FISCAL DEFICITS AND MACROECONOMIC PERFORMANCE:

THE CASE OF THE CURRENT ACCOUNT BALANCE IN EAST AFRICA

(1980-2003)

By

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A dissertation submitted in partial fulfillment of the requirements for the Degree of Master of Arts (Economics) of the University of Malawi.

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CERTIFICATION

The undersigned certify that he has read and hereby recommends for acceptance by the University of Malawi for examination: Fiscal Deficits and the Current Account balance in East Africa (1980-2003), in partial fulfilment of the requirements for the degree of Master of Arts (Economics).

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DECLARATION

AND

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I, **DOROTHY NAKYAMBADDE,** hereby declare that this dissertation is my own original work and that it has not been presented to any other University for a similar or any other degree award.

Signature …….

DEDICATION

To

My Parents, Sisters and Brother, for all the love, endurance and support. May God richly bless you.

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ABSTRACT

The twin deficits hypothesis mainly states that government budget deficits will cause a trade or current account deficit, which implies that government budget deficits have a negative impact on the current or trade account balance. However; this is not the only theoretically possible relationship between budget deficits and the trade or current account. On the other hand, if the Ricardian equivalence hypothesis holds it is also possible that the budget deficit has no impact on the current account.

This study assesses the impact of the fiscal deficit on the current account balance. In this study, two hypotheses about the relationship between the budget deficit and the current account balance for East Africa between 1980-2003 are examined to variables from the theoretical model that include GDP growth rate, Real exchange rate, terms of trade and the budget deficit and also incorporates a dummy variable for the structural adjustment policies among the variables and also tested for the influence of individual country differences on the current account balance. Panel data estimation techniques were applied in the analysis of the hypotheses we found support for the twin deficits hypothesis in East Africa, given that the fiscal deficit has a significant negative impact on the current account balance. Therefore it can be concluded that the Ricardian equivalence hypothesis does not hold in the case of East Africa. Terms of trade and the dummy variable for structural adjustment were found to have significant negative impact on the current account balance while GDP growth rate was found to have a significant positive impact while the real exchange rate has an insignificant impact on the current account balance in East Africa. e

List of Abbreviations

GDP: Gross domestic product.

BOU: Bank of Uganda.

BOT: Bank of Tanzania.

KSHs: Kenya Shillings.

TSHs: Tanzania Shillings.

USHs: Uganda Shillings

BOP: Balance of Payments.

EAC: East African Community.

GNP: Gross National Product.

OECD:

OLS: Ordinary Least Squares.

VEC: Vector Error Correction.

VAR: Vector Auto Regression.

US: United States.

CPI: Consumer Price Index.

UK: United Kingdom.

GMM: Generalised Method of Moments.

COMESA: Common Market for Eastern and Southern Africa.

IFS: International Finance Statistics.

IMF: International Monetary Fund.

GOU: Government of Uganda.

CHAPTER ONE

INTRODUCTION

1.1 Background

The ever increasing fiscal deficit has attracted attention of economists, policy makers, the World Bank and International Monetary Fund. Thus fiscal deficits have been at the forefront of macroeconomic adjustment in East Africa and Sub Saharan Africa in general and have been blamed in large for the assortment of ills that have beset economies since the early 1970's.These include: over indebtedness, leading to the debt crisis, inflation, poor investment, decline in both value and volume of exports, deterioration in the current account balance, private sector credit squeeze and poor economic growth performance (Easterly and Schmidt-Hebbel, 1994).
With the above challenges, international financial institutions mainly the World Bank and International Monetary Fund prescribed Structural Adjustment Programmes to Sub Saharan African countries. A number of various fiscal and economic policies have been undertaken [1](Adam Mugume and Marios Obwona, 1998).

Attempts to regain macroeconomic stability through fiscal adjustment achieved uneven success, raising questions about the macroeconomic consequences of public deficits and fiscal stabilization or fiscal deterioration (Easterly and Schmidt-Hebbel,1993).It has been argued that the impact of fiscal deficit will depend on either its definition or on how the deficit is financed. Easterly and Schmidt-Hebbel (1994),have argued that public deficits as fiscal indicators are closely related to macro-economic indicators such as inflation, interest rates, real exchange rates, output and its components, current account balance. A two way causality in the relationship that is foreign and domestic components of macroeconomic performance affect deficits through public spending and revenue, while the financing of fiscal deficits has an impact on the individual macroeconomic variables.

[1]To improve revenue performance by revitalizing the fiscal effort particularly with regard to improving tax effort and broadening tax base, reduce government expenditure as well, a deficit financing using ways and means of advances, building an enhanced structure of economic incentives, having a small manageable, well paid and efficient civil service through increasing public sector efficiency ,liquidation of economically unviable parastatals in order to reduce heavy reliance of the parastatals on the budget, divesting those that would operate more efficiently under the private sector, restructuring the remaining parastatals in view of boosting their efficiency and reducing their reliance on the budget and release of more resources to the banking system for private sector use.

The empirical analysis of the impact of fiscal deficits on macroeconomic performance is an area that has received great attention in the recent years. (Ndambuki, 2002; Bbossa, 1998; Mkandawire,1997; Egwaikhide, 1997; Lesiit, 1990; Mansur, 1989;).

Ndambuki (2002) defines fiscal deficits as the amount the government's expenditure exceeds its receipts during some specified time period, usually a year. More specifically, it is the difference between receipts (that includes revenue plus foreign grants received) and recurrent and development expenditures (that is the total expenditure plus lending minus repayments).The impact of the fiscal deficits on the macroeconomic performance of an economy depend on the mode of financing.

Fiscal deficits lead to increase in money supply that is if government over spends, more money is injected into the economy leading to increased aggregate demand for goods and services. This leads to a situation of too much money chasing too few goods resulting into inflation. Financing the deficit by external borrowing increases the net foreign reserves, and consequently increases imports. This increases external indebtedness thus the burden of the future debt service increases. Borrowing from the non-banking sector reduces the flow of credit to the private sector, interest rates for available credit increase discouraging private investors from borrowing, thus crowding out private investment.

Financing the fiscal deficit through the central Bank (seignorage) increases money supply and this creates excess liquidity in the hands of the public leading to excess demand for goods and services hence inflation. Excess liquidity also increases nominal demand for imports leading to a negative impact on the current account position. This is mainly due to inflationary pressures that accompany an increase in money supply. The excess demand for domestic goods puts pressure on domestic prices while the excess demand for foreign goods increases imports (ceteris paribus) hence worsening the current account balance.

Easterly William and Klaus Schmidt-Hebbel (1994), in their study of fiscal deficits and macroeconomic performance found that fiscal deficits spill over into external deficits, leading to appreciation of the real exchange rate. A strong link between fiscal deficits and current account imbalances in financially open economies where the consumers are not ricardian is expected.

The current account balance summarises a country's current transactions with the rest of the world, which include trade, income from international investments and transfers.
Thus the simultaneous upsurge of the fiscal deficits and current account deficits in the East African partner states in the last two decades had aroused attention to the relationship between the fiscal deficits and current account balance. The close correlation between these two deficits does not imply any casual relation between the two. Therefore, identifying the relation between these two deficits is important and would have different policy implications.Theoratically; there are four possibilities about the relationship between the fiscal deficits and the current account balance. The first one is the twin deficits hypothesis. According to this, the fiscal deficit has positive and significant effect on the current account deficit or the main cause of the current account deficit is the fiscal deficit or fiscal deficits have a negative impact on the current account balance. In this study, the main aim is to investigate the impact of fiscal deficits on the current account balance in the case of the East African Partner states that have been for the last two decade having an upsurge of fiscal and current account deficits.

1.2 Statement of the problem

Rising budget deficits and current account deficits have sparkled heightened interest in the impact of domestic and foreign deficits on the growth potential of an economy. This purported link between an economy's current account balance and its budget deficit has been subject to considerable debate and empirical testing.
From the theoretical perspective, the traditional view (Keynesian absorption theory) suggests that when an economy is operating near full employment capacity a ceteris paribus, increase in budget deficits drives the balance of payments into deficit by increasing the aggregate demand for goods and services including demand for imports.
The stylised mundell-fleming model proposes that an increase in fiscal deficit lead to current account imbalance by driving up domestic interest rates, the exchange rate and the rate of capital inflows.

On the other hand, proponents of the Ricardian Equivalence Theorem (REH) claim that there is no casual relationship between the fiscal deficit and the current account deficit
David Ricardo (1817) in his articulation of the "equivalence theory" suggests that government budget deficits should not alter capital formation and economic growth or the level of aggregate demand including demand for imports due to the fact, far sighted individuals fully capitalise the implied association with budget deficits.

Blanchard (1985) rejected the Ricardian argument by showing that utility maximising tax payers would behave differently under a finite horizon as opposed to an infinite horizon as assumed by Ricardo. Blanchard suggests a positive correlation between sustained budget deficits and a country's external balance.

An examination of the representative literature on the underlying association between fiscal deficits and the current account balance reveals four competing scenarios; budget deficits cause trade deficits; that is they have a negative impact on the current account balance, the two deficits are not casually related, there is a bi-directional causality between the two variables and trade deficits cause budget deficits, though no econometric model can be used to establish the nature or longevity of the association between the two deficits especially over short time periods.

Empirical studies carried out to study the association between fiscal deficits and the current account reveal varying results. Some studies show favourable evidence of the association between the fiscal deficit and current account like Normadin (1999) infers that a tax increase "would directly decrease the budget deficit and would indirectly decrease the external deficit, due to reduced imports given the decline of private after-tax incomes. Islam (1990) using data from Brazil reported a positive long run relationship between budget deficits and trade deficits, while other studies reveal conflicting evidence like Kearney and M Monadjemi (1990) using quarterly data from eight countries during the flexible exchange rates report a temporary relationship between the fiscal deficits and current account deficits may be indicated. None the less they also discover substantial evidence of the reverse causation between the stance of fiscal policy and the current account balance. The authors that found conflicting results emphasise that the relationship between the fiscal deficits and current account balance is a complex one and that fiscal policy should not be used in isolation to manage current account performance and a study by Darrat (1988) has reported evidence supportive of the bi-directional causality between the fiscal deficit and current account deficit.

Despite the relatively extensive theoretical literature and empirical studies on the association of the fiscal deficit and current account deficit helping in expanding the understanding of the macroeconomic consequences of abnormally large fiscal and trade deficits, it's yet to provide proof that the two deficits are casually related under diverse scenarios and since most developing countries are credit constrained, both the behaviour and response of the current account balance to changes in internal and external conditions is likely to differ. Thus the

existing gap on the analysis of the behaviour of the current account in response to internal and external conditions in developing countries which include the East African community and given the wide disparity in the macroeconomic dynamics governing fiscal and current account balances in the three countries are addressed by this study.

1.3 Objectives of the study

The main objective of the study is to determine the impact of fiscal deficit on current balance in East Africa.Specifically, the study intends to:

- To establish if fiscal deficits have a negative impact on the current account balance? Twin deficit hypothesis in East Africa.
- To determine if the Ricardian equivalence hypothesis holds in the case of East Africa.

1.4 Research hypothesis

The following null hypotheses are to be tested:
Fiscal deficit do not have a negative impact on the current account balance, twin deficit hypothesis does not hold in East Africa..
Ricardian equivalence hypothesis doe not hold in East Africa.

1.5 Significance of the study

The results of the study will offer insight into the characteristics of the External sector in the East African Economies, and assist in the policy making by the authorities to the success of the regional intergration.The special interest in analyzing the cause effect relationship between fiscal deficits and the macroeconomic performance with particular interest in the current account balance is fiscal balance is a good indicator of the macroeconomic health of an economy.

The results of the study will deepen the understanding of the different interpretations of the hypothesis that the growing fiscal deficits are reflected in growing current account imbalances. It's hoped that the results will provide the much needed empirical evidence about the dynamics of the fiscal deficits and current account balances in countries (including East Africa) which do not have a steady tax base or an enforceable tax code similar to that of the developed countries.

The analysis may help to refocus renewed attention on the widely acknowledged but unconfirmed association that has long been integrated in macroeconomics theory and policy debates in relation of the East African community since fiscal and external deficits have policy implications concerning the long term viability of economic progress of an economy. A number of issues have been raised by the successes and failures of fiscal adjustment in most developing countries. Not the least of these is the sustainability of deficits. In financially open Economies when either consumer is not ricardian or the national versus the imported composition of public and private sector spending differs. Thus fiscal imbalances feed into external deficits through over borrowing from external sources that led to debt crisis and printing money is widely recognised.

Finally, the findings have implications for policy makers and researchers by highlighting the extent to which "theory" agrees with reality during the last decades.

1.6 Organization of the study

The study will be organized in six chapters. Chapter two will highlight an overview of East African community states, chapter three will review the theoretical and empirical literature is outlined to give a guide to give direction to the methodological process presented in chapter four, chapter five will display the results, analysis of the results of estimation and discussions of the results or interpretation and chapter six will consist of summary of findings, conclusions and policy recommendations.

CHAPTER TWO

OVERVIEW OF THE EAST AFRICAN COMMUNITY STATES.

2.1 Background

The East African community is a regional organization composed of the republics of Kenya, Uganda and the United Republic of Tanzania. East African community provides a forum for cooperation on a broad range of topics including trade, science and technology, wild life, investment and industrial development and foreign affairs.
The three East African states or countries encompass a population of 82 million and covers area of 1.8m squares kilometres.

In spite of the break up of the East African Community in 1977, followed by the six year negotiation process that culminated in the sharing of the community's assets in the late 1984, hope remained that the inter state cooperation would be restored at some point in the future. The World Bank negotiator, Dr Victor Umbricht, conducted the protracted negotiations that resulted in the signing of the agreements under which Kenya was to retain 42%, Tanzania 32%and Uganda 26%of the assets. During the signing of the agreement, leaders committed themselves to explore areas of renewed co-operation, due to a realization of the disadvantages of the break up of the community. Tanzania soon re opened its border with Kenya, which further helped to bridge the erstwhile areas of intense disagreement. It was apparent that room was being created for renewed purposeful engagements between the former states.

