FOREIGN DEBT AND ECONOMIC GROWTH

(THE UGANDAN EXPERIENCE)

1970 -2000

BY

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C/50/P/8449/2000

RESEARCH PAPER SUBMITTED TO

THE DEPARTMENT OF ECONOMICS,

UNIVERSITY OF NAIROBI,

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTERS OF ARTS IN ECONOMICS

DECLARATION

This paper is my original work and has not been presented for a degree in any other University.

22nd - 02 - 2005

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This research paper has been submitted with our approval as University Supervisors.

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ACKNOWLEDGEMENT

I owe much thanks to my supervisors, Dr. M. Kiptui and Dr. S.M. Nyandemo who devoted much of their time to supervise the writings of this paper through their expert guidance, encouragement and constructive criticism without which I may not have made it.

My sincere appreciation to my classmates for their teamwork and support throughout the duration of my course.

My acknowledgement also goes to my parents for their inspiration throughout my life especially during the period of my study.

Lastly and most important, I thank my dear husband for the constant encouragement and to my most loved little ones for bearing with my tight schedule.

DEDICATION

To Adrian, Celia, Krysta, and Ethan

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LIST OF ACRONYMS

AERC	:	African Economic Research Consortium
AIH	:	Absolute Income Hypothesis
APS	:	Average Propensity To Save
BoP	:	Balance of Payment
DCs	:	Developed Countries
ECA	:	Economic Commission for Africa
GDP	:	Gross Domestic Product
GNP	:	Gross National Product
HIPCS	:	Highly Indebted Poor Countries
ILO	:	International Monetary Fund
LDCs	:	Least Developed Countries
MPS	:	Marginal Propensity to Save
NICs	:	Newly Industrialised Countries
OECD	:	Organisation of Economic Co-operation and Development
OPEC	:	Oil Producing and Exporting Countries
SAPs	:	Structural Adjustment Programmes
SEAC	:	South East Asian Countries
SSA	:	Sub- Saharan Africa
TSLS	:	Two Stage Least Squares
UNDP	:	United Nations Development Programme
WB	:	World Bank

Abstract

This paper analyses Uganda's external debt problem. Like many other countries in the sub-Saharan Africa, Uganda is a severely indebted low - income country. Uganda's total debt stock at end June 1999 was estimated at US$2.64 billion, with a debt service ratio of nearly 80%. A look at Uganda's debt profile since the 1970's reveals a composition of debt mainly from multilateral creditors. The study particularly links debt to economic growth. A major observation is the acute debt-servicing obligation of the country, and the fact that a large proportion of Uganda's debt is not eligible for rescheduling, Debt payments have been a fundamental cause of low economic growth. Of great concern whether the economy can sustain it current growth rate of 5% per annum and at the same time maintain adequate domestic investment, given the heavy reliance on foreign import capital flows. Debt relief is not enough; continued government commitment to structural reforms and sound debt management are essential.

The need to continue the ongoing restructuring of the economy and promote further growth is apparent. But how sustainable and possible is the challenging path without accumulating more debt?

CHAPTER ONE: INTRODUCTION

1.1 Background:

Foreign debt is a priority claim on the foreign exchange earning and international reserves for it reduces the ability of enhancing development and meeting balance of payment needs. Also being part of the international economic relations and foreign policy, foreign debt has had a wide reaching repercussion, which puts the debt crisis at the top of the government's agenda.

External indebtedness has been described as one of the greatest problems facing Sub-Saharan African Countries, (Osei, 1991). External debt depresses investment and lower economic growth below its potential through its negative effect on liquidity and expected profitability (Claessens et al 1990). These effects can pull a country into a downward spiral in which both the debtor country and the creditors lose. The negative effect on liquidity comes about because there are only limited resources to be divided among domestic consumption, investment and external transfers to servicing existing debt. The negative effect on the expected profitability is a disincentive and arises because expectations of future debt burdens tend to reduce the incentives for recent investment and adjustment.

During the lost decade of the 1980's the external debt facing the Sub-Saharan African countries received increasing attention. The immediate causes of the region's debt crisis in the 1980's were the economic

slowdown and the sharp increases in international interest rates resulting from monetary contractions in some OECD countries and the fiscal policies that were pursued by the USA. The roots of these difficulties lay in the oil price shocks, however, and the resulting unprecedented increase in international leading to developing countries in the 1970s. The debt crisis of the 1980s was almost the mirror image of the previous decade. The failure of many SSA countries to adapt to the changed external environment – especially their domestic policies - tended to aggravate the debt-servicing problem.

Many countries responded with structural adjustment programmes supported by the World Bank and the IMF that were aimed at reducing growth, restoring price stability and reducing external imbalances.

Despite attempts by donor to avail debt relief and continued provision of external assistance, the situation continued to deteriorate and by the turn of the 1990s the position of most of the countries in Africa had become precarious. As a result, most of these countries now look back at almost a decade of lost growth. Uganda is no exception. It is against this background of economic adjustment that Uganda's debt service payment problems are analysed.

In the Ugandan case the decline in the foreign exchange earning capacity of the economy was aggravated by the decline of international coffee prices and hence receipts. This adversely affected Uganda's ability to service its debt and led to the rapid accumulation of arrears. The urgent need to rehabilitate the war-torn economy amidst declining exports

receipts forced the government to resort to external financing, which led to a sharp rise in the stock of debt in 1987. By June 1993,the stock of debt outstanding and disbursed stood at US$2.64 billion with arrears of US$235 million. This stock of arrears, which had been reduced from June1982 level of US$586.3 million, had caused legal action against the government from some quarters and greatly jeopardized the government's ability to manage its foreign reserves effectively. Going by indicators, the debt outstanding and disbursed is estimated at 105% of GDP with a debt service ratio of nearly 80%, which constitutes a major bottleneck to Uganda's economic recovery process and future developments. There is need to rehabilitate the economy into a path once again and it is on these grounds that the government has developed an external debt strategy that involves prudent debt management.

Statement of the Problem

The severity of Uganda's external debt crisis cannot be underestimated. The debt burden is continually on the rise, and the capacity to service the debt is becoming alarming. This can not only lead to capital flight but also to debt overhang in which some of the returns from investing in the domestic economy are ' taxed away ' by foreign creditors and investment by domestic and new foreign investors is discouraged (Claessens et al, 1996).

In such circumstances, the debtor country shares only partially in any increase in output and exports because fraction of that increase will be used to service the external debt.

The resources that could have been allocated to consumption and investment will instead be channelled abroad. This may act as a strong disincentive not only to invest but also to partake in any adjustment programmes aimed at increasing growth.

The need to service a large amount of external obligations also leads to 'crowding out' of current investment besides reducing a country's creditworthiness internationally. Rising debt service payment eats significantly and facilitate economic growth and development and therefore improve the welfare of the citizens. It also implies limited ability to import investment goods and services.

This study will explore in detail the structure and magnitude of external indebtedness on economic growth, using econometrics time series analysis. According to the accelerator principal, growth in investment facilities faster economic growth and vice versa. IF funds (whether domestic or externally borrowed) are wisely and productively invested, economic growth will be enhanced. Therefore debt overhang and 'crowding out' effect on investment affect economic growth. The study will capture the indirect effect of external debt on sustained economic growth through investment by specifying the two equations simultaneously.

The channels through which indebtedness works against growth are identified as: stock of external debt as a ratio of GDP (which may stimulate growth): past debt accumulation, which slow growth: debt service ratio which reduces export earning and other resources and therefore retards growth and indirectly through the impacts of the above channels on public expenditures. As economic conditions worsen, government finds themselves with fewer resources and fiscal spending is hurt. Part of this expenditure destined for social programs has severe effect on the very poor.

The study involves testing the Ugandan data using a modified model adopted from other studies done on a cross-sectional basis, especially the study by Elbadwi et al (1996). It will also improve on previous studies by adopting a new econometrics modelling technique.

1.3 Objectives of the Study

The purpose of the study is to examine the structure of Uganda's external indebtedness and economic performance. Specifically the study will:-

1. Examine the magnitude, size, structure and determinants of Uganda's external debt.
2. (i) Empirically establish the impact of external debt on investment and economic growth simultaneously from the period under study.
   (ii) Assess the implications of 2(i) on Uganda's sustained economic growth.
3. Draw policy implication based on the findings of the study and give directions for further research.

1.4 Significance of the Study

This study deals exclusively with external debt. This does not imply that internal debt is not an issue of concern. However external debt accumulation poses more serious problems since the repayment of the external debt and payment of interest involves use of external resources and therefore affects the BOP and availability of foreign exchange to purchase investment goods and services. Given the fact that external debt problems are sometimes beyond the control of the government, proper management strategies are required to curb the problems. While enormous literature on SSA debt crisis exists, and while it is acknowledged that there might exist some common characteristics of the debt problem across these countries, it is recognised that each country has its own unique pattern of debt and debt problems.

A better understanding of such problems requires in depth country specific analysis followed by a synthesis of the lessons from the particular experiences.

Very few empirical studies have been done on Uganda's external debt and those few do not focus on the analysis of external debt and economic growth (For example: Ochieng, 1991: Manundu, 1984: Gulamhussein, 1987 and Nge'eno 1991. This study will therefore in a very unique way fill this gap and also update the literature on external debt since no such recent study exists. In addition, the study will contribute to the scope of knowledge in terms of the

methodology adopted. Unless a country grows fast enough to sustain debt obligations and maintain domestic investment, indefinite external indebtedness can have very detrimental effects on the economy's growth and on the welfare of the citizens. A better understanding of Uganda's debt problems and how debt management measures. Such measures can ensure that loans are put into productive use to avoid debt-servicing problems thus increasing the country's creditworthiness internationally.

CHAPTER TWO:
LITERATURE REVIEW

2.1 Theoretical Literature Review

The crucial role of capital in the production process is well known through the history of mankind. From economic theory, capital accumulation is increased through savings both by individuals and firms. This necessitates foregoing present consumption for future consumption.

The employment of capital in the most efficient and profitable ways requires that the marginal efficiency of capital is higher than the cost of capital. No resource (borrowed or own fund) should be invested in any activities unless the cost of capital is less than the rate of the investment.

The international flow of capital - borrowing and lending across political borders - dates back at least to the ancient civilisations of the Mediterranean and probably much further into the past to tribal societies. At the end of the 1940's the flow of capital to developed countries was negligible. But the early post-war reflection on the problems of developing countries led to the identification of insufficient capital stock as cause of their low income. Among the economists who make such suggestions, the most notable are Hans Singer and Ragner Nurske. According to Nurske, there is a vicious circle of poverty, which can be broken by increasing savings. The role of increased savings in facilitating capital accumulation was further advocated by Arthur Lewis (1954), and Rostows (1985).

It was noted that the volume of saving in developing countries was too low on account of the low on account of the low income and therefore it was concluded that domestic savings should be supplemented by foreign resources. This shifted the issue from whether external resources are useful to developing countries, to how much was sufficient to help them realise their growth potential (Degefe, 1982).

The need for foreign resources in developing countries has further been appreciated by the two-gap approach[3] developed by Hollis B. Chenery together with other economists.

As quoted by Degefe (1992), they identify three constraints faced by developing countries as " (1) the supply of skills and organisational ability; (2) the supply of domestic savings; and (3) the supply of imported commodities and services".

They conclude that "in the short run, the effectiveness of external resources depends on "the use that is a made of the initial increase in the output", Models developed by Mckinnon (1964) and Vanex (1967) also support the two gap approach. The World Bank models differ from the two gap models in that the model concentrates on the foreign exchange gap only. In the World Bank model, the country is expected to mobilise domestic resources by means of appropriate policies to overcome the savings constraints, while the foreign resources supplied by it are meant to cover the external shortcomings.

The beneficial impact of foreign resources on the economy of developing countries has registered some doubts to both economists and policy makers, especially since 1970's.

The presumed positive impact of foreign resources o the volume of savings is not supported by empirical evidence, neither is the presumed growth. In SSA, acute economic crises have led to poor growth performance. Most SSA countries have continued to experience serious difficulties in managing the servicing of their relatively high stock of external debt (Claessens et al, 1996). This leads us to a discussion of the theory of debt and economic performance mainly as discussed by Claessens et from investing in the domestic economy are effectively 'taxed' away by existing foreign creditors and investment by domestic and new foreign investors is discouraged" (Claessens et al, 1996; p.17).

The theory implies that debt reduction will lead to increased investment and repayment capacity and as a result, the portion of the debt outstanding becomes more likely to be repaid. When this effect is strong, the debtor is said to be on the "wrong side" of the debt laffer curve.

They argue that where foreign assistance is related to the debt and debt service of HIPCs, the effects of a debt overhang on economic performance is a more complex question. Greene and Khan (1990) assert that foreign direct investment is now negligible in HIPCs and future prospects are worse.

