

**IMPACT OF FISCAL POLICY ON THE CURRENT ACCOUNT OF THE
BALANCE OF PAYMENT: A CASE OF KENYA 1973-2014.**

M. A RESEARCH PAPER

BY

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DECLARATION

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

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DEDICATION

This paper is dedicated to my parents, the Late Apolo Alenga and the Late Petronella Achieng for their dedication and effort in investing in my education.

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My gratitude goes to the Almighty God for He has seen me through this course.

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Lastly, I accept complete responsibility for any errors and omissions that may be in this paper.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	vii
LIST OF TABLES	viii
CHAPTER ONE: INTRODUCTION	1
1.1 Background.....	2
1.2 Statement of the Problem.....	8
1.3 Objectives of the Study.....	9
1.3.1 General Objective.....	9
1.3.2 Specific Objectives.....	9
1.4 Significance of the Study.....	9
1.5 Organization of the Paper.....	10
CHAPTER TWO: LITERATURE REVIEW.....	10
2.1 Introduction.....	10
2.2 Theoretical Literature.....	11
2.3 Empirical Literature.....	13
2.4 Overview of Literature.....	15
CHAPTER THREE: METHODOLOGY.....	16
3.1 Theoretical framework.....	16
3.1.1 Current Account and Fiscal Borrowing / Lending.....	16
3.1.2 Fiscal Expenditure / Saving and Current Account.....	17
3.1.3 The Model.....	19
3.1.4 Data and sources of variables and apriori expectations.....	20

3.1.5 Estimation Techniques	21
CHAPTER FOUR: DATA ANALYSIS	22
4.0 Introduction	22
4.1 Descriptive Statistics	22
4.2 Unit root test	26
4.3 Granger Causality Test	28
4.4 Long run Results.....	29
4.5 Engel Granger Cointegration test	30
4.6 Error Correcting Model	30
4.8 Post Estimation Test.....	32
4.8.1 Normality tests.....	32
4.2.2 Heteroskedasticity	33
4.6.2 Autocorrelation.....	34
CHAPTER FIVE: SUMMARY AND CONCLUSIONS	35
5.2 Conclusion.	37
5.3 Recommendations:	37
5.4 Areas of Further Research	37
REFERENCES	38
Appendix A: Economic Data for Kenya	46

LIST OF FIGURES

Figure 1: Kenya's Revenue and Expenditure (Kenya Shillings billions)	5
Figure 2: Kenya's Imports and Exports of Merchandise (<i>USD</i>)	6
Figure 4.1: Trend in current account balance of payments	23
Figure 4.2: Trend in current account balance of payments and GDP Growth rate.....	24
Figure 4.3: Trend of current account balance of payments and inflation rate.....	25
Figure 4.4: Trend of current account balance of payments and real exchange rates index.....	26
Figure 4.5: Trend of current account balance of payments and real exchange rates index.....	26
Table 4.7: Error Correction Model/Short run model	32
Figure 4.6: Normality tests	33

LIST OF TABLES

Table 4.1: Descriptive Statistics	22
Table 4.2: Unit root tests-Level	27
Table 4.3: Unit root test-first differencing	27
Table 4.4: Granger Causality	28
Table 4.5: Long run Results	30
Table 4.6: Co integration test	30
Table 4.2: Test for Heteroskedasticity	33
Table 4.3: Test for Autocorrelation.....	34

CHAPTER ONE: INTRODUCTION

Fiscal policy is the management of the nation's economy by use of fiscal policy tools.

It involves the adjustment of government expenditure and taxation in order to influence the economy to the desired direction. It is based on the Keynesian economics, propagated by J.M. Keynes, which states that 'a national government can guide macro-economic performance through adjustments in its taxation and expenditure policies' (Sullivan and Sheffrin 2003, pg 18).

Balance of Payment (BoP) on the other hand is an accounting record of financial transactions (receipts and payments) between the home economy and the rest of the world. These transactions include imports and exports for goods and services as well as flow of capital and financial transfers.

The main components of this BoP account include the current and capital accounts. Any imbalances between a country's receipts (exports, receipts of loans and investments) and payments (imports, foreign investments) may result in a country either accumulating net foreign assets in the event of a BoP surplus or running down reserves in the event of BoP deficit.

A nation's foreign reserves are key to its economic stability and therefore managing these foreign reserves is an important duty of any government. To achieve this objective, the national government has certain tools at its disposal among them the fiscal policy. By adjusting the various fiscal policy tools, the government is able to guide or influence the economy to the desired direction.

Most of the developing countries have an onerous task in fiscal management due to perennial resource deficits resulting in heavy borrowing and high interest payments on cumulatively borrowed funds. This has led to a fiscal crisis exacerbated by weak institutions of expenditure and taxation control, debt servicing and unstable inward capital flows (Talvi and Vegh, 2005; Blejer and Chu, 1989).

The application of the fiscal policy has far and wide reaching implications on the economy. This is because the fiscal policy tools affect components of both the current and capital accounts which in essence constitute the BoP. This therefore means that imprudent application of fiscal policy tools may lead to problems in the BoPs.

As far back as 1980s to date, most developing countries have been faced with BoP problems and have continued to obtain loans from the World Bank and IMF. These loans have had conditions attached in form of Structural Adjustment Programmes (SAPs) which have been aimed at reducing structural imbalances through policy. Though most of the programmes have emphasized on policy, there has been no consensus on impact of fiscal policy on performance of most economies due to the various varying outcomes of application of similar policies (Jha, 2007; UNCTAD, 2000; Odada and Ayako, 1989).

Kenya being one of the developing countries has continued to use fiscal policy since its independence in an effort to guide the economy in efficient allocation of scarce resources, market regulation and or stabilization and in organizing its social structure for the accumulation of wealth and growth.

1.1 Background.

In the period before Kenya's independence, the government mainly concentrated in upkeep of foreigners, a trend exhibited in the large part of the government expenditure used in paying salaries and wages for the public sector employees who were mostly foreigners. Part of the expenses of the government also went to areas of interest for the white settlers such as agriculturally productive areas and urban centres where most of the transport and communication infrastructure were put in place in support of the economic activities undertaken by the settlers (Gertz, 2008; Odingo, 1971). During this period, there was a favorable BoP that continued into the period after independence.

On independence, the government concentrated in empowering the natives by building up human capital, expansion of infrastructure and redistribution of farms previously owned by the settlers.