The Lake Victoria bestrides the three East African community countries as a symbol of the national and everlasting unity. The lake's catchments area covers 193,000sq km in Uganda, Kenya and Tanzania as well as part of Rwanda and Burundi. This describes the Lake Victoria basin and the East African region.

2.1.1 Summary characteristics of the East African economies, 2005.Estimates
Kenya according to the 2005 world bank estimates show Kenya having the highest level of GDP growth, followed by Uganda and Tanzania which did not have any GDP growth. These figures show or highlight unequal and low levels of development in the region in terms of GDP growth. Tanzania is the poorest country in region according to World Bank figures.

Country	Area in sq km	Population in millions	Life expectancy(years)	GDP growth	GDP per capita (us $)	GDP(ppp) (US$ in billions)
Kenya	580	34.7	48.93	5.2%	1,100	37.15
Uganda	236	28.2	52.67	4%	1,800	48.73
Tanzania	945	37.4	45.64	0%	700	27.07

Source CIA WORLD BANK FACT BOOK 2006

2.2 Macroeconomic review in the East African Economies.

East Africa comprises of the three states of Uganda, Kenya and Tanzania. Tanzania was the first among the three states to attain independence in 1961, followed by Uganda in 1962 and Kenya in 1963.The government in all the three states is the main institution responsible for promoting economic ad social development. This means, in effect the government plays an active entrepreneurial role, engaging directly in production and incurring heavy expenditures. Unfortunately,income from taxation in the East African states has not kept in pace with expenditure, resulting in huge deficits financed by extensive borrowing.

The openness of the economies and their reliance on few primary products which are mainly agricultural products implies that the countries are highly vulnerable to exogenous shocks that influence their earnings in international markets.

In the first decade after independence, all the East African Economies performed fairly well; Kenya for the period 1964-1973 had Real GDP at an average annual growth rate of 6.5 percent[2], the agricultural sector grew at an average rate of 4.2 percent and the manufacturing sector grew at an average rate of 8. Percent (Mwega et al, 1994).

Uganda, for the period 1960-1970 experienced relatively high rate of economic growth, the Real GDP grew at an average rate of 4.8 percent, GDP per capita grew at about 3 percent, national savings rate averaged at 13.4 percent of GDP and was sufficient to finance the moderate rate of capital formation that amounted to less than 13% of GDP and the manufacturing industries played a major role in sustaining economic growth in the 1960's.

Tanzania, in the same period, the national economy was performing fairly satisfactorily and was able to withstand and recover from the first oil shock of 1973-1974.

From 1970-1980, the East African Economies faced various economic shocks. In Uganda, after 1971, the economy experienced domestic and external shocks coupled with inadequate macro-

[2] The rapid growth rate was however oofset by the high population growth rate of more than 3% per annum.

economic policies. The decade 1970-1980, was characterised by a neglect of productive sectors of the economy and pursuance of ill advised economic policies. Investment and growth declined due to illegal economic transactions commonly referred to as "magendo",[3] the break down of the East African Community and rising prices of petroleum products further worsened the situation. In 1972, the state launched an "Economic war" that led to the expulsion of Asians and other foreign investors, and expropriation of their assets under the rule of President Idi Amin.These measures had disastrous consequences for the economy like dominance of speculative and rent-seeking activities over long term productive real investment resulted from the distribution of the Asian assets together with the gross mismanagement of parastatals.Real GDP declined at an average rate of 3.8 percent per annum during 1973-1979,inflation was over 40 percent per annum as compared with an average rate of 8.2 percent per annum during 1967-1970,Gross domestic investment declined from an annual average of 12.7 percent of GDP in 1963 to 1970 to 8.6 percent during 1971 to 1978,annual savings rate declined from 13.4 percent to 7.7 percent for the same period. Recurrent government revenues declined from 14.6 percent of GDP in 1960's to 9.9 percent by 1978 while total government expenditures declined only marginally from 17.5 percent of GDP to 15.5 percent. Government revenues were spent primarily on unproductive activities relating to internal security, defence and prison's which absorbed over 40 percent of the recurrent and development budgets (World Bank; 1982).During this period, Kenya was still experiencing commendable economic progress and Tanzania maintained a remarkable steady growth rate.

For the period 1974 to 1980, Kenya was adversely affected by external shocks. For example in 1974, the overall balance of payments was a deficit of Ksh 424million, deterioration of the external account position given the sharp increases in the prices of crude oil, rapid population growth rate that's estimated at 3.9 percent per annum between 1969 to 1979, slow down in agricultural expansion and decline in real GDP growth rate to an average of 5.2 percent per annum in 1974 to 1979.Uganda witnessed a succession of regimes largely military. The political problems led to severe contraction of the real productive capacity and a strong upward pressure on prices. Given the decline in economic activity and tax revenue, government was forced to borrow to finance spending hence worsening the budget deficit. During this period, inflation averaged as high as 56 percent per annum with 1979 recording the highest rate of 216 percent partly due to the oil price shock and civil war. In 1978 to 1979,the liberation war proved very

[3] Magendo is a terminology commonly used to refer to parallel market activities in Uganda's economy.

costly to Uganda,GDP declined in this period by an average rate of 9.7 percent while Gross domestic investment dropped to as low as 6 percent of GDP.Tanzania was experiencing poor economic performance mainly contributed to by the following factors: the collapse of the East African Community in 1977,requiring the immediate set up of services in some of the vital sectors, a war with Idi Amin in Uganda in 1978 to 1979,Deterioration of primary commodity prices in the market, the second oil price shock of 1979,the country faced successive drought years, forcing it to import food grains in substantially large quantities. All these factors led to massive economic deterioration. Foreign reserves declined substantially, essential consumer items fell short of supply hence accelerating inflation to double digit.

From 1980 to 1996, Uganda after the liberation war in the early 1980's, the need to rehabilitate the economy was obvious and the government attempted to introduce economic austerity measures and import restrictions to ameliorate the impact of economic stagnation. Structural adjustment measures, focusing on demand management, were introduced in 1981 to encourage Economic growth through: realignment of the value of the shilling, providing price incentives, removing price controls, increasing interest rates; and improving economic management through fiscal and monetary measures. The economy immediately responded to these adjustments. National output recovered from-2.7 per cent growth rate between 1971 and 1980 to1.7 per cent between 1980 and 1983. However industrial production, which had initially reacted positively then declined due to problems of foreign exchange allocations and poor infrastructure. Agricultural production also failed to respond as anticipated by government price incentives failed to trickle down to the producer/farmers, resulting into abandonment of the production of major export crops especially cotton, tea and tobacco. Overall GDP averaged-0.4percent between 1983/84 and 1985/1986.In may 1987, Uganda embarked on an economic recovery programme with support of the IMF, World Bank and other multi lateral and bilateral donors. The principle objectives were to rehabilitate the economy and enhance economic growth, reduce inflation and to minimise the potential of balance of payments crisis. Because of the consistency with which these measures were and are being implemented, real GDP growth rates have been positive since then, averaging at 6.4 percent per annum from 1986/87 to 2003/04, and inflation has been contained at an average of 4.8 percent per annum from 1993/94 to 2003/04. (See GOU.85/86,89/90,and Background to the budget 99/2000). Kenya, in the period after the 1980's was characterised by serious external and internal debt problems. This was reflected by heavy external borrowing to close the widening gap between expenditures and revenues in the 1980's.The heavy debt service in turn increased the budget deficit due to payment of the principal and interest, resulting into a vicious circle between public debt and

budget deficit.(see Ndambuki,2002). By mid 1980's, the Tanzanian Economy was in serious macroeconomic crisis. The downward trend in economic performance was manifested by imbalances in the Balance of Payments, unstable budget deficits (financed by monetary accommodation), high and accelerating rates of inflation, declining income growth and general deterioration of social and physical infrastructure. Growth of GDP declined during the period 1980 to 1985,real GDP increased, on average by 1.5 percent per annum compared to a growth of 2.6 percent during 1976 to 1980.With a population growth at 2.8 percent per annum,this resulted into considerable decline in per capita income. Despite the substantial investment in the manufacturing industry in the 1970's,export volume declined from US $500million in 1980 to US $ 256million in 1958.This resulted into worsening of the external balances and increased dependence on foreign savings in financing domestic investment. This resulted into increased external debt and debt servicing which siphoned on average 20 percent of the export revenues in the period 1986-1990.(see Bol,Luvanga &Shitundu,1997)

2.3 Fiscal Stance.

Budget deficits have been a common aspect of economic management in the three economies since independence. Budget deficits are indictors of higher government expenditures relative to available revenues. The prevalence of budget deficits can be explained by a number of factors.Mwarania (1988) showed that an evaluation of the recurrent cost problem and budget rationalisation policy in Kenya showed that tax collection and administration in Kenya were inefficient. Government's over taxation of the private sector discourages private investment, yet government and the private sector play complementary roles in the development process. Thus most private sector activities are operating at under capacity due to lack of markets or imported inputs, leading to reduction in national output since most of these will be out of market. On the other hand, government must provide goods and services that contribute more to social welfare than when provided by the private sector.

Osoro (1995) showed that rapid growth rate in expenditure in Tanzania has been due to social-economic and political developments since the Arusha Declaration of 1967.In addition; Mwinyimvua (1995) maintains that the overall fiscal balance of Tanzania has been negative in most of the years to fulfil the ambitious government investment programs. Revenue collection in Tanzania has been declining over the years and government expenditure increasing resulting into persistent fiscal deficits necessitating bank borrowing and reliance on external borrowing

and external grants. The rapid expansion of the public sector and the excessive rise in public administration are some of the factors to blame for the growth in fiscal deficits.

Over the years, Uganda's domestic revenues have been insufficient to fund its public services; as a result, it has relied on concessional external borrowing and donor grants to supplement its domestic revenue earnings. Because of good macroeconomic management, Uganda has received substantial donor inflows. Consequently, Uganda's fiscal deficit excluding grants more than doubled as a percentage of GDP over a 4-year period, rising from 6 percent of GDP in 1997/98 to almost 13 per cent of GDP in 2001/02.This level of deficit has been taken to be unsustainable by Government because of its three fold macroeconomic impact. First, is the impact on the relative prices in the domestic economy, in particular the real exchange rate and the cost of investment goods. Second, is the impact on domestic financial markets, absorption of donor funds in the domestic economy is causing instability in the financial markets, particularly in terms of high and volatile interest rates, with negative consequences on the private sector. Third, is the vulnerability of a Government budget that relies on donors for half of its funding to any significant cut back in donor aid and the knock-on- effect this will have on the macro economy. As a result of the rapid increase in Government expenditures between 1998/99 and 2001/02, financed by larger inflows of donor assistance, aimed at expanding basic social services, the budget deficit widened, as the growth in expenditure outstripped the growth in domestic revenue collections. Given the undesirable effects of a large fiscal deficit on export competitiveness and private sector development, Government has adopted, and remains committed to a policy of gradual deficit reduction. This has resulted in decline of overall budget deficit before grants from 12.2 percent of market price GDP in 2001/02 to 10.4 in 2002/03.(see Mugume and Marios,1998)

2.4 Current Account balance stance.

The East African partner states of Kenya, Uganda and Tanzania maintain a liberalised external trade system although, there are some import controls based on health, environmental and security concerns. Between 1970 and 1980, the three states experienced growing current account deficits. This situation was largely attributed to the increasing merchandise trade deficits, which was further exacerbated by the declining growth rates in real exports relative to real imports and a decline in terms of trade which was mainly attributed to the oil shocks of 1973/74 and the second oil shock of 1979.These factors resulted into the eroding of the external terms of trade and an increase in the fiscal deficits in the three countries during that period. The break up of the East African Community in 1977 also intensified the decline in the current account balance in

the countries since the member states were among the main trading partners. In the following two decades, the three countries have oriented their trade policy towards regional intergration,with the focus being on the COMESA(Common Market for Eastern and Southern Africa),and the EAC (East African Community),which is now offers the largest market to the regional trade in Africa. The common External tariff came into force resulting into the lowering of the maximum tariff rates for goods within the region. This was to facilitate increased trade among the member states and to protect the growing infant industries. As a result of this, the three economies have experienced fundamental changes in their trade performance with an increase in exports of Goods and Services. Tanzania's terms of trade rose by more than 30 percent from 1998 to 2002 indicating that the price of exports rose sharply relative to the price of imports, Kenya's improvement in the terms of trade led to the improvement in the current account balance due to contraction in the trade deficit in 2003. But further steps need to be put in place to reduce the dependence on primary products in order to reduce vulnerability to fluctuations in weather conditions and commodity prices. source

The table summarising the fiscal deficit and current account as a percentage of GDP performance for period from 1980-1990 that is part of the period under study in shown in appendix 2 and data shows that the three partner states of Uganda, Kenya and Tanzania have been having adverse current account balances and fiscal deficits.

CHAPTER THREE

LITERATURE REVIEW

3.0 THEORATICAL and EMPIRICAL LITERATURE

3.1 Alternative views of Budget deficits.

There are alternative views held about budget deficits. These include the following:

3.1.1 Bernheim (1989) argues that there are basically three schools of thought concerning the economic effects of budget deficits: Neoclassical, Keynesian and Ricardian.

3.1.2 Neoclassical view

This envisions farsighted individuals planning consumption over their life cycles. Budget deficits raise total life time consumption by shifting taxes to subsequent generations. If economic resources as fully employed, increased consumption necessarily implies decreased saving. Interest rate must then rise to bring capital markets into balance. Thus,persistent deficits "crowd out" private capital accumulation.

3.1.3 Keynesian View

Keynesians argue that a significant fraction of the population is either myopic or liquidity constrained. These individuals have very high propensities to consume out of current disposable income. A temporary tax reduction therefore has an immediate and quantitatively significant impact on aggregate demand. If the economy resources are initially under-employed, national income rises, thereby generating second round effects and the Keynesian multiplier effect. Since deficits stimulate both consumption and national income, saving and capital accumulation need not to be adversely affected. Thus, appropriately timed deficits have beneficial consequences.