"The scarcity of foreign exchange has driven firms and individuals in many countries to import consumer goods, spare parts and production inputs at high local prices through parallel markets, where the rate of exchange is often a multiple of the official exchange rate" Greene and Khan, 1990, p. 13 Fiscal deficits have led to rampant inflation thus undermining savings incentive and more reliance on foreign funds.

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 upfront 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 even stronger over time especially in HIPCs. It also hampers implementation of some of the structural adjustment policies whose benefits materialise only in the future. How a debt overhang discourages private investment depends on how government is expected to raise the fiscal revenue needed to finance the external debt service and whether private and public investment are complimentary.

For example if a government resorts to inflation or to a capital levy, private investment is likely to be discouraged.
Other channels through which the need to service a large amount of external obligations can affect economic performance include the 'crowding out' effect, the lack of access to international financial markets and the effect of the stock of debt on the general level of uncertainty in the economy (Claessens et al, 1996). In the crowding out effect, a reduction in the current debt service should lead to an increase in current investment for any given level of future indebtedness (Cohen, 1993). If a greater portion of export revenue is used to service external debt, very little is available for investment and growth.

This theoretical analysis yields a number of hypothesis on the impact of debt on economic performance. The evidence on the various hypotheses is reviewed below.

2.2 Empirical Literature Review

There is a large body of literature on the determinants of growth and investment in developing countries done mostly on cross sectional basis. Most economic studies include a fairly standard set of domestic, external, policy and exogenous explanatory variables. Some have also included debt variables. Most of the studies find one or more debt variables significantly and negatively correlated with investment or growth (depending on the focus of the study). However, some leave open the relative importance of debt. Given the fact that they study a set of countries, they do not sufficiently control for country circumstances.
Although these issues cannot be resolved definitely by the nature of economic estimation, the studies indicate the negative effect of debt on economic performance.

Degefe (1992) carried out a study on growth and foreign debt in Ethiopia from the period 1964 -1986, using a model derived by Lance Taylor (1985), with adjustment to reflect Ethiopian conditions. Using a simple production function in which output is a function of imported and domestically produced inputs and labour; he derived the following equation for the growth rate of the economy.

$$g = \frac{\Pi + t - \theta - M - rf}{\lambda(1 - \alpha) - f}$$

where

g	=	growth rate of GDP
t	=	ratio of net transfer (total) to GDP.
$\prod$	=	exports to GDP ratio.
θ	=	imports of intermediate inputs.
M_c	=	imports of consume goods.
r	=	interest rates on foreign debts
f	=	stock of debt to GDP ratio.
λ	=	incremental capital output ratio (ICOR)
$1-\alpha$	=	the share of imported capital.

To gauge the effect of external borrowing on economic growth, the above equation is differentiated partially with respect to f to obtain:

$$\frac{\delta g}{\delta f} = \frac{\prod + t - \theta - M_c - r(1-\alpha)\lambda}{[\lambda(1-\theta) - f]^2}$$

This is the marginal condition relating the growth rate of the economy (g) when the debt to GDP ration increases over time. The necessary condition for the increase in external debt growth of the economy is given as

$$\frac{\delta g}{\delta f} > 0$$

if and only if

$$\prod + t - \theta - M_c > r(1-\theta)\lambda$$

Assuming other things constant, foreign borrowing would contribute to the growth of the economy provided the share of exports in GDP is high; transfer payments as a share of GDP is high; imports of intermediate inputs are low; the share of imported capital is small; interest rates on

foreign debt are low; and capital is used efficiently i.e. ICOR is low. The results showed that external capital contributed positively to growth between 1964 and 1977 and thereafter, it had a negative impact. The effect on investment is not explicitly given.

Ajayi (1991) studied the 'macroeconomic approach to external debt in Nigeria'. He used a growth - cum -debt model developed by soils and Ernesto Zechillo (1985) to analyse the behaviour of debt burden indicator under varying assumptions (scenarios).

The dynamic equation used was:

$$D_t = D_{t-1} (1+\lambda)$$

Where D_t = the total external debt

λ = a constant that is varied in each scenario

The investment and output equation are solved for different possible paths of D_t and r_t (interest rates). The value of λ is varied from -0.05 to 0.07 while three possible values of interest (r=4%, 8% and 10%) are used. Assuming various values for the reciprocal of the incremental capital output ration and for different rates of interest, simulations were run for the period 1989-95. The debt burden indicators analysed were debt to GNP ratio, interest to exports ratio and resource transfer. The results showed that when r =10%, a zero growth in external debt is consistent with an average growth rate of GNP of about 1.9%. A doubling of the interest rate has little effect on the growth of GNP. The rise in interest rate has larger impacts in terms of debt service ration and resource transfer, which in all cases are higher. Thus various variations in interest rates have effects of raising debt burdens and debt service capacity.

Similarly, Osei (1995) used the model developed by Solis and Zedelo to analyse income growth prospects, different paths of the trade balance and the debt burden under various scenarios in Ghana. Simulations were run for the period 1991 -2000. He found that varying the interest rate has very little impact on income growth, trade balance and the debt burden. The estimates indicated that Ghana's trade balance would widen and the burden would remain high. He concluded that external debt is one factor that constrains rapid growth.

Amoeteng and Amoako -Adu (1996) directly tested the causality relationship among economic growth, exports and external debt service for African Countries using Granger's causality test for the period 1971-1990. They found evidence of bi-directional and negative causality between export revenue growth and foreign debt service after excluding the GDP growth and unidirectional and positive causality from foreign debt service to GDP growth, after excluding export revenue growth.

For SSA, they found evidence of unidirectional and negative causality from foreign debt service to export revenue growth after excluding GDP growth rate. They concluded that there is a feedback /bi-directional causality between external debt servicing, economic growth and exports.

Cohen (1993) analysed the correlation between developing countries (LDCs) debt and investment in the 1980s. He started by estimating an investment equation for a sub-sample of 81 LDCs over three sub-periods: 1965 - 1973, 1974-1981 and 1982-1987 to capture change of regimes, which took, place between these periods. The explanatory variables in the investment equation were: human capital, per capita income, share of exports in GDP, inflation, population growth and time and regional dummies.

All the variables were significant except population growth and the Africa dummy. The time dummies showed that investment was above average in the 1970's and below average in the 1980's (a time when debt became a serious crisis). In order to link the stock of debt to slowdown of investment in 1980s, he added debt to export ratio multiplied by a dummy for the years 1982-1987 as another explanatory variable.

The result was an insignificant positive correlation with investment. Further analysis showed that the level of stock of debt does not appear to have much power to explain the slowdown of investment. It is the actual flows of net transfers that matter. He also analysed whether the 'surprise' rise in the service of debt was significantly correlated to the 'surprise' fall in investment in the 1980s. He found that the actual service of debt 'crowded out' investment. Rescheduling countries exhibited a significant coefficient of crowding out investment (o.35) compared to non -rescheduling countries (0.16).

Mbire and Atingi (1997) carried out a study on debt sustainability in Uganda where they focused on how debt affects the growth prospects of a debtor country. They also used a debt-cum - growth model similar to that used by Ajayi (1991) with the simulations using different interest rates chosen to conform with those that were being implemented by the Ugandan government in its external debt strategy. The simulation results indicated that Uganda could not be able to sustain debt that attracted interest rates more than 7% (which was the highest rate chosen in the simulation) per annum with a growth rate of only 2% per annum and given that the per annum population growth rate was slightly more than 2% then there would be zero or negative growth in real capita incomes.

The simulation showed that low interest rates attract higher rates of economic growth as greater resource transfer is permitted for every level of external debt growth rate.

Borensztein (1990) empirically tested the debt overhang effect using the data for the Philippines. He found that debt overhang had an adverse effect on private investment. The effect was strongest when private debt rather than total debt was used as a measure of the debt overhang.

Iyoha (1996) carried out an economic study on eternal debt and economic growth in Sub-Saharan African countries. He used a small macro-economic simulation model consisting of all equations of which two were stochastic (output equation and investment demand equation) and the remaining two were identities (Capital accumulation and debt accumulation identity).

For the output equation the standard neoclassical production was adopted in which output is assumed to depend positively on labour and capital inputs.

For estimation purposes, a Cobb-Douglas production function in logarithms form was used. Using the ordinary least squares (OLS) regression technique and data for 1970-93, he found that the two independent variables (Labour and Capital) explain over 93% of the variations in output. However the capital variable failed the significance test at 5% level. In an attempt to estimate the debt overhang effect, he adopts Borensztein (1990) approach in specifying the investment function. The equation estimated was specified as:

$$PCI_{nv} = b_o + b_1 r_t + b_2 MPK_t + b_3 GDPGR + b_4(DOD/Y) + b_5(TDS/Y) + U_t$$

Where r = interest rate (commercial lending rate)

MPK = Marginal product of capital

DOD/Y = Debt/DGP ration (a measure of debt overhang)

TDS /Y = Debt service to GDP ration (measure of "crowding out" effect)

GDPGR = Growth rate of output (Capture the accelerator principle)

PCI_{nv} = Investment per head

Using OLS method, he found that the variables explain 89% of the variations in investment per person. The interest rate variable is not significant. The debt variables were correctly signed and were not significant from Zero at 5% level, but were highly significant when the experiment was repeated with one variable at a time. He concluded that heavy debt burden acts to reduce investment through both the debt overhang and the 'crowding out' effect. This conclusion was also arrived at by using two stage. Least squares (TSLS). Both historical and policy simulation was carried out.

The policy simulation showed that a 50% reduction in debt stock would have significant increased investment and slightly increased GDP and would have also reduced total external debt stock and debt service.

Elbadawi, Ndulu and Ndung'u (1996) did a paper "Debt overhang ....." where they were investigating the effect of debt overhang on economic growth using cross -section regression for 99 developing countries spanning SSA, Latin America, Asia and Middle East. In their study they identified three channels in which the indebtedness in SSA work against growth: current debt flows as a ration of GDP, which stimulate growth while past debt accumulation (debt overhang) impacts negatively on growth.

These two channels produce a laffer curve showing a limit at which debt accumulation stimulates growth, beyond which further debt accumulation impacts negatively on growth. The third direct channel is through a liquidity constraint where debt service payment obligations reduce export earnings and this impacts negatively on growth. The final indirect channel works through the impact of the above channels on public sector expenditures, which affect growth negatively. Policy, fundamental and shock variables are also included in the model. The model is specified below:

DGPCAP = f(EDTGDP,EDTGDPL^2, DSX, EFGDP,DEGDP,GINV,INFL, CVTOT, RPOF, LRGDP , RERMIS, LSCHOOL, REVOLS)

Where

GDPCAP	=	Per capita GDP growth
EDTGDP	=	stock of debt to GDP
EDTGDPL^2	=	past dept accumulation (reflects the debt overhang)
DSX	=	The debt service as a ratio of export earnings.
PEFGDP	=	current fiscal deficit to the GDP ratio.
DEFGDPL	=	lagged fiscal deficit to the GDP ratio.
GINV	=	gross investment as a ratio of GDP.
INFL	=	rate of inflation.
RERMIS	=	real exchange rate misalignment.
CVTOT	=	coefficient of variation in terms of trade.
REVOLS	=	a dummy reflecting internal shocks.
RPOF	=	population growth.
LSCHOOL	=	human capital development.
LRGDP	=	initial incomes (capture the convergence effects).

The model was estimated in steps, starting with EDTGDP and EDTGDPL^2 as the explanatory variables. The results for both fixed and random, effects models were obtained.

The results showed that there is a laffer curve reflecting the debt overhang problem. When more variables are added, the results showed that debt service obligations and public deficits retard growth. Debt accumulation deters growth while debt stock spurs growth. External shocks (CVTOT) , real exchange rate misalignment (RERMIS) and internal shocks (REVOLS) retard growth.

The investment that was estimated is specified below.

IPY = f (EDTGDPL, GDPCAP, DSX, DEFGDP, DEFGDPL, PUINV, INFL, TOTSHK, RPOF, LRGDP, RERMIS, REVOLS)

DEFGDP (fiscal policy) and PUINV (public investment) are included to capture the effect of crowding out private sector investment while public investments supplement investment.

TOTSHK = terms of trade shocks.

IPY = private investment to GDP ratio.

The rest of the variables are as earlier defined.

Beginning with per capita growth and debt stock to GDP ratio as the only explanatory variables, the results showed that the debt stock to GDP is not significant, implying that the debt overhang is working through growth to affect private investment. When other variables are included, the results showed that public sector deficit to GDP lagged one-step retard private investment and debt service obligations reduce available credit and therefore retard investment. Debt service obligations reduce export earnings and thus impact negatively on growth of per capita incomes and private investment rates. The study confirmed that the debt overhang works indirectly to affect other policy variables and reduces the economies' flexibility in absorbing or adjusting to internal and external shocks.