Government expenditure thus increased as most of the expenditure was directed towards capital intensive projects as well as education. However, this expenditure was funded by tax revenue as more Kenyans came into the tax net. With the increase in government expenditure, efforts in land redistribution and support of farming activities, new cash crops were introduced and parastatals for marketing farmers produce were increased. This led to a rapid growth in the economy expanding demand since most of the funds from the increased economic activity found their way into hands of the populace. The BoP grew strong with the increased exports of cash crop produce as well as development of import substitution. Capital inflow also increased with the good performance of the economy due to stability brought about by prudent fiscal management (Mwega and Ndung'u, 2008; Gertz, 2008; Odingo, 1971; Zwanenberg, 1972).

The consistent economic policy in this early period positively influenced economic growth supported by the buildup of reserves from exports and the increased demand for domestic output within the East African region. This marked the first decade of Kenya's independence which can be summarily described as expansionary with prudent fiscal policy measures and a favorable external balance.

From the period beginning 1973, Kenya's economy woke up to numerous unanticipated challenges which had a destabilizing effect on the macroeconomic performance. The first oil crisis of 1973 reduced economic growth from the previous period's average of 6.5% to an average of 4%. Agriculture which had brought in a lot of foreign exchange started to decline due to inefficiencies brought about by overprotection. Industry also stagnated and started to decline due to the protectionist policies that existed then. This meant a decline in government revenue from taxation and owing to the fact that the government size had immensely grown, especially the public sector which constituted a sizeable part of the economy, Kenya had to seek alternative sources of funding to sustain her activities.

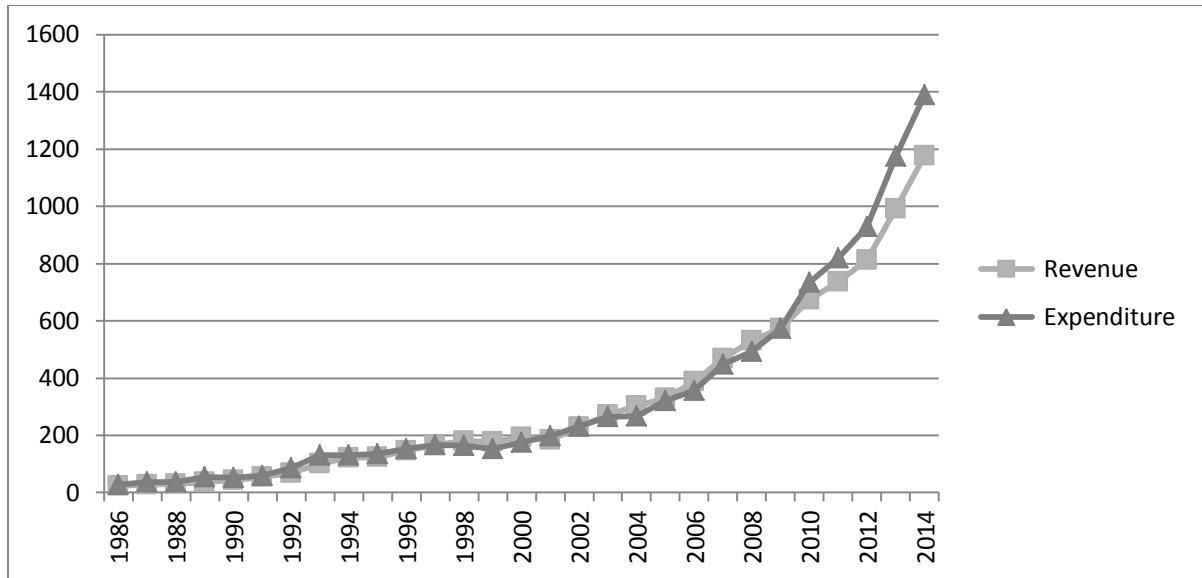
This situation deteriorated even further with the second oil crisis of 1979 when the price of crude oil doubled from 13 United States of America (US) Dollars to 27 US Dollars per barrel causing inflation to soar. This decline in the performance of the economy was exacerbated by strong

external shocks and imprudent fiscal and monetary management which culminated in the BoP crisis of the period 1974- 1978.

Other challenges that ensued included the debt crisis, high interest charges on external borrowing, and the 1975/76 and 1980/81 world recessions. These external challenges together with structural rigidities, expansionary fiscal and monetary policies affected Kenya's BoP position. The unstable policy environment especially in application of fiscal policy had led to the unstable capital and current accounts of the BoP. An example was the increased taxation on profits in the wake of reduced economic growth which caused an increased outflow of private investment in 1977 to about six times of what it had been in 1963. This was as a result of prudent efforts by investors to prevent high taxes from eating into their earnings by reporting lower profits in a jurisdiction where taxes were high and repatriating the larger share of their earnings to economies where taxes were lower.

To get out of this situation the government resorted to external borrowing and the World Bank came in handy offering Kenya its first structural adjustment loan. However this loan came with various conditions attached which Kenya had to meet for it to continue benefiting from the funds. Consequent to this Kenya had to restrict its imports, restrain credit and focus on extraction of its resources for export to earn foreign exchange. This was to help Kenya resolve her BoP crisis. As a result, Kenya became among the heaviest beneficiaries of loans and grants from multilateral agencies among the sub-Saharan countries in the period 1973-1976 (Mwega and Ndung'u, 2008; Wagacha, 1999).

The BoP crisis however did not end at this point since the effects of fiscal imprudence in the previous decade spilled over into Kenya's third decade after independence.



Source: Republic of Kenya, Economic survey, various issues.

Figure 1: Kenya’s Revenue and Expenditure (Kenya Shillings billions)

Figure 1 show that government expenditure continued to exceed government revenue in the third decade necessitating further borrowing to fund the deficit in government revenue. The fourth and fifth decades have shown an improvement in the gap between revenue and expenditure resulting from severe cutting of government expenditures that came with the new elected governments.