3.1.4 Ricardian View.

Under the Ricardian view however, successive generations are linked through voluntary, altruistically motivated resource transfers. Under certain conditions, this implies that consumption is determined as a function of dynastic resources (that is the total income of the tax payer and all his descendants).Since deficits merely shift the payment of taxes, and then revenue

and expenditure must match. They then leave dynastic resources unaffected. Therefore the deficit policy is of no consequence to the consumption path.

The standard neo classical model has three central features; first, the consumption of each individual is determined as the solution to an inter-temporal optimisation problem, where both the borrowing and lending are permitted at the market rate of interest; secondly individuals have finite lifespan. Each consumer belongs to a specific generation, and the lifespan of successive generations overlap; thirdly, the market clearing is generally assumed in all periods.

Bernheim (1989) quoting Diamond's seminal paper which studies the effects of budget deficits in the context of Neo classical models, argued that a permanent increase in the ratio of domestically held debt to national income depresses the steady state capital-labour ratio. At the original rate of interest, consumers are unwilling to hold the original volume of physical capital bonds, plus new bonds. This raises interest rates stimulating additional savings and reduces investment till the capital market regains equilibrium. Thus persistent government deficits crowd out private per capita accumulation. Diamond's analysis focuses on permanent changes in deficits, and does not give information about the effects of temporary changes.

In conclusion, the Neo classical model assumes that consumer's are rational, farsighted and have access to perfect markets, thus permanent deficits significantly depress capital accumulation and temporary deficits have either a negligible or perverse effect on most economic variables. If many consumers are either liquidity constrained or myopic, the impact of permanent deficits remains qualitatively unchanged. However, temporary deficits should depress savings and raise interest rates in the short run. Therefore, the neoclassical paradigm fundamental lessons concern the effects of permanent deficits.

3.2 Measurement of Fiscal Deficit

The way in which the budget deficit is defined and measured determines its size and has implications for its effects on the economic performance. As Easterly and Schmidt-Hebbel (1994) point out, different measurements of fiscal deficit can result in major problems of interpretation with regards to the effects of the deficits.

According to Easterly and Schmidt-Hebbel (1994), the most accurate measure of a country's position and public sector resource transfer would be the deficit measure based on the most inclusive definition of the public sector. However such information is not always available and is subject to accounting conventions.

Blejer and Cheasty (1991) noted that depending on how it is measured and over what period of time, the fiscal deficits can show different fiscal stances, and thus call for different fiscal policies. They assert that in order to diagnose the economic problem and try to find appropriate fiscal policies to solve the problem the net public sector's requirement must be correctly measured.

Tanzi,Blejer and Teijero(1987) discussed the usefulness of the conventional measure of the fiscal deficit as a benchmark of fiscal adjustment in the presence of inflation. They defined it on cash basis, as the difference between total government cash outlays, including interest payments, but excluding amortization payment on outstanding stock of public debt, and total receipts including tax and non tax revenue and grants, but excluding borrowing proceeds. Defined in this manner, fiscal deficits are neither a measure of monetary expansion nor a measure of government pressure an credit market, as amortization payments on outstanding stock of public debt are excluded from the deficit.Moreover,defined this way, the current fiscal deficit is not affected by changes in composition of government debt and by monetization of existing debt, in the short run because in the long run, the composition of government debt and monetization of existing debt affect the size of the deficit.

Tanzi et al (1987) further illustrated how inflation can affect the real exchange rates and thus the conventional budget deficit. They advocated that, if interest rates are floating, when inflation rises, the nominal interest bill rises than proportionately to price level leading to an increase in the fiscal deficit as a ratio of GDP.A fall in inflation would then lead to an adverse effect. The magnitude of this effect depends on the rate of inflation and the size of the public debt.
On the other hand, if the public debt is denominated in foreign currency, then inflation does not affect the conventional budget deficit. As inflation rises, the currency depreciates such that the domestic value of the debt is proportional to the increase in prices and since the real value of the debt remains constant, the increase in interest payments will equal the increase in domestic prices thus leaving their share of GDP constant. As such, the ratio of deficit to GDP depends on the rate of inflation, the size of domestic public debt and the composition of the debt.
Therefore countries that denominate in foreign currency would not be affected by inflation regardless of the size of the debt. In contrast, for countries that hold in domestic floating interest debt would depend as mentioned above, on inflation and the management of the public debts. This implies that countries with identical rate of inflation, total public debt as ratio of GDP, ratios of tax revenue and non interest expenditure to GDP may have different conventional fiscal

deficits depending on composition of their debt(Blejer and Cheasty,1991).As a result, the economic implications of the conventional deficits and merits becomes blurred.

Rutayisire (1987) has criticized the use of the conventional deficit, as a measure of a country's fiscal stance and as a basis for a country's fiscal planning on the grounds that it fails to isolate cyclical influence of the economy on the budget and fails to reconcile a country's fiscal policy with medium or long term objectives of economic policy. He further argued that it will incorrectly report the monetary and inflationary implications of the budget. He suggested that the budget should be manipulated based on cyclically standardized budget rather than on balancing the conventional budget.

To overcome the shortcomings of the conventional deficit measurement, alternative measures of the fiscal deficit that supplement the information provided by the conventional deficit are necessary since complications created by the changes in inflation in the interpretation of conventional deficits make an evaluation of fiscal deficits difficult.[4]

To remove the effect of inflation from interest payments, the operational or inflation adjusted budget deficit is used.
This is defined as the conventional deficit less the part of the debt service that compensates debt holders for actual inflation. Alternatively; it can be defined as the primary deficit plus real interest payments. If the effects of inflation are not removed, "the deficit will be overstated by size of the amortization element included as interest payments above the line rather than below", Blejer and Cheasty (1991).This measurement of fiscal deficit is useful for policy making when inflation is very high.

However the calculation of the operational deficit entails precise knowledge of the part of interest payments that compensates for inflation, which is technically difficult, since it is difficult to choose the most appropriate inflation index that can be used to calculate real interest rates. [5]Moreover, when real interest rates are negative, application of a general index would mean adjusting downwards the conventional deficit by a magnitude that is larger than the crucial interest payments.

[4] Including Buiter(19833),Tanzi et al (1987),Blejer and Cheasty (1991)and Easterly and Schmidt-Hebbel (1994)
[5] See Tanzi et al,1987

In order to remove the effects of previous deficits on the budget, Blejer and Cheasty (1991), suggest the use of the primary deficit. This refers to all government outlays except interest payments, less all revenue.

Anand and wijinberger (1989) refer to the financeable deficit which they define as the deficit that does not require more financing than is compatible with sustainable external and internal borrowing and with existing targets for inflation and output growth.

Blejer and Cheasty (1991) and Islam and Wetzel (1991) pronounced the structural or full employment deficit that can be used to remove the effects of fluctuations in economic activity on the budget. This is the deficit that is adjusted for cyclical movements in the economy, as advocated earlier by Rutayisire (1987).Blejer and Cheasty (1991) point out that, in the same manner that budget deficits affect and are affected by aggregate demand, the budget deficit is also affected by the business cycle, and policy implementation may have varying impacts depending on the stage of the business cycle at time of implementation.
In conclusion, the way a deficit is measured and defined is important in the analysis of its effect on economic performance. There are many ways of defining the government deficit. The conventional measure of the deficit is the difference between total government outlays, including interest payments but excluding amortization payment on the outstanding stock of public debt, and total receipts including grants, but excluding borrowing proceeds. This measure of the deficit is easily affected by inflation, as such an alternative measure necessary to remove the effects of inflation from interest payments. It can be measured on cash basis or accrual basis. The conventional Budget deficit is defined as the difference between total expenditure (including interest payments on public debt but excluding any amortisation payments) and total cash receipts (including taxes and non tax revenues plus Grants without loans).The conventional budget deficit measured on accrual (or payment basis) reflects accrued income and spending flows, regardless of whether they involve cash payments or not. Accumulation of arrears on payments or revenue is reflected by higher balances when measured on accrual basis compared with the cash based measure (Agenor and Montiel,1999:14).The operational deficit is therefore used since; if the effects of inflation are not removed the deficit would be overstated. However, the calculation of the operational deficit is rather technically difficult. The primary deficit can be used to remove the effects of previous deficits on the current problem such as the sustainable fiscal deficit, which measures the deficit that is compatible with sustainable economic targets for growth and output.

Therefore as Islam and Wetzel (1991) indicated, the most appropriate measure of the deficit depends on the purpose of the study since the search for an appropriate measure of fiscal deficit seems futile, it seems to depend on the country's development,openness,and varies from country to country and event within the same country at different time periods. There is no superior measure of the budget deficit-rather a set of different budget deficit measurements, each applicable to specific condition.

Although different permutations of the budget deficit exist, as summarised in appendix 1, this study takes the conventional cash based measure that considers the difference between total revenue and total expenditure excluding grants.

3.3 Financing the Deficit

The consequences of the budget deficit generally depend on how they are financed.

Anand and Wijinberger (1989) indicated that fiscal deficits can be financed by issuing external debt, issuing interest bearing internal debt and through monetary financing. Macroeconomic targets such as inflation, GNP growth, etc can be explained as constraints on these sources of financing. These constraints determine what they term as the sustainable deficit, so that if the actual deficit exceeds the sustainable deficit, then there is need for fiscal adjustment.

3.3.1 Monetisation and Inflation

Easterly, (1991), mentions that printing money at a rate which exceeds its demand at current price level creates excess cash balances to the money holders. As such an attempt by the public to reduce the excess cash holdings eventually drives up the overall price level until equilibrium is restored. Therefore, the amount of revenue that the government can obtain from money creation is determined by the demand for high-powered money in the economy, the real rate of growth of the economy, and the elasticity of demand for real balances with respect to inflation and income. He further argues that, though it is generally asserted that increases in money supply due to deficit financing through money printing leads to high inflation, budget deficits contribute directly to these pressures.

3.3.2 Domestic borrowing and Interest rate

According to Tanzi (1985), the law of demand asserts that when a fiscal deficit increases, resulting in an increase in bond sales, all other things held constant, the price of these bonds would fall as government tries to induce people to buy them implying interest rates should rise.

Two other theories dispute the above statement. First, there is the theory of spontaneous compensating behaviour by the private sector (corporate sector or household sector).Second, is the theory that supply of funds for sale of government bonds is high or infinite.
According to Marshall and Schmidt-Hebbel, 1994, the economic impact of the deficits depends upon the nature of the substitutability and complementarity of private and public consumption and investment. As such lack of full specification of these factors may lead to diverse results, since a unit increase in government consumption leading to a unit increase in deficit may have opposite effects on private consumption, private saving and national savings depending on the mentioned substitutability and complementarity of private consumption and government consumption.

3.3.3 Foreign borrowing, Balance and Fiscal deficits

Rodrigruez, 1994, points out that in the open economy, the fiscal deficits may affect the balance of payments via the interest and output effects. Since deficits increase output, they will increase imports, and since they raise interest rates, they will attract foreign capital, raise exchange rates, worsen the balance of trade and reduce net exports.
Islam and Wetzel, (1991) explain the link between fiscal deficits and the current account deficits through the national savings identity, such that an increase in fiscal deficit financed by bond issues in the absence of accommodative monetary policy could result in real domestic interest rates exceeding those of other countries. This increase in interest rates induces domestic and foreign investors to sell foreign assets for domestic currency, and as a result, nominal exchange rates rise and domestic currency appreciates. An appreciation of the domestic currency encourages imports and weakens the foreign demand for expensive exports, thus both the current account deficit and the domestic budget deficit worsen. The worsening of the current account results in capital inflows.

Therefore, depending on how the deficit is financed, fiscal deficits can lead to different consequences on macro economic performance.

3.4 Growth and Sustainability

Sachs and Larrain, 1993, examined whether the government can follow a policy of perpetual primary deficits (excluding interest payments on federal debt) even if it wanted to, that is whether deficits are sustainable defining the government constraints as follows:

$$B = G - T + rB$$

Where,

B= real market value of government bonds

G =government expenditure

T= real tax revenue

r =real interest rate.

If it is assumed that all deficits are, the ratio of bond finance, then if the rate of interest of which government borrows exceeds the rate of growth of the economy, the ratio of debt to GNP is bound to rise limitlessly, so that a policy of perpetual primary deficit is impossible. In the same manner, if governments are faced with a present-value borrowing constraint, then a policy of perpetual primary deficits would still be impossible since the constraint would be violated.

This was in accordance with what Anand and Wijnbergen (1989) had earlier asserted. They had pointed out that as long as the rate of interest exceeds the rate of growth of the economy, then an expansionary fiscal policy at present (in the form of an increase in expenditure or cut in tax) would lead to either contractionary fiscal policy in future or an increase in seignorage.Otherwise,the increase in government debt will increase as government borrows to finance the interest payment on debt it previously incurred and debt eventually becomes excessively large relative to other macroeconomic variables. Since investors would not be willing to buy government bonds indefinitely under possibility that the government might not be able to service its debt without further borrowing, the government would eventually be forced to change the primary deficit, as such, the policy is unsustainable.

Anand and Wijnbergen (1989) also, had dealt with the question of what the sustainable budget deficits were, given the targets for inflation, output growth, real exchange rate development and so on. They indicated that as time goes by, bonds issue at a rate higher than necessary will no longer lead to lower inflation tax and potentially lower inflation, rather the effect will be reversed if the economy grows at a rate lower than interest rate. But as long as interest rate

exceeds the rate of growth of the economy, long run revenue requirements will increase rather than decrease.

Therefore, it is important to realize that no government can maintain fiscal deficits indefinitely, because, if deficits are bond financed, then, if the rate of interest at which the government borrows exceeds the rate of growth of the economy, then the ratio of debt to GNP is bound to rise limitlessly, as such a perpetual primary deficit would be impossible to print money indefinitely. As such growth of the economy is an important aspect that ensures that deficits can be run for a little bit longer, but not forever.

