a given value. Modeling a non-stationary time series leads to spurious and inconsistent regression. So, in order to avoid spurious regression problem; stationarity of the time series econometric variables used in the estimation need to be tested in this paper, Dickey-Fuller (DF) and Augmented Dickey Fuller (ADF) statistical tests are utilized to test for stationary.

Time series variables may be non-stationary but their linear combination may be stationary. In such cases, we say there is no co-integration (no long run relationship) between the variables involved. In testing for co-integration, the Engle-Granger two-

step procedure and the Johansen's maximum likelihood estimation procedure are often used.²⁷

4.4 TESTING FOR UNIT ROOTS

Applying the rank and order conditions of identification to the structural model, it can be shown that every equation is over identified. Before conducting the simultaneous tests, the variables must be found to be individually stationary. If both are not stationary, they must be cointegrated. The series, say Y_t will be integrated of order d , that is $Y_t \sim I(d)$, if it is stationary after differencing d times, so Y_t contains d unit roots. A series that is $I(0)$ is stationary. In this study, the augmented Dickey-Fuller (ADF) test is used for this analysis.

Unit roots tests are used which is developed by Dickey and Fuller (1979). Before estimation we then apply the Dickey-Fuller (DF) test and Augmented Dickey-Fuller test (ADF) for unit roots a formal test to investigate the unit root.

Regarding methodology, the Engle-Granger Two Stage (EGTS) procedure is adopted. Augmented Dickey Fuller test run on all the variables used indicated, as it is almost always the case regarding economic time series, that most of the variables are non-stationary or more specifically $I(1)$. Accordingly, the appropriate Error Correction Models (ECM) are estimated to understand the short-run dynamic adjustment mechanisms.

²⁷ The two approaches will be discussed in detail in the latter sections of this chapter.

4.5 COINTEGRATION ANALYSIS

The concept cointegration is applied to a wide variety of economic models. Any equilibrium relationship among a set of non-stationary variables implies that the variables cannot move independently of each other. These linkages among the stochastic trends necessitates that the variables are cointegrated.

The economic interpretation of cointegration is that if two (or more) series are linked to form an equilibrium relationship spanning the long run, then even though the series themselves may contain stochastic trends (i.e. be non-stationary) they will nevertheless move closely together overtime and the difference between them will be stable, (i.e. stationary). Thus the concept of cointegration mimics the existence of a long run equilibrium to which an economic system converges over time, and the residuals obtained from the linear combination of the series could be integrated as the disequilibrium errors.

A principal feature of cointegrating variables is that their time paths are influenced by extent of any deviation from the long-run equilibrium. After all, if the system is to return to the long-run equilibrium the movements of at least some of the variables must respond to the magnitude of the equilibrium. The short run dynamics is influenced by the deviation from the long run relationship. The dynamic model implied here is an error correction. In an error correction model, the short run dynamics of the variables in the system are influenced by the deviation from equilibrium (Enders, 1995).

Two major tests are generally used for cointegration, one by Engle and Granger (1987) (henceforth called the EG test) and the other by Johansen (1988). The latter test is considered superior to the former since it corrects some of the shortcomings of the

first test suffers from, mainly being a two-step test in which errors in the first step are carried over to the second step.

Engle and Granger (1987) provide a two-step cointegration technique that enables determination of whether a long-run relationship exist among two or more non-stationary variables, by examining the stability deviations from the relationship using the coefficients estimated by fitting static regression. The first step in the statistical investigation is to determine the order of integration of the variables through unit root tests to assure that the necessary conditions for cointegration are satisfied. According to the EG test, once it is established that both, say x and y , are integrated of the same order, one has to test the order of integration of the OLS regression residuals. If both x and y are $I(1)$ and the residuals are $I(0)$, we conclude that x and y reach a long run equilibrium from which they may deviates in the short run.

The second step is to estimate the error correction model (ECM) from the residual in the long run. Engle and Granger (1987) proposed the value of the residual $et-1$ estimates the deviation from the long-run equilibrium in period $t-1$ (Enders, 1995).

Although the EG procedure is easily implemented, it is found to possess some important limitations. One limitation is that, in tests using three or more variables, there may be more than one co-integrating vector. In fact, if there are n variables in a model there may be n cointegrating vectors or less. The Engel-Granger method has no systematic procedure for separate estimation of the multiple cointegrating vectors. This method also makes the implicit assumption that the cointegrating vector is unique, which means that we are bound to end with a model that is a linear combination of independent cointegrating vectors.

Another limitation of the EG approach is that it relies on a two-step estimator. The first step is to generate the error series and the second step uses these generated errors for estimation, thereby carrying over errors obtained from a regression using the residuals. Hence any error introduced in the first step is carried into the second step.

Finally, the method only allows for a single cointegration equation. However, in case more than two variables involved, there is a possibility that more than one equation may depict the long-run relationships among the various variables.

Another test for cointegration among the variables is a procedure developed by Johansen (1988). The procedure suggested by Johansen (1988) basically depends on direct investigation of cointegration in the vector autoregressive (VAR) representation. This analysis yields maximum likelihood estimators of the unconstrained cointegration vectors, but it allows one to explicitly test for number of cointegration vectors so that the weaknesses of Engle-Granger (1987) two-step procedure are overcome.

By using Johansen's (1988) maximum likelihood estimators, the above pitfalls of the EG test can be avoided. Johansen's test enables estimating and testing for the presence of multiple cointegration relationships in a single-step procedure. A class of models that embodies the notion of correction has been developed and is referred as the Error Correction Model (ECM). The use of error-correction modeling provides an additional channel through which causality in the Granger sense may be assessed. The standard Granger test may provide invalid causal information due to the omission of error correction terms from the tests. If the error-correction term is excluded from causality tests when the series are cointegrated, no causation may be detected when it exists, i.e., when the coefficient of the error correction term is statistically significant.

Cointegration test in this paper are conducted by Johansen Maximum Likelihood estimation procedure since this particular method is claimed to be superior to the Engle Granger two-step method. The Johansen method does not require a priori endogenous-exogenous distinction among variables and it can also identify multiple cointegration vectors.²⁸ The Johansen procedure sets out a maximum likelihood procedure for the estimation and determining the presence of cointegrating in VAR system. VAR is one form of multivariate modeling where no variable in the system is assumed to be exogenous a priori.

In identifying the number of cointegrating vectors, the Johansen procedure provides n eigen value tests denoted by λ (also called characteristic roots) whose magnitude measures the extent of correlation of the cointegration relations with the stationary elements. Rejecting the null hypothesis implies that there exists stationarity. If the variable is not stationary at levels appears to be stationary after n^{th} difference then the variable is said to be integrated of order n , $I(n)$.

The Johansen technique is fast becoming an essential tool for applied economists wishing to estimate time series models. The implication that non-stationary variables can lead to spurious regressions unless at least one cointegrating vector is present means that some form of testing for cointegration is compulsory. Earlier use of the Engle-Granger procedure is giving way to the determination of more than one cointegrating rank given the consequences for the EG approach if more than one cointegrating relationship exists.

There are at least two potential advantages from estimating the multivariable model having conditioned on the weakly exogenous variables. In particular, conditioning on these variables will usually ensure that the rest of the system has better stochastic

²⁸ It considers all variables in level as endogenous and lags of the variables as exogenous.

properties. This is linked to the second advantage, which becomes apparent when the short-run model is also interest, since the number of short-run variables in the VECM will be reduced. Hence, it is more important to test for weak exogeneity in the full model rather than assume it.

The coefficient of the lagged residuals in the error correction model has the interpretation of a speed of adjustment parameter. The larger it is, the greater the response of the variable to the previous periods deviation from the long-run equilibrium.

4.6 EMPIRICAL ANALYSIS AND RESULTS

4.6.1 RESULTS FOR UNIT ROOT TESTS

Before estimating the above equation, a test for simultaneity was carried out to ascertain whether simultaneous equation-bias exists. The test showed that only weak simultaneity exists. This was handled by normalizing the variables through the error correction process. Therefore the equation is estimated incorporating an error correction term.