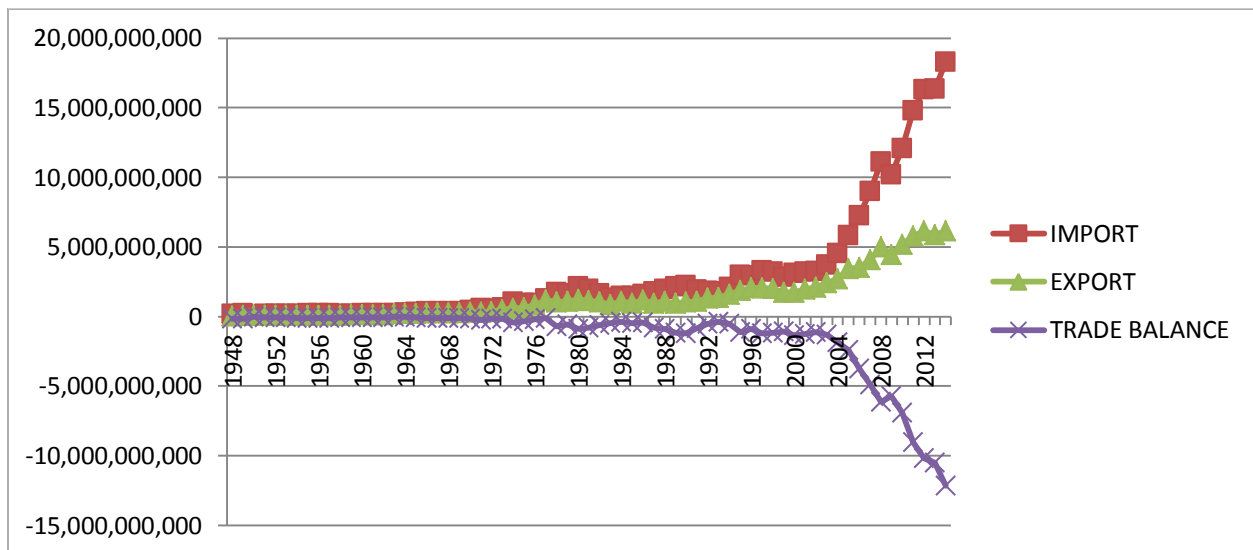
Following the restrictions on loans from the World Bank, the Kenya government’s stance on expenditure had changed in the 1980s and the government embarked on a reduced fiscal spending programme. This can be evidenced in the pronouncements of Sessional Paper Number 1 of 1986 on Economic Management for Renewed Growth. In this Sessional Paper, Kenya sought an overhaul of the fiscal system to reduce the increasing reliance on foreign debt and hence effectively reduce the pressures on both the current and capital accounts of the BoPs.

Since independence, Kenya had concentrated on protecting its local industry which was largely dominated by government owned enterprises. These enterprises had depended on the government for funding and therefore did not run efficiently to the expectations of the market. The private industries had also benefited from protection, operating under a largely

uncompetitive market. Protection was mainly undertaken through fiscal policy by employing tariff's, quotas and outright bans on some commodity imports.

Most of the industries were meant for processing primary products from farms and mere packaging of items for exports. These exports of primary commodities worked against Kenya's BoP since these goods were and still are subject to unstable prices due to their perishability. Kenya on the other hand imported machinery and other mechanized products which were highly priced and durable. This compounded the fiscal strain that Kenya faced and rendered it highly dependent on loans and aid from the ensuing deficits.

The relationship between Kenya's imports and exports can be seen in figure 2 below.



Source: world Bank, World development Indicators

Figure 2: Kenya's Imports and Exports of Merchandise (USD)

Figure 2 above shows that since 1975 the gap between Kenya's imports and export has continued to widen with imports growing faster than the exports. This gap widened in the 1990s due to the liberalization of the economy. Liberalization was a policy guideline pushed by the World Bank's and IMF's SAPs. SAPs were measures fronted by the two Brettonwoods institutions to help countries with BoP problems overcome them.

One of the measures fronted by the SAPs was liberalization of trade. In line with this, Kenya reviewed her tariffs which were viewed as barriers to trade and more specifically the maximum tariff rate was reduced from 45% in June 1994 to 25% in June 1997. It was anticipated that with this move, free international trade would serve to improve the BoPs. However this did not happen as anticipated since this move only served to widen the gap between imports and exports because Kenya's fairly less developed industries could not compete with their counterparts in the advanced economies.

Starting the year 2003, exports increased steadily following the election on the new NARC government, the increase in investor confidence and implementation of Economic Recovery Strategy for Wealth and Employment Creation of 2003-2007 (ERS). This was however interrupted in 2007 following the Post Election Violence (PEV) which rocked the country and a decline of 1.3% in exports in 2009 as an aftermath of the PEV. More specifically there was a decline in exports to the European Union, one of Kenya's major trading partners, from 25.9% in 2008 to 25.5% in 2009. This was a decline of 6.6% of total exports. Imports on the other hand increased by the 10% in the same period (Economic Survey, 2001, 2004, 2008, 2010). Even though exports grew at 23.3% which was 22.2% of the total growth in exports in 2008, imports grew relatively faster at 27.4%. This was worsened by the weakening of the Kenya Shilling from 67.32 to 69.18 per US Dollar.

From the third decade and in an effort to correct the deficits in its current account, Kenya did embark on a path of encouraging local manufacture and export (Export Oriented Strategy) by introducing tax exemptions and establishment of Export Processing Zones (EPZ). This can evidently be seen in its pronouncements in the ERS. Over and above this, Kenya has been on the forefront in pushing for the establishment of the East Africa Community to create a common market where there will be fewer restrictions in form of tariffs, easier trade and earning of foreign exchange. This is in the hope that there will be reduction of pressure on its current account, leading to a favorable BoP.

Among the fiscal incentives to be enjoyed by firms under the EPZ include:

- i) Stamp duty exemption.

- ii) Duty and VAT exemption on raw materials, machinery and other inputs.
- iii) 10 years corporate tax holiday and 25% corporate tax thereafter.
- iv) 10 years withholding tax holiday on dividend remittance.
- v) 100% investment deduction over 20 years of initial investment.

From the above flow of events, it is evident that fiscal policy plays an important role in the economy and this can have either a negative or positive impact on the economy's BoP. This therefore draws our curiosity into the understanding of the link between these two since both the Keynesian and the Ricardian hypothesis have different views of the impact of fiscal policy on the BoP. The Keynesian view postulates that households are naïve and any increase in their income due to increase in government spending will trigger an increase in the households expenditure resulting in the twin deficit. The Ricardian view on the other hand sees households as being intelligent and will view any increase in government expenditure as a future tax burden and thus will reduce their expenditure in anticipation of future tax increases.

1.2 Statement of the Problem.

Kenya aims to attain a 10 percent economic growth rate by the year 2030 (Republic of Kenya, 2007). The famous Keynesian identity postulates a direct relationship between the current account and the national income. It goes without mention therefore that in order to attain this level of growth, the country will need to check on her long-term BoP performance which has a direct bearing on economic growth.

Fiscal policy plays a critical role in the determination of the BoPs, since it influences the level of taxes, government expenditure, consumption and the level of imports. These are in fact the ingredients of the BoP. The current account has continued to worsen since the year 2000 necessitating an increase in net capital inflows to cover for these current account deficits. The problem is that these capital inflows are short-term and subject to reversals. The net effect of these trends has been an overall decline in the BoP.

If the desired rate of economic growth as envisioned in the Kenya Vision 2030 is anything to go by, then the BoP and specifically the current account position will need a critical rethinking. The

BoP must improve for the growth targets to be achieved. As already noted, fiscal policy has a direct impact on the current account position. The problem that this study therefore aims to address is to investigate to what extent does fiscal policy impact the current account position that will ultimately influence the desired economic growth.