3.5 The Current Account Balance

The current account balance is the difference between a country's exports and its imports of goods, services and incomes. It also measures the country's national income and its expenditure on consumption and investment. The current account predominates the balance of payments behaviour therefore a deficit in it signals serious balance of payments difficulties.
Thus the common and most basic approaches to the current account balance determination are in the framework of the theories of Balance of Payments.
The competing theories to the current account determination are Keynesian and intertemporal approaches to adjustment of any disequilibrium. The existing empirical work on the determinants of the current account has been on the basis of these two theories.

3.5.1 Keynesian approach

This approach is based n the work of John Keynes and it is derived from the behaviour of the real variables and on the basic theory of trade balance adjustment. There are two theories under this approach namely: Elasticities approach and Absorption approach theories of balance of payments. Both the elasticity and absorption approaches concentrated on the current account as the main determinant of balance of payments.

3.5.1.1 The Elasticity Approach.

This approach views BOP problems as resulting from the disequilibrium in physical trade flows in the case of exports and imports of goods and services. The approach also stipulates that adjustment of the current account is mainly through changes in the exchange rate which relies mainly on its effect on the relative price of domestic and foreign goods on trade flows (that is to

say Terms of Trade) with the rest of the world. An improvement in the terms of trade means that a greater amount of imports can be obtained per unit of exports. This depends on the extent to which the changes in the relative price of goods, other things held constant results into changes in the demand for various goods by both domestic and foreign consumers thus inducing changes in the flow of exports and imports. Also on the Marshall-Lerner condition which states that for an exchange rate depreciation to improve the Balance of Payments of an open economy, the sum of the elasticities of exports and imports should be greater than one, and the J-curve effect of depreciating a currency tends to cause an initial deterioration (rather than the predicted improvement) and subsequent improvement in the current account balance or trade balance.

The Elasticity approach essentially shows that the current account balance is determined by the terms of trade facing a given country or economy.But, the approach also shows that the final effect on the current account balance depends on the individual elasticities of exports and imports to the changes in the exchange rate.However, though the approach has straightforward empirical predictions that are helpful in examining the short-run implications of changes in the exchange rate on the current account balance, its partial equilibrium nature makes it unable to explain long term developments in the saving-investment balance without further reconciliation with the absorption approach.

3.5.1.2 The Absorption Approach

This approach asserts that BOP problems facing a given country arise from the disequilibrium between real domestic income and expenditures. The absorptive capacity of an economy is determined by its total expenditure on both domestically and foreign produced goods and services. This implies that the absorptive capacity of the economy is not only determined by the economy's spending on what is produced within the economy but also on the foreign goods and services. This approach assumes that changes in import and export volumes due to fluctuations in the exchange rate have implications on national income. From the national income identity, the absorption approach presents the twin deficit identity which refers to a country's government budget deficit and a simultaneous current account deficit. In otherwords, an increase in the budget deficit results into deterioration of the current account or has a negative impact on the current account.

$$CA=X-M=(S-I) + (T-G)$$

From the above equataion, it can be deduced that the current account balance (trade balance X-M) is a function of gross national savings and investment and the fiscal position.

3.5.2 The intertemporal Approach**.**

This approach was initially proposed by Sachs (1981) and extended by Obstfeld et al (1995, 1996).It asserts that a current account deficit is the outcome of forward looking dynamic saving and investment decisions driven by expectations of productivity,growth,government spending, interest rates and several other factors. Within this framework, the current account balance behaves as a buffer against transitory shocks in productivity or demand. This approach assumes an infinitely lived representative agent who smoothes consumption over time by lending or borrowing abroad such that a fall in output level below its permanent value will result in higher current account deficit. An increase in investment above its permanent value, translates into growth in the current account deficit as new investment projects will be partially financed by an increase in foreign borrowing, an increase in government consumption will result in higher current account deficits and if future income is expected to increase or rise, domestic agents attempt to smooth consumption by borrowing internationally prior to the high-income years, thus running a current account deficit.

3.6 Fiscal deficits and trade/current account balances: "The twin deficits".

There are many factors that relate to the current account balance of payments of an economy and the fiscal deficits, may be one,although,it may not be a principle factor in some economies. The factors behind the unsatisfactory performance of the current account balance of payments or the persistent current account deficits in Africa and other developed economies have been debated in may circles. Are the reason's mainly external or internal or a combination of both? External factors include changes in the terms of trade, changes in the real interest rate in international credit markets and the level of economic activity or income in a country's major trading partners. The internal factors include the rising fiscal deficits and appreciation of the real exchange rate. The relationship between the fiscal deficits and the current account balance of payments is an important subject of analysis. On theoretical grounds, the major controversy has been on whether fiscal deficits have a negative impact on the current account balance (the twin deficit hypothesis) or the fiscal deficit have no impact on the current account balance(the ricardian equivalence hypothesis).However, the common view is that fiscal deficits lead to deterioration of the current account balance of payments.

Theoretically

The association between the government budget and the trade/current account balance can be shown in the context of a simple Keynesian open-economy model. In an open economy, gross domestic product, Y, is the sum of private consumption expenditure C, gross private domestic investment expenditure, I, government expenditure, G, and exports over imports.

$$Y=C+I+G+X-M \quad \ldots\ldots 1$$

Alternatively, Y equals private consumption expenditure, C, savings, S, and taxes.

$$Y=C+S+T \quad \ldots\ldots 2$$

Substitute 2 into 1 implies that

$$X-M=(S-I)+(T-G) \quad \ldots\ldots 3$$, which implies that net exports equal private and public savings. Assuming there is a balanced fiscal budget,

(T-G=0) and a balanced trade/current account will be (X-M=0) that is net exports equal to zero, and then private domestic savings equals private domestic investment. This is necessarily the case in closed economy where domestic investment is constrained by domestic savings. However, in an open economy; such a relationship may not always exist. An economy with a foreign sector has access to international financial markets.

Studies on the twin deficits relationship generally proceed from one of the two theoretical bases. The hypothesis that increases in the government budget deficit leads to an increase in the trade deficit follows directly from the Mundell Fleming model (Mundell1963; Fleming1962).Its worth noting that the Mundell –Fleming model is an open economy extension of the IS-LM model. In the Mundell-Fleming framework, an increase in the government's budget deficit can generate an accompanying increase in the trade deficit through increased consumer spending. By increasing the disposable income and financial wealth of consumers, the budget deficit encourages an increase in imports. To the extent that increased demand for foreign goods leads to depreciation in the exchange rate, the effect on net exports is mitigated.However,the larger the budget deficit also pushes up the interest rate (in large open economies) because this appreciates the exchange rate, which encourages a net capital inflow and larger decline in net exports. Under the freely floating regimes, with either partial or free capital mobility in the Mundell-Fleming open economy model, there is interaction between the budget deficit and the trade or current account directly through domestic absorption and indirectly through monetary channels. As budget deficits rise, aggregate demand would increase and domestic interest would rise; and if the domestic rate is higher than the world interest rate, there will be capital inflow resulting in the rise of real exchange rate, exports will fall and the trade balance or current account balance would deteriorate.

Volcker (1987) argues that budget deficits lead to trade deficits and both hinder economic growth in the long run. Fieleka (1987) provided the theoretical basis for the relationship between the budget deficit and the trade deficit. He argued that the dominant theory is that an increase in government borrowing in a country will other things being equal, puts upward pressure on interest rates(adjusted for expected inflation) in that country, thereby attracting foreign investment. As foreign investors acquire the country's currency in order to invest there, they bid up the price of that currency in the foreign exchange market. The higher price of the country's currency will discourage foreigners from purchasing the country's goods whose prices of the currency has gone up but will encourage the residents of the country to use their now more valuable currency to purchase foreign goods so that the country's current account moves towards deficit(or larger deficit).In addition, any increase in the country's total spending resulting from enlarged government deficit will go partly for imports and for domestic goods that would otherwise be exported, also worsening the current account balance.

Moreover, the Keynesian absorption theory suggests that an increase in the budget deficit would induce domestic absorption and hence import expansion, causing a current account deficit. Feldstein and Horioka (1980) found that savings and investment are highly correlated, causing budget deficits and current account deficits to move together. An alternative view is that the "twin deficits" are not related in the simple manner depicted by the conventional economists. The link from the budget deficit to the current account deficit can be weak or non existent. Therefore, there may not exist any predictable or systematic relationship between the two deficits given that there can be other factors that might serve to make the "twin" relationship doubtful one such factor concerns the stability of the saving and investment over time.(Khalid et al 1999).

Another contrary view is provided by the Ricardian Equivalence Hypothesis (REH),(Barro,1989).He states that shifts in between taxes and budget deficits do not matter for the real interest rate, the quantity of investment or the current account balance. In other words, the REH negates any link the two deficits, though empirical evidence is mixed.

In general, relationship between the current account balance and the budget deficits has been explained by:

The traditional "Absorption approach" to the current account determination which suggests that when an economy is operating at or near full employment capacity, a ceteri-paribus,an increase in budget deficits increase the balance on the current account into deficit by increasing the aggregate demand for goods and services including demand for imports. But the absorption

approach has been criticised due to the absence of intertemporal consideration that are central to the determination of trade balance and the current account, and this led to the intertemporal approach.

The intertemporal approach applies the "consumption smoothing" an idea of Modigliani, Friedman and Hall (1978) to the optimal external borrowing problem of open economies and derives a relationship between the current account and temporary versus permanent economic shocks. Transitory shocks to the public expenditure and output level are shown to affect the current account while the permanent disturbances are usually adjusted through movements in private consumption that leave the current account unaffected. From a normative point of view, this intertemporal approach suggests that countries should finance temporary shocks through external borrowing while they adjust to permanent ones. But this approach faces a problem of failure to distinguish correctly between transitory and permanent components of spending and output leaving a complex econometric issue distinguishing between the temporary and permanent components. This approach was used by Roubini and Sachs (1988) and found strong evidence against the "tax smoothing" model of the OECD countries, Ahmed (1986, 1987) tests the version of the intertemporal theory of current account for the United kingdom considering only the "consumption smoothing" part of the problem and this led him to a complex problem of separating public expenditures into the permanent and temporary components.

To sum up, economic theory suggests that there is a link between the so-called deficits in open economies. Increased budget deficits lead to an increase in the interest rate. An increase in the interest rate appreciates the exchange rate. In turn exports become relatively expensive and imports cheaper, thus generating a trade deficit. Hence empirical evidence of a relationship between the two is very important to enable economists and policy makers to better understand whether there is a casual relationship or merely correlation between the two variables.

Following the mixed theoretical views on the impact of the fiscal deficits on the current account balance, several studies have looked at the relationship between the two variables mainly considering the analysis of the determinants of the current account balance. Most of the studies are based on the absorption approach or structural models from these theories to from reduced form equations. But the intertemporal approach from the reviewed literature has not been used because of the difficulty in distinguishing between permanent and temporary components of public expenditure.

Thus, in an attempt to place the current account in a macroeconomic context some theoretical considerations of the determinants are presented. The determinants of current account that have

been considered in literature have developed into the model that stems from various theories of balance of payments. These theories are elasticities, absorption approaches to balance of payments. These structural models from these theories are developed into a reduced form which Khan and Knight (1983) used and what the current study will adopt to analyse the impact of fiscal deficits on the current account balance.

According to the Absorption Approach asserts that the absorptive capacity of the economy is not only determined by the economy's spending on what is produced within the economy, but also on the foreign goods and services. The domestic absorptive capacity is identified as:

$$A = C + I + G \quad \ldots\ldots\ldots\ldots\ldots\ldots 4$$

Where A is the nominal domestic absorption,

C is the nominal private consumption,

I is the nominal investment expenditures, and

G is the nominal government expenditures.

The approach asserts that the absorptive capacity of the economy is determined not only by the economy's spending on what is produced in the economy but also on the foreign goods and services. Thus absorptive capacity is extended into the following identity:

$$A - M = C + I + G + M \quad \ldots\ldots\ldots\ldots\ldots\ldots 5$$

National output would include foreign expenditure on domestic output thus giving;

$$Y = C + I + G - M + X \quad \ldots\ldots\ldots\ldots\ldots 6$$

Where Y is the nominal value of national output and X is the nominal foreign expenditure on domestic goods and services.

Solving 4, 5, and 6 gives:

$$X-M=Y-C-I-G$$

$$=Y-A \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 7$$

In order to assess the current account determinants further decomposition of gross output and absorption gives the main factors that determine the gap between income and absorption that is important. Income is spent, saved or used to pay tax as expressed in the following identity:

$$C + S + T = Y$$

$$= C + I + G + X - M \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 8$$

$$X - M = (S - I) + (T - G)$$

Where S is the total national savings and

T is the government revenue from taxation.

From equation (8) it can be deduced that the key determinants of current account (trade balance X-M) behaviour arise from the fiscal position (T-G), the gross national savings and total investment.

From the foregoing theoretical underpinnings, the long run reduced form of the model is developed following equations similar to those used by Khan and Knight (1983)[6] which is adopted in this study.

$$CB_t = f(TOT_t, REER_t, RT_t, BD_t) + U_t \quad \text{.....9}$$

Where CB is the current account balance (excluding official transfers)

TOT_t is the terms of trade;

$REER_t$ is the real effective exchange rate;

RT_t is the ratio of an economy's income to that of her trading partners(in dollar terms)

BD_t is the fiscal position (current revenue minus current expenditure);

U_t is the error term.

Khan and Knight (1983) used pooled time series cross-sectional data for a sample of 32 non- oil developing countries, they concluded that external as well as domestic factors were relevant to explaining the behaviour of the current account in non-oil exporting developing countries during the period 1973-1980.