The first step was to test for stationarity of the variables. The conventional Dickey-Fuller (DF) and Augmented Dickey-Fuller (ADF) tests were used to test for stationarity of the series. The results of the test for the variables in levels are presented in Table 4.1. In addition to the ADF test, the paper attempts to observe the trend of the variables graphically. The graphical representation of the variables showed the same characteristic of the variables as the ADF test.

Table 4.1: Unit Root Tests of the Variables

Variables		Augmented Dickey-Fuller	
		With drift and trend	
		Lag 1	Lag 2
LRGDP		-2.2744	-0.88263
LEDGDP		-3.6316*	-2.9815
LDSR		-0.78818	-0.98091
LTOT		-1.4695	-1.8926
LINFL		-4.3606**	-2.8475
LPINV		-1.8133	-1.7062
DLRGDP		-7.3234**	-3.7971*
DLEDGDP		-5.8710*	-4.5596**
DLDSR		-3.7020*	-2.4720
DLTOT		-3.8541*	-3.2620
DLINFL		-7.7994**	-4.6072**
DLPINV		-5.8093**	-5.2694**
Critical	1%	-4.224	
Values	5%	-3.535	

* Denote rejection of the null at 5% significance level

** Denote rejection of the null at 1% significance

The tests show that the variables LINFL and LPINV are stationary (integrated of order zero) at 1% level of significance while LEDGDP is stationary at 5% level of significance. The rest of the variables were found to be stationary after differencing them once. The variables are, therefore, integrated of order one ($I \sim I(1)$).

4.6.2 COINTEGRATION ANALYSIS ADOPTING THE JOHANSEN PROCEDURE

By using the Johansen's (1988) maximum likelihood estimators, the above pitfalls of the EG test can be avoided. Johansen's test enables estimating and testing for the presence of multiple co-integration relationships, in a single step procedure. Under this procedure, the variables of the model are represented by defining a vector of potentially endogenous variables, Z_t which is modelled as an unrestricted vector autoregressive (VAR) involving up to k -lags represented by

$$Z_t = A_1 Z_{t-1} + A_2 Z_{t-2} + \dots + A_k Z_{t-k} + \varepsilon_t \text{-----(4.3)}$$

Where: Z_t is the $(n \times 1)$ vector variables (Z_{1t}, Z_{2t}, Z_{nt}) and A_1 is an $(n \times n)$ matrix of parameters. The error term ε_t is an independently and identically distributed n -dimensional vector with zero mean and variance matrix.

This model serves to estimate dynamic relationships among jointly endogenous variables without imposing strong a priori restrictions (such as exogeneity of some variables). The system is in reduced form with each variable in Z_t regressed on only lagged values of both itself and all other variables in the system.

Equation (4.3) can be reformulated into the vector error correction model (VECM) from the VAR model can thus be formulated as (Harris, 1995, Enders1995),

$$\Delta Z_t = \sum_{i=1}^{k-1} \Gamma_i \Delta Z_{t-i} + \Pi_j Z_{t-k} + \Phi D_t + \varepsilon_t \text{-----(4.4)}$$

Where, $\Gamma_i = - (I - \sum_{j=1}^k A_j)$, containing information of the short-run adjustment to changes in Z_t and $(i=1, \dots, k-1)$

$\Pi_i = - (I - \sum_{j=1}^k A_j)$, containing information of the short-run adjustment to changes in Z_t

The above VECM contains information both on the short run and long run adjustment to changes in Z_t through the estimates of Γ_i and Π_i respectively. Π can be represented by equation $\Pi = \alpha \beta'$, where α represents the speed of adjustment to disequilibrium, while β is a matrix of long run coefficients such that the term $\beta' Z_{t-1}$ included in equation (4.4) represent up to $(n-1)$ cointegration relation ship in the multi-variate model which ensure that Z_t converge to their long run steady state path (Harris, 1995).

The important feature in the above model is the rank of matrix Π .²⁹ If the rank $(\Pi)=0$, then the matrix is null and the model is the usual VAR in first differences. How ever if the rank $(\Pi) = n$, then the vector process is stationery (i.e. all variables are I (0). But if the rank $(\Pi) =1$, then there is a single cointegrating vector and the expression Z_{t-k} is the error correction factor.

On the other hand, if $1 < \text{rank}(\Pi) < n$, it implies that there are multiple cointegrating vectors. The latter situation where the rank (Π) ranges between 0 and n is usually termed as reduced rank (Harris, 1995, Enders, 1995). This implies that testing for cointegration requires finding the rank of (Π) .

²⁹ A rank of matrices refers to the number of independent cointegrating vectors.

To do so, the paper adopts the Johansen's framework in which the variables can be represented as a vector auto regression as:

$$\begin{pmatrix} \Delta \text{LRGDP}_t \\ \Delta \text{LEDGDP}_t \\ \Delta \text{LDSR} \\ \Delta \text{LPINV} \\ \Delta \text{LTOT} \\ \Delta \text{LINFL} \end{pmatrix} = \alpha_i \begin{pmatrix} \Delta \text{LRGDP}_{t-i} \\ \Delta \text{LEDGDP}_{t-i} \\ \Delta \text{LDSR}_{t-i} \\ \Delta \text{LPINV}_{t-i} \\ \Delta \text{LTOT}_{t-i} \\ \Delta \text{LINFL}_{t-i} \end{pmatrix} + \alpha \beta' \begin{pmatrix} \text{LRGDP}_{t-i} \\ \text{LEDGDP}_{t-i} \\ \text{LDSR}_{t-i} \\ \text{LPINV}_{t-i} \\ \text{LTOT}_{t-i} \\ \text{LINFL}_{t-i} \end{pmatrix} \quad (4.5)$$

Under the above formulation, the rank of the matrix α determines the number of cointegrating vectors between the variables. The method used for determining the number of cointegrating vectors is the Johansen's (1988) technique based on maximum likelihood approach. The approach is only available in Pc Fiml version 9 and cats version 4 software packages.

In Johansen procedure, the likelihood ratio (LR)³⁰ uses two test statistics: the maximal eigen values ($\lambda_{\max}$ statistics) and the trace statistics (λ_{trace}). These statistics are used to test the null hypothesis that there are at most r cointegrating vectors against the alternative that there are $r+1$ cointegrating vectors (Harris, 1995).

Returning to our analysis, it is necessary to determine whether there exists at least a single linear combination of these variables that is I (0). The Johansen maximum likelihood test enables us to check the possibility of having more than one cointegrating vector, which is the apparent procedure in the presence of more than two

³⁰ The likelihood ratio (LR) test is used to test the significance of estimates of λ_i eigen values.

variables. Estimating the model, the following test results on the number of cointegrating vectors are obtained from the PcFiml 9.0 output.

Table 4.2 Tests for number of Cointegrating Vectors

Ho: rank = p	$-\lambda \log(1 - \lambda_{r+1})$	λ max 95%	$-\lambda \sum \log(1 - \lambda_i)$	λ trace 95%
P==0	37.88**	25.5	58.53**	42.4
P<=1	12.54	19.0	20.65	25.3
P<=2	8.112	12.3	8.112	12.3

* Denote rejection of the null at 5% significance level

** Denote rejection of the null at 1% significance

As presented in table 4.2, the null of no cointegration is rejected at 1% level of significance while the alternative hypothesis that at least one cointegrating vector is not rejected by both λ max and λ trace statistics. For the null hypothesis (no cointegrating vectors), the value of λ max = 37.88 and λ trace = 58.53 are greater than their respective critical values of 25.5 and 42.4 at 1% level of significance, respectively. This suggests that the null of no cointegrating vector is rejected; while a case of one cointegrating vector is supported by both λ max and λ trace statistics i.e. we fail to reject the alternative hypothesis.³¹

The conclusion drawn here is that there exists precisely one cointegrating vector in the estimated model. This suggest that there exists a linear combination of I(1) variables that cointegrates them in a stable long-run relationship.