1.3 Objectives of the Study.

1.3.1 General Objective.

The general objective of this study is to empirically examine the impact of fiscal policy on the current account that influences the desired BoP position.

1.3.2 Specific Objectives.

More specifically, the study intends to:

- i. Investigate the effect of fiscal policy on the current account,
- ii. Make policy recommendations resulting from the results of the study.

1.4 Significance of the Study.

Since the second decade of Kenya's independence, Kenya has continued to employ its fiscal policy in an effort to control and improve its macroeconomic performance, market performance and socio cultural structures.

Kenya's expenditures and revenues have continued to increase but with an increasing gap between the two. This can partly be evidenced by the increasing gap between imports and exports as shown in Figure 2 on Page 5. Therefore with the ever increasing fiscal deficit, does it have any impact on the current account? Similarly, the capital account has shown a general deteriorating trend over the years in spite of fiscal policy aimed at internal and external balance. Based on this information, it is important to find out how fiscal policy has impacted Kenya's BoP position.

Furthermore, Kenya has continued to borrow heavily since its first oil crisis shock in 1973 resulting in the debt problem. This ever increasing debt has resulted into a vicious cycle of

borrowing and repaying which continues to dampen Kenya's economic prospects. As times continue to change, there is need for a deeper understanding of the link between the fiscal policy and BoP components which are very critical to the buildup of a country's wealth.

This paper therefore will endeavor to explore and add onto the existing knowledge of fiscal policy and current account of the BoP and to bring to light their important interactions and their resultant effects with specific reference to Kenya.

1.5 Organization of the Paper.

The paper is divided into five chapters as follows. The first chapter hosts the introduction of the paper which looks at an overview of the topic and also captures the background, objectives and significance of the study. The second chapter handles the literature review which in essence looks at and appreciates what other researchers have done in the same area. The third chapter contains the research methodology. This exposes the model used in the research and basically the logic, techniques and research questions employed. Chapter four contains the analysis of the data and results. Finally, the last chapter presents the research findings, conclusions and policy recommendations of the study.

CHAPTER TWO: LITERATURE REVIEW.

2.1 Introduction.

In the recent years, there has been an increased interest on relations between fiscal policy and current account of the BoP among researchers and policy makers. Of great interest has been the relationship between fiscal deficits and current account deficits oftenly referred to as the twin

deficit problem. In the following sections of this study, we will look at both the theoretical aspects of these two as well empirical studies that have been done in this area.

2.2 Theoretical Literature.

The effects of fiscal policy changes on the current account as well as savings will depend on whether the households react to these changes in a Ricardian or Keynesian fashion. If they react in a Ricardian manner otherwise referred to as Ricardian equivalence, then any decreases or increases in public debt will result in respective decrease or increase in their savings (Nickel and Vansteenkiste, 2008). They may increase their savings in the face of increased debt since they anticipate higher taxes in future to cover for this increase in public debt or alternatively lower their savings if there was indeed a decline in public debt. This therefore means that if Ricardian equivalence holds, then the impact of fiscal policy on savings and consequently the current account will be nil. From this analogy, financing of fiscal deficits by issuance of debt instruments such as bonds does not alter the present value of households' wealth because the increased debt represents increased tax liability in the future (Romer and Romer, 2007; Javid et al., 2010).

The Keynesian approach to public debt on the other hand indicates that increase in public debt as a result of increased spending or reduced taxation by the government may not be fully offset by increased private savings. The increased government expenditure or reduced taxation may increase households' disposable income in effect increasing their consumption especially if they perceive the increase in disposable income to be permanent. This approach results in the twin deficits since it is assumed that households are naïve and will only look at the changes in their disposable income to make consumption decisions, ignoring or unaware of future implications of increased debt (Javid et al., 2010; Adam et al., 2010; Monokroussos and Thomas, 2011).

According to the Australian model, the economy consists of two sectors which is a tradables sector and non-tradables sector. In the tradables sector, the goods and services produced can either earn foreign exchange or consume foreign exchange. On the other hand, non-tradable goods and services do not directly earn or consume foreign exchange for a particular country (Sposi, 2010; Krugman and Obstfeld, 1997).

Given that the economy's scarce resources are used in the two sectors, the efficiency of that economy will depend on how these resources are allocated among the two categories of goods and services as well as levels of aggregate demand, own prices and relative prices of these products. Over and above own price of tradables, the real exchange rate also determines production (Abbas et al., 2010).

If the production and consumption of tradables and non-tradables are equal, it means imports and exports are equal. However if the government's fiscal policy is such that it increases its demand say on non-tradables, there will be a reduction in production of tradables as more resources in the economy are shifted towards production of non-tradables whose demand will have increased. The export of tradables will decrease due to reduced production leading to deterioration of the current account balance.

In short if a country's consumption of tradables is greater than its production of the same then the excess consumption will only be covered by either borrowing or drawing down of resources and hence affecting the BoP.

Fiscal policy can also affect the current account through interest rates and the perceived risk of lending. If the fiscal stance of an economy is such that there is restraint on government expenditure, interest rates will reduce since the government will not compete with the private sector in borrowing, a trend which normally leads to increased rates and crowding out of private investors. The government will need not borrow and therefore no build up of external debt.

Economies perceived to be less risky will attract higher inflows of foreign capital as compared to more risky economies. The increased inflow of foreign capital means increased indebtedness as well as increased outflow in terms of interest and return on capital payments to foreigners. Increased capital inflow may cause increased demand thus creating pressures that may eventually worsen the current account (Abbas et al., 2010).

2.3 Empirical Literature.

Monokroussor and Thomakos (2011), while investigating the fiscal imbalances and current account competitiveness of Greece, used the vector error correction model (VECM) specification and controlled for effects of global financial crisis as well as domestic financial integration. The model linked the current account with the fiscal deficit, real exchange rate and private investment.

From the analyzed data of Greece using the model, they found out that the independent variables had the correct theoretical signs and were statistically significant. Specifically looking at the fiscal deficit, the relationship with the current account balance was positive and significant meaning that it agreed with the twin deficit hypothesis and hence the predictions of the Keynesian model. They conclude that Greece's fiscal crisis/deficit led to worsening of the current account deficit.

Javid et al. (2010) investigated the effect of Pakistan's fiscal policy on the current account and other macroeconomic variables using the Vector Autoregressive model (VAR) approach in the period 1960-2009. They found out that with increase in government deficit, private savings increases but at a smaller rate than the increase in government deficit. Private investment also increases such that the total increase in both private investment and savings outweigh the deficit increase in the short run and hence the current account improves; even though the exchange rate depreciates.