Khan and knight considered the deterioration in terms of trade, the slow down of economic activity in the industrial countries, the sharp increase in the level of real interest rates in international credit markets, the rising fiscal deficits and appreciation of real effective exchange rates as factors exerting great influence on the current account position of the non-oil producing countries during the sample period. The first three factors were "external" in that they were effectively exogenous to the typical non-oil developing countries and the last two were treated as "domestic" or endogenous in that national authorities control public sector revenues and expenditures, and their domestic economic policies influence both nominal exchange rate and domestic input and product prices. Khan and Knight's study tested the influence of each of the five factors on the current account balances of this group of non-oil developing countries using the simple regression model shown above. The result's showed that all the three external economic variables coefficients had the expected signs and were significant and the domestic factors were also important in explaining current account balance developments during the

[6] Khan,M.S and M.DKnight, "Determinants of current account Balance of Non-oil Developing Countries in the 1970s",IMF Staff papers,Vol.30,(1983).pp.819-942

sample period. The coefficients of real effective exchange rate and the fiscal position variable were significant. An increase in the real effective exchange rate or deterioration in the fiscal position of a country had a negative impact on the current account balance.

Doroodian (1985) attempted to modify the Khan and Knight model by refuting the assumption that there's homogeneity in non-oil developing countries. He noted that the 32non-oil exporting developing countries differ from each other in terms of real income, growth rates, stages of economic development and in the composition of exports and imports. He identified a number of important variables excluded in the earlier analysis. He included two more explanatory variables namely income growth on the home country and the ratio of foreign reserves to nominal imports. He concurred with Khan and Knight on the expected signs of the explanatory variables. He established that the deterioration in the current account balance as a result of reduction in the terms of trade was most pronounced in low income countries and that deterioration due to the growth rate differential is worst for the major exporters of manufacturers.

Empirical examinations of the relationship between the fiscal deficits and the current account balance of payments have taken many forms ranging from single equation ordinary least squares (OLS) models to two stage least square models to small scale structural models to unconstrained vector auto regression (VAR) models to co integration and vector error correction (VEC) models. Each of these approaches has shortcomings, but some approaches are clearly superior to others. The results obtained are quite sensitive to modelling technique chosen.
Tallman and Rosenweig (1991) argue that "some studies using a Mundell-Fleming framework indicate that the twin deficits notion is consistent with the data. In contrast, other studies finding no underlying relationship between government and trade deficits are consistent with predictions of Ricardian Equivalence". Moreover, results also depend on the data chosen; the choice of variables to include in the estimated equations is important as the form (levels, first differences or percentages of gross national product (GNP) in which variables enter the equation. Further more, the form in which variables entered in the equations also appears to be an important determinant of the empirical results.Tallman and Rosenweig (1991), note that the chances of finding a twin deficit relationship appear to be greater if variables are entered in levels or as ratios to GNP, rather than first differences.

Keller(1982) investigated the contribution of the changes in fiscal balances and in the financial position of the rest of the economy to reduction in the external deficit in countries that undertook Fund supported adjustment programs during the period of 1971-1980.Her approach is similar to that of Milne(1977),however, the changes in the current account balance was regressed on the change in fiscal balance for all programs, and separately for programs where the current account and the fiscal balance moved in the same direction. She concludes that for all programs, an increase or decrease of 1 percent of the ratio of fiscal deficit to GNP is reflected in an increase or decrease of 0.8 percent in the ratio of current account deficit to GNP.However, the overall explanatory power of the equations including programs was found to be extremely low. Excluding programs in which the current and fiscal balance moved in opposite directions, the results show that on average an increase or decrease of 1percent of the ratio of the fiscal deficit to GNP is reflected in an equivalent change in the ratio of current account to GNP.She concludes that although the results do not imply causality, they suggest that at least for some countries,ceteris paribus changes in the fiscal deficit have little effect on the rest of the economy and fully reflected in the changes in the current account.

Bernheim (1988) argues that increase fiscal deficit resulting from government debt decreases the domestic supply of funds available to finance new investment, which leads to an inflow of funds from overseas. This results into appreciation of the domestic currency in an open economy given the high interest rates that hurt the export sector and benefit the import sector thus driving the current account into deficits.

Darrat (1988) used granger causality to test the hypothesis that large budget deficits cause rising trade deficits. He used data from the US covering the period 1960-1984.
Darrat (1988) found that "the empirical results only partially support the conventional view that a rising budget deficit caused the 1980's escalation in the US trade deficit". He continued to say, "I do find evidence of a budget –to-trade deficit causality, but also find perhaps stronger evidence of trade-to-budget deficit causality".

Mansur (1989) carried out a study on the effects of budget deficits on the current account of the balance of payments .The Study examined the effects of the budget deficit on the price level, aggregate demand and current account. Structural models with five equations and five identities were used to capture the transmission mechanism and effects of the mode of financing the deficit. The results showed that increase in the budget deficit owing to increased government

expenditure affects economic growth negatively, deficit financing by borrowing from external sources causes the most deterioration in the current account balance, hence economic growth. He concludes by saying that an equivalent increase in budget deficit financing through borrowing from the domestic banking system reflects a higher domestic price level and deterioration in the current account balance.

Abell (1990b) estimated a seven variable VAR model using monthly data for the period 1979:02-1985:02,which corresponded to the period of dollar appreciation in the early 1980's.The variables included in the system are the federal government budget deficit, the US merchandise trade balance, the M_1 money supply, Moody's AAA bond yield, the Dallas Federal Reserve Bank's 101-country trade weighted dollar exchange rate, real disposable personal income, and the consumer price index (CPI).In a second paper,Abell (1990a) excluded disposable income and lengthened the sample period to 1977:01-1985:02 but used the same techniques. Abell concluded that budget deficits influence trade deficits indirectly rather than directly. He contended, however, that indirect causation running from budget deficit through the interest rate and exchange rate to trade deficits exists. He reported impulse response functions showed a positive response to the trade deficit is a one-standard deviation shock to the budget deficit.

Kearney and Monadjemi (1990) utilised the Vector autoregressive(VAR) technique to examine international evidence from eight countries (Australia,Britain,Canada,France,Germany,Ireland,Italy and United states) using quarterly data over the period of floating exchange rates from 1972:1-1987:4.They estimated a five variable VARs for these countries. They did not include the government expenditures and tax revenues. Their VAR equations included "monetary creation" and the (real effective) exchange rate but not income or interest rate. In summary their empirical findings indicated the existence of a temporary twin deficits relationship between the stance of fiscal policy and the performance of the current account of balance of payments which did not persist over time. Examination of the impulse response functions confirmed that fiscal expansions led to prolonged periods of improved current account performance as the economy adjusted towards long run equilibrium. They concluded that the twin deficit relationship varies internationally in magnitude and duration and it's not independent of government financing decision.

Zeitz and Pemberton (1990) estimated a multi-equation, structural open economy model of the US economy over the period 1972:4-1987:2.Their model included equations for short term interest rates, the real trade weighted exchange rate, domestic absorption, exports, imports, the domestic inflation rate, and trend absorption. They derived a two stage least squares estimates for each equation. Simulations of the model indicate a strong effect of budget policy on net exports, primarily through the effect domestic absorption of imports. They found that the effect through rising interest and exchange rates was minor. But despite the sizeable effects of fiscal policy on net exports, Zeitz and Pemberton concluded that less than half of the trade deficits of the 1980's could be explained by government policy.Zeitz and Pemberton (1990) also concluded that the budget deficit affects the trade deficit mainly through its impact on domestic absorption and income rather than through higher interest rates and exchange rates.

Eisner (1991),using the US data covering the period 1957-1988,estimatedan OLS equation using the ratio of net exports to GNP as the dependent variable and including the price adjusted employment deficit as a percentage of GNP as an explanatory variable, found a positive effect of the budget deficit to the trade deficit. Although the estimated coefficient is only marginally statistically significant. While Eisner's simple model avoided the non stationarity problem inherent in using data in levels, its simplicity with the only other variable(explanatory) is the change in the real interest rate argues against taking the findings seriously.

Tallman and Rosensweig (1991) investigated the relationship between government deficits and trade deficits in the US over the period 1971-1989.They estimated a four variable VAR system that included measures of real interest rates and the real exchange rate. They found that government deficits (as a ratio to GNP) granger causes the trade deficits (as a ratio of GNP) but not the vice versa. They reported no variance decompositions or impulse response functions. Their findings reinforce those of Darrat (1988), who examined the existence of granger causality between the real federal budget deficit and the "real trade deficit" using a system of unconstrained multivariate equations for both the budget deficit and the trade deficit.

Bachman (1992) tested the twin deficits hypothesis in US using quarterly data for the period 1974-1988.He also tested the relationship between the trade deficit and three other "casual variables", Gross domestic investment, relative productivity, and the exchange rate risk premium. All of this analysis is bivaiate.Finding no evidence of cointergration between the

current account and the budget deficit, Bachman estimated bivariate VARs.His results suggested unidirectional Granger causation from the federal deficit to the current account.

Koori (1992) in his study on the macroeconomic effects of the budget deficit in Kenya between 1967 and 1989 focussed on a few variables mainly the price level, income, and the current account balance of payment. She concludes that the price level, income and current account of the balance of payments respond to change in the government fiscal deficit. The results indicated that, fiscal policy is certainly one of the tools of stabilising the economy. Changes in real government expenditure financed through borrowing from the domestic banking system are reflected in a rise in the domestic price level and deterioration in the trade balance account. An equivalent increase in the government expenditure financed by external borrowing causes deterioration in the trade balance.

Bbossa (1998) applied the absorption approach in relation to the Khan and Knight (1983) reduced form equation when examining the effect of fiscal deficits on inflation, output and Current account in Uganda. The variables included in the study were the fiscal deficit, real exchange rate, terms of trade, ratio of Uganda's GDP to her main trading partners and a dummy variable for structural adjustment policies. He used cointegation and error correction model approaches to estimate the current account balance equations. He found that fiscal deficits are a major determinant of current account behaviour in Uganda. He found that the growth in deficits had a negative effect significant on the current account balance; terms of trade have a significant positive impact as well as the dummy variable for structural adjustment and the ratio of Uganda's income to her major trading partners was negative and significant.

Khalid and Guan (1999) utilised cointergration techniques to examine the casual relationship between budget and current account deficits as well as the direction of such casuality.They used a selected sample of five developed countries (US, UK, France, Canada and Australia) and five developing countries (India, Indonesia, Pakistan, Egypt and Mexico) over the period 1950-1994 for developed countries and 1955-1993 for developing countries. It can be noted that the time series variables involved in their studies are the current account deficit, budget deficit, trade weighted exchange rate and nominal GNP.Their empirical results showed that the casual relationship between budget deficits and current account deficits existed in four out of five developing countries, while no developed country exhibited such a relationship. The results

suggested that a high correspondence between the two deficits in the long run is more likely to occur in developing countries than in developed countries.

Egwaikhide (1999) used a macroeconomic model to examine the effects of budget deficits on the trade balance in Nigeria over the period 1973-1993 by using OLS method. Evidence from policy simulations indicated the budget deficits arising from increased government spending adversely affecting the trade balance irrespective of whether the budget deficit is money financed or by external borrowing.

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Calderon,chong and loayza (1999) employ pooled time series and cross country estimation techniques on an unbalanced panel of 753 countries annual observations from 44 developing countries over the period 1966-1995.They find that domestic output growth rate has a positive impact on the current account balance and that worsening of the terms of trade and reductions in the international real interest rates tend to generate an increase in the current account deficit. Piersanti (2000) utilised the Granger-Sims causality technique to investigate the relationship between the current account deficits and the budget deficits fro seventeen OECD countries over the period 1970-1997.He used the budget and current account balance as a percentage of GDP,rather than in their absolute levels. From the empirical investigation, this study obtained evidence that strongly supported the view that current account deficits have been associated with large budget deficits during the 1970-1997 period in most industrial countries.

Chinn and Prasad (2003, 2000) using a large multi country data set including 18 industrial countries and 71 developing countries spanning 25 years (1971-1995),they estimated both cross sectional and panel regressions relating current account/GDP ratios to a wide range of potential determinants including among others fiscal deficit, net foreign asset position, per capita income, terms of trade volatility, output growth, openness to trade and demographic factors found that a 1 percent of GDP increase in government savings raises the current account balance by as much as 0.38 percent when all countries are included but just 0.13 percent when only industrialised countries are included in the sample. They also find higher terms of trade volatility to be associated with current account surpluses.

Kim and Roubin (2004) found that after controlling for business cycle effects on the budget and current account balances, an increase in the budget deficit had a positive impact on the current account in the short run regardless of whether the deficit arises from an increase in government

expenditure or a reduction in the taxes. This is explained by increase in the budget deficit increase private savings resulting into increase in the interest rates because of increased government borrowing and higher interest rates dampen private domestic investment.

Aristovnik (2006) utltising the GMM-IV estimation found that economic growth, appreciation of the real exchange rate and a worsening of the terms of trade have a negative impact or effect on the current account balance, and the shocks in the public budget rates are likely to be accompanied with current account balance deterioration.

Marvin and polland (2006) in their study of 13 OECD countries namely Australia,Austria,Canada,Finland,France,Germany,Ireland,Japan,Netherlands,Newzealand,Swed en,United kingdom, United states found a negative relationship between 5 year averages of fiscal and current account balances. A systematic analysis of the group of countries fiscal and current account balances throughout the study period suggested no significant relationship between the two balances.

3.7 Current account Sustainability.

Milesi-ferreti and Razin (1996) argue that though there may be some unsolved issues regarding the factors that could trigger a policy reversal in situations of unsustainability, events that generate policy shifts are different across countries and might reflect different degrees of vulnerability to external shocks or differences in the ability to undertake policy implementation.

In summary, fiscal deficits impact on various macro economic indicators of the economy depending on the definition of the deficit as well as its financing. Though private sector deficits also have an impact on the current account balance, this study particularly investigates the impact of fiscal deficits on the current account balance and the absorption approach has been widely used in the analysis of the twin deficit hypothesis or in the analysis of the relationship between fiscal deficits and the current account. Although the theoretical and empirical evidence on the relationship between the current account and the fiscal deficit yields mixed results, there is compelling evidence that fiscal deficit plays an important role in accounting for the performance of the current account balance in an economy. The overall evidence suggests that fiscal deficits have a negative impact on the current account balance of payments. While considerable attempts have been made by various studies in understanding the fiscal deficits and its impact on the current account, more work still needs to be done especially in Africa since

most studies have been carried out in the developed countries which justifies the need for the current study. For clarity on this relationship, issues like the extent of the impact which may not be so obvious need to be addressed, though it may seem obvious that fiscal deficits possibly lead to deterioration of the current account. The empirical evidence shows the current account is responsive to the changes in fiscal deficits, so whether the effect on the current account is positive or negative or has no impact at all is one of the issues to be tackled by this study.