³¹ The λ max and λ trace are adjusted for degree of freedom to avoid contradictions in the tests and small sample problem of over rejection of the true null.

Table 4.3 Results of Johansen's Cointegration Analysis (PC Fiml output)

Standardized \beta' eigenvectors			
LRGDP	LDSR	LToT	Trend
1.0000	0.10633	0.098042	-9.5960e-005
22.548	1.0000	-9.0650	0.019606
-11.771	3.5233	1.0000	0.020211
Standardized \alpha coefficients			
LRGDP	-0.90232	-0.0099407	0.016907
LDSR	-3.2173	-0.0024077	-0.11553
LToT	-2.3249	0.062639	0.057199
Number of lags used in the analysis: 2			
Variables entered unrestricted: Constant			
Variables entered restricted: Trend			

Since the existence of only a unique cointegrating vector is statistically supported in the above tests, the first column of α matrix and the first row of the β matrix in Table 4.3 happen to be the relevant entries. This in turn, makes the relevant equation one in which LRGDP is written as a function of the other five explanatory variables. However, the explanatory variables are required to be weakly exogenous in order to fulfill the classical linear regression assumptions. Weak exogeneity is required for the analysis as a single acquisition to be efficient.

This test is conducted by imposing a zero restriction on the speed of adjustment parameters (α -coefficients) in the reduced single equation, using the log likely ratio (LR test). The results of the tests for weak exogeneity are summarized in Table 4.4.

Table 4.4: Tests for Zero- restrictions on α –coefficients (Test for weak exogeneity of variables)

Variables	LRGDP	LDSR	LToT
α –coefficients	-0.90232	-3.2173	-2.3249
LR test, Chi^2 (1)	13.163	8.724	5.6025
P-value	[0.0003] **	[0.0632]	[0.0779]

** Denote rejection of the null at 1% significance

* Denote rejection of the null at 5% significance level

When testing for weak exogeneity, both explanatory variables, LRGDP and LDSR, happened to be weakly exogenous, while LRGDP was found to be endogenous. In fact, this is a requirement for the dependent variable to be endogenous. Hence, there was no need to conduct the two stage least squares (2SLS) simultaneous equation estimator. The validity of a single equation estimation of the unique cointegrating vector is already confirmed by the weak exogeneity condition established for all the explanatory variables in the model.

The columns of β have important economic interpretations as co-integrating vectors. Hence, they may be interpreted as long-run parameters. Thus, the single equation model with estimates of the long-run coefficients (elasticities) is given by:

LRGDP = - 0.10633LDSR - 0.098042LTOT----- (4.6)

In order to test the significance of the long-run coefficients, a zero restrictions are imposed on each β coefficient and the results of the long-run statistics are presented in table 4.5.

Table 4.5 Tests for zero restriction on β - coefficients

Variables	LDSR	LTOT
β –coefficients	0.10633	0.098042
LRtest,Chi ² (1)	10.029	3.9588
P-value	[0.0015] **	[0.0466] *

* Denote rejection of the null at 5% significance level

** Denote rejection of the null at 1% significance

As it is explained from the table, the long-run results depict that all explanatory variables for LRGDP were found to be significantly different from zero. Moreover, the variables are with the hypothesized sign. The result rejects the null hypothesis that the β coefficients are jointly statistically insignificant at 1% and 5% level of significance implying the explanatory variables jointly explain variations in the dependant variable significantly.

The information provided by the long-run test can now be used to generate a set of error correction models that capture both the short and long-run behaviours of the relationship. The changes in the relevant variables represent short-run changes, while the coefficient of an error correction term represents a speed of adjustment back to the long-run relationship among the variables.

THE SHORT RUN MODEL

So far we have determined the long-run relationship between the variables of interest. Having already obtained the long-run model (See equation 4.6) and estimated the coefficients, the next step will be estimation of coefficients of the short-run dynamics that have important policy implications. Hence, an error correction model (VECM) will be estimated that incorporates the short-term interactions and the speed of adjustment

towards long-run equilibrium. In the error correction model, the short-run disequilibria are approximated by the first lag of the estimated long-run linear combination.

The procedure adopted for estimation is the Hendry's approach of general to specific modelling. In this approach a large model is estimated first which includes as many explanatory variables and their lags as possible. Then all insignificant explanatory variables are continuously dropped until a parsimonious model with few explanatory variables but acceptable in terms of significance, economic interpretation and diagnostic validity is obtained. After step-by-step dropping of the insignificant variables from the estimate, one will have a specific parsimonious vector error correction model (PECM) as reported in Table 4.6.

Table 4.6 Results of the Specific Parsimonious Error-Correction Model (PECM)

Variables	Coefficients	Std. Error	t-value	t-prob
Constant	0.023104	0.011272	2.050	0.0499
DLRGDP_1	1.0645	0.35677	2.984	0.0058
DLRGDP_2	-0.68212	0.11851	-5.756	0.0000
DLDSR	-0.043440	0.019776	-2.197	0.0365
DLINFL_1	0.029257	0.0097872	2.989	0.0058
DLPINV_2	0.043054	0.0093902	4.585	0.0001
DLEDGDP_1	-0.14530	0.039344	-3.693	0.0010
DLEDGDP_2	0.080759	0.032266	2.503	0.0184
ECM1_1 ^a	-0.73460	0.36388	-2.019	0.0532

Diagnostic Tests

$R^2 = 0.749448$

$DW = 2.12$

$AR\ 1-2\ F(2, 26) = 0.31508\ [0.7325]$

$ARCH\ 1\ F(1, 26) = 0.12255\ [0.7291]$

$Normality\ Chi^2(2) = 8.7456\ [0.7213]$

$Xi^2\ F(16, 11) = 0.28385\ [0.9887]$

$RESET\ F(1, 27) = 0.042943\ [0.8374]$

^a denotes an error correction term

The results of the various diagnostic tests are reported and the tests did not detect any problem of heteroscedasticity (ARCH-Autoregressive conditional heteroscedasticity test), non-normality (Normality $\chi^2(2)$ test). None of these tests reported were nothing to suggest that the model was misspecified. The tests covered, respectively, the Breusch-Golfer LM test for serial autocorrelation up to the second lag, an ARCH test for conditional heteroscedasticity, Jarque-Bera Normality X^2 (.) tests, and the Ramsey RESET general test for misspecification. We also observe from table 4.6 that there is no evidence of serial correlation by AR test.

Most of the variables considered in the determination of economic growth in Table 4.6 have their hypothesized. The coefficient of past debt accumulation (debt lagged once) is negative as expected. These results confirm the existence of debt overhang problem as earlier postulated. The results tally with the findings of similar studies (e.g. Elbadawi, *et al.*, 1996). However, the magnitude of the coefficients is quite small. The negative effect of current debt service ratio on economic growth was as expected. Moreover, this is a short run effect. A rise in private investment as a ratio of GDP (both current and lagged) has positive effect on growth as would be expected. According to the accelerator principle, growth in investment facilitates faster economic growth.

It has been said that inflation may stimulate growth at low and containable levels but can impact negatively on growth at high levels. The results show that current inflation rate (INFL) deters economic growth while past inflation rate (INFL_{t-1}) stimulates economic growth.

The lagged error correction term (ECT_{t-1}) included in the model to capture the long-run dynamics between the cointegrating series is correctly signed (negative) and statistically significant. The coefficient indicates a speed of adjustment of 73.46% from actual growth in the previous year to equilibrium rate of economic growth. This is a high speed of adjustment implying that all errors/deviations are corrected within one year. A further discussion of what ECT entails is worthwhile as it reveals long run relationships of the non-stationary variables. It has a negative sign implying that any shock in the system in the short run will return back to its long run path.

The goodness of fit, also called the overall significance of the model, as measured by R^2 , shows that about 74.94 percent of the variations in the dependent variable (LRGDP) is explained by the explanatory variables. This overall significance test of the model indicated that explanatory variables jointly are statistically significant at 1% level of significance.