The result in this study suggests different results from what is suggested by most theoretical models even after controlling for business cycles. This divergence is also explained by output shocks which are more than fiscal shocks which appear to drive current account movements with the fiscal balance.

In a different investigation of the relationship between fiscal policy and the current account, Abbas et al. (2010) looked at a sample of non-oil exporting countries and used panel regressions and vector auto regressions (VARs) in their analysis. This study covered 124 countries with annual data covering 1985-2007. They found out that there was a statistically significant relationship between fiscal policy and the current account which is positive. According to their

results, an improvement in fiscal balance of 1% resulted in 0.2-0.3 percentage points of Gross Domestic Product (GDP) improvement in the current account balance which persisted for a few years. The positive association between the two was as strong in emerging and low income economies as in the advanced economies but more pronounced in years where the economy's output was above potential.

Kumhof and Laxton (2009) study the current account implications of the fiscal stimulus packages recently announced in major regions of the world economy. They consider the possible permanent fiscal deficit effect on the current account in shortrun, medium-term and also the longrun. They make their study based on the US economy which accounts for 25% of world GDP. Using the open economy business cycle model, they find that fiscal deficits of 1% of GDP in home economy if not accompanied by fiscal deficit increases in the rest of the world leads to deterioration of current account by nearly 0.5% of GDP in the shortrun and 0.75% for a large economy like the US in the longrun. For a smaller economy the effect is even larger at 1% of GDP.

Bluedorn and Leigh (2011) study the effect of fiscal consolidation on the current account using contemporaneous policy documents to identify fiscal policy changes triggered by the need to reduce the budget deficit. They sample 17 Organization for Economic Co-operation and Development (OECD) countries over the period 1978-2009 with total of 173 cases of changes in fiscal policy driven by the desire to reduce budget deficit. From their data set, they find strong evidence in favor of the twin deficit hypothesis in that a 1% of GDP fiscal consolidation causes a reduction in the current account deficit to GDP ratio by 0.6 percentage points in two years. They also find that a contraction in real exchange rate and investment also play a key role in the adjustment process.

Alleyne (2011) studies the debt and fiscal situation of the Caribbean countries in the wake of the Global Economic Crisis (GEC) using time series data for 13 countries in this region from the period 1980 to 2010. The study analyses the interaction between the current account balance and the fiscal balance and carries out a number of tests to establish the kind of relationship that

exists. The results of the analysis suggest that fiscal balance was driven by the current account balance.

Thus the author concludes that while fiscal consolidation is necessary in controlling growing expenditure when revenues are declining, it is not sufficient to deal with the medium and long-term structural changes that result from the declining competitiveness of the external sector. The study emphasizes that whereas the GEC may have aggravated the fiscal crisis faced by these countries, the underlying problem lies in the declining competitiveness of the external sector.

2.4 Overview of Literature.

From the literature reviewed above, most of the empirical studies done seem to agree with the Keynesian hypothesis. However, we cannot forget the argument fronted by the Ricardians which suggests different results of application of fiscal policy. In view of these findings, this paper is motivated to analyze the Kenyan case to be able to establish the nature of relationship between its fiscal policy and the BoP components.

Consequent from previous similar studies such as studies by Javid et al. and Monokroussor and Thomakos, most researchers have preferred to use the VAR and VECM models in their investigations. This study used the OLS model to analyze the Kenyan situation using time series data from 1973 to 2014. The study also performed Granger causality test to establish the direction of the relationship between variables and also unrestricted ECM to establish the short term relationship between the variables.

CHAPTER THREE: METHODOLOGY.

3.1 Theoretical framework.

This section mainly highlights the various interactions between the fiscal policy and the current account.

3.1.1 Current Account and Fiscal Borrowing / Lending.

In a closed economy residents of one country do not trade with residents of other countries and therefore there is no opportunity for international trade. This therefore means that what is produced within the economy must be consumed in its entirety within the same economy (Krugman and Obstfeld, 1997). This leads us to the fundamental identity:

$$Y = C + I + G \dots\dots\dots(i)$$

where

Y = the country's Gross National Product (GNP)

C = Consumption

I = Investment

G = Government purchases.

Notice that imports and exports do not exist in this identity.

However in an open economy, residents of a country are open to trade with residents of other countries and therefore imports and exports come into the equation. Since imports reduce the domestic GNP while exports increase it, then the equation transforms into

$$Y = C + I + G + X - M \dots\dots\dots(ii)$$

where X = Exports and M = imports.

The difference between a country imports and exports adding the net factor payments and transfers constitutes its current account. The current account itself is an important part of an

economy since it will indicate whether a country's wealth is increasing or decreasing. In other words, it essentially also measures a country's direction and size of foreign exchange flow.

If a country is consuming more than it produces then the excess consumption has to be funded by borrowing or private capital inflows. However if it consumes less than it produces, then this means that it finances the deficits of its trading partners from its excess earnings.

This can clearly be exemplified in the rearranged equation below.

$$Y - (C + I + G) = X - M \dots\dots\dots(iii)$$

$$Y - (C + I + G) = CA$$

$$Y - A = CA \dots\dots\dots(iv)$$

Where A = C+ I + G (also known as absorption).

This therefore means that if what is produced in the economy/income (Y) is not sufficient to cover consumption and investment (A) then the excess absorption will necessitate importation which will affect the current account balance.

3.1.2 Fiscal Expenditure / Saving and Current Account

In a closed economy case, the investments that are made in the economy are always equal to the savings that were initially made because the external sector does not exist (Hohberger and Herz, 2012; Krugman and Obstfeld, 1997). By rearranging the national income identity of the closed economy then the resultant equation is:

$$I = Y - C - G \dots\dots\dots(v)$$

Since savings (S) is equal to investment (I) then;

$$S = I = Y - C - G \dots\dots\dots(vi)$$

In an open economy however, investment need not necessarily equal savings because the government or private individuals can lend or borrow funds from abroad and hence:

$$S = I + CA \dots\dots\dots(vii)$$

However this is a general equation because savings (S) can either be made by the private individuals (S^p) or the government (S^g) i.e

$$S = S^p + S^g \dots\dots\dots(viii)$$

The savings by the private individuals / firms is basically their income (Y) less the taxes (T) and what they consume (C).

$$S^p = Y - T - C \dots\dots\dots(ix)$$

Government savings (S^g) on the other hand constitutes its tax income (T) less its expenditure (G).

$$S^g = T - G \dots\dots\dots(x)$$

Since

$$S = S^p + S^g = I + CA$$

$$S^p = I + CA - S^g$$

$$S^p = I + CA - (T - G)$$

$$S^p = I + CA + (G - T) \dots\dots\dots(xi)$$

G - T is a government budget deficit

Equation (xi) can as well be written as

$$CA = S^p - I - (G - T)$$

$$X - M = S^p - I - (G - T)$$

Since $I = I^p + I^g$

Therefore $X - M = S^p - I^p - (I^g + G - T) \dots\dots\dots(xii)$

X-M is a current account surplus when exports exceed imports and a deficit when it is vice versa.