2.2.0. An overview of Empirical literature

The literature seems to suggest that there are a number of ways of linking external debt to economic growth. In Degefe's study, the effect of external debt on investment is not explicitly given. Ajayi's and Osei's studies are purely based on simulation models.

They show severity of the debt burden indicators under different scenarios and their effect on economic growth. Apart from the study by Borerensztein, remaining studies reviewed are cross-sectional studies. All studies to larger extent support the existence of a negative impact of external debt on economic growth and /or investment. This implies that while foreign resources inflows may initially contribute to the growth of the economy, excessive dependency on this source can retard investment and therefore retard economic performance. The current study will adopt the models used in the cross-sectional studies to test the effect of external debt burden on sustained economic growth using the Ugandan data. This study will heavily incorporate the model approach used by Elbadawi et a (1996) with a few adjustment to suit the Ugandan situation. This model is more comprehensive than that used by Iyoha (1996). It captures the effect of debt overhang in both the investment and growth equations and includes policy, fundamental and shock variable as we. The model can be seen as having more channels through which indebtedness works against growth in SSA than the one adopted by Iyoha.

CHAPTER THREE:

THEORETICAL FRAMEWORK AND METHODOLOGY

Theoretical Framework

The studies reviewed in the preceding section show that debt variables are negatively correlated with investment and/ or growth. As earlier stated, it is assumed that growth in investment affect economic growth through accelerator principle and vise versa. The impact of external indebtedness simultaneously affects investment and economic growth. Therefore estimating only the growth equation would underestimate the effect of external indebtedness on sustained economic growth since investment affect growth. As a result, the impact of indebtedness on private investment will also be estimated. The channel through which the indebtedness in Uganda works against growth are identified as: stock of external debt as a ratio of GDP which should stimulate growth. The final indirect channel is through the fiscal deficit to the GDP ratio - as the stock of debt and cost of external debt servicing rise, there is little left to finance public development projects and social services. This leads to severely compressed budgets and /or fiscal deficit. These fiscal deficits aggravate further external borrowing as a source of financing the deficit. Therefore the fiscal deficit to the GDP ratio is negatively related to growth. Besides these variables, the model will also incorporate other policy, fundamental and shock variables. The model for estimation is specified below.

3.2 MODEL SPECIFICATIONS

3.2.0 Growth Equation:

The regression equation is specified as;

GDPGR = (EDTGDP, EDTGDP $_{t-1}$, DSR, FDGDP, FDGDP $_{t-1}$, PINV $_{t-1}$, TOT, HCD, INFL, RERMIS, TDUM)

Where

GDPGR	=	Real GDP growth rate.
EDTGDP	=	Stock of external debt to GDP
EDTGDP	=	Stock of external debt to GDP lagged by One period (reflect debt accumulation.)
DSR	=	The debt service as a ration of export earnings (reflect the 'crowding out').
FDGDP	=	The fiscal deficit to the GDP ratio.
FDGDP $_{t-1}$	=	Lagged fiscal deficit to the GDP ratio
PINV $_{t-1}$	=	Lagged Private investment as a ration of GDP (captures the accelerator principal).
TOT	=	Terms of trade (captures external shocks)
HCD	=	Human Capital development
INFL	=	Rate of inflation (reflects macro-economic stability).
RERMIS	=	Real exchange misalignment (reflects incredibility of Policies)
TDUM	=	Time dummy for the period 1982-1995.

A few adjustments have been made to the model used by Elbadwi et al (1996). Real GDP growth is used in place of per capita GDP growth rate. Private investment is included in the model to capture the accelerator principle. Shock variables are captured by terms of trade and by the time dummy to differentiate between the period before and after the onset of debt crisis. The policy variables are captured by inflation rate and by real exchange rate misalignment. 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.

The current study assumes that the role of human capital development is more important in explaining growth than just population growth (This view has gained great support from modern development economists). For that matter population growth rate as a variable is omitted.

Postulations:

- EDTGDP Coefficient should be positive, that is the current stock of debt to GDP should contribute positively to growth;
- The coefficient of past debt accumulation ($EDTGDP_{t-1}$) should be negative;
- The coefficient of debt service ratio (DSR) should be negative;
- Past investment to GDP ($PINV_{t-1}$) should contribute positively to growth;
- Fiscal deficit to the GDP both current and lagged (FDGDP, and $FDGDP_{t-1}$) should have negative coefficient.

An improvement in terms of trade (TOT) should promote growth. The effect of human capital development (HCD) on growth is positive.

Real exchange rate misalignments may create distortions in the economy and thus impact negatively on growth. The rate of inflation (INFL) reflects macroeconomic sustainability and stability and thus may stimulate growth at low and containable levels, but can impact negatively on growth at high levels. The effect of external debt on growth should be negatively significant for 1982-1995 time period within which Uganda Seems to have experienced huge debt burden problems. This is also the period Uganda undertook Structural Adjustment Policies.

3.2.1 Investment Equation

In this study, private investment to GDP is estimated in order to fully capture the accelerator principle. This is justified in order to capture the effects of external debt on sustained economic growth through its impact on private investment, through accelerator principle. Other variables included in the investment equation are:

Interest rate, total domestic credit to private sector and public investment. The model assumes private investment to be supply constrained.

The regression equation to be estimated is specified as:

PINV = $f(EDTGDP_{t-1}$, EDTGDP, GDPGR, DSR, FDGDP, FDGDP, $FDGDP_{t-1}$, TOT, HCD, GPUIV, INT,DCPS,INFL,RERMIS)

Where INT_r = Interest Rate (Commercial lending rate.

GPUIV = Public Investment.

DCPS = Domestic Credit to the private Sector.

The other variables are as defined before.

Postulations:

The $EDTGDP_{t-1}$ coefficient is negative.

The GDPGR coefficient is positive (captures the "accelerator effect")

DSR coefficient is negative.

FDGDP and $FDGDP_{t-1}$ coefficients are negative.

The effect of human capital development (HCD) on investment should be positive.

A rise in interest rates (INT_r) discourages private investment.

Improved terms of trade (TOT) can promote investment.

ENTGDP should promote investment.

Inadequate domestic credit to private sector (DCPS) constrains private investment.

GPUIV should supplement private investment.

INFL coefficient should be positive but high inflation should deter investment.

Real exchange rate misalignment (RERMIS) deters investment.

3.3 DATA EXPLORATION TECHNIQUES

This section gives an overview of econometrics techniques of dealing with time series data to avoid spurious regression problem. The tests considered are stationarity (order of integration) test and cointegration test. If these tests show variables to be non-stationary and cointegrating, the equations will be re-specified in the form of error correction models.

Stationarity Analysis

Non- Stationarity of time series data has always been regarded as a problem in economic analysis. The statistical properties of regression analysis using non-stationary time series are dubious.

Working with non -stationary variables in their levels can lead to spurious regression results from which no further inference can be made. The standard statistical tests are invalid even though they may show promising diagnostic test statistics. The first step therefore is to test whether the variables are stationary or test the level of integration through Unit root test before any meaningful regression can be performed.

A stochastic process {Xt} is said to be stationary (weak sense of stationarity) if the means and the variances of the process are constant over time and if the value of the covariance between two period depends only on the gap between the periods and not the actual time at which this covariance is considered. If one or more of the conditions above are not fulfilled, the process is non stationary (Deadman and Cheremza 1992, p. 118) A non - stationary series which can be transformed to a Stationary series by differencing d times is said to be integrated of order d, denoted as I (d).

Dickey -Fuller Unit Root Test

An appropriate and simple method of testing whether a variable is integrated of order one is the DF test proposed by Dickey and Fuller (1979). Suppose we want to test that the variables

y_t is I (1), that it is generated by

$$y_t = y_{t-1} + e_t \quad \ldots\ldots 3.1$$

where e_t is the error term and is assumed to be a white noise process. The above equation can be re-written as

$$y_t = \alpha\ y_{t-1} + e_t \quad \ldots\ldots 3.2$$

So that is $\alpha = 1$, it is a pure random walk variable. In strict sense, the DF test is a test of the hypothesis that $\alpha = 1$ in equation (3.2). this is called the unit root test. The test is based on the estimation of an equivalent regression equation to (3.2), given as

$$\Delta y_t = \beta\ y_{t-1} + e_t \quad \ldots\ldots 3.3$$

This equation can be re-written to resemble equation (3.2)

$$y_t = (1+ \beta\ )\ y_{t-1} + e_t \quad \ldots\ldots 3.4$$

thus $\alpha = 1+ \beta$. Hence if in (3.3) $\beta < 0$, then (3.2) $\alpha < 1$ (smaller than one) . The DF test consists of testing the negativity of β in the OLS regression of (3.3), that is:

$H_o: \beta = 0$ ($y_t \sim I(1)$)
$H_o: \beta < 0$ ($y_t \sim I(0)$)

Rejection of the null hypothesis (H_o) in favour of the alternative implies that α is less than 1 and that y_t is integrated of order Zero.

The DF test can also be used for testing a variable generated as a stochastic process with drift and /or deterministic trend. This implies inclusion of a constant and /or time trend in the estimation of (3.3).

Augmented Dickey –Fuller Unit Root Test

A weakness of the DF test is that it does not take account of possible autocorrelation in the error process e_t A simple solution is use of Augmented Dickey Fuller (ADF) test. It involves use of lagged left-hand side variables as additional explanatory variables to approximate the autocorrelation.

As a result, it is widely regarded as the most efficient test among the unit tests. The equivalent of (3.3) is given as

$$\Delta y_t = \beta y_{t-1} + \Sigma \Gamma_{i\Delta} y_{t-1} + e_t \quad \text{.....3.5}$$

The same hypothesis is being tested, that is,

$H_o: \beta = 0$
$H_o: \beta < 0$

The test can also be used to test the order of the integration for a variable generated as a stochastic process with a drift and /or deterministic trend.

Testing for cointegration

The next step after finding out the order of integration is to establish whether the non-stationary variables are cointegrated. Differencing of variables to achieve stationarity leads to loss of long - run properties. A model of only differenced variables gives only a short -run response. The concept of cointegration implies that if there is a long run-relationship between two or more non-Stationary variables, deviations from this long-run path are stationary. Variables are said to be cointegrated if they are integrated of the same order and if a linear combination of these variables assumes a lower order of integration.

The process of testing for the existence of cointegrating relationship is twofold. First, test for the order of integration of the variables involved in the postulated long-run relationship. If they appear to have a unit root, then a model based on these variables (non -stationary) in static form is estimated by OLS to obtain the residuals. Second, test for stationarity (order of integration) of the residuals generated instep (1) above. If stationarity Is not rejected, formulate an error correction model (ECM).

The DF and ADF test procedure for evaluating the order of integration of the residuals is the same as explained before. The tests are based on estimation of the equation below.

$$\Delta \varepsilon_t = \beta \varepsilon_{t-1} + v_t \quad \text{.....3.6}$$

In both cases, the hypothesis to be tested are:

$H_o : \beta = 0$ (no cointegration)
$H_o : \beta < 0$ (cointegration exist)

The t-statistics of the coefficient of ε_{t-1} using both versions of DF and ADF tests determine whether the variables are cointegration or not. If the computed t- value is less than the critical, then cointegration is accepted.

In addition to the above test, a correlation matrix for the variables will be explored for compressive analysis.

3.4 DATA TYPES AND SOURCES

The external debt data used in this study are largely drawn from World Bank publication (World Bank World data files, World Bank World Debt Tables and World Tables). These are supplemented with data from International Monetary Fund (IMF) publications.

However the data will be also supplemented with information obtained from statistical abstracts, economic surveys and other sources.

3.5 DATA LIMITATIONS

Like many other studies on external debt, one of the major limitations is the measurement of external debt of LDC's.

There are both conceptual and practical problems. First is the problem of what constitutes debt - whether it should be limited to disbursed funds or should include undisbursed funds; whether it should be treated as gross or net (gross e external reserve); whether it should include direct foreign investment and short term loans.

In this study, external debt includes only disbursed amount. It also includes short-term loans and excludes direct foreign investment
Second problem focuses on whether debt should be measured in nominal or real terms and if the latter, what deflector should be used.

Third, currency revaluation significantly affect the amount of debt outstanding. It is therefore possible that debt in a particular year may not necessarily be equal to the amount of external funds borrowed.

Finally, there appears to be so many variables, which affect economic growth. This implies that some other important variables may unknowingly be omitted thus undermining the effectiveness of the study.

CHAPTER FOUR
RESEARCH FINDINGS

4.1 Dimensions of external debt problem

By the end of 1999 Uganda's total external debt was US$2.6 billion. Over 60% was outstanding to multilaterals and the debt service to multilaterals alone in 1998/99 was 31%. Arrears stood at US$2253 million (117% of projected foreign exchange earnings). The debt service ratio did not fall below 34% in the next five years.

Given this situation, it is likely that Uganda will find it difficult to service even its multilateral debt in the future without a substantial reduction in the debt service obligation that it has to find from its own resources. It is in this light that Uganda government has developed an external debt strategy with the aim of restructuring the country's debt.