CHAPTER FOUR

METHODOLOGY

4.1 Model Specification

The central objective of this study is to assess the impact of fiscal deficits on macroeconomic performance variable of the current account balance.

Based on the above theoretical analysis, Khan and Knight (1983) used a simplified model to relate the current account to its main determinants, classifying them into both external and domestic factors. They specified the external factors to include the terms of trade, the real growth of the economy of industrial countries, the foreign interest rates, and the domestic factors to include fiscal deficits and real effective exchange rate which determines the behaviour of the current account.

As discussed above a simplified model of the determinants of current account balance will be adopted. The long run reduced form of the model is developed from equation 1.3 similar to that used by Khan and Knight (1983) and modified by Dooridan (1985) and used by Bbossa (1998).But we have considered GDP growth rate figures instead of relative GDP growth rate as was the case in the model used by Bbossa and Khan and Knight. As argued by several authors, we have omitted the foreign real interest rate variable that was included by Khan and Knight. This is because a number of authors have argued that due to the fragmented financial markets in developing countries, foreign real interest rates are not a significant determinant of the current account balance. For example Silumbu (1992) argues that in the case of Malawi the foreign real interest rates have no significant impact on the current account balance largely because of the relatively undeveloped and un-integrated financial sector. He however, also points out that in some cases they may have an influence on the overall balance of payments. Thus the econometric equation to be estimated to capture the relationship between the fiscal deficits and the current account balance is as shown below:

$$CB/GDP_{it} = \beta_0 + \beta_1 TOT_{it} + \beta_2 RER_{it} + \beta_3 GDP_{it} + \beta_4 BD/GDP_{it} + \beta_5 DSAP + \varepsilon_{it} \quad \text{.....2}$$

But in this study we estimated two separate equations with the same variables but in the second equation we the real exchange rate on the right hand side or as explanatory variables is dropped

to test if the estimation of the regression including both the real exchange rate and terms of trade as explanatory variables affects our results. This is because an inverse of the real exchange rate approximates terms of trade though in this study the definitions would not exactly approximate the same ratio as well as the fact that the real exchange rate is one of the channels through which the terms of trade impact on the current account balance. Thus the second equation is as shown below:

$$CB/GDP_{it} = \beta_0 + \beta_1 TOT_{it} + \beta_2 GDP_{it} + \beta_3 BD/GDP_{it} + \beta_5 DSAP + \varepsilon_{it} \text{.....3}$$

Where

RER is Real Exchange Rate in shillings per US dollar and i denote country while t denotes time. This is measured by the nominal exchange rate multiplied by the ratio of the foreign price to the domestic price. The foreign price is proxied by the US CPI Index (2000 = 100) and the domestic price is Tshs,Ushs and Kshs taking the CPI index(2000=100) for the respective countries

TOT is Terms of Trade Index where i denote country and t denotes time. This is measured as the ratio of export value index to import value index.

GDP growth rate of a country. This variable measures the growth rate of a country's income, while t denotes time and i denote country.

BD/GDP is the Fiscal deficit in shillings (in country's currency) as a percentage of country's GDP where i denote country and t denotes time. Fiscal deficit is measured as the difference between government revenue and government expenditure and divided by GDP to normalize it. Both government revenue and expenditure values are measured in millions of shillings.GDP is also measured in millions of shillings

CB/GDP is the current account balance of a country as a percentage of GDP (negative values indicate a deficit) where i denote country and t denotes time. The current account balance value is defined as the difference between exports and imports and is divided by a country's GDP to normalize it. All the values are measured in millions of shillings.

DSAP is a binary variable to capture the impacts of structural policies implemented on the performance of the current account. This variable takes the value of one for the period after the implementation of SAPs and zero otherwise.

$\varepsilon_{it} = \varepsilon_i + \vee_{it}$; ε_i denotes the unobserved individual effects and $\vee_{it}$ denotes the remainder disturbances.

4.1.1 Variables in the study and Expected signs.

Several authors have used different definitions of the current Account balance.

In the study, the current account balance will be regarded as a function of terms of trade, real exchange rate, fiscal deficit, terms of trade and a country's GDP growth rate and the dummy variable for structural adjustment policies. The growth of real GNP in industrial countries used in the Khan and Knight (1983) study will be replaced with the country's income (approximated by the GDP growth rate).

Terms of trade has an immediate impact on the balance of payments a decline in export prices is a disincentive to export production and eventually exports decline. A deterioration of the terms of trade is a major external shock. An increase in import prices for a net importer would lead to an increase in the import bill without necessarily reducing imports. This will result into worsening the current account position of a country. But according to the Elasticity approach, TOT deterioration implies a relative decline in the export price which then reduces production of export goods. On the other hand, TOT deterioration may also imply a rise in import prices, thus reducing import volumes. Thus the impact of TOT deterioration on the current account balance is ambiguous. An adverse transitory term of trade shock can induce either a deterioration or improvement in the current account balance. The Harberger-Laursen Metzler model (HLM) suggests that it deteriorates because deterioration in the terms of trade will decrease real income and savings which are both measured in terms of net exports. However, the model argues that the terms of trade effect depend on whether the resulting income effects are greater than or less than the resulting substitution effects. The Harbrger-Laursen-Metzel model (single good case) is valid in the case of temporary shocks in the terms of trade. If the terms of trade are found to be of a temporary nature, then their impact on the current account balance would be of more significance than persistent shocks (which is the normal situation in LDC's).If the income effect on consumption of terms of trade deterioration is greater than substitution effect, the expected sign is negative since TOT deterioration reduces income and the expected sign will be positive if the reverse is true.

Real exchange rate acts as a major determinant of supply and demand of foreign exchange(price determination function).It also acts as a tool to induce expenditure switching(through relative price changes),and its also a component of structural adjustment measures(an appreciation of the exchange rate will be an incentive to the traditional primary production).An appreciation of real exchange rate whether deliberate or automatic will reactivate economic activity in two ways; it can lead to improving the profitability of traceable relative to that of non traceable and it can encourage the movement of resources away from production of tradeables.Depending on the

elasticites of demand for both imports and exports, the current account balance is going to improve with an depreciation of the real exchange rate. The expected sign is positive given the Marshall Lerner condition which states that provided the sum of the price elasticity of demand coefficients for exports and imports is greater than one, then a fall in the exchange rate will reduce the deficit and a rise will reduce the surplus, but if the Marshall Lerner condition does not hold the expected sign is negative The expected sign for the non linear (depreciation and appreciation) effects of the real exchange is expected to be negative.

An increase in a country's income (GDP growth rate) leads to an increase in the volume of exports since a country's output will have increased thus reducing the volume of goods demanded from abroad or the volume of imports. This is implies that the expected sign is positive since the current account is identical to the difference between a country's output and its domestic demand and what is demanded from abroad. This implies that the increase in a country's income has a greater impact on exports than imports. But if the greater impact of increase in income is on imports the expected sign is negative.Thus, making the expected sign ambiguous.

Fiscal deficits are associated with the increase in domestic liquidity. This leads to a rise in private nominal demand for imports reinforcing the negative impact on the current account position. Increased government spending leads to an increase in income. An increase in income can either result in an increase in transaction demand for money pushing up the rate of interest or it can lead to an increase in imports increasing the current account deficit. The twin hypothesis implies a negative expectation for the fiscal deficit coefficient, since in developing countries, a greater proportion of the agents are liquidity constrained, and thus the relationship is expected to be more pronounced.

DSAP

The binary variable for the structural adjustment policies impact on the current account is either positive or negative depending on the price elasticities of exports. Structural adjustment policies tend to encourage trade in order to achieve balance of payment balance. They encouraged devaluation of the currency and reduction in tariffs and trade barriers such as subsidies. This is also aimed at the longer term benefits trade by maximizing the comparative advantage.However,a devaluation of the exchange rate means imports become more expensive. This exerts inflationary pressure on industries that import their inputs.Furthermore, if exports

are quite price inelastic, as is the case in most developing countries, they may not rise as much, meaning that the devaluation may result in a contraction of the economy to achieve balance. Thus the policy prescription which appears to be the norm with the IMF and the World Bank can create disastrous results. But on the other hand, devaluation may improve the current account balance if the exports are price elastic. Thus the expected sign for the dummy variable is ambiguous.

4.2 DATA SOURCES AND SAMPLE

The sample comprises of the three East African countries of Uganda, Kenya and Tanzania. The period of study period is between 1980 to 2003.This period was chosen because the East African Partner states of Uganda and Tanzania have data gaps in several variables particularly TOT for periods before the study period. The main sources of data are annual reports various issues of Bank of Uganda and Bank of Tanzania, the IMF's International Financial Statistics for government revenue and expenditure figures, the TOT figures were from the World Development Indicators (WDI) CD-ROM 2005.GDPgrowthrate, CPI, export and import figures were got from World Development indicators and the gaps were filled up by data from annual reports of Bank of Uganda and Bank of Tanzania.[7]

4.3 Methods of Estimation.

The model is estimated using STATA version 9. There are several approaches used in estimating panel data. The first one is the pooled regression model or the constant coefficients model. This pools all time series and cross sectional data and estimates the underlying model by OLS.This is done under the assumption of constant coefficients referring to both the slopes and intercepts. This model usually bases on the relatively strong assumptions-it requires assuming that the equation parameters in the sample are the same and additionally that the error term in the entire panel comes from the same distribution, which in the discussed case seems questionable. However, the simple assumptions made that ignore the specific individual cross sectional units resulted into the use of fixed effects (FE) and Random effects approaches to panel data estimations. The fixed effects (FE) approach/model is sometimes referred to as the Least Square Dummy Variable Model because it makes use of cross section dummies to account for the uniqueness in each unit. This model considers constant slopes but intercepts differ

[7] All variables apart from the dummy variable for structural adjustment are expressed as percentage changes or growth rates.

according to a cross sectional unit. Taking into account the act that though there no significant temporal effects, there are significant differences in the cross sectional units in this type of model. While the intercept is cross sectional (group) specific, in this case it differs from unit to unit; it may or may not differ over time. The use of the fixed effects estimator or model allows for constant variation across countries, while an assumption that the error term comes from the same distribution fro each observation is maintained. Kennedy (2003) points a serious draw back of this estimator or model because the information that comes from the cross sectional variance is ignored which may lead to undermining the effects of the long run nature. The Random effects (RE) approach/model improves on the efficiency of the fixed effects (FE) model/approach by accounting for both the cross sectional and time effects. This is a variation of the generalized least squares (GLS) estimation process. This allows for different variance for the error term between the countries. Green (2000) refers to the random effects model as a regression with a random constant term.

In this study dummy variables were also introduced to test if there are any individual country differences influencing the relationship between fiscal deficits and the current account balance in East Africa.

4.3.1 Fixed Effects vs. Random Effects.

The way the disturbance term is characterized is the difference between FE and RE models or approaches. This is illustrated using the equation below:

The FE model defines the disturbance term ε_{it} as follows;

$$\varepsilon_{it} = k_{it}\varepsilon_i + v_{it}$$

While the RE model defies disturbance term as $\varepsilon_{it} = \varepsilon_i + v_{it}$

where ε_i denotes the unobserved individual or country specific effects and v_{it} denotes the remainder disturbances(idiosyncratic error).The later being widely used in most panel data applications and is often referred to as a one way error component model. Parameters are assumed to be constant over time but vary across individuals or parameters are constant across individuals at a given time but vary over time.

4.4 Specification and Diagnostic tests.

In this study the hypotheses are tested using the RE (GLS) and FE (LSDV) approaches. The Hausman and the Langragian Multiplier (LM) tests determined the choice between the LSDV

and GLS approaches.[8]Rejection of the null of the Hausman test[9] suggests that the RE is no appropriate and we are more likely to be better off using LSDV estimator and regarding our inference as being conditional on cross section units in the sample, or using the estimator that explicitly takes into account autocorrelation and heteroscedasticity problems such as the Feasible Generalized Least Square approach (FGLS).The model was also subjected to the Breusch-Pagan/Cook-Weisberg Test for Heteroscedasticity.

Where severe heteroscedasticity occurs, others (Green, 2000) have suggested the use of FGLS taking into account heteroscedasticity.

The model was also subjected to the Ramsey Reset Test to test for the omitted variables, incorrect functional form and mis-specification.

[8] In fixed effects model, differences between the various members of the pooled data set are captured by a constant intercept specific to each member. In the random effects models, these differences are assumed to be random and estimated with the error term in the model.

[9]Large values of the statistic argue in favor of the FE model.LM is also employed to test for RE and autocorrelation.

CHAPTER FIVE

EMPIRICAL RESULTS AND DISCUSSIONS

5.1 PRESENTATION OF RESULTS AND INTERPRETATION

This section presents he results from the empirical analysis. Table 1 reports a summary of the descriptive statistics of the variables used in the study. The variables are obtained from a panel of three countries that are partner states in the East African community over the period 1980 to 2003.

Table 1: Summary Statistics of Variables in the study.

Variable	obs	Mean	St dev	Min	Max
CABGDP	69	3.84	68.47	-200.13	441.67
BDGDP	69	-12.79	165.89	-1128.57	256.58
RER	69	13.89	61.08	-60.97	461.51
TOT	69	0.63	15.74	-34.92	63.46
DSAP*	69	0.72	0.45	0	1
GDP	69	3.53	2.91	-3	12

Notes:

* is a Binary variable or Dummy variable.

All variables are expressed as percentage changes.