This equation is indicative of the fact that changes in the fiscal balance will affect the current account and hence fiscal policy affects the BoP through the current account.

3.1.3 The Model

From the two models discussed above, the current account identity:

$$CA = (S^p - I^p) + (S^g - I^g) \dots\dots\dots(i)$$

where CA= Current account

S^p =Private savings

I^p =Private investments

S^g =Government savings

I^g =Government investments

However since $S^g = T - C^g$

where T= tax revenue and

C^g =Government consumption expenditures,

then the identity becomes

$$CA = (S^p - I^p) + (T - C^g - I^g) \dots\dots\dots(ii)$$

And assuming the private sector investment is fully financed from savings, then current account is expected to be wholly driven by the fiscal balance.

A number of researchers have sought to examine the relationship in (ii) above and how the fiscal policy would affect this identity and its impact on the current account. This study seeks to investigate this relationship using Kenya's data and will proceed to control for other variables such as exchange rate and inflation in order to obtain a parsimonious model for determination of movements in the Kenya's current account.

The structural model used in this study will be specified as follows:

$$CA = a + b_1FB + b_2 Z + \epsilon \dots\dots\dots(iii)$$

Where

CA = Current Account balance

FB = Fiscal balance (Government consumption expenditures and Tax revenue)

Z = Other explanatory variables i.e. Gross Domestic Product growth (GDPgr), Real exchange rate (REER) and inflation(Infl).

b_1 and b_2 = coefficients

ϵ = error term

3.1.4 Data and sources of variables and apriori expectations.

The study will use Kenya's secondary data from the period 1973 to 2014 with the sources being the statistical abstracts, IMF and the World Bank economic data.

The variables to be included in the model (iii) above will be the Current Account Balance, , Gross Domestic Product growth, Fiscal Balance and Exchange Rate and Inflation as already shown on page 20.

Drawing our expectations from the reviewed literature, a positive relationship between the current account and the fiscal balance of Kenya will confirm the Keynesian models prediction of the twin deficit hypothesis. Alternatively and according to the Ricardian equivalence, any shocks in the fiscal balance that do not cause a corresponding variation in the current account will mean that individuals are intelligent to note that fiscal adjustments will have future implications and therefore respond in a manner to cushion themselves from future effects of the current changes.

3.1.5 Estimation Techniques

This study will investigate the relationship between fiscal policy and BoP and to specifically establish whether there is a causal relationship between the fiscal deficit and the current account.

To establish the direction of causality among the variables of interest, Granger Causality test will be performed to help us understand the interactions between fiscal balance and the current account and if there are feedback effects

The next chapter presents the research findings of the study.

CHAPTER FOUR: DATA ANALYSIS

4.0 Introduction

The purpose of this study was to establish the impact of fiscal policy on the current account of the balance of payment in Kenya. The current account balance was modeled against real GDP growth, inflation, tax revenue, the exchange rate and government consumption expenditure. The study first established the descriptive statistics before the trends and model estimation.

4.1 Descriptive Statistics

Table 4.1: Descriptive Statistics

	CA	FB	GDPGR	INFLATION	REER
Mean	-6.11941	-0.46602	3.896	12.828	115.631
Median	-5.59605	-0.19281	4.168	11.380	106.251
Maximum	0.888456	0.125011	9.178	45.979	223.435
Minimum	-18.6798	-2.16452	(0.793)	1.554	68.107
Std. Dev.	5.011299	0.665763	2.357	8.221	38.001
Skew ness	-0.9155	-1.16868	(0.009)	1.818	1.573
Kurtosis	3.253555	3.137945	2.701	7.762	4.611
Jarque-Bera	5.97943	9.593933	0.157	62.816	21.871
Probability	0.050302	0.008255	0.924	0.000	0.000

The graph presented in Figure 4.1 indicates that the current account balance of payments to nominal GDP has been experiencing unsteady trends. It was lowest in the year 1997 after which it fell and was highest in the year 2003. The mean current account balance of payments as a ratio of GDP was -6.11 between 1973 and 2014.

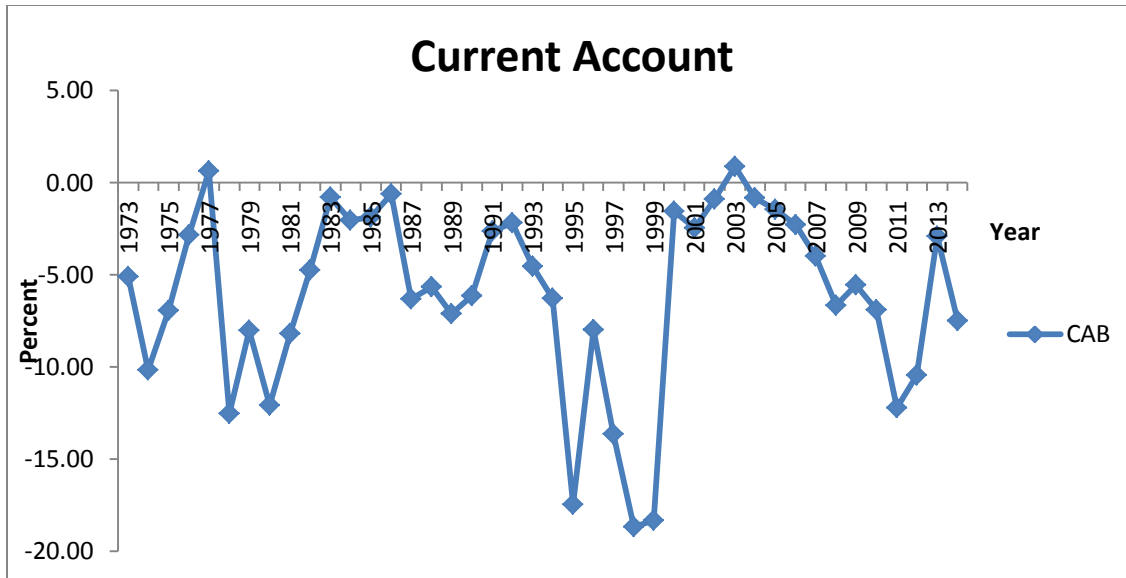


Figure 4.1: Trend in current account balance of payments

A graphical representation presented in Figure 4.2 indicates the trends of Current account balance of payments and GDP growth rate. The GDP growth rate also had fluctuating trends though most of the years recorded a positive growth rate. The mean GDP growth rate recorded in the study period was 3.89%.