The hope is that creditors and donors will adopt a flexible stance in recognition of Uganda's exceptional circumstances.

The decade of the 1970s witnessed an average growth in the stock of debt of 18.5% in the 1980s an average growth of 13% was recorded.

The terms of trade (TOT) over the same period averaged 176.11 and 107.56 respectively (1987=100) which also resulted in dwindling export receipts. Export growth recorded a negative rate because the persistently low level of foreign exchange inflows could not sustain the high debt service ratio.

Since the External Loans Act (1962) gave powers only to the Minister of Finance to contract loans, all Loans contracted for the public sector were government guaranteed.

The exchange control act, until 1990, did not allow any other agents except the central bank (Bank of Uganda) to transact external financial transactions. This meant that all external loans had a foreign currency guarantee by the Bank of Uganda. The non-guaranteed debt was contracted by the government on behalf of the private sector and is very small in magnitude. By the end of June 1992 the stock of debt to the private sector was estimated at US$51.95 million, which is only 1.96% of the debt outstanding and disbursed. This rose to US$75 million, by the end of June 1993.

4.2 Magnitude of the debt

There are a number of reasons why the debt problem has become so acute that it demands immediate attention from the policy makers and professionals. First, the size of the debt in relation to the size of the economy as measured by GDP has become enormous that it can lead to capital flight and also discourage private investment.

Secondly, a huge proportion of the annual export earnings used in external debt servicing leads to a reduction in the impact of export growth in the economy. Debt servicing consumes a significant portion of convertible currency, limiting the Country's ability to import goods for investment.
Thirdly, the current debt management system has a serious macroeconomic impact on an economy's out put. The reason is that adjustment programmes are threatened by the large debt burden.
(Table 1 See Appendix) shows the size of Uganda's external indebtedness in both current dollar and constant dollar values for the period 1970 to 1990. The growth of Uganda' external debt was felt sharply in 1973.

This was mainly due to donor community's economic and financial retaliation after the declaration of the economic war in 1972, which led to the expulsion from Uganda of the Asian Community backbone of the trade and commerce sector at the time) which resulted in both a slowing down of the disbursements and a freezing of commitments to Uganda. The steep rise of normal debt by 22.1% in 1974 reflects a singe disbursement from a multilateral creditor. The external debt in constant dollars fell between 1973 and 1975.

Most of the external financing that came from multilaterals during the 1970s was from the African Development Bank and the East African Development Bank. There was steady growth in nominal debt between 1975 and 1979. This was mainly debt from bilateral sources dominated by Arab creditors, who had a major influence on both political and economic trends in the country during that time. Between 1979 and 1987, a number of developments affected Uganda's level of indebtedness.

The civilian regime that came in to power in 1979 was quick to take advantage of re-establishment ties with the donor community.

The sharp decline of nominal debt (similar pattern of growth rate in constant term) in 1984 and 1986 reflect the political and economic instability. In 1984 the stabilization programme adopted in 1981 was abandoned in the midst of intense civil strife and in 1986 saw the coming to power of the current National Resistance Movement (NRM) government and the launching of the economic recovery programme. The government has had to resort to external borrowing (albeit on concessionary terms) to implement this programme and this has resulted in the rise in debt since 1987.

4.2.1 Debt Profile

The financing of the debt contract was largely through official sources at both multinational and bilateral level (see Table 2 Between 1980 and 1990 the loans from multilateral institutions accounted for about 57.7% of the debt contracted, while the Paris Club share amounted to 4.9%, non Paris Club and commercial creditors' contribution was at 27.6% and 9.8 % respectively.

Table 2. Outstanding debt category (percentage of total)

	1980-1990	1991-2000
Multilaterals	57.1	67.6
Paris Club Bilaterals	4.9	9.5
Non- Paris Club bilaterals	27.6	14.7
Commercial	9.8	8.2

Source: Bank of Uganda (1990, P.239, 2000,P.423)

In the 1990s the share contributed by the multilaterals increased to 67.6% and that of the Paris club creditors rose to 9.5%. The share of non Paris Club and Commercial creditors declined to 14.7% and 8.2 % respectively. The changes in the percentage contribution by the different groups is explained by the current debt contraction portfolio, which reveals a preference for highly concessionary loans from the multilateral and Paris Club group of creditors. As a result of the government' prudent debt management policy and the build up of arrears to non Paris Club and commercial creditors, less contraction of loans from the latter category is taking place.

External debt can further be broken down in to public and publicly guaranteed private non-guaranteed and short-term debt.

As can be seen from (table 3 See Appendix), public and publicly guaranteed debt forms over 60% of total external debt. Short-term debt has generally been at low levels - below 10%.

Uganda's debt export ratio was significantly high over 1000% between 1990 and 1993 due to poor terms of trade and fall in coffee prices (Table 4); consequently the debt service ratio was also high over most of this period at over 60%. This heavy debt burden further strain the weak balance of payment position and Uganda's quest for external viability. According to Sharer et al. (1995), given Uganda's initial weak external situation, its frequent inability to meet all contractual debt service obligations and the lack of access to commercial financing beyond normal trade credits, the traditional criterion of spontaneous access to commercial borrowing as an indicator of external viability is not relevant. Under these circumstances, one can best assess Uganda's movement towards external viability in terms of the extent to which debt service ration and reliance on exceptional donor financing can be reduced.

We argue in this paper that the composition and profile of Uganda's debt outstanding and disbursed (DOD) and debt service obligations reveal an increasingly difficult external financial position largely due to the following reasons:

Table 4: Debt burden indicators for Uganda (%)

	1980	1987	1988	1989	1990	1991	1992
Ratio of external debt to exports of goods and services (%)	212.3	4791	610.0	744.8	1,084.6	1,436.5	1,549.3
Ratio of external debt to GCP (%)	55.7	31.4	30.7	43.6	63.3	87.9	109.6
Ratio of debt service to export of goods and services	17.3	39.9	62.7	61.8	60.7	75.5	59.6

Source : World Bank, (1996).

The persistent low levels of foreign exchange inflows cannot sustain the high debt service ratio. The preponderance of multilateral debt limits the benefits Uganda could obtain through traditional rescheduling.

A large proportion of debt owned to the Paris Club group of creditors was contracted after the cut-off date (1 July 1981) and is therefore not eligible for rescheduling. Little precedence existed for rescheduling debt owned to non OECD bilateral creditors, who account for the largest portion of non Multilateral DOD.

Of the uninsured commercial debt, 26.78% cannot be rescheduled on favourable terms as a number of loans were owed to contractors with work in progress or were secured on specific terms.

Perhaps the most significant underlying factor in Uganda's debt crisis has been poor debt management.

4.2.2 Debt Management

Debt management involves the deliberate and planned acquisition, deployment and retirement of loans for the purpose of promoting economic growth and development. This entails articulation and formulation of policy for external borrowing, control and surveillance of external borrowing, and keeping comprehensive and accurate data on external borrowing. These critical aspects of debt management have not been well undertaken in Uganda's case.

Prior to 1982, very little information existed on external debt and there was no basic institution in place to effectively manage debt through efficient data collection, assess the sustainability of debt and offer advice on existing international resources. The treasury Department in the Ministry of finance and the Public Debt Section, Accounts Department, in the Bank of Uganda, handled both internal and external debt, and the composition, stock and payment schedule was not clearly known.

The responsibilities for aid co-ordination Unit in the Ministry of Finance, the Commissioner/Treasury Officer of Accounts; the External Debt Management Office (EDMO) and the Foreign Exchange Operations in the

Bank of Uganda; the Aid coordination Unit in the Prime Minister's Office; and the Aid coordination Unit in the former Ministry of Economic Planning. The exact role of each institution was not clearly defined or backed by full legislative authority. This led to a weakened flow of information among the concerned units, which in turn resulted in poor coordination and record keeping, and inefficient verification and monitoring of debt.

The External Loan Act of 1962 and the Loans (Guarantee) Act of 1958 jointly vest legal authority for the contraction and management of external debt with the Minister of Finance (MOF). The Ministry of Finance divided its management role between the Aid Coordination Unit in the MOF, which assists in the negotiations of new loans and facilitates the flow of aid-related funds into the country. The Treasury, as stipulated by the loans Act, authorizes all disbursement requests and all debt service payments; it therefore has comparative advantage in maintaining up-to-date external debt related information. Despite this comparative advantage, the Treasury is institutionally weak and does not have adequate capacity to perform this debt reporting function. As a result, the External Debt Management Office in the Bank of Uganda has taken over this responsibility. Dependence on EDMO has been further increased by the capacity constraints within the Ministry of Finance's Aid Coordination Unit and its apparent inability to take charge of the country's aid portfolio, as authorized by the law.

As a result of insufficient information and poor coordination, the government has not been able to ensure that all new debt is contracted on terms compatible with the country's external debt burden and its ability to service and repay this debt in the future. Effective in the mid 1980s, the government succeeded in ensuring that the implementing ministries do not sign loans independent of the Ministry Finance, although in some instances the implementing ministries have conducted negotiations with lenders and suppliers without earlier involvement of the ministry or the central bank. This had led to acceptance of financial commitments on unfavourable terms.

There was also no clearly articulated policy defining the order of priority in which creditors should be paid, although maturities falling due to the IMF and World Bank group were always serviced on time.

As a result, creditors who persistently pressured but who had not necessarily provided the maximum future benefits to Uganda were sometimes paid in preference to other creditors. On some occasions, Bank of Uganda has had to resort to borrowing under short-term commercial facilities to make payments to key multilateral creditors.

Given the lack of coordination it became almost impossible to keep accurate records of the volume and structure of Uganda's external debt and to devise the time profile of the debt projections. Poor debt management created a problem of debt servicing for the country.

Owing to these weaknesses, government in 1991 conducted an extensive debt management exercise within the Bank of Uganda and as a result the total national stock of debt has been derived, verified with the creditors and recorded centrally; the debt records have been computerized, and staff involved in debt management are being trained in the principles of debt management and the use of computer software related to debt.
Effective July 1992, government centralized all functions of various units by creating a Central Debt Unit in the Ministry of Finance, although EDMO in the Bank of Uganda still has the duty of keeping all records pertaining to monitoring of disbursements, maturities and other data related to debt.

This move has improved the control and the coordination of policy, eliminated duplication of efforts, and ensured efficient transfer of information.

4.2.3 External debt strategy

Given Uganda's debt crisis, government decided to immediately develop and is currently implementing an external debt strategy in order to try to resolve the country's debt problem.

The aims of the debt strategy include the following:

Clearing the bulk of the accumulated arrears, which were causing legal actions against government and threats to seize assets to satisfy claims. This has resulted in an embargo on disbursement and hence project disruptions.

Stopping increase in the accumulation of penalty and late interest charges.

Reducing contractual debt service due to a level commensurate with Uganda's ability to pay.

The components of the strategy include rescheduling, debt buy back and restructuring of uninsured commercial debt, implementation of the sixth dimensions facilities, and possible cancellations. Our major focus will be on debt rescheduling, which forms an integral part of the debt strategy.

4.2.4 Paris Club reschedulings

Uganda has benefited from a number of debt cancellations granted by the Paris Club creditors, in addition to the reductions obtained under the 1989 rescheduling on Toronto terms and the 1992 rescheduling on enhanced

Toronto terms. These include cancellations from France, Germany, UK and USA on loans originally provided on concessionary terms.

As at end June 1992, approximately US$279 million was outstanding to the Paris Club creditors, of which US$81 million represented arrears and penalty interest, and US$26 million was principal and interest falling due in 1991/92. The Paris Club does not reschedule reduce any debt that has been contracted after a particular date, which in the case of Uganda was set at 1 July 1981 (the cut-off date). Of the total amount outstanding to the Paris Club, 42% (US$119 million) was contracted before the cut-off date. Consequently, only about US$50 million in arrears and pre cut-off date current maturities was eligible for rescheduling in the June 1992 agreement reached with the Paris Club.

Uganda was permitted to reschedule all arrears of principal, interest and penalty interest coming due by end November 1993. This was exceptional in that the Paris Cub usually grants rescheduling of maturities due during the current IMF programmes only (which for the case of Uganda was due to expire on 30 November 1992). The concession enabled Uganda to budget for the fiscal year 1992/93 on the basis of this agreement. The amount rescheduled totaled nearly US$36 million in arrears and US$14 million in current maturities. The impact of this has been to reduce the debt service in this category to only US$2 million in amount due and moratorium interest.

Under the enhanced Toronto terms granted to least developing countries, penalty interest is not usually permitted to be rescheduled but this was concealed for Uganda.