CHAPTER FIVE

CONCLUSION AND POLICY IMPLICATIONS

5.1 CONCLUSION

Although the contribution of external borrowing notwithstanding, it is important to note that there is a limit beyond which it poses negative effects on the economy. Elbadawi et al (1997) generated a 'Laffer curve for debt' establishing a critical threshold beyond which debt impacts negatively on growth and investment. On the basis of their results, debt in excess of 97 percent of GDP is likely to have a negative impact on investment and growth. With respect to the private sector investment, it suggested a debt to GDP ratio greater than 33.5 percent would generate a depressive effect by reducing investment.

In the literature, different ideas were suggested by different theoreticians to explain the reason behind the huge rise in debt figure. The World Bank Report argued that the cause of SSA's debt crisis is totally the result of inadequate government policies. The empirical findings confirm that an excessively high stock of external debt affects economic growth negatively both in the short run. But, it was statistically insignificant. Hence, the main hypothesis that debt to GDP ratio has impact on economic growth is not rejected since the variable is significant because there is an indication of its possible negative impact on the economy.

Academics and international institution officials have devoted considerable thought and effort in solving the problem of external debt of developing countries. However, external debt remains one of the greatest burdens for this group of countries, hampering their growth prospects, and increasing their vulnerability.

Recent literature has provided a significant body of evidence about the most relevant indicators and predictors of external and debt crises. The key macroeconomic indicators are output growth; terms of trade; monetary indicators; interest rates; exports, imports and the external current account; external debt ratio to GDP, external debt service ratio to GDP, external debt service ratio to exports, or interest payments to GDP; and, ratios of short term debt to total debt, and debt service due to total debt.

Ethiopia, one of the poorest countries in the world, has witnessed broadly, three policy regimes: the imperial rule (prior to 1974), the *Derg* regime (1974-1991), and the present regime (1991 onwards). The first regime adopted non-interventionist approach, the second followed rigid inward-looking strategy and the third initiated economic reforms to address the long-term structural problems of under development. Beginning in 1992, the Ethiopian government began to implement an economic reform program with a view to revive the economy. Various policy measures, some homebred, others imposed by the IMF and the World Bank, have been undertaken.

The external debt burden has assumed great importance in the economy and require due attention of the policy makers as it stands on top in the budgetary allocation as the expenditure outlay and consumes a huge portion of the GDP. The growing public debt and its servicing are indeed very serious macroeconomic problems facing the economy, which lead to high inflation, low savings, and sovereignty of the country.

The post 1991 period in Ethiopia has witnessed several economic reforms under the structural adjustment program. This became compulsory due to the serious balance of payment crisis in Ethiopia. The new government, which took over in 1991, initiated a set of reforms to address both the need for immediate macroeconomic recovery and long-term structural problems of underdevelopment.

This study presented the external debt scenario of Ethiopia over its three economic regimes. The trends in foreign debt across various regimes indicate that Ethiopia has been a severely indebted country and continues to be so even after the economic reforms in the 1990s. It has been experiencing a steady increase in its debt to GDP ratio, which became more than its GDP since 1992. The debt to exports ratio rose to more than 100 percent in the 1980s and remained at a very high level in the 1990s. This has pushed the country into severe debt service difficulties. Despite rescheduling and other policy measures, the country has not been able to meet its debt service obligations. Debt arrears have increased thereby increasing Ethiopia's debt burden.

In a country like Ethiopia, where material and financial resources are lacking to carry out development programs, the need for external borrowing is something one can not afford to ignore. However, financing the deficit through external borrowing resulted in increasing external debt stock. The debt burden of a country is of great concern because it imposes a number of constraints on its economic growth. Hence, the study examined the effect of debt on economic growth in Ethiopia using a model developed by Elbadawi *et al.* (1996).

The study pin downs vital role of the emerging field of external debt and debt indicators in the Ethiopian economy with emphasis on empirical relationship of external debt and economic growth over the period 1963/64-2003/04. In doing so, this paper examines the magnitude and structure of the country's external debt, and its impact on economic growth across its three economic regimes. Using time series data for the same period, the empirical results indicated that past external debt accumulation has a negative impact on economic growth. Debt servicing also appears to affect economic growth adversely.

5.2 POLICY IMPLICATIONS

As indicated earlier, past attempts to resolve SSA's external debt crisis have not borne much fruit. The only hope now lies in the current HIPC debt Initiative, which is expected to relieve the HIPC's of their debt burdens, with positive implications on poverty. In as much as external debt burden is a reality in Ethiopia, it is also true that the country cannot achieve its goal of becoming an industrialized nation by the year 2020 without external financial assistance. In view of the current economic recession and the negative net outflows, the results obtained from this study support the need for Ethiopia to be considered for comprehensive debt relief measures.

The simultaneous attainment of sustainable economic growth and external debts appear difficult at the moment and could remain elusive if aggressive measures are not undertaken. The government could play an important role in stimulating the economy if the resources obtained from the debt relief initiatives are targeted at productive public investments with the resultant crowding-in effects on private investment, and social spending for the poor.

Being the key source of indebtedness, the challenge to the government remains that of ensuring efficiency in delivery of services and increased productivity of public investments. Efforts are already being directed towards this direction through privatization of parastatals and downsizing of the civil service, but more has to be done to revamp the economy to a higher, sustainable growth path. In the long run, foreign savings should supplement but not replace domestic savings.

Proper macroeconomic management of the economy as a whole is important since it also determines the volume and servicing of external debt, as well as the credit rating. Availability of external finance should be consistent with a policy framework that is

credibly maintained (fiscal stance, exchange rate policy, interest rate policy, pricing policy, etc.). It is important to create credibility including political will in order to spur investor confidence for both local and foreign investments. Commitment to rebuilding credibility is a key challenge for Ethiopia.

Development activities could also be financed through increased export earnings spearheaded by an export-led growth strategy. As part of broader strategy to assist the HIPC countries out of the debt crisis, the international community should provide a conducive environment for exports from the low-income countries including Ethiopia. Ethiopia still has a chance of overcoming its external debt problems by cultivating the right policies, but will need considerable support through debt relief/reduction initiatives.

Given the scope of the paper, the followings are some of the plausible policy implications with respect to the effort to deal with high levels of external debt and its consequences on the economic growth of the country and for the various parties involved in debt issues:

For debtor country (Ethiopia):

Because external loans must be paid in foreign exchange, external borrowing decisions must be linked to a general economic policy framework that will guarantee profitability of the invested borrowed funds and the generation of sufficient foreign for external debt service. Therefore, the need for good policies and sound economic management can not be overemphasized.

Public and private borrowing needs to be subject to strict scrutiny in terms of its use, within the context of growth-oriented debt sustainability exercises, with comprehensive

debt monitoring and follow-up procedures, including private sector debt. The IMF and other IFIs should continue to provide technical assistance in these areas.

Ethiopia, like other borrowing countries, needs to set up contingent financing in preparation of short-term crises, in order to preclude unnecessarily tough policy adjustments. IFIs and particularly the IMF need to play a major role in this regard.

Structural problems inherent to the Ethiopian economy could be considered as one of the relevant factors contributing to the debt problem in the country. In general, diversifying its export sector is one of the solutions to reduce the debt problem.

Since debt servicing erodes resources which would have been used to improve the welfare of the citizens, the issues of debt reduction, debt forgiveness and debt rescheduling must get due considerations. Hence, debt forgiveness is the most complete and effective strategy for debtor countries to recover debt-induced depression and resume sustainable growth. Not only is the principal extinguished but also the steady accumulation of debt that comes from repeated rescheduling and the resulting capitalization of interest and arrears are eliminated.

External capital should be used to promote high and stable rates of economic growth that are consistent with the achievement of sustainable balance of payment position. Thus, the country must establish criteria for making effective use of resources that will be at its disposal in the future.

The country should introduce effective debt management as a major policy concern to achieve the benefits of external finance without creating difficult problems of macroeconomic and balance of payment stability.