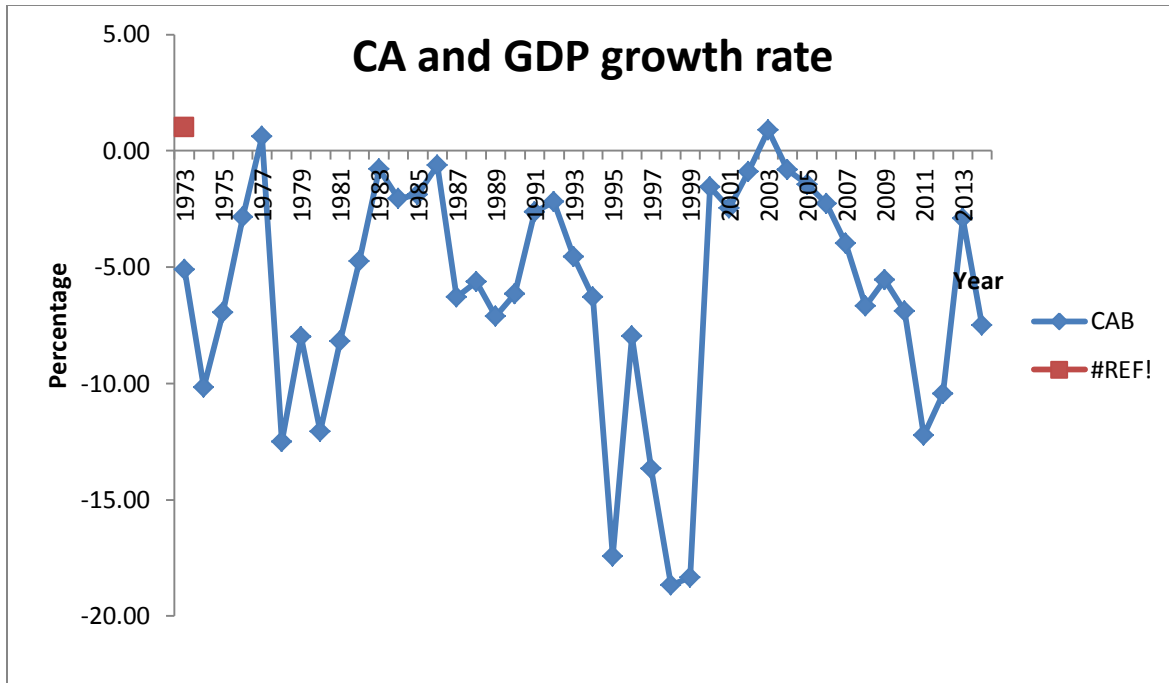


Figure 4.2: Trend in current account balance of payments and GDP Growth rate

A graphical presentation in Figure 4.3 shows the trends of current account balance of payments and inflation rates. The inflation rate was above the CA to nominal GDP values. The mean inflation rate recorded in the study period was 12.83%.

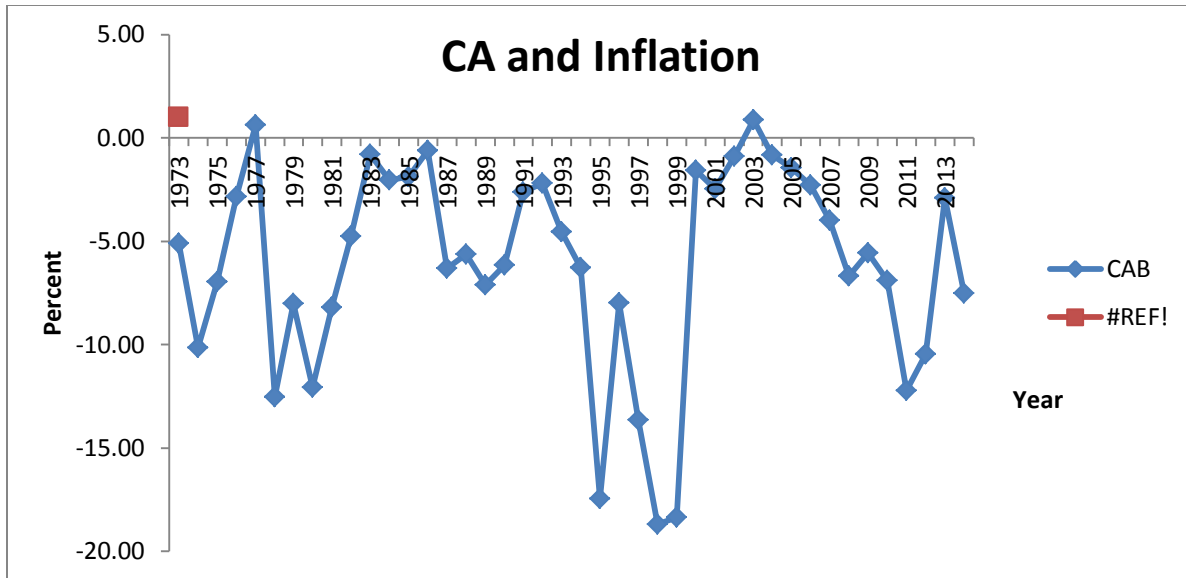


Figure 4.3: Trend of current account balance of payments and inflation rate

Figure 4.4 indicates the trend analysis of current account balance and real exchange rates index. The real exchange rates index indicated an upward trend while CAB had unsteady trends. The mean real exchange rates index in the study period 115.631.