Among the variables included in the model, the growth of or change in the fiscal deficit as a ratio to GDP and change in real exchange rate show the highest variability, followed by GDP growth rate and the growth of the current account balance as percentage of GDP.The statistics of change in Terms of trade and the GDP growth rate show the lowest variability implying that they are relatively stable, though all the variables showed some measure of variability suggesting instability in the performance of these variables across the panel. Looking at the standard deviations, the minimum and maximum figure justifies this. The low mean values for GDP growth rate and the change in terms of trade imply that on average the East Africa region experiences low GDP growth rates and the change in terms of trade faced by the region are usually unfavourable, that is the prices of their exports are lower than the prices for the imports. The mean value of the dummy variable for the structural adjustment policies shows that 72 percent of the period under study was post the structural adjustment policies. The negative

values from the data imply negative growth of and changes in all the variables which points to the fact that the region suffers highly from negative current account growth rates or deficits. From the standard deviation values, the fiscal deficit variability (165.89) and the real exchange rate variability (61.08) are high implying the relatively high variability in the current account balance.

The data shows that the East African partner States have been running both fiscal and current account deficits as percentage of GDP given the negative minimum values of both variables as well as having unfavorable terms of trade and appreciation of the real exchange rate and negative growth of the GDP. Overall, the region's current account balance tends towards a low surplus as indicated by the positive mean value, irrespective of relatively high maximum values of the other explanatory variables as well as its maximum value being greater than the minimum value. The growth of the region's fiscal balances tends towards deficits, given the negative mean value and the negative minimum value being greater than the maximum value.

Table 2: Correlation Matrix

Variable	cabgdp	bdgdp	rer	tot	dsap	gdpgrowt
Cabgdp	1.000					
Bdgdp	-0.084	1.000				
Rer	-0.058	0.110	1.000			
Tot	0.082	-0.051	-0.064	1.000		
Dsap	0.043	-0.1740	-0.259	-0.145	1.000	
gdpgrowth	0.153	0.062	-0.213	-0.048	0.403	1.000

The correlation matrix shows the implied relationships between the dependent variable and the individual explanatory variables.

There is a positive relationship (or association) between the current account balance as a percentage of GDP and the growth rate of Terms of Trade. The correlation between the change in terms of trade and the current account balance is 0.082 which being greater than zero implies a positive relationship or association between the current account as a percentage of GDP and the change in terms of trade. This can also be looked at to imply that countries with favorable terms of trade tend to have positive current account balances and countries with unfavorable terms of trade tend to have negative current account balances. This is rather a general tendency but it's possible that the individual countries do not follow this trend, with variation in terms of trade across countries as well as current account balances. Some countries have high current

account balances as percentage of GDP others have low balances. This high/low cross country variance in the current account balances as a percentage of GDP tends to "match up" with the observed high/low variance in the terms of trade values. Correlation is a numerical measure of the degree to which the patterns in the two variables correspond. Gary (2000) says that taking the value of the correlation squared, to measure the proportion of the cross country variability in the current account balance as a percentage of GDP that matches up with or is explained by, the variance in the change in terms of trade since correlation is a numerical measure of the degree t which the pattern between the two variables correspond. In this case, we can say that 0.6 percent of the cross country variance in the current account as a percentage of GDP can be explained by the cross country variance in the growth rate of terms of trade.

The correlation between change in the budget deficit as a percentage of GDP and change in the current account balance as a percentage of GDP is negative and greater than zero (0.084). Though greater than zero, there is only a weak tendency for the negative relationship or association to occur. The negative correlation implies that a high fiscal deficit as ratio to GDP tend to have low current account balances. The degree to which the current account balance as a percentage of GDP varies across countries can be measured by the correlation coefficient squared. As mentioned above, the current account balance as a percentage of GDP and the budget deficit are negatively correlated implying that their patterns of variability do not match up. The correlation squared measures the proportion of the cross country variability in the current account balance as a percentage of GDP that matches up or is explained by, the variance in the budget deficit as a percentage of GDP. In this case, we can say that 0.7 percent of the cross country variability in the current account balance as a percentage of GDP can be explained by the cross country variance in the budget deficit as a percentage of GDP.

The correlation between the change in the current account balance as percentage of GDP and the growth rate of real exchange rate of -0.058 and that between the change in current account balance as a percentage of GDP and the growth rate of a country's GDP is 0.150.The negative relationship between change in the real exchange rate and the current account balance as a percentage of GDP and positive relationship between the growth rate of a country's GDP and the current account is implied from these correlation coefficients respectively.
.High values of the GDP growth rate of a country are associated with high values of the current account balance as well as high values of the real exchange rate growth rate or an appreciation in the exchange rate tends to be associated with a decline of the current account balance as a

percentage of GDP.However, the correlation in this case of the case of change in the real exchange rate though greater than zero is low perhaps suggesting that the link between the change in the current as a percentage of GDP and the change in real exchange rate is quite weak, indicating only a weak tendency for the relationship to occur and the relationship may be through an underlying factor thus indirect. But the correlation between the growth rate of a country's GDP is relatively higher indicating that there is a tendency for the relationship to occur.

Various diagnostic tests were carried out as explained in chapter four. Test results for heteroscedasticity, Random effects and specification Test results are summarized in table 3.We do reject the null hypotheses of constant variance based on the Breusch Pagan/Cook-Weisberg test for heteroscedasticity.From the results of the Ramsey Reset test, we do not reject the null hypothesis of no omitted variables implying that the model is correctly specified, and from the Breusch Pagan LM test we do not reject the null hypothesis of there are random effects in the model.

Table 3: Diagnostic Tests

Diagnostic Test	Null hypothesis	Result from analysis
Breusch Pagan/Cook-Weisberg	H_0 :Constant Variance	$\chi^2(1) = 26.51[0.000]$
Ramsey RESET test	H_0 :Model has no omitted variables	$F(3,60) = 0.98\ [0.4065]$
Breusch Pagan Langragian Multiplier test	H_0 :Model has random effects	$\chi^2(1) = 1.19[0.2748]$

Note: Figures in the square brackets are probability values for the test statistics.

The presence of heteroscedasticity problem makes the OLS regression coefficient estimates consistent but not efficient. Thus the hausman test could not be carried out since it is based n efficient and generally consistent estimators. But results of the LM test for random effects suggest the presence of random effects. However, the presence of panel heteroscedasticity

necessitated the use of Feasible Generalized method the presence of heteroscedasticity problem makes the OLS regression coefficient estimates consistent but not efficient[10].

Table 4 reports the regression results from estimating equations 2 and 3 in chapter four above.

Table 4: FGLS Estimation results for the model

DEPENDENT VARIABLE- GROWTH RATE OF THE CURRENT ACCOUNT BALANCE AS PERCENTAGE OF GDP.

	Equation 2	Equation 3
VARIABLE	COEFFICIENT	COEFFICIENT
BDGDP	-0.066* (-2.60)	-0.064** (-2.47)
RER	0.036 (0.73)	
TOT	-0.419** (2.51)	-0.431** (-2.57)
DSAP	-18.149** (-2.33)	-18.885** (-2.42)
GDP	3.287* (2.78)	3.186* (2.70)
CONSTANT	-2.152 (0.37)	-3.531 (-0.64)
WALD	18.08 (0.00)	16.67 (0.00)

NOTE:

a. Number of observations is 69.

b. Figures in parentheses are robust Z statistics

c. *, **, asterisks indicate significance level for equation at 1% and 5% respectively.

The Wald statistic is higher in equation 2 (18.08) than in equation 3 (16.67), though quite high in both cases indicating the overall significance of the coefficients in the model. Hence the model fares well. Therefore the inclusion of both terms of trade and real exchange rate does not

[10] See Baltagi(2001)

affect our results given the definitions of the variables in this study, does not make one an inverse of the other and the Wald statistic is higher in the model with both variables than the other. All the coefficients have the expected signs as postulated by economic theory and the explanations are based on both equations. The individual effect of the explanatory variables on the current account balance is discussed below:

Budget deficit or fiscal deficit.

We find that the coefficient of the budget deficit as a percentage of GDP, which is the main focus of the study, is negatively related with the change in the current account balance as a percentage of GDP in both equations and statistically significant. This is in line with the Keynesian absorption theory and the Mundell Fleming model as well as findings of Egwaikhide (1997), Persanti (2000) and Darrat (1988),Vamvoukas (1997). A 1% percent increase in the growth rate of budget deficit to GDP ratio in East Africa results into a decline in the current account balance as a percentage by 0.066 and 0.064 percent of GDP on average in the East Africa region as shown by the coefficients from equation 2 and 3 respectively. This can also imply that the elasticity of the current account balance with respect to the budget deficit is 0.066 and 0.064 suggesting that a 1% percent decrease or increase in the growth rate of the budget deficit to GDP ratio will increase or decrease the current account balance by 0.066 and 0.064 percent of GDP on average. The low but negative statistically significant coefficient suggest on average the relationship between the fiscal or budget deficit and the current account balance in East Africa is inelastic. This suggests that the current account balance changes are not highly responsive to the changes in the fiscal deficit in East Africa.

But the coefficient is statistically significant in equations 2 and 3 at 1 and5 percent respectively. This finding is inconsistent with the findings of Debelle and Faruquee (1996) as well as Marvin and Polland (2006).The statistical significance of the coefficients in both equations implies that the growth rate of budget deficits or fiscal deficits as a percentage of GDP in the East African region as a whole has significant impact on the changes in the region's current account as a percentage of GDP.The finding of a negative statistically significant relationship is consistent with performance of both the current account balance of payments in East Africa and the fiscal balances which for the period under study were mainly adverse. This provides some evidence in favor of the twin deficits hypothesis in the East African Region and implies that the ricardian equivalence hypothesis does not hold in the East African region for the period under study.
The finding that the ricardian hypothesis does not hold in the East African region can be seen to imply that the deficits as well as its financing do have an impact on the current account balance.

This suggests that if the deficit is financed through internal or external borrowing results in increased private spending leading to current account balance to deteriorate and the real exchange to appreciate, thus observing that the fiscal deficit leading to the deterioration of the current account balance.

The intercepts in the models suggest that the percentage changes in the current account balance GDP ratio may not be in deficit even if the fiscal deficit being the variable of interest in the study and the other explanatory were zero. This is in line with the low positive mean value. But being statistically insignificant implies that there are other factors at play in the East African region that influence the current account balance resulting into having a current account deficit instead of surplus. These include the following:

Terms of trade.

We find that the coefficient of the change in terms of trade is negative and statistically significant. This is consistent with the elasticity's approach which postulates that TOT deterioration implies a rise in import prices, thereby reducing import volumes. This suggests that a one percent increase in terms of trade in East Africa leads to decline or deterioration in the current account balance by -0.419 percentage of GDP on average in equation 2 and -0.431 in equation 3. This Finding is inconsistent with the findings of Chinn and Prasad (2000, 2003) and Debelle and Faruquee (1996) but consistent with the findings of Aristovnik(2006). This implies that o average, in East Africa, the income effect is higher than the substitution effect in that an increase in the prices of imports doesn't decrease their demand. This is seen to imply that the elasticity of the current account balance in East Africa with respect to changes in the terms of trade is about 0.419, suggesting that the change in the current account is not highly responsive to the changes in the terms of trade given the low and negative sign which implies an inelastic relationship. The negative statistical significance of the change in terms of trade may be mainly attributed to factors like the East African partner states use mainly imported inputs in the production of processed exports thus making domestically produced goods relatively more expensive than the imported goods from other countries outside the region even if import prices increase. The over valued exchange rate of Kenya as well as the weak demand or low demand for the main exports of Uganda and Tanzania which are mainly agricultural as well as primary products is another reason for the worsening of the Current account balance in the region even if the import prices could have decreased.

Real Exchange Rate.

We find that the coefficient of the change in the Real exchange rate is positive and statistically insignificant. This is consistent with the predictions of the Mundell Fleming model. A depreciation of the domestic currency (a fall in the real effective exchange rate) improves the current account balance (reduces the deficit) through a small amount, and an appreciation of the domestic currency results into a decline in the current account balance. In this study a percentage increase in the real exchange rate has only a small but insignificant positive impact of on the change in current account balance as a percentage of GDP.A percentage increase in the real exchange rate results into an improvement in the current account balance by 0.036 percent of GDP. This finding is consistent with the finding of Aristovnik (2006) and Khan and Knight (1983). From this finding we can say that including the real exchange rate as an additional variable does not improve the model since it expresses theoretically expected, but statistically insignificant, results.

A country's GDP growth rate.

We find that the coefficient of the GDP growth rate of the East African states is positive and having a statistically significant impact on the change in current account as a percentage of GDP.This is in line with the expectations from theory. In this case, this suggests that changes in the levels of income in East Africa have a greater impact on exports than imports. A one percent increase in the GDP growth rate has a positive effect on the current account balance. In the case of East Africa a percentage increase in the GDP growth rate leads to an improvement in current account by 3.287 percent of GDP from equation 2 and by 3.186 percent of GDP from equation 3.This implies that the elasticity of the current account balance in East Africa with respect to the GDP growth rate in the region is 3.28 and 3.186 respectively. Thus the current account balance is highly responsive to the changes in the levels of income in the partner states. The coefficient is found to be statistically significant at 1 percent. This implies that increased income leads to increased import substitution which improves the performance of the current account and greatly reduces the import bill.

The dummy variable for structural adjustment polices is negative and statistically significant at 5% in both equations. This is contrary to the finding of Bbossa who found it to be positive and statistically significant in the case of Uganda. Most of the reviewed studies however, have not included this variable in their estimations. The negative and statistical significance of this coefficient points to the fact that irrespective of the East Africa Partner states of Uganda, Kenya

and Tanzania implementing the structural adjustment policies around the same time to address the macroeconomic imbalances in the respective countries, the policies have not had a positive impact on the macroeconomic performance of the three states. This is justified by the fact that even after implementing the structural adjustment policies, these countries are still having fiscal imbalances as well as external imbalances as shown by current account being in deficit.

The results indicated that there are no individual country differences that contribute to the current account balance in East Africa as shown by the statistical insignificance of the dummy variables introduced to capture those individual country effects or differences. Regression results are shown in the appendix 3.