Debt incurred after 1 July 1993

Since half of the debt owed to Paris Club creditors was contracted after the cut-off date, a conventional rescheduling of pre cut-off date would have a limited impact on the country's debt burden. Uganda will therefore have to seek annually the maximum deferral of debt amounted to approximately US$34 million; the Paris Club initially insisted that this be paid in full by November 1992, which was the guaranteed consolidation period, but ultimately conceded that Uganda's domestic and foreign exchange budget would not permit this and agreed with the IMF that half could be paid by November 1992.

These deferrals are associated with stringent terms-no grace periods, short repayment periods, and no reduction of principal and interest. The debt service that falls due is not deferred and arrears once deferred are not eligible for any future deferrals. This serves to intensify the debt overhang that the country is already experiencing, as it will not be possible to re-defer these payments. It was also agreed that maturities up to 30 November be restructured under this agreement. The year-by-year rescheduling approach adopted by creditors under these terms will require Uganda to return to the Paris Club on a regular basis for the foreseeable future.

Table 5: Uganda, Paris Club history

	Amount Consolidated	Maturity (years)	Grace (years)	Length (months)
November 1981	63	9	4.5	12
December 1983	16	9	4.5	12
June 1989	105	14	6.0	12
January 1989	86	Toronto terms: 1/3 write off		
June 1992	50	Enhanced Toronto: 1/2 write off		

Source: Bank of Uganda

Uganda benefited from the "Toronto terms" plan, which offered a menu of alternatives to choose from when the consolidated amount of US$86 million was rescheduled in January 1989 (See Table 5). One-third of the eligible maturities was forgiven, while the Maturity of the remaining debt was extended to 14 years with an eight-year grace period. These terms have only partially addressed the problem, however, because (1) the entire debt was never rescheduled in this single meeting and (2) the burden of debt is postponed only to intensify the overhang. In June 1992, the enhanced Toronto terms saw a writer off of debt worth 50% in terms of net present value. It included the exceptional element of rescheduling maturities outside the then running IMF programme, rescheduling of penalty interest and 50% of the post cut-off arrears.

4.2.5 Non OECD bilateral creditors

Uganda's non-Paris Club creditors are owed a significant amount of arrears and penalty charge, totalling US$185.49 million as at end June 1992 with 1992/93 maturities totalling US$47.31 million. Government in the course of the financial year 1992/93 entered agreements with some of these creditors that saw the rescheduling of US$17.6 million of arrears in the financial year 1992/93. This resulted mainly from the acceleration of maturities totalling nearly US$17.6 million, while arrears amounting to US$60 million were rescheduled. There was also a downward adjustment to the stock of arrears, totalling US$14.68 million. The impact of these measures was to reduce the stock of debt outstanding and disbursed (including arrears) as at end of June 1993.

In the meantime, all other creditors have been asked to reschedule their stock of arrears and maintain the concessional or semi-concessional interest rates that they apply to the underlying loans for rescheduling.
It should be noted that there are few precedents for rescheduling with some of these creditors but it is proposed that the most favourable terms possible be requested from them.

4.2.6 Buy back and restructuring of uninsured commercial debt

A total of US$242 million of debt was outstanding to uninsured commercial creditors at 30 June 1992, of which US$226 million represented obligations to non-bank commercial companies mostly suppliers and creditors. Supervised under the debt reduction, a plan concluded on 26 February 1993 saw Uganda buy back US$151.89 million of eligible debt of its US$2.6 billion DOD at 12 cents to the dollar. This represent 6% of the total DOD, one third of the total arrears and three-quarters of commercial debt. The impact of this was debt forgiveness amounting to US$133 million using grant provided by the IDA(under the debt reduction facility) totalling to US$10 million by Switzerland (US$0.7 million), Netherlands (2.68 million) and Germany (US$4.62 million).

This deal provides some relief for government to come up with longer-term debt restructuring facility after Niger, Mozambique and Guyana.
The amount to be converted into equity, approximately US$13.1 million, mainly includes arrears to the private sector joint venture partners. The government is currently in discussion with these creditors to swap these arrears for government assets in accordance with the privatization

programme. East Africa Holdings and Shell are two cases in point with which government has already concluded debt-equity swap agreements.

Given the relatively small stock of debt owed to commercial creditors, the London Club has not featured much in the restructuring of the Uganda debt. The availability of the IDA debt restructuring facility and the OECD bilateral grants made the buy-back operation more significant with regard to commercial debt.

4.2.7 Multilateral debt service

Government aims at soliciting bilateral donor assistance for servicing multilateral debt. Under the ongoing fifth dimension facility, Norway and Sweden have provided the government with resources equivalent to IBRD repayments and the government has requested these donors to extend similar facilities for ADB maturities. The response to this has been positive because ADB maturities estimated at nearly US$3.57 million of arre3as and US$1 million owed to IDB were rescheduled.

Government successfully negotiated with EADB on restructure amounts owed to it and to date arrears guaranteed by government at 30 June 1993, are estimated at US$15.263 million, down fro US$48.1 million a year earlier. Government committed itself to a payment of nearly US$6.8 million every financial year in order to clear this arrears over the next two and half years and has divested itself to US$33 million arrears owed to EADB ; this is now to be paid by the private sector, which benefited from these loans.

Other creditors in this category of divestiture include Commonwealth Development Corporation, Commonwealth Technical Corporation, EXIM(India) and IFC ; together they amount to US$51 million of arrears, During financial year 1992/93, US$385 million of arrears was settled, of which exceptional financial accounted for US$335 million (rescheduling alone contributing US$141.32 million) and direct cash payment US$50 million.

4.3 Impact of debt Strategy

Much as the strategy has assumed the maximum feasible rescheduling and accepts the accumulation of arrears to certain creditors, the minimum debt service requirement remains high, over 60% of projected foreign exchange earnings. There is still a high financing gap as shown in Table 6. The success of the debt strategy therefore depends on limiting the extent to which the gap identified is financed through the accumulation of arrears. The financing gap has widened especially because foreign exchange earnings have fallen well below projected levels. Nonetheless, we hasten to mention the likely positive impacts of the debt strategy, mainly the reduction of arrears through rescheduling. Arrears could be reduced from the level of US$585 million in June 1992 to US$76 million. This takes into account the debt buy-back operation that was successfully executed February 1993 and also assumes that all rescheduling, restructuring and cancellation in the various categories of debt are achieved in a timely manner. It is also estimated that the arrears build up would be US$650 million US$675 million at the end 1992/93 fiscal year and over US$1 billion by the end 1995 if the strategy were not implemented.

The impact of the debt strategy was largely realized during fiscal year 1992/1993, which saw US$385 million of arrears restructured, of which exceptional financing accounted for US/$335 million (rescheduling alone contributed US$141.32 million to only US$253.7 million a year later.

The rescheduled maturities in this financial year are estimated at US$45.74 million, while the impact of the debt strategy on maturities falling due in 1994 - 2000 is a reduction of interest and amortization amounting to US$105.42 million (see Table 7). Using the growth cum debt model described below, the impact of rescheduling on growth and debt indicators is shown in Table 8.

Although the impact of rescheduling is marginal, there is a saving on resource transfer amounting to annual average of 0.06% of GDP, a reduction of the potential debt-GDP ratio by 2.5 percentage points and an increase in economic growth by 0.01% on a yearly basis.

However, the impact of arrears cancellations totalling nearly US$) million during the financial year 1992/93 had the fairly substantial effect of raising the growth rate GDP by 0.79 percentage points, lowering the debt-GDP ratio by 6.98 percentage points and realizing a savings on resource transfer of 8.5% of GDP in calendar year 1993.

Uganda's economic reforms are highly dependent on external financing. Given the collapse of the International Coffee Agreement (ICA) in July 1989 and the accompanying fall in coffee prices, which greatly affected the foreign exchange earning capacity of the economy, attempts to increase non -coffee export may take time to increase exports earning sufficiently to cover the fall in coffee prices. At the same time, the economy needs a minimum level of imports to meet its growth and stabilization targets and this calls for considerable donor assistance,

together with the economic and structural reforms currently being implemented by government. Even though non-coffee export earnings are picking up, given the extremely small base of these exports, their impact on financing requirements has so far been minimal and a significant quantitative impact on the balance of payments can only be achieved over the medium term. It may thus be the case that Uganda will continue to depend heavily on donor support for some time to come, requiring substantial disbursements fro the donor community to cover the loss of coffee export earnings.

Table 7: Impact of debt restructuring on maturities falling due, (1994 - 2000 US$ millions)

Before restructuring

	1994	1995	1996	1997	1998	1999	2000	Total
Creditor								
Multilateral	72.02	85.05	102.15	120.05	117.99	110.99	96.95	705.16
Bilateral								
Paris Club								
Pre cut-off	17.39	16.81	16.24	18.01	22.93	21.89	22.63	135.90
Post cut-off	13.14	8.36	5.97	5.26	8.13	7.88	8.49	57.23
Non -Paris	26.5	39.89	41.11	39.95	46.66	40.06	37.23	271.40
Commercial								
Non-bank	5.99	3.04	2.78	2.93	3.08	3.01		20.89
Other loan								
Loan category	8.323	11.15	6.82	3.6	2.94	2.73	2.42	37.89
Grand total	143.27	164.3	175.07	189.8	201.69	186.56		1228.41

After restructuring

	1994	1995	1996	1997	1998	1999	2000	Total
Creditor								
Multilateral	73.32	84.58	99.71	109.54	102.96	94.82	82.16	647.07
Bilateral								
Paris Club								
Pre cut-off	17.15	16.49	15.83	17.61	22.72	21.47	20.23	131.50
Post cut-off	9.08	8.44	5.98	5.3	8.29	8.03	8.3	53.43
Non-Paris	22.69	35.07	31.81	32.61	31.2	30.52	27.95	211.85
Commercial								
Non-bank	13.74	12.84	12.34	12.79	12.46	12.1	2.47	78.74
Other loan								
Loan category	0.131	0.122	0.113	0.053	-	-	-	0.42
Grand total	136.09	157.54	165.783	177.90	177.63	166.94	141.11	1123.00
Reduction in								
Debt service	7.18	6.76	9.29	11.90	24.06	19.62	26.61	

Source : EDMO Department, Bank of Uganda (September, 1993).

Table 8 : Impact of rescheduling on maturities falling due 1994 - 2000

Variables	Before rescheduling (annual average)	After rescheduling (annual average)
Growth rate	5.73	5.74
Debt-GDP ratio	114.02	112.47
Resource transfer (as percentage of GDP)	0.16	0.22

In addition to the increase in the level of external assistance, there has been a change in the pattern of aid allocation. Much of the 1980s saw project related aid accounting for over 80% of gross disbursements; this has declined in the 1990s to less than 60% as donors increasingly assist the government through import support aid, which not only provides much needed balance of payments support but also counterpart funding for the budget.

4.4 Causes of Uganda's Debt Crisis

Uganda like most Sub -Saharan African Countries has experienced problems with external indebtness. The evolution of the debt problem of Uganda can be attributed to some of the following factors during the 1970's as transitory commodity price booms, expanded access to private, financial and other trade credit following the recycling of OPEC surpluses and public expenditure expansion with financing contributions from both of the above. In the 1980's the debt burden accelerated. This was due to the new development, which included among others world recession and further terms of trade deterioration (Greene 1989). Among other factors that led to the debt burden were delayed adjustment programmes, drought and high interests rates.

High interest rates have a negative impact on debt servicing efforts, which exacerbates the liquidity problem faced by debtors. They precipitate outflows of private Capital since the opportunity of earning high rates of return on dollar in overseas accounts encourages capital flight from developing countries (Krum, 1985). Protectionism in developed countries and proliferation of non-tariff measures that hurt the economy in terms of market access, development of new products and processing of raw materials further increased the debt crisis.

Also other external factors as the weak and sluggish performance of the world economy during the 1980's increased the debt problem. This international recession coupled with massive falls in commodity prices hit the country hard resulting in export markets being lost and foreign exchange earning falling drastically constraining the ability to service the debt as well as any development work (Abbott, 1993).

The growing problem of debt accumulation in uganda has received considerable attention in the literature and is now recognised as a serious economic issue. Greene (1989) attributes this debt problem to both domestic policies and external factors. Besides expansionary fiscal policies and borrowing against export to maintain consumption level, many of these countries pursued other policies that weakened their external position - maintenance of high levels of imports, over - valued exchange rates, government subsidy policies and external financing of over - ambitious development projects. From the late 1970s the shift in terms of trade against African countries and the decline in export earning has been a major external influence and has greatly hampered the countries' ability to meet their debt obligations.

The international economic environment had an important impact on theUganda economy. It drived the prices of African exports, the demand for those exports and the effective interest rates countries pay. The terms of trade of developing countries are also indirectly affected by economic trends in industrialised countries.

A major external factor in Uganda's debt crisis is the dramatic decline in export receipts due to declining coffee prises and unfavourable terms of trade. The price of coffee (the major export) decreased steadily from 1985 to 1993 and Uganda suffered annual declines in terms of trade every year from 1986 to 1992.