To sum up, the external debt problem is a real constraint and should not be ignored. Therefore, the country must assume primary responsibility for their own fate by sustaining economic reforms and adjustment process.

For International Financial Organizations:

As a main principle, financial resources have to start increasing again in line with broad indicators of world economic growth, trade and finance, to allow for adequate levels of financing at times of crisis.

With additional resources, IFIs should take a strong counter-cyclical approach, with active engagement when private sources of financing dry up. In order to be effective, Balance of Payments support in times of capital account crises needs to be prompt, significant in size, and with only a limited link to complex reforms, to avoid excessive upfront delays in negotiations and eventual disbursements.

Better and more pro-active rules need to be developed within a multilateral context, so as to deal effectively with prospective defaults and other debt difficulties. A possible solution could be an arbitrage system, with the help of neutral agents or facilitators.

For the Official Donor/Creditor Community:

Increased concessional resources are needed for low-income countries, under ODA, to enhance their prospects for growth. Such increase needs to be effected in conjunction with the IFIs.

Bilateral aid needs to supplement the resources made available by the IFIs. Concerted efforts are needed to improve the mechanisms for debt restructuring.

For Private Creditors:

For their own protection, private creditors need to cooperate in developing adequate mechanisms of debt renegotiation, including through accepted arbitrage, or through appointment of a facilitator.

Private creditors should develop procedures for cooperation with official creditors and debtor countries in crisis to reduce volatility and preserve financing flows, in line with the growth potential of the borrower, and not based only on short-term considerations.

REFERENCES

- Afxentiou, P. and A. Serletis, "Growth and Foreign Indebtedness in Developing Countries: An Empirical Study Using Long-Term Cross Country Data" *The Journal of Developing Areas*, Fall, 1996, 25- 39.
- Ajayi, S.I. (1991) "Macroeconomic Approach to External Debt: The Case of Nigeria". Nairobi: *AERC Research paper 8*.
- _____ (2003) "External Debt, Capital Flight and Growth in Nigeria" in: Iweala, N.O *et al* (eds) *The Debt Trap in Nigeria: Towards a Sustainable Debt Strategy*, Africa World Press, inc.
- _____ and M.Khan (2000) *External Debt and Capital Flight in Sub-Saharan Africa*, Washigton DC, IMF
- Alemayehu Geda (1997) "The Historical Origins of African Debt Crisis". ISS *Working Paper, Money, Finance and Development Series No. 62*. The Hague: Institute of Social Studies.
- _____ (1998) *Finance and Trade in Africa: Modeling Macroeconomic Response in world economic context*. (Ph.D. Thesis), The Hague, Institute of Social Studies
- _____ (2002) *Debt Issues in Africa: Thinking Beyond the HIPC Initiative to solving Structural Problems*. *WIDER Discussion Paper No. 2002/35*.
- Alemayehu G. and Daniel Z. (1998) "Profile of Ethiopia's External Debt", Paper prepared for the 8th Annual Conference on the Ethiopian Economy.
- Avery, W., (1990) "The Origins of Debt Accumulation Among LDCs in the World Political Economy," *Journal of Developing Areas* 24, 503-522.
- Befekadu Degefe (1992), "Growth and foreign debt: The Ethiopian experience: 1964-86". Nairobi: *AERC Research paper 13*.
- Berhanu Nega and Befekadu Degefe (1999/2000) *1st Annual Report on the Ethiopian Economy*. EEA/EEPRI
- _____ (2000/2001) *2nd Annual Report on the Ethiopian Economy*. EEA/EEPRI

- Bernal, R., (1987) "Resolving the Debt Crisis," *Economia Internazionale* 40, May 1987, 155-171.
- Borensztein, E. (1990) "Debt overhang, debt reduction and investment: The case of the Philippines". *International Monetary Fund working paper* No. WP/90/77, September.
- Bulow, J and Rogoff, K (1990) Cleaning up third World Debt without getting taken to the cleaners, *Journal of Economic Perspectives*, 4, 1, pp31-42.
- Chowdhury, K. A. (1994) "Structural Analysis of External Debt and Economic Growth: Some Evidence from Selected Countries in Asia and Pacific." *Applied Economics*, Vol. 26
- _____ (2001) Foreign Debt and Growth In Developing Countries: A Sensitivity and Causality Analysis Using Panel Data. Downloaded from Internet
- Claessens, S. (1990) "The Debt Laffer Curve: Some Empirical estimates" *World development* Vol. 18, No 12.
- _____ *et al.* (1996) "Analytical aspects of the debt problems of Heavily Indebted Poor Countries". A paper presented to IMF/World Bank seminar in December.
- Cohen, D. (1989) "How to cope with debt overhang: Cut flows rather than Stocks" in Husain, I and Divan, I, eds. *Dealing with the Debt Crisis*. Washington, D.C: World Bank.
- _____ (1993) "Low investment and large LDC debt in the 1980s". *The American Economic Review*, June 1993.
- _____ (1997) Growth and External Debt: A New Perspective on the African and Latin American Tragedies, *Centre for Economic Policy Research Discussion Paper*, No. 1753.
- _____ and Jeffrey Sachs, (1986) Growth and External Debt under Risk of Debt Repudiation., *European Economic Review*, Vol. 30. pp. 529-550.
- Cooley, T. and S. LeRoy (1981) "Identification and Estimation of Money Demand", *American Economic Review*, 71, December, 825-844.

- Corden, W. Max. (1989) Debt Relief and Adjustment Incentives, in Frenkel, Jacob A., Michael P. Dooley and Peter Wickham (eds.) *Analytical Issues in Debt*, International Monetary Fund, Washington DC.
- Dornbusch, R. and S. Fischer (1985) "The World Debt Problem: Origin and Prospects," *Journal of Development Planning*.
- Easterly, W. (1999) How Did Highly Indebted Poor Countries Become Highly Indebted? Reviewing Two Decades of Debt Relief. Downloaded from Internet
- Economic Commission for Africa (ECA) (1997) *Financial Sector Reforms and Debt Management in Africa: Proceedings of the Sixth Session of the Conference of African Ministers of Finance*
- Elbadawi, A. I., J. B. Ndulu., and N. Ndung'u (1996) "Debt overhang and economic growth in Sub-Saharan Africa". A paper presented to the IMF/World Bank conference on External Financing for Low Income Countries in December .
- Enders, W. (1995) *Applied Econometrics Time Series*, Chichester John Wiley and Sons Inc., New York.
- Engel, R.F and Granger C.W.J. (1987) "Co-integration and Error Correction: Representation, Estimation and Testing," *Econometrica*, 55, 251-276.
- Erdal Karagol () External Debt and Economic Growth Relationship using the Simultaneous Equations. Downloaded from internet
- Fitzgerald *et al.*, (1992) "External Constraints on private investment Decision in Developing Countries" *Institute of Social Study, Working Paper No 43*.
- Fosu, A. K. (1996) "The Impact of External Debt on Economic Growth in Sub-Saharan Africa" *Journal of Economic Development*, Vol.12, No. 1.
- _____ (1999) "The External Debt Burden and Economic Growth in the 1980s: Evidence from Sub-Saharan Africa". *Canadian Journal of Development Studies*, XX (2).
- Froot, K. (1989) "Buybacks, exit bonds, and the optimality of debt and liquidity relief". *International Economic Review*, vol. 30: 49-70.
- Geiger, C.T (1990) Debt and Economic Development in Latin America, *The Journal of Development Areas*, 24, pp181-194.