CHAPTER SIX

CONCLUSIONS AND POLICY IMPLICATIONS

The study examined the empirical impact of fiscal deficits on macroeconomic performance: the case of the Current Account Balance in East Africa. It also reviewed theories that explain the link between the fiscal deficit and the current account balance in East Africa. In pursuit of this objective, the study explored among others, the various theoretical arguments that have been advanced in light of the relationship between the fiscal deficits and the current account balance.

The main finding of the study is that fiscal deficits have a negative impact on the current account balance in the East Africa region as a whole, and the impact is significant, indicating that the twin deficit hypothesis does hold in the case of East Africa. This implies that as a region, the partner states are trying to ensure that the fiscal deficits are sustainable given the existing domestic resources. Increasing fiscal deficits lead to a rise in the private nominal demand for imports (assuming that the deficit is financed through monetary growth) resulting into a negative impact on the current account balance. The results also indicate that the ricardian equivalence hypothesis does not hold in the case of East Africa for the period under study, as well as changes in the real exchange rate have no significant impact on the current account balance. The individual country effects or differences do not exist in the region.
However, the study still found that the structural adjustment policies were not effective in resolving the fiscal deficit problem as well as leading to improvement in the region's current account balance hence justification for the twin deficits hypothesis as well as the continued existence of the deficits.
The study also found that both the terms of trade and GDP growth rate matter significantly in determining the current account balance in East Africa.However, the current account balance is more responsive to changes in the GDP than to changes in the terms of trade.

In summary, the high current account deficits in the region are accounted by negative fiscal imbalances, slow progress in building a competitive and diversified export sector and trade liberalization that mainly stimulated imports of consumer goods and services.

6.1 Policy Implications

The influence of the modes of financing of the fiscal deficit on the current account suggests that the governments of the three partner states may encourage non inflationary financing of the government budget since inflationary financing results into increase in price levels resulting into reduction in export competitiveness. They should also reduce fiscal imbalance through government expenditure restraint.

The terms of trade are negative and significant, in view of this; governments in the partner states may encourage export diversification based mainly on domestic means of production other than imported means of production. (export of processed products instead of raw materials), this should mainly apply to Uganda and Tanzania whose main exports are agricultural raw materials as well as efforts being directed to prevention of real exchange appreciation since this greatly hurts the export sector.

Current account balance is an important indicator of a country's economic performance and plays several roles in policy maker's analyses of economic development. A country's balance on the current account in this study was taken to be the difference between exports and imports, thus reflecting the totality of domestic resident's transactions with foreigners in the market for goods and services. The existence of current account deficits and fiscal or budget deficits in the region can present serious obstacle to further monetary integration, so the East African Partner states should ensure that they reduce the current account deficits in order to attain successful monetary integration.

6.2 Limitations of the study

The overall analysis is fruitful and it could be improved further by accounting for other factors that affect the current account balance that have not been included in this study that could explain the performance of the Current Account balance in East Africa.
The low quality and scanty data which is typical of most developing countries which include the three partner states of Uganda, Kenya and Tanzania will significantly affect our results.

Further studies on the subject can be carried out in future research to assess the impact of fiscal deficits on the current account balance in East Africa including Rwanda and Burundi that have just joined the East Africa Community.

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APPENDICES

Appendix1: BUDGET BALANCE CONCEPTS

Overall balance(Conventional Deficit)=	Government expenditure-government revenue+ grants
Overall balance without grants=	Overall balance-grants
Domestic balance=	Government domestic expenditure-government domestic revenue
Foreign balance=	Domestic balance-foreign balance
Operational deficit=	Overall balance-inflationary part of interest payments
Primary deficit=	Overall balance-all interest payments
Current deficit/surplus=	Government current revenues-current expenditure
Consolidated coverage=	(a)With the rest of public sector (b)With quasi-fiscal accounts of central bank.
Cyclically neutral balance=	Government expenditure-cyclically corrected government revenue
Cyclical effect of the budget=	Overall balance-cyclical neutral balance
Base Year balance=	Normative year balance
Structural balance=	Cyclical effect of budget + base year balance
Full employment balance=	Full employment government expenditure –full employment revenue
Liquidity balance=	(a) Overall balance-net foreign borrowing (b) Overall balance –net foreign borrowing-net domestic non-bank borrowing
Permanent balance=	Present value of all government liabilities-present value of all resources of government assets(assets, taxes etc)
Generational balance=	Present value of taxes of an average member of his generation for the remainder of his life-present value of transfers he will receive

Source: Adapted from Premchand, 1993

Appendix 2: Fiscal deficit and current account balance performance in East Africa from 1980-1990

Year	Country	BD/GDP	CAB/GDP
1980	Kenya	-0.0006967	- 0.22
1981	Kenya	-0.0016041	- 0.17
1982	Kenya	-0.0024191	- 0.13
1983	Kenya	-0.0017283	- 0.11
1984	Kenya	-0.0027866	- 0.10
1985	Kenya	-0.0070275	- 0.11
1986	Kenya	-0.0172195	- 0.09
1987	Kenya	-0.0488683	- 0.14
1988	Kenya	-0.0736736	- 0.15
1989	Kenya	-0.2437	- 0.19
1990	Kenya	-0.4111835	- 0.19
1980	Uganda	-1.0690763	- 0.24
1981	Uganda	-1.6429907	0.24
1982	Uganda	-1.1283582	- 0.10
1983	Uganda	-0.2850766	- 0.05
1984	Uganda	-0.3932785	- 0.01
1985	Uganda	-0.2399172	- 0.06
1986	Uganda	-0.1544242	- 0.13
1987	Uganda	-0.086571	- 0.25
1988	Uganda	-0.0180649	- 0.20
1989	Uganda	-0.0100377	- 0.18
1990	Uganda	-0.0098347	- 0.18
1980	Tanzania	-0.1174098	- 0.16
1981	Tanzania	-0.1360733	- 0.11
1982	Tanzania	-0.1034394	- 0.11
1983	Tanzania	-0.0927029	- 0.08
1984	Tanzania	-0.0808408	- 0.12
1985	Tanzania	-0.087969	- 0.13
1986	Tanzania	-0.0652268	- 0.17
1987	Tanzania	-0.056077	- 0.21
1988	Tanzania	-0.0549296	- 0.23
1989	Tanzania	-0.0563014	- 0.25
1990	Tanzania	-0.0556357	- 0.30
2003	Tanzania	-0.0337592	- 0.15

Source: Author's calculations

Appendix 3: Model regression results to test for individual country differences.

```
 xtgls cabgdpgrowth bdgdpgrowth rer tot dsap gdpgrowthrate x1 x2,

Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        homoskedastic
Correlation:   no autocorrelation

Estimated covariances      =         1          Number of obs      =        69
Estimated autocorrelations =         0          Number of groups   =         3
Estimated coefficients     =         8          Time periods       =        23
                                                Wald chi2(7)       =      4.28
Log likelihood             = -386.9414          Prob > chi2        =    0.7465

------------------------------------------------------------------------------
cabgdpgrowth |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 bdgdpgrowth |   -.032152   .0511733    -0.63   0.530    -.1324497    .0681458
         rer |  -.0629862    .138349    -0.46   0.649    -.3341453     .208173
         tot |  -.4557545   .5205904    -0.88   0.381    -1.476093    .5645839
        dsap |   16.82146   21.25409     0.79   0.429    -24.83578     58.4787
gdpgrowthr~e |  -5.838232   3.406374    -1.71   0.087     -12.5146    .8381393
          x1 |   15.17261    21.5088     0.71   0.481    -26.98386    57.32909
          x2 |     5.7777   19.59436     0.29   0.768    -32.62654    44.18194
       _cons |   5.645827   20.04943     0.28   0.778    -33.65034      44.942
------------------------------------------------------------------------------
```

Appendix 4: Data set.

Country	Year	BD/GDP growth	Cab/GDP growth	RER	TOT	Dsap	GDP growth rate
kenya	1981	130.2373478	-21.46479508	461.5141	-11.4094	0	-2
Kenya	1982	50.80525577	-25.22405154	-11.3118	25	0	1.3
Kenya	1983	-28.55581883	-15.02619405	88.37774	49.69697	0	6
Kenya	1984	61.23416037	-5.426141883	58.36031	19.83806	0	-0.3
Kenya	1985	152.1904917	3.867209839	8.213725	6.756757	0	-3
Kenya	1986	145.0302595	-15.39520247	-60.9714	-6.64557	0	0.4
Kenya	1987	183.7958021	58.5832587	48.1884	-34.9153	0	4
Kenya	1988	50.75954745	1.725927087	-3.40871	0	0	8

Kenya	1989	230.7835683	30.21876746	45.60526	-4.6875	1	6
Kenya	1990	68.72526086	1.039012079	15.55409	-20.2186	1	6
Kenya	1991	38.50057697	-22.76530386	37.91123	-8.21918	1	6
Kenya	1992	138.2041418	-34.12180262	-10.0966	-10.4478	1	3
Kenya	1993	8.792900943	44.93083568	-9.88337	-5.83333	1	8
Kenya	1994	-23.98676428	-14.85087301	-23.3209	16.81416	1	6
Kenya	1995	-28.33029174	47.12163231	3.118165	49.24242	1	12
Kenya	1996	2.347153416	-14.78198288	-2.08554	-19.797	1	9
Kenya	1997	-8.494329588	8.115648121	5.980843	-1.26582	1	5
Kenya	1998	-15.1096913	-3.925719384	21.4014	-10.8974	1	5
Kenya	1999	8.081846947	0.051450551	6.189549	-13.6691	1	8
Kenya	2000	35.07845064	27.64321769	17.93447	-16.6667	1	5
Kenya	2001	27.27946185	9.209759886	-1.43527	-10	1	6
Kenya	2002	7.519865562	-30.44186767	-2.49891	-3.33333	1	7
Kenya	2003	-7.162002809	-6.986465896	11.07076	-2.29885	1	5
Uganda	1981	53.68319793	-200.1273373	34.36312	-12.8713	0	4
Uganda	1982	-31.32290765	-141.5901263	8.754611	-6.81818	0	2
Uganda	1983	-74.73527261	-49.33409688	0.518837	-6.09756	0	1
Uganda	1984	37.95536972	-79.49837609	8.161132	12.98701	0	2
Uganda	1985	-38.99559617	441.6684509	-5.45459	-11.4943	0	4
Uganda	1986	-35.63438173	140.3010516	-2.12333	11.68831	1	7
Uganda	1987	-43.93948267	86.49090511	-1.70936	-9.30233	1	6
Uganda	1988	-79.132833	-20.00177989	4.374143	3.846154	1	6
Uganda	1989	-44.43538242	-10.54441356	6.982437	-2.46914	1	5
Uganda	1990	-2.02281711	2.697419176	-0.3228	-11.3924	1	4
Uganda	1991	-9.548109438	6.766835841	1.268242	12.85714	1	1
Uganda	1992	-50.11237408	8.682661665	4.406119	2.531646	1	-0.8
Uganda	1993	38.20963511	-29.79123453	32.71635	17.28395	1	0.4
Uganda	1994	20.70828101	13.08863368	-47.5977	11.57895	1	3
Uganda	1995	-52.0844843	-1.226484223	26.29159	-1.88679	1	4
Uganda	1996	-76.89479862	15.94228792	-7.0048	4.807692	1	4
Uganda	1997	256.5832149	-39.41789858	4.690577	4.587156	1	2
Uganda	1998	-51.83350519	30.51701146	-6.01344	-3.50877	1	2
Uganda	1999	-37.13828826	0.135358836	13.84079	-10.9091	1	1
Uganda	2000	-140.7884837	6.507266291	0.582067	2.040816	1	-0.2
Uganda	2001	-1128.571365	8.862421405	-2.05655	2	1	1.1
Uganda	2002	-11.44312902	12.24261095	-2.30746	-3.92157	1	1.1
Uganda	2003	30.05678977	-0.93905976	-7.99493	-2.04082	1	1.8
Tanzania	1981	15.89606754	-32.11660232	-10.7015	63.46154	0	-0.5
Tanzania	1982	-23.98262406	-0.58017409	-5.29123	-14.7059	0	0.6

Tanzania	1983	-10.37951687	-26.6031228	5.765298	6.896552	0	-2.4
Tanzania	1984	-12.79573526	43.11574646	11.36582	0.645161	0	3.4
Tanzania	1985	8.817496395	11.86332353	-29.207	-0.64103	0	2.6
Tanzania	1986	-25.8525422	33.59458467	141.09	1.935484	0	1.8
Tanzania	1987	-14.02758018	18.7111322	29.22497	1.265823	1	3.3
Tanzania	1988	-2.046158539	9.606655168	18.37561	-20	1	4.4
Tanzania	1989	2.497333428	9.820137664	28.14149	-6.25	1	4
Tanzania	1990	-1.182323523	19.75349655	-20.6675	-10.8333	1	7
Tanzania	1991	16.15525861	-9.837089368	-3.64012	3.738318	1	2
Tanzania	1992	-113.6591504	13.23709305	21.10415	-11.7117	1	0.6
Tanzania	1993	-359.6718566	22.78710038	17.71719	2.040816	1	1.2
Tanzania	1994	151.4895224	-13.75920894	-15.9005	7	1	2
Tanzania	1995	-61.64291752	-10.92693716	-15.8051	-9.34579	1	4
Tanzania	1996	-133.4441743	-30.54261009	-7.91682	-1.03093	1	5
Tanzania	1997	62.84664342	-15.47384948	-7.56518	3.125	1	4
Tanzania	1998	-265.8165199	25.51136394	-1.83707	-1.0101	1	4
Tanzania	1999	-0.833075994	-4.677451052	10.89401	1.020408	1	4
Tanzania	2000	171.808548	-21.50408603	-1.67881	1.010101	1	5
Tanzania	2001	-15.70017957	-1.716193023	11.57119	23	1	6
Tanzania	2002	-6.969866932	-15.72145221	7.183984	6.504065	1	7
Tanzania	2003	-20.0206683	17.23428742	7.607593	6.870229	1	7