The decline in the terms of trade resulted in a sharp increase in Uganda's debt service to export ratio, which was over 60% between 1988 and 1993.

A major cause of debt has been the high level of donor financed development expenditures. The reliance of the adjustment efforts adopted in 1987 on external financing has created a larger debt burden for Uganda, with the external debt more than doubling during the adjustment period from US$1,659 million to $2.9 billion as of June 1994. Most of this increase was attributed to credits obtained from multilateral institutions to support the balance of payment and finance development projects. Multilateral debt as of June 1994 accounted for about 71% of the total debt stock, compared with about 43% in 1987.

Ajayi (1991) argues that the division of the factors into two seemingly watertight compartments is quite misleading. External factors do impinge crucially on domestic factors - for example changes in terms of trade may influence the real effective exchange rate. Hence the major factors contributing to Uganda's debt crisis can be summarized as:

- Of the world, price shocks in the 1970s. This was mainly reflected through increase in import prices due to oil shocks.
- Deterioration in the term of trade a decline in export earning particularly in the 1980s. There was a growth in arrears caused by the fall in coffee prices and this greatly affected not only the foreign exchange earning capacity of the economy but also ability to sustain the servicing of debt obligations.
- Resulting from the above, interest on late payment built up to US$34.4 million at end of June 1992; this is contributory factor in the increase of debt.
- The highly expansionary fiscal deficits.

This heavy debt burden further strains the weak balance of payment position and Uganda's quest for external viability. According to Sharer et al. (1995), given Uganda's initial weak external situation, its frequent inability to meet all contractual debt service obligations and the lack of access to commercial financing beyond normal trade credits, the traditional criterion of spontaneous access to commercial borrowing as an indicator of external viability is not relevant. Under these circumstances, one can best assess Uganda's movement towards external viability in terms of the extent to which debt service ratios and reliance on exceptional donor financing can be reduced.

4.6 Debt and Economic Growth

Since 1981, Uganda has pursued stabilization and structural adjustment policies in an attempt to stimulate the recovery of the economy.

These have attracted a substantial amount of foreign resources in form of loans, given that the required investment levels could not be met by domestic savings. The reliance on foreign saving is justified by the fact that the growth domestic savings (GDS) expressed, as a percentage of GDP was negative for most of the sample period (1980 - 1995. (Table 5. See Appendix) The Savings rate is seen to lag behind the rate of investment (and this pattern Is exhibited in both public and private sectors) From 1989, however the savings - GDP ration did improve, largely because of high private unrequited transfers reflected in the current account of the balance of payments.

An analysis of data on consumption and investment reveals that the economy absorbed more than it produced and saved, which may have led to the suggestion that external financing and accumulation of arrears sustained the Ugandan economy during the period under review.

This gloomy situation is largely attributed to a narrow tax base, which shrank during the years of economic decline and inefficient financial intermediation resulting from financial repression. A substantial percentage of the budget deficit was monetized, which resulted in accelerated inflation and a fall in the real deposit rate of interest in formal financial institution. At the same time an increasing proportion of the declining supply of real domestic credit was being expropriated by government to finance current expenditures. Consequently funds for both working and fixed capita investment, which had mainly been financed by the banking system were doubly squeezed.

The stock of external debt doubled, from US$1.29 billion in 1986 to US $ 2.65 billion in 1993.

This is largely attributed to the implementation of the economic recovery programme of rehabilitation investment and policy reforms that was adopted in 1987. The continuous rise in debt was further aggravated by the accumulated effects of unpaid debt service, interest costs and rescheduling.

Economic liberalisation and restructuring have accompanied this programme, resulting in a 5% average real GDP growth rat, with a 2% rise in per capita real incomes over the period 1987 - 1993.

The question then arises as to the sustainability of this economic growth and current stock of debt. In spite of more than ten yeas of implementing economic recovery and SAP, the economy remains fragile, the export sector is struggling to recover and the import capacity is largely sustained by the donor community.

4.7 RESULTS OF DATA ANALYSIS.

The results of data analysis and estimation are obtained by use of Generalised Instrumental variables Estimators econometrics computer package [PCGIVE (version 8.0].

Table 2: Correlation Matrix of Variables in levels

	GDP GR	PINV	EDT-GDP	DSR	FD-GDP	TOT	INFL	INTr	GPUIV	RER
GDP-GR	1.000	.613	-.560	-.293	-.143	.518	-.592	-585	.328	-.49
PINV		1.000	-.556	-.271	-3.25	.421	-.380	-.514	.318	-.60

Table 2 shows that there is relatively high negative correlation between economic growth (GDPGR) and external debt (EDTGDP) and between private investment (PINV) and external debt.

There is negative correlation between private investment, interest and real exchange rate (RER). The relationship between private investment and economic growth is relatively high and positive. Terms of trade (TOT) has positive relationship with both growth and investment.

4.7.0 Stationary Tests – Results

The results of both the DF and the ADF tests for variables in levels and first differences are presented in Table 3 and 4 respectively.

Table 3: Unit Root Tests (Variables in Levels)

Variable	DF	ADF (2)	Order of Integration
GDPGR	-2.816	-3.631	I(0)
EDTGDP	-1.419	-1.133	I(1)
TOT	-2.471	-2.319	I(1)
DSR	-1.809	-0.3838	I(1)
FDGDP	-2.407	-1.578	I(1)
INT	-2.461	-1.795	I(1)
GPUIV	-2.270	-2.030	I(1)
PINV	-3.485	-2.030	I(1)
RER	0.6729	0.4319	I(0)
HCD	-4.332	-4.364	I(1)
FFGDP	-2.06	-4.249	I(0)
INFL	-2.604	-3.433 (-2.991)	I(0)
critical values at 5%	-2.985	-3.622	I(0)

Notes: 1. The regression equations for the DF test included a constant while those for the ADF test included a constant and trend.

2. The ADF test included two lags (the number in parenthesis) except for inflation equation which had 1 lag with the corresponding critical value in brackets.
3. HCD is stationary (integrated of order zero) both at 1% and 5% level of significance.

The ADF test shows that the variables HCD, GDPGR, INFL, FFGDP are stationary (integrated of order zero) at 5% level of significance while the DF test shows that PINV is stationary at 5%.

Although the tests indicate that FDGDP and GPUIV variables are not stationary, the graphs (not given) showed stationarity. Therefore these variables will not be differenced.

Both DF and ADF tests shows that EDTGDP, TOT, RER, INTr and SDR variables are non stationary in levels. The null hypothesis of non-stationary or Unit Root is accepted at 5% level of significance.

To ascertain the order of integration of these variables, unit root tests were conducted on their first differences. The results are shown in Table 4. the DF shows that the first differences of these variables are stationary (integrated of order zero) at both 1% and 5% level of significance. The ADF tests shows the same results except for DDSR which is stationary at only 5%. Since differencing once produces stationarity, we can conclude that these variables are integrated of order one (I ~ I (1). As a result the model will be specified both in levels and first differences.

Table 4: Unit Root test on First Differences

Variable	DF	ADF(1)	Order of integration
DEDTGDP	-6.176	-3.44	I(0)
DDSR	-5.806	-2.123	I(0)
DTOT	-6.108	-3.486	I(0)
DINTr	-7.137	-4.917	I(0)
Critical values At 5%	-2.991	-1.957	
At 1%	-3.734	-2.67	

Notes:
1. The DF test included a constant in the regression equations
2. The ADF test included a constant and one lag (the number in the parenthesis)
3. The first 'D' indicates the first difference of each variable.

Cointegration Results

Tables 5: Cointegration tests

Variable	DF	ADF	Order of integration	Rejection /Accept Cointegration
ECT	-3.716	-3.172	I(0)	Accept
Critical values at 5%	-2.985	-2.997		

Table 5 shows the results of cointegration. The results accepted existence of cointegration among the non-stationarity variables. The null hypothesis of no cointegration is rejected at 5% level of significance. These results suggests that an error correction specification will provide a better fit than will be the case without it. Therefore both the investment and growth equation will contain an error correction variable.

4.8 MODEL RE-SPECIFICATION AND RESULTS

Test for simultaneity between the investment and growth equation showed that only weak simultaneity exists. This has been handled by normalizing the variables through the error correction Process. Therefore the two equations will be estimated independently, each incorporating an error correction term.

4.8.0 Re-specified Growth equation

Having identified a stable long-run relationship between RER, EDTGDP, TOT and DSR, and error correction model which includes the residuals from the cointegrating regression as a regressor (explanatory variable) is specified below:

$$GDPGR = a_0 + a_1\,DEDTGDP + a_2\,DDSR + a_3 FDGDP + a_4\,PNIV + a_5\,DTOT + a_6 HCD + a_7\,INFL + a_8\,GPUIV + a_9 DRER + a_{10} ECT_{t-1} + e_{1t} \quad \ldots\ldots 4.1$$

$$\text{Where} \qquad ECT = EDT - C_0 - C_1\,DSR + C_2\,TOT - C_3\,RER \quad \ldots\ldots 4.2$$

ECT is the error correction term. This term captures the long run relationship.

It reflects attempts to correct deviations from the long run equilibrium path and its co-efficient can be interpreted as the speed of adjustment or the amount of disequilibrium transmitted each period to economic growth. The c's can be interpreted as parameters of equilibrium relationship about which economic theory is informative (Ndun'gu 1993)

The above specified model and its associated lags was estimated using OLS. Using the general to specific estimation procedure, the general model was reduced to obtain model 1 and consequently model 2.

Model 1: Modeling GDPGR by OLS: Sample is 1972-1975

Variable	Coefficient	Std Error	t-value	t-prob	Partial R^2
Constant	-13.24	2.076	-6.375	0.0004	0.8531
INFL	-0.044	0.035	-1.247	0.2524	0.1818
$INFL_{t-1}$	0.208	0.034	6.038	0.0005	0.8389
GPUIV	1.277	0.276	4.622	0.00024	0.7532
$GPUIV_{t-1}$	-0.502	0.237	-2.121	0.0716	0.3913
PINV	0.422	0.100	4.221	0.0039	0.7179
$PINV_{t-1}$	0.460	0.770	5.978	0.0006	0.8362
$FFGDP_{t-1}$	0.103	0.014	-7.290	0.0002	0.8836
HCD	0.087	0.025	3.547	0.0094	0.6425
DEDTGDP	-0.087	0.034	-2.841	0.0250	0.5356
$DEDTGDP_{t-1}$	0.146	0.039	3.731	0.0073	0.6654
DDSR	0.196	.072	2.718	0.0298	0.5135
$DSSR_{t-1}$	0.189	0.082	2.305	0.0546	0.4316
DTOT	0.044	0.011	4.166	0.0042	0.7126
$DTOT_{t-1}$	0.066	0.015	4.418	0.0031	0.7361
DRER	0.087	0.184	0.471	0.6519	0.0307
ECT_{t-1}	-0.745	0.103	-7.255	0.0002	0.8826

R2 = 0.972 F [16,7] = 14.968 [0.007] σ = 0.623 DW = 2.73

RSS = 2.713 for 17 variables and 24 observations.

Model Tests

AR1- 2F (2,5) = 1.8566 (0.2494)
ARCH 1 F(1,5) = 0.09775 (0.7672)
Normality chi^2 (2) = 4.9481 (0.0842)
RESET F (1,6) = 0.11984 (0.7410)

The coefficient of DRER is very insignificant. To improve the model further, DRER was dropped and impulse dummy for 1984 was added after critical analysis of residuals, which showed a shock to the system during that year. The second lag of DEDTGDP was included and first lag dropped. The model after these changes is shown below as model 2.

Model 2: Modeling GDPGR by OLS: Sample (1974-2000)

Variable	Coefficient	Std Error	t-value	t-prob	Partial R^2
Constant	-3.996	0.9018	-4.433	0.0044	0.7661
INFL	-0.053	0.013	-4.09	0.0064	0.7363
$INFL_{t-1}$	0.101	0.016	6.285	0.0008	0.8681
GPUIV	0.727	0.100	7.283	0.0003	0.8984
$GPUIV_{t-1}$	-0.514	0.107	-4.809	0.0030	0.7940
PINV	0.303	0.036	8.417	0.0002	0.9219
$PINV_{t-1}$	0.285	0.032	8.866	0.0001	0.9291
$FFGDP_{t-1}$	-0.045	0.007	-6.465	0.0006	0.8745
HCD	0.039	0.008	4.881	0.0028	0.7988
DEDTGDP	-0.055	0.014	-3.805	0.0089	0.7070
$DEDTGDP_{t-1}$	-0.064	-0.011	-5.790	0.0012	0.8482
DDSR	0.90	0.026	3.399	0.0145	0.6581
$DSSR_{t-1}$	0.085	0.028	3.056	0.0223	0.6089
DTOT	0.035	0.004	8.563	0.0001	0.9244
$DTOT_{t-1}$	0.049	0.004	11.757	0.0000	0.9584
ECT_{t-1}	-0.308	0.050	-6.158	0.0008	0.8634
D1984	-2.966	0.407	-7.284	0.0003	0.8984

R2 =0.996 F[16,6] = 88.748 {0.000] σ = 0.2514 DW=2.45
RSS = 0.379 for 17 variables and 23 observations.