- Ghani, E. and Zang, H. (1995) Is Ethiopia's Debt Sustainable? *The World Bank Policy Research Working Paper 1525*
- Green J. (1989) "External Debt Problem of Sub-Saharan Africa" in Frenkel, Jacob A., Michael P. Dooley and Peter Wickham (eds.) *Analytical Issues in Debt*, International Monetary Fund, Washington DC.
- Griffin, K. and J. Enos. (1970) "Foreign assistance: Objectives and consequences," *Economic Development and Cultural Change* 18, 313-27
- Gujarati, D.N. (1995) *Basic Econometrics*. Third Editions, Mac Graw-Hill
- Haile Kibret (2005) "Arithmetic of Debt Sustainability and Its Fiscal Policy Implications: the Case of Ethiopia" *Ethiopian Economic Policy Research Institute, Working Paper No1/2005*.
- Hajivessilion, V.A (1989) "Do the secondary markets believe in life after debt" in Hussein, I and Diwan (eds) *Dealing with the Debt Crisis*, World Bank
- Harris, R.I. (1995) *Using Co-integration Analysis in Econometric Modeling*, London Prentice Hall/ Harvester Wheat Sheaf.
- Helpman, E.(1989) "The Simple Analytics of Debt-Equity Swaps" *American Economic Review*,79,440-51.
- Husain,A.M (1997) "Domestic taxes and the external debt Laffer Curve" *Econometrica*, 64, 519-25.
- Hofman, B. and Reisen, H. (1991) "Some Evidence on Debt-Related Determinants of Investment and Consumption in Heavily Indebted Countries," *Weltwirtschaftliches Archiv*, 127(2), 280-297.
- Iyoha, M. A. (1999) "External debt and economic growth in Sub-Saharan African Countries: An econometric study". *AERC Research Paper No 90*, Nairobi.
- IMF (1989) *World Economic Outlook*. Washington, D.C: International Monetary Fund. Washington, USA.
- _____ (2000) "The Logic of Debt Relief for the Poorest Countries," mimeo, Washington, D.C., September 2000.

- _____ (2001) "Debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative." A fact sheet. April. Washington, D. C: International Monetary Fund.
- _____ (2004) HIPC initiative: Status of Implementation, Washington, D.C., USA
- International Labour Organization (1995) *African Employment Report* 1995. Abidjan: ILO Regional Office for Africa.
- Karagöl, E. (2001) The Causality Analysis of External Debt Service and GNP: The Case of Turkey. Downloaded from Internet.
- Khan, M and D. Villanueva. (1991) "Macroeconomic policies and Long-term growth." *AERC Special Paper* 13. Nairobi: AERC.
- Krueger, A. (1987) "Origins of the Developing Countries' Debt Crisis 1970 to 1982," *Journal of Development Economics*, 27, 165- 187.
- Krugman, Paul (1988) Financing vs. Forgiving a Debt Overhang, *Journal of Development Economics*, Vol. 29, pp. 253-268.
- Mbire, B. and M. Atingi. (1997) "Growth and Foreign Debt: The Ugandan Experience." *AERC Research Paper* 66. Nairobi: AERC.
- MEDaC (1999) *Survey of the Ethiopian Economy*. Addis Ababa
- Metwally, M.M. (1994) "The Debt Serving Problem of Some Asian Countries" *The Indian Economic Journal*, 4, Jan-March, 98-110
- Metwally, M.M and Tamaschke, R. (1994) The interaction among foreign debt, capital flows and growth; case studies, *Journal of Policy Modelling*, 16 (6), pp.597-608.
- MoFED (2004) *Annual Report on Macroeconomic Development in Ethiopia*, 2003/04.
- Morisset, J. (1991) Can Debt-reduction Policies Restore Investment and Economic Growth in Highly Indebted Countries: A Macro Economic Framework Applied to Argentina. *PRE Working Paper*, 691, World Bank.
- Mutiso, C. M. (2001) "Determinants of External Debt in Kenya" A Dissertation paper for the degree of Masters of Arts in Economics: University of Makerere.
- National Bank of Ethiopia (NBE) *Annual Reports and Quarterly Reports* (Various Issues)

- Nikbhakt, E. (1984) *Foreign Loans and Economic Performance: The Experiences of the Less Developed Countries*, Praeger Publishers.
- Oks, Daniel, and Sweder van Wijnbergen (1995) 'Mexico after the Debt Crisis: Is Growth Sustainable?' *Journal of Development Economics*, 47: 155-78.
- Olgun, H., Disbudak, U. and Okem, G. (1998) Macroeconomic interactions among capital inflows, debt servicing and growth, paper presented in *Middle East Technical University (METU) II Economic Conference*, Ankara.
- Osei, B. (1995) 'Ghana: The Burden of Debt Service Payment under Structural Adjustment'. *AERC Research Paper No. 33*. Nairobi: African Economic Research Consortium.
- Oxfam (1997) "Poor Countries Debt Relief: False Dawn or New Hope for Poverty Reduction" *Oxfam Policy Papers* (<http://www.Oneworld.org/Oxfam/papers/debdawn.htm>)
- Pattillo, C., Poirson, H. and Ricci, L. (2001) "External Debt and Growth". *Finance and Development*. Vol 39, No2, International Monetary Fund
- Ramakrishna, G. (2003) External Debt of Ethiopia: An Empirical Analysis of Debt and Growth. *Journal of business and public affairs*. Downloaded from Internet
- Sachs, Jeffrey (1989). 'The Debt Overhang of Developing Countries', in Calvo, Guillermo A. and others (eds.) *Debt Stabilization and Development: Essay in Memory of Carlos Diaz Alejandro*, Basil Blackwell, Oxford.
- _____ (2002) Resolving the Debt Crisis of Low-Income Countries, *Brookings Papers on Economic Activity*, I
- _____ and H. Huizinger (1987) "US Commercial Banks and the Developing Country Debt Analysis" *Brookings Papers on Economic Activity*, 2.
- Savides, A. (1992) "Investment Slowdown in Developing Countries During the 1980s: Debt Overhang or Foreign Capital Inflows," *Kyklos*, 45, 363-378.
- Serieux, G. & Samy, Y. (2001) The Debt Service Burden and Growth: Evidence from Low Income Countries. Downloaded from Internet
- Sezgin, S. (1997) "Country Survey X: Defense Spending in Turkey", *Defense and Peace Economics*, 8, 381- 409.

Teklu Tefera (2000) External Resource Mobilization and External Debt Situation. Paper presented at a Symposium for Reviewing Ethiopia's Socio-Economic Performance 1991-99. Inter-Africa Group

Weeks, John (2000) 'Latin America and the "High Performing Asian Economies": Growth and Debt'. *Journal of International Development*, 12 (5): 625-54.

Were, M. (2001b) The Impact of External Debt on Economic Growth in Kenya: An Empirical Analysis, *Discussion Paper, 116, WIDER*, October.

World Bank. *World Debt Tables/Global Development Finance* (various years). Washington D.C: The World Bank.

_____(1997), *Global Development Finance, Country Tables* . Washington, D.C: The World Bank.

_____(2003) *World Development Indicators*. Washington, D.C: The World Bank.

APPENDIX I

GLOSSARY OF TERMS

The World Bank's Debtor Reporting System (DRS), International Monetary Fund (IMF), the Organization for Economic Development and Cooperation (OECD) and the Bank for International Settlements (BIS) formed a Working Group which has published a common definition of external debt as defined below:

Arrears: Amounts that are past due-for-payment and unpaid. This includes amounts of scheduled debt-service payments that have fallen due but have not been paid to the creditor(s).

Creditworthiness: Refers to a country's acceptability for further credit by virtue of its record of repayment of past debts. It reflects the performance on external debt management. If it is positive, the creditworthiness rating of the country is high on the international capital market.

Debt Forgiveness: The voluntary cancellation of all or part of a debt

within a contractual arrangement between the creditor in one economy and a debtor in another economy.

Debt service (-to-export) ratio: The ratio of debt service (interest and principal payments due) during a year expressed as a percentage of exports (typically of goods and services) for that year. This ratio is considered to be a key indicator of a country's debt burden.

Differed Payments: Are obligations that are not consolidated but postponed non-concessionally, usually for a short time, as specified in the agreed minute.

Disbursed and Outstanding: Means that debt includes only committed amounts drawn-down, not yet repaid, or cancelled. It does not include future interest payments. Undisbursed amounts are exceeded. Disbursed debt outstanding equals to the cumulative disbursements, less repayments, amount cancelled and amount restructured.