Model tests

AR 1 - 2F (2,4) = 2.57624[0.1913]

ARCH 1 F (1,4) = 0.17225 [0.6985]
Normality chi^2 (2) = 2.3681 [0.3060]
RESET F (1,5) = 0.2976

4.8.1 Re- specified investment equation

Regression equation encompassing the error correction term is specified below:

$$PINV = b_0 + b_1 \ DEDTGDP + b_2 DDSR + b_3 FFGDP + b_4 DTOT + b_5 DINTr + b_6 HCD + b_7 DRER + b_8 INFL + b_9 GDPGR + b_{10} GPUIV \ b_{11} ECT_{t-1} + e_2 \quad \ldots\ldots 4.3$$

The above specified model and its associated lags was then estimated using OLS. Using the general to specific estimation procedure, the preferred model was reported as model 3 below.

The final model does not include economic growth as an explanatory variable and therefore simultaneous equation bias does not arise any more.

Model 3: Modeling PINV by OLS: Sample (1974-2000)

Variable	coefficient	Std Error	t-value	t-prob	Partial R^2
Constant	11.139	3.696	3.014	0.0108	0.4308
$INFL_{t-1}$	-0.278	0.074	-3.737	0.0028	0.5379
DEDTGDP	0.361	0.093	3.871	0.0022	0.5553
$DEDTGDP_{t-1}$	-0.203	0.066	-3.068	0.0098	0.4396
HCD	0.060	0.044	1.351	0.2016	0.1320
DINTr	-0.492	0.144	-3.421	0.0051	0.4939
$FFGDP_{t-1}$	0.057	0.032	1.811	0.0952	0.2147
DDSR	-0.245	0.150	-1.632	0.1285	0.1817
$DDSR_{t-1}$	0.366	0.158	2.320	0.0387	0.3097
DRER	0.521	0.372	1.401	0.1867	0.1405
ECT_{t-1}	0.936	0.0220	4.264	0.0011	0.6024
GPUIV	0.335	0.426	0.786	0.4474	0.0489

R^2 =0.849 F[11,12] = 6.1471 {0.0020] σ = 1.8098 DW=2.54
RSS = 39.304 for 12 variables and 24 observations.

Model tests

AR 1 - 2F (2,10) = 1.5035 [0.2686]

ARCH 1 F(1,10) = 0.49461 [0.4979]

Normality Chi (2) = 3.4464 [0.1785]

RESET F (1,11) = 0.93786 [0.3536]

Before interpreting the above results, it is important to subject the models to rigorous diagnostic tests.

These tests are reported beneath the respective models. The tests indicate whether the model is consistent with data or not. If the models do not track the data well over the sample period, it will be needless interpreting the results. Among the diagnostic tests considered are the mis-specification tests testing on the residuals for a range of null hypothesis of interest, including autocorrelation (AR), autoregressive conditional heteroscedasticity {(ARCH) , the Jarque - Bera normality of the distribution of the residuals and functional form mis-specification (Ramsey's RESET test)

The model tests for all the models are not significant starting with AR for autocorrelated residuals, the ARCH for heteroscedastic errors, normality test for the distribution of the residuals and the RESET test for the regression specification both at 1% and 5%. The null hypothesis is accepted in all cases. The test outcomes are satisfactory, consistent with the equations estimated.

The normality of the error is necessary for the efficiency and consistency of the OLS estimates to hold. The RESET test shows that the model was correctly specified as linear.

The ARCH test indicates absence of heteroscedasticity, that is, it does not reject the hypothesis that the conditional variance of the estimated model is not related to the size of its past errors.

In addition to the above tests, chow test for establishing stability of parameters was also done. The test statistic obtained revealed that the parameters were stable. We now proceed with discussion of the results under the assumption of bet linear unbiased estimates with residuals being a white noise process.

4.9 DISCUSSION OF RESULTS OF ESTIMATION

4.9.0 The Growth Model

Having established that the model is correctly specified, this section gives a discussion of the results in model 1, 2 and 3 with more emphasis on models 2 and 3.

The overall explanatory power of model 1 is 0.972 while that of model 2 is 0.996.

This implies that various factors identified in the determination of economic growth in Uganda jointly account for 97.2% and 99.65 of the variations in growth in model 1 and 2 respectively. The F(16, 7) = 14.968 [0.000] and F (16,6) = 88.748 [0.000] rejects the null hypothesis H0 : R^2 = 0 in favour of the alternative hypothesis H:R^2> 0. This indicates the joint significance of both models.

The reliability of the regressors in explaining variations in the rate of economic growth is strengthened by the relatively low standard errors, being only 0.251 in model 2. This section proceeds with a further discussion of model 2 as the preferred model.

Most of the variables considered in the determination of economic growth in Uganda in model 2 have their hypothesized signs with the exception of a few. The co-efficient of current debt flow (DEDTGDP) was expected to be positive but its negative. A 1% increase in current debt flows as a ration of GDP leads to a decline of 0.05% in economic growth. Looking at the t-values and t-probability, the coefficient is very significant 9at 1%). This implies that even the current debt flow deter economic growth.

This is a short run effect [11]. On the other hand, the co-efficient of past debt accumulation, here lagged twice ($DEDTGDP_{t-2}$) is negative as expected. The co-efficient is very significant (at 1%). This result confirms the existence of debt overhang problem as earlier postulated.
One most unexpected outcome is that of the effect of debt service ration on economic growth.

The expected sign was negative but both current and lagged DDSR have positive signs with very statistically significant co-efficient. This is quite surprising. One may easily be tempted to say that debt servicing has not been a big issue in Uganda. However, such a conclusion may be misleading since this is only a short run effect.
The cefficient sign of net foreign financing of deficit as a ration of total fiscal deficit lagged once ($FFGDP_{t-1}$) is negative as expected .

A 1% rise in previous year's foreign financing of the deficitr as a ration of fiscal deficit deters current economic growth by 0.04%. The co-efficient is significant at 1% Rapid growth in external debt can lead to increased fiscal deficit as more resources have to be used to service and repay the debt. This has a negative effect on economic growth.

Increased fiscal deficit further lead to increased external borrowing. The total fiscal deficit as a percentage of GDP (FDGDP) was replaced with FFGDP after showing very low explanatory power in the model.

It was postulated that the sign of the co-efficient of terms of trade (TOT) can be either negative or positive. In this case the sign is positive for current variations in TOT and lagged TOT implying that term of trade have a positive effect on growth in the short –run. Both co-efficient are highly statistically significant.

The co-efficient of private investment as a ration of GDP both current and lagged is positive as expected. According to the accelerator principal, growth in investment facilitates faster economic growth. A. 1% rise in current private investment (PINV) and past private investment ($PINV_{t-1}$) leads to 0.30% and 0.29% rise in the rate of economic growth respectively.

Model 2 further shows that current public investment (GPUIV) promotes economic growth while past public investment ($GPUIV_{t-1}$) hinders economic growth. A 1% increase in lagged public investment reduces growth by 0.51^. This implies the importance of public investment in form on infrastructure and public utilities in promoting growth.

The co-efficient of human capital development proxied by primary school enrolment rate is positive as expected. Investment inhuman capital promotes rapid economic growth. An increase of 15 in investment of human capital promotes growth by 0.04%. The co-efficient is significant at 1%.

It was postulated 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. Both co-efficient are statistically very significant.

Variations in real exchange rate (DRER) have a positive but statistically insignificant eco-efficient as seen in model 1. This is contrary to what was expected. This variable was not included in model 2.

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 9negative) and statically significant at 1%. The coefficient indicates a speed of adjustment of 31% (relatively high in model 1) from actual growth in the previous year to equilibrium rate of economic growth. This is a very low speed of adjustment implying that all errors /deviations are not corrected within one year and most of the time the economy is operating out of equilibrium. A further discussion of what ECT entails is worthwhile as it reveals long run relationships of the non-stationary series. ECT is specified as:

ECT = EDT - 42.960 - 0.386DSR + 0.095TOT - 1.73RER 4.4

It can be seen that although debt service ration had expected positive sign, it enters the error correction term with the expected negative sign. This shows that the effect of debt service ration on economic growth is negative in the long-run. Similarly although the co-efficient of variations in real exchange rate (RE) was positive and statistically insignificant, it enters ECT with a high co-efficient of -1.73. The sign is as expected.

4.9.1 Investment Equation

The variables in the model explain 85% of the variables in private investment as a ration of GDP. Most variables have coefficients with their hypothesized signs. Current debt flow (DEDTGDP) stimulate private investment while past debt flows ($DEDTGDP_{t-1}$) deter investment.
The results are expected. Both co-efficeint are statistically significant at 15. They show the impact of external debt on investment in the short - run. Variations in current debt service ration (DDSR) negatively affects private investment.

This conforms the 'crowding out' effect of debt service on private investment. However, the coefficient is statistically only at 12%. Contrary, variation in pas t debt service ration ($DDSR_{t-1}$)
Has a positive effect on private investment and the coefficient is significant at 35. This results is un expected but valid only in the short-run.
It was postulated that low and containable inflation rate stimulates investment while high inflation rate deters investment. The results in model 3 shows that the previous level of inflation ($INFL_{t-1}$) discourages current private investment. The coefficient is significant at 1%.

The results in model 3 further shows that variations in interest rates (DINTr) discourages private investment.This confirms the expectation that high levels of interest rate discourage private investment. The coefficient is very significant at 1%.

Public investment (GPUIV) crowds in private investment (positive sign) but the coefficient is not statistically significant. Human capital development has a positive coefficient but is statistically insignificant.

Foreign financing of the deficit as a ration of total fiscal deficit (FFGDP) has a positive and statistically significant effect on private investment. This outcome is unexpected. But one can also argue that if such financing is used for investment in public infrastructure among other things, then we may have the effect on private investment being positive.

Variations in real exchange rate (DRER) have positive but significant effect on private investment. Variations in terms of trade (TOT) showed a negative but a very insignificant coefficient (it is not included in model 3). The error correction term lagged once (ECT_{t-1}) has the expected sign (positive). This coincides with the hypothesis that current stock of debt stimulates private investment.

The model reports a speed of adjustment of around 945 which is relatively high. This implies that the deviations/errors from the long -run equilibrium path are almost corrected in one period. A look at equation (94.40 shows a negative and significant effect of debt service and real exchange rate on private investment on the long run.

CHAPTER FIVE:

5.0 SUMMARY AND POLICY IMPLICATIONS

This paper analyses the external debt burden of a severely indebted low-income country and raises the crucial issues of growth and debt sustainability. As at end of June 1993, Uganda's total debt stock was estimated at US$2.64 billion, with a debt service ratio of over 80%.
Uganda's external debt from the 1970s has remained predominantly multilateral debt, with institution such as the World Bank, the African Development Bank and IMF representing over 70 % of the total debt stock. Uganda's debt stock export ratio also remains high - over 1000%.

The fact that much of the debt accumulated is from multilateral creditors limits Uganda's flexibility in reducing its debt service burden through traditional rescheduling.

Uganda's accumulation of external debt is due to both domestic and external influences. The external causes include the shift in terms of trade and resulting decline in coffee export earnings. The domestic causes include poor macroeconomic policies arising from fiscal indiscipline, exchange rate misalignment, overall economic mismanagement and poor debt management.

The multilateral debt problem is one that has to be tackled specifically if Uganda is to experience any meaningful debt relief. The international financial institutions' main strategy for dealing with the huge debt claims has been concessional lending.

Indeed, the international community has been generous in providing debt relief to Uganda, reflecting its adjustment record and its status as an SILIC. The burden of it debt to multilateral debt fund is to be set up specifically to address multilateral debt relief.

The accumulation of arrears is a serious problem. The successful implementation of the debt strategy depends on negotiating rescheduling in all categories of debt, on the achievement of a number of cancellations and the availability of funds to institute buybacks. Uganda is also receiving considerable concessional debt relief.

Debt relief is only part of the answer. Continued government commitment to structural reforms and sound debt management are essential.

The Ugandan government is currently implementing adjustment policies with the prime objective of restoring investment and economic growth. Increased domestic savings financed by resource mobilization through appropriate monetary policies could also raise the estimated growth rate, without any increase in external aid inflow.

The study shows that Uganda is in a position to run a trade deficit between 1993 and 2000 of up to 6% if GDP on its current account while maintaining a constant debt- export ratio. This can be largely attributed to a debt strategy that has greatly reduced the interest rate of loan contracted and further decreased the overall size of the debt through restructuring and debt reduction techniques.

The target growth rate of 5% per annum as estimated by the Ugandan authorities could be raised to 6.27% per annum for the period 1993 - 2000. This is only possible if the resources devoted to current consumption funded by aid are reduced.

Any policy that limits the estimated current consumption to domestically generated revenue while devoting external finance to investment could enable achievement of higher economic growth.

Finally, Uganda has already made significant progress as a result of rescheduling agreements and more favourable leading terms over the above recent improvements in export prices, hence resulting in a declining trend of its debt -export ratio. The overall increase in capital inflows has improved the prospects for less reliance on exceptional financing very much depends on domestic performance.

For growth to be sustained strong and persistent adjustment effort by the government must be continuously maintained. These efforts should particularly address the productive base and reduce structural bottlenecks in the economy, while at the same time adapting appropriate macroeconomic policy to avoid the re- emergence of uncontrollable inflation rate and encourage the flexibility in the clearing of financial markets.

Table 1: Uganda's external debt US $ millions 1970 - 1990

Year	Total external Debt (EDT)	Growth In EDT %	Total EDT (Constant dollars)	Growth in EDT(constant dollars) %
1970	138.4		443.6	
1971	160.7	16.1	448.5	10.1
1972	183.1	13.9	515.8	5.6
1973	189.0	3.2	432.2	16.2
1974	230.8	22.1	377.8	12.6
1975	240.3	4.1	357.5	-5.4
1976	278.1	15.7	408.9	14.4
1977	354.1	27.3	479.1	17.2
1978	426.0	20.3	524.8	9.5
1979	574.2	34.8	591.0	12.6
1980	732.7	27.6	621.3	5.1
1981	793.9	8.4	687.3	10.6
1982	933.4	17.6	851.3	23.9
1983	1016.1	8.9	973.2	14.3
1984	1031.1	1.5	1012.7	4.1
1985	1171.3	13.6	1171.3	15.7
1986	1286.6	9.8	1244.3	6.2
1987	1659.0	28.9	1456.4	17.1
1988	1799.0	8.4	1502.9	3.2
1989	1809.0	0.6	493.8	-0.6
1990	2200.0	21.6	1656.6	10.9

Source: World Bank (1996): World debt Tables 1992

The external debt constant dollar value is computed by deflecting the nominal external debt value by the World Unit Import Value Index.

Table 3. Uganda's total external debt, Publicity guaranteed long- and medium - term and short term debt, 1990 - 2000
(US$ million)

Year	Total external debt	Long term debt			
		Publicily guaranteed		Non-guaranteed	
		Amount	Share (%)	Amount	Share (%)
1990	732.7	578.0	78.9	9.7	1.3
1991	783.9	543.0	68.4	7.7	1.0
1992	933.4	593.0	63.5	7.3	0.8
1993	1016.1	615.0	60.5	5.7	0.6
1994	1031.1	652.0	63.2	6.0	0.6
1995	1171.3	822.0	70.2	6.9	0.6
1996	12.866	966.0	75.1	8.0	0.6
1997	1659.0	1320.0	79.6	9.6	0.6
1998	1799.0	1455.0	80.9	9.1	0.5
1999	1809.0	1488.0	82.3		
2000	2200.0				

Source: world Bank (2000, P. 579)

Table 5: Selected National accounts data (%of GDP)

Non factor Services	Exports of goods & nfs	Imports of goods & nfs	Foreign balance	Domestic Savings	Domestic investment	Domestic Balance	Incremental Capital Ratio
1970	24.62	21.10	-3.52	18.76	15.24	3.52	-
1971	20.75	24.90	4.15	12.45	16.60	-4.15	19.85
1972	20.77	17.80	-2.97	11.17	8.20	2.97	4.71
1973	17.19	13.75	-3.44	12.89	9.45	3.44	6.45
1974	17.37	17.37	0.00	13.42	13.42	0.00	-43.71
1975	8.68	11.09	2.41	5.78	8.19	-2.41	-5.46
1976	11.64	9.56	-2.08	8.32	6.24	2.08	10.30
1977	9.30	7.88	-1.41	7.48	6.06	1.41	3.14
1978	13.60	18.79	5.19	3.04	8.23	-5.19	-2.68
1979	19.35	17.49	-1.87	8.39	6.53	1.87	-0.50
1980	19.52	26.13	6.61	-0.40	6.21	-6.61	-1.35
1981	21.25	29.44	8.19	-0.74	7.45	-8.19	1.49
1982	21.25	33.25	7.73	1.43	9.17	-7.74	1.54
1983	18.97	24.65	5.68	4.26	9.94	-5.68	1.27
1984	9.75	30.95	21.20	-14.25	6.95	-21.20	-1.06
1985	9.60	30.40	20.80	-13.05	7.75	-20.80	3.90
1986	9.55	32.00	22.45	-12.50	10.00	-22.50	15.58
1987	8.40	35.20	26.80	-13.10	13.70	-26.80	2.04
1988	8.75	36.35	27.60	-14.85	12.70	-27.55	1.68
1989	9.15	32.35	23.20	-12.40	10.80	-23.20	1.48
1990	7.20	25.00	17.80	-5.75	12.00	-17.75	2.97
1991	6.90	21.50	14.60	-1.85	12.75	-14.60	3.08
1992	6.90	21.10	14.20	0.01	14.20	-14.19	2.04
1993	6.80	22.50	15.70	-1.10	14.55	-15.65	3.34
1994	7.05	22.00	14.95	-1.35	13.60	-14.95	3.20
1995	7.25	21.30	14.05	-1.05	13.00	-14.05	3.43

Source: World Bank (1990): Ministry of Finance and Economic Planning, Bank of Uganda.

Table 6 : Uganda's external financing requirements 189/90 - 1989/94 (US$ millions)

	1989/90	1990/91	1991/92	1992/93	1993/94
Requirements	867	772	724	898	626
Imports (goods)	584	550	441	572	122
Service (net)	56	85	82	106	170
Scheduled debt service	197	185	249	1786	80
Amortization	77	86	125	74	80
Interest, net	77	62	90	84	10
IMF repurchases	43	37	34	18	19
Settlement of arrears	19	-65	-141	30	15
Reserve build up	11	11	35	15	0
Other items net	0	6	58	-1	377
Own resource	337	260	286	325	262
Export (goods)	210	177	173	196	168
O/w coffee	159	126	119	127	116
Private transfers	78	80	111	114	-1
Other items, net	49	3	2	5	575
Financing gap	530	512	438	583	
Foreign financing					
Existing commitment	530	512	438	466	375
IMF purchases	42	89	89	0	0
Project aid	249	236	236	236	240
Import support	196	186	186	180	135
Debt rescheduling	43	1	1	50	-
Disbursement from new sources	0	0	0	91	158
Individual financing gap	0	0	0	26	42

Source : Bank of Uganda

TABLE 7: BASIC DATA USED IN THE REGRESSION EQUATIONS

YEAR	GDPGR	EDTGDP	DSR	FDGDP	TOT	INFL
1974	6.2	25.22	5.4	-3.27	260	2.2
1975	4.9	27.69	10	-2.6	216	3.8
1976	6.4	28.74	8	-3.92	216	5.8
1977	4.0	35.38	9	-5.38	200	9.3
1978	3.1	40.47	10	-5.66	182	17.8
1979	2.9	39.74	15	-4.83	171	19.1
1980	4.4	42.98	15	-5.88	188	11.4
1981	8.1	36.9	21	-3.57	250	14.8
1982	7.7	40.88	14	-3.95	200	16.9
1983	4.9	44.87	18	-6.64	186	8.0
1984	3.9	47.9	21	-4.58	169	13.9
1985	6.0	48.46	27	-6.62	146	11.6
1986	3.4	52.45	31	-7.77	140	20.7
1987	3.0	60.81	34	-4.82	131	11.4
1988	0.4	56.84	35	-4.79	155	10.3
1989	5.1	68.46	39	-6.19	129	13.0
1990	5.5	65.26	36	-4.38	145	4.8
1991	4.9	71.39	40	-6.35	119	7.6
1992	5.2	67.86	1	-4.13	125	11.2
1993	5.1	70.28	38	-6.52	111	12.9
1994	4.2	82.29	36	-3.79	100	15.6
1995	2.1	92.69	34	-2.6	115	19.8
1996	0.5	86.87	33	-0.41	112	29.5
1997	0.3	128.96	28	-3.57	124	45.8
1998	3.0	101.94	33	-3.33	142	29.0
1999	4.9	82.38	26	0.72	135	1.6

Source:
1. IMF International Finance Statistics Year book 1998 & 1999.
2. World Bank Tables, various issues.
3. World Bank data files.
4. Economic Survey, various issues.
5. Statistical Abstract, various issues.
6. Historical Economic data for Uganda: 1972-1992.

TABLE 8: BASIC DATA USED IN THE REGRESSION EQUATION

YEAR	INTr	RER	FFGDP	PINV	GPUIV	HCD
1974	2.0	4.354	52.7	18.33	5.06	11.34
1975	1.42	4.391	36.19	14.36	7.45	6.86
1976	3.45	4.372	34.51	13.24	8.84	9.86
1977	1.92	4.477	48.59	9.51	9.33	8.36
1978	4.63	4.859	45.47	16.98	8.06	49
1979	6.08	4.622	30.08	10.04	8.42	6.48
1980	5.54	5.282	45.06	11.82	8.43	0.46
1981	2.13	5.105	37.84	15.68	9.52	2.77
1982	4.29	4.446	39.6	19.79	9.32	0.67
1983	6.01	4.584	35.31	13.26	10.98	23.48
1984	5.26	4.788	49.4	20.38	10.5	6.17
1985	7.61	6.023	50.54	18.05	10.68	1.4
1986	12.58	6.826	47.07	13.28	8.55	5.11
1987	14.15	8.558	48.38	12.3	6.41	3.8
1988	13.24	9.769	21.03	12.36	6.84	0.84
1989	13.9	11.188	9.71	16.45	6.18	7.35
1990	13.23	11.257	44.3	11.85	6.88	3.0
1991	12.86	11.988	0.33	14.18	6.1	3.88
1992	13.48	14.086	27.03	13.8	7.02	1.83
1993	13.86	18.598	58.36	13.97	6.83	5.18
1994	14.78	22.915	56.5	11.43	7.77	0.06
1995	16.59	26.061	28.99	9.68	7.21	1.18
1996	16.53	26.413	5.57	8.17	6.65	1.98
1997	49.8	38.906	6.81	8.96	6.21	-2.44
1998	23.32	33.634	-5.64	9.1	6.76	2.36
1999	18.29	34.373	-6.48	10.95	6.96	-0.37

Source:
1. IMF International Finance Statistics Year book 1998 & 1999.
2. World Bank Tables, various issues.
3. World Bank data files.
4. Economic Survey, various issues.
5. Statistical Abstract, various issues.
6. Historical Economic data for Uganda: 1972-1992.

6.0 DEFINITION OF TERMS

Gross External Debt

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

Gross External debt is the amount, at any give 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; Pg. 56).

Contractual Liability:
It is an obligation to make payments to an agreed schedule. (Equity participation is excluded)

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.
Undisbursed balance: The amount of a loan committed but not yet disbursed.

Disbursements: are drawings on loan commitment during the accounting period as compensation for use of his capital.

Amortization: The principal repaid during the designated accounting period.

Total debt services payments: The sum of amortization and interest payments.

Write offs: The annulments of disbursed debt.

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 involve a transfer of the amount from the original loan to a new loan. Debt relief as debt cancellation is treated as a write-off.

Arrears: Arrears in total debt service at the end of any period equals the arrears in total debt service at the end of the previous period plus the debt service scheduled to be paid, but minus debt service paid, in the period.

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

Net Flows (or net lending or net disbursements) are disbursements minus capital repayments.

Net transfers are net flows minus interest payments of disbursement minus total debt service payments.

Creditworthiness: Refers to a country's acceptability for further credit by virtue of its record of payment 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.

Flows: These are transactions in a defined period, such as a calendar year. Flow concepts are loan commitments received, disbursements, amortization payments, interest payments, debt cancellations, debt write - offs, and amounts restructured.

Stocks: Relate to amounts outstanding at any particular time. Stock concepts are disbursed and outstanding debt, undisbursed balances, and arrears of principal and interest.

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

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).

7.0 APPENDIX

LIST OF VARIABLES

EDT	=	Total external debt stocks.
TDS	=	Total debt service payments
NTR	=	Total net transfers on debt.
LDOD	=	Long term debt outstanding
PPG	=	Public and publicly guaranteed long tem debt
PNG	=	Private non guaranteed debt
EDT/GNP	=	Total external debt as a ratio of GNP
TDS/ XGS	=	Total debt service payments as a ratio of exports of goods and services.
INT/XGS	=	Interest payments on debts as a ratio of export of goods and services
INT/GNP	=	Interest payments as a ration of GNP.

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