Disbursements: Are drawings on loan commitment during the year specified. That is, the amount of a loan that is utilized in the accounting period.

Gross External debt: The amount, at any given time, of disbursed and outstanding contractual liabilities of residents of a country to non residents to repay principal, with or without interest, or to pay interest, with or without principal (Klein, 1994; P. 56).

Interest: The amount paid to the lender during the accounting period as compensation for use of his capital.

Liquidity problem refers to the inability of a country to service its debts now in the amount initially contracted (Osei, 1995).

Long-term external debt is defined as debt that has an original or extended maturity of more than one year and that is owed to non residents and repayable in foreign currency, goods or services.

Official debts are those obtained from national governments or their agencies or from international agencies like the World Bank and IMF.

Private debts consist of those obtained from private creditors which include the Euro-dollar loans, supplier credit experts and loans from private commercial banks.

Publicly Guaranteed External Debt: Is usually defined as an external debt obligation of a private debtor which a public entity guarantees for repayment.

Restructuring: Are the amount of principal or interest payment due but deferred, rescheduled, refinancing or exchanged as a result of debt-restructuring agreement. Rescheduled principal involves a transfer of the amount from the original loan to a new loan. Debt relief as debt cancellation is treated as a write-off.

Short-terms debts are those with original maturity of one year or less.

Solvency: Relates to whether the value of a country's liabilities exceeds the ability to pay at any time. A country is insolvent when it is incapable of servicing its debt in the long run (Ajayi, 1991; Osei, 1995).

Total debt service (TDS) measures the debt service payments on long-term debt (public and publicly guaranteed and private non-guaranteed), use of IMF credit, and interest on short-term debt. The debt service ratio is conventionally measured by the ratio of total external debt to GDP or total external debt to export earnings of goods and services.

Total debt service payments: The sum of amortization and interest payments. Actual debt service is the set of payments actually made to satisfy a debt obligation, including principal, interest, that is required to be made through the life of the debt.

Total external debt stocks (EDT) consist of public and publicly guaranteed

long-term debt plus private non-guaranteed long-term debt plus the use of IMF credit plus estimated short-term debt. This is to be distinguished from debt outstanding and disbursed (DOD), which is defined as the total debt outstanding and disbursed of long-term official concessional, official non-concessional and private loans.

Use of IMF credit denotes repurchase obligations to the IMF with respect to all uses of IMF resources (excluding those resulting from drawings in the reserve tranche) shown for the end of the year specified. Use of IMF credit comprises purchases outstanding under the credit tranches, including enlarged access resources and all special facilities, trust fund loans, and operations under the structural adjustment and enhanced structural adjustment facilities.

Write offs: A financial claim that a creditor regards as unrecoverable and so longer carries on its books.

APPENDIX II

Paris Club Restructuring Terms for Low-Income Countries, 1975–2001

1975-88. Paris Club debt is rescheduled but not cancelled or reduced in present value by reductions in interest.

October 1988. *Toronto terms* are introduced. For the first time, bilateral debts can be reduced in present value terms by as much as 33.3 percent. This can be accomplished through a debt reduction option or a debt service reduction option. Twenty countries benefit. Multilateral debts are not reduced.

December 1991. *London terms* raise the allowable debt reduction for lowincome countries to 50 percent. Once again, debt reduction and debt service reduction options are offered. Twenty-three countries benefit, including many that had benefited from the Toronto terms. Multilateral debts are not reduced.

December 1994. *Naples terms* raise the allowable debt reduction for lowincome countries to 67 percent and set the minimum debt reduction for “the poorest and most indebted countries” at 50 percent. In September 1999 the 67 percent threshold is applied to all heavily indebted poor countries. Thirty countries benefit. Multilateral debts are not reduced.

December 1996. *Lyon terms* (also known as the Heavily Indebted Poor Countries, or HIPC, initiative) raise the allowable debt reduction for heavily indebted poor countries to 80 percent. For the first time, debts owed to the multilateral institutions (mainly the IMF, World Bank, and the regional development banks) may also be reduced. The concept of debt sustainability is introduced. Debts are to be cancelled to bring countries’ debts to between 200 and 250 percent of exports of goods and services, or, for countries with a high export-GNP ratio, to no more than 280 percent of annual government revenue.¹ Five countries benefit.

November 1999. *Cologne terms* (also known as the enhanced HIPC initiative) raise the allowed debt reduction to 90 percent or more “if necessary within the framework of the HIPC initiative.” Debts of bilateral and multilateral official creditors are also to be reduced sufficiently to establish debt sustainability, as redefined by the initiative. Debt sustainability is now defined as debt no greater than 150 percent of exports, or, in countries with a high export-GNP ratio, no greater than 250 percent of net annual government revenue.² Forty one countries are potentially eligible for the enhanced HIPC initiative, and fifteen countries have benefited to date.

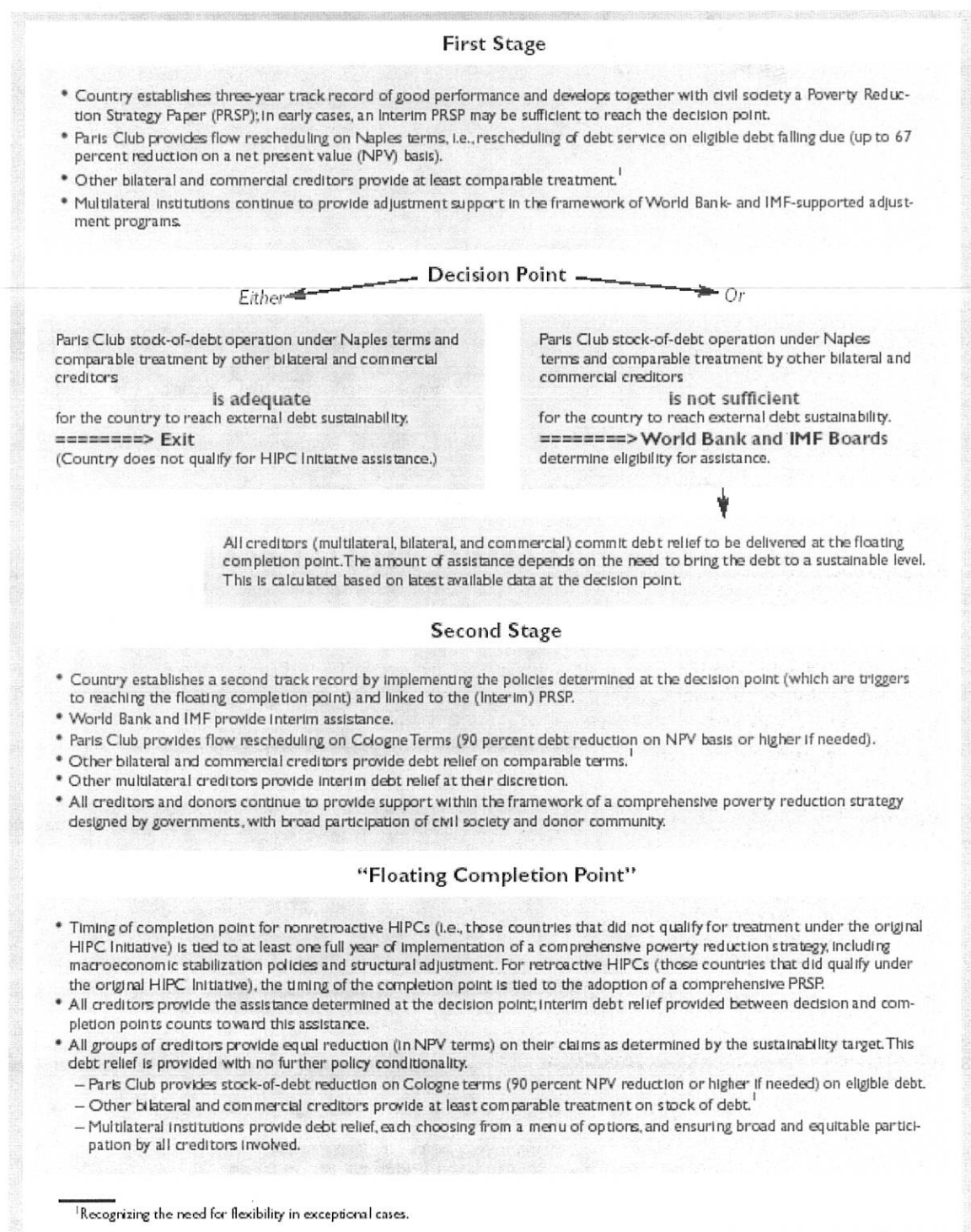
¹ Technically, the debt-export limit applied to countries with export-GNP ratios below 40 percent. The alternative measure could apply for countries with an export- GNP ratio above 40 percent, as long as government revenue was above 20 percent of GNP.

² The thresholds for the government revenue alternative were eased slightly as well. The government revenue-based measure could apply for countries with an export-GNP ratio above 30 percent and with a government revenue-GNP ratio above 150 percent.

Source: Sachs (2002:25)

APPENDIX III

ENHANCED HIPC INITIATIVE FLOW CHART



APPENDIX IV

A) Debt owed to Multilateral Creditors as at end June, 30 (in MN USD)

Year/ Creditor	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
IDA	950.3	1025.5	1276.2	1518.2	1536.5	1541.4	1543.4	1665.6	1746.9	1892.0	2438.0	2923.3
IBRD	8.4	4.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMF	0.0	20.1	50.5	77.5	71.3	89.3	83.4	76.5	65.2	89.2	101.6	154.6
ADF	257.9	312.2	444.6	532.0	601.1	602.9	600.7	637.6	655.5	635.6	745.9	799.9
ADB	88.2	104.2	130.6	157.3	161.3	187.8	190.5	191.9	182.5	152.4	150.1	130.3
NTF	2.4	2.0	1.8	1.5	1.1	0.7	0.4	0.0	0.0	0.0	0.0	0.0
EU	80.3	72.9	72.9	86.3	78.6	71.2	72.8	65.4	75.3	80.5	94.6	128.5
IFAD	61.5	60.8	60.9	68.3	63.8	61.6	58.3	57.2	58.7	60.5	67.9	76.5
OPEC	18.2	17.0	15.4	13.8	11.6	9.4	8.8	8.0	7.6	8.3	11.5	10.4
BADEA	6.6	5.7	4.7	3.8	2.8	1.8	0.9	0.0	3.2	8.8	13.4	13.3
NDF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	6.6	9.7
TOTAL	1473.8	1625.0	2058.2	2458.7	2528.1	2566.1	2559.2	2702.2	2795.2	2929.0	3629.6	4246.5

B) Debt owed to Non Paris Club Creditors as at end June, 30 (in MN USD)

Year/ Creditor	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Algeria	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.8	10.9	10.9	109.	11.0
Bulgaria	46.3	47.6	48.2	48.1	48.4	48.5	48.4	48.7	48.8	48.8	48.8	0.0
China	61.0	61.8	61.9	63.4	63.4	63.4	63.7	64.3	78.5	45.7	45.7	45.7
North Korea	118.6	112.5	114.9	129.1	118.4	105.6	100.7	96.4	88.8	79.5	87.5	101.7
Hungary	5.6	5.7	5.8	6.0	6.1	6.2	6.3	6.3	6.4	6.4	6.4	6.4
Kuwait	0.0	0.0	0.0	0.0	0.0	0.2	0.5	3.2	6.9	14.2	22.9	23.5
Libya	239.0	239.3	239.6	239.8	240.0	240.2	240.3	240.3	240.3	240.3	240.4	240.4
Poland	8.9	9.9	10.3	10.6	10.8	11.0	11.1	11.1	11.1	11.1	11.1	0.0
Yugoslavia	111.8	115.4	118.3	119.0	120.7	121.9	122.5	122.7	122.7	122.7	122.7	122.7
Czech	95.6	97.6	99.7	101.5	103.3	104.4	105.2	0.0	0.0	0.0	0.0	0.0
TOTAL	696.4	699.7	708.8	727.7	721.4	711.7	709.3	603.9	614.4	579.7	596.5	551.5

C) Debt owed to Commercial Creditors as at end June, 30 (in MN USD)

Year/ Creditor	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Bulgaria	8.6	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Czecho	4.4	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	0.0
India	13.9	14.5	14.9	15.2	15.3	15.4	15.0	15.0	14.9	14.8	14.8	14.8
Italy	1.5		3.0	3.0	3.1	3.0	3.0	3.0	1.5	1.2	1.3	1.3
Yugoslavia	33.8	34.5	34.9	35.3	35.6	35.8	36.0	36.1	36.2	36.2	28.3	28.3
Netherlands (EAL)	0.0	0.0	0.0	0.0	0.0	48.1	44.6	40.8	36.8	32.2	32.4	32.4
USA(EAL)	305.0	340.5	301.7	268.6	237.8	25.8	21.8	17.7	13.1	9.1	5.0	1.0
Austria	4.6	4.5	4.7	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
France(EAL)	9.7	8.1	6.5	4.9	3.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0
UK	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Poland	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
USSR	184	185	185	186	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Canada	0.6	0.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Canada(EAL)	5.3	2.4	2.0	1.5	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Japan	31.9	33.2	42.5	50.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	603.7	636.9	610.1	584.6	309.6	144.0	134.1	126.5	116.2	106.8	95.1	86.5

D) Debt owed to PC Creditors as at end June, 30 (in MN USD)

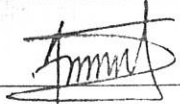
Year/ Creditor	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Austria	16.7	16.8	17.1	19.4	18.1	14.7	16.9	15.9	14.6	14.7	16.6	19.8
Belgium	34.5	38.3	39.2	45.8	41.6	34.3	38.8	36.6	33.1	12.3	13.7	9.5
Denmark	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
France	9.6	5.9	6.0	6.6	6.3	5.4	5.2	5.0	4.6	5.0	5.8	6.8
Germany-Fed	39.7	66.8	67.8	77.1	70.7	58.6	65.5	62.6	57.3	54.8	61.5	72.9
Israel	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	349.8	358.2	354.4	359.2	359.1	328.2	380.4	373.6	323.7	328.3	343.0	356.8
Netherlands	7.9	6.1	2.9	2.3	1.5	1.4	1.3	1.2	1.1	0.9	1.1	1.3
Spain	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	14.4	11.2	11.2
Sweden	36.5	20.5	24.1	25.2	24.5	21.8	29.9	31.3	30.3	23.5	26.2	27.7
Switzerland	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
U.K.	27.9	24.5	26.2	27.8	26.8	23.7	25.5	23.7	22.0	16.6	18.2	19.7
Finland	5.9	4.5	4.6	6.0	6.0	5.5	4.5	4.6	4.6	2.1	2.2	2.4
Germany. Den	116.0	33.6	33.5	33.6	34.2	24.2	24.2	24.2	24.2	0.0	0.0	0.0
U.S.S.R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1216.4	1268.9	1268.2	1268.1
Canada	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
U.S.A	80.3	85.5	85.5	85.5	86.7	81.5	97.6	97.6	97.6	101.8	101.8	72.5
Japan	13.4	14.8	18.6	21.9	16.4	15.2	11.9	13.5	15.1	13.0	13.7	13.6
Austria	7.2	11.4	11.7	11.8	11.8	11.2	10.0	8.8	7.6	6.5	5.3	4.1
TOTAL	762.4	703.5	708.1	738.7	720.2	642.0	728.0	715.0	1863.1	1863.1	1888.8	1886.7

DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in any other university. All the resources of materials used for the thesis have been duly acknowledged.

Declared by:

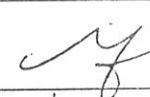
Name: Abinet Gebrekidan

Signature: 

Date: 21/06/05

Confirmed by Advisor:

Name: Dr. Getnet Alemu

Signature: 

Date: 21/06/05

Place: Addis Ababa