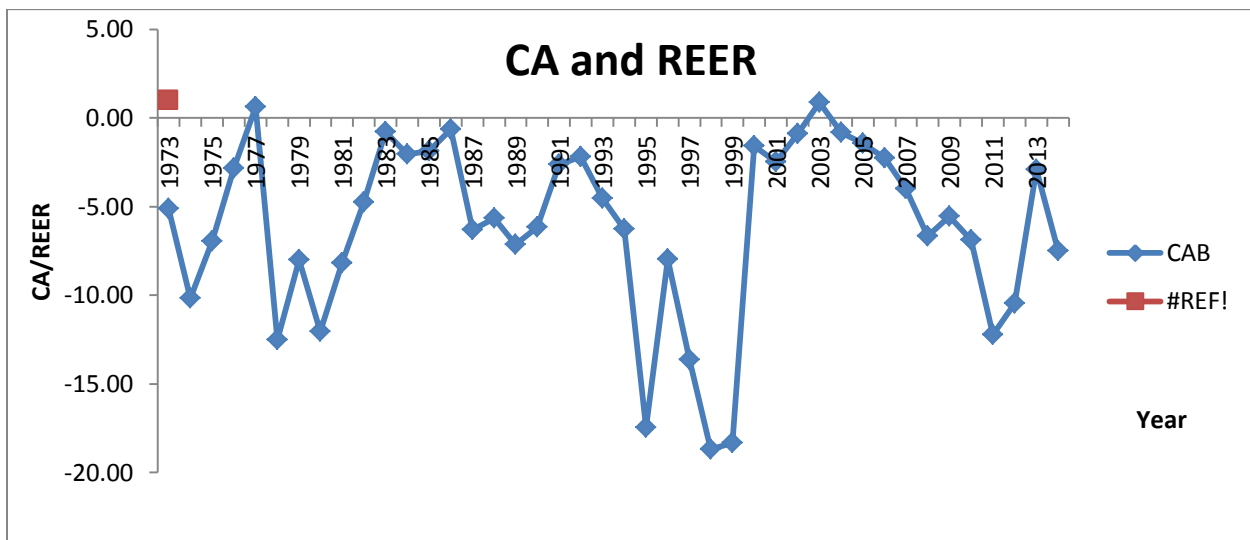


Figure 4.4: Trend of current account balance of payments and real exchange rates index

The study lastly established the trend for current account balance and fiscal balance as a ratio of GDP. The trends in Figure 4.5 indicate unsteady trends in Fiscal Balance.

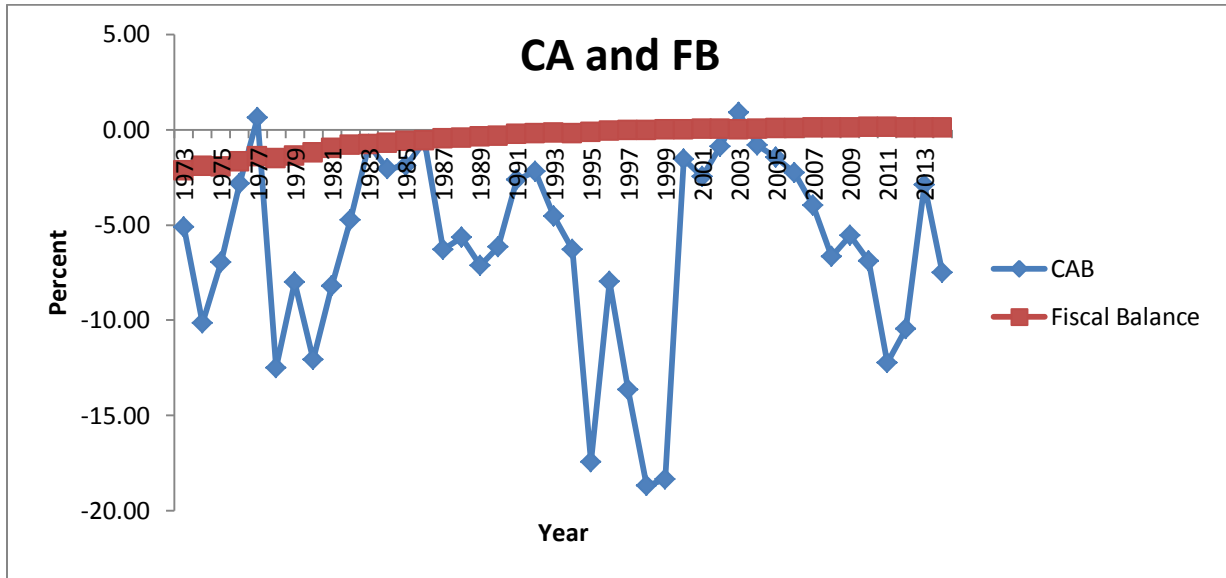


Figure 4.5: Trend of current account balance of payments and real exchange rates index

4.2 Unit root test

Unit root test was conducted to ensure the data was stationary. This is a prerequisite step before testing a causal relationship between time series data. The study used the Augmented Dickey-Fuller (ADF) to carry out the test. The results presented in Table 4.2 indicate that 4 of the 6 variables were non stationary. The study then conducted a first difference of these variables and results are presented in Table 4.3.

Table 4.2: Unit root tests-Level

Variable Name	ADF Test	1% Level	5% Level	10% Level	Conclusion
Current Account balance	-2.16085	-3.06099	-2.935	-2.60584	Non Stationary
GDP growth rate	-4.10029	-3.60099	-2.935	-2.60584	Stationary
Fiscal Balance	-0.53001	-3.60099	-2.935	-2.60584	Non Stationary
Real exchange rate	1.859927	-3.60099	-2.935	-2.60584	Non Stationary
Inflation	-3.82598	-3.60099	-2.935	-2.60584	Stationary

The unit root tests results after first differencing as presented in Table 4.3 indicate that all the non-stationary variables at level became stationary on first differencing.

Table 4.3: Unit root test-first differencing

Variable Name	ADF Test	1% Level	5% Level	10% Level	Conclusion
DCurrent Account balance	-6.57757	-3.62102	-2.94343	-2.61026	Stationary
DFiscal Balance	-8.69245	-3.61045	-2.93899	-2.60793	Stationary

DReal exchange rate interest	-8.58935	-3.61045	-2.93899	-2.60793	Stationary
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4.3 Granger Causality Test

The study conducted a pairwise Granger causality test to establish the direction of the variables in relation to each other. The results indicated in Table 4.4 reveal that inflation rate Granger causes fiscal balance as the null hypothesis was rejected at 5% level of significance. The results further indicated that fiscal balance Granger causes exchange rates as the null hypothesis was also rejected at 5% level of significance. Further results indicated that public investment Granger causes GDP growth rate when the null hypothesis is rejected at 10% level of significance while real exchange rate Granger causes inflation when the null hypothesis is rejected at 10% level of significance.

Table 4.4: Granger Causality

Pairwise Granger Causality Tests			
Sample: 1973 2014			
Null Hypothesis:	Obs	F-Statistic	Prob.
FB does not Granger Cause CA	40	0.513	0.603
CA does not Granger Cause FB		0.318	0.730
GDPGR does not Granger Cause CA	40	0.375	0.690
CA does not Granger Cause GDPGR		1.262	0.296
INFLATION does not Granger Cause CA	40	1.654	0.206
CA does not Granger Cause INFLATION		0.405	0.670
INVESTMENT does not Granger Cause CA	40	0.273	0.763
CA does not Granger Cause INVESTMENT		0.095	0.910
REER does not Granger Cause CA	40	2.426	0.103
CA does not Granger Cause REER		0.005	0.995
GDPGR does not Granger Cause FB	40	1.758	0.187

FB does not Granger Cause GDPGR		0.197	0.822
INFLATION does not Granger Cause FB	40	3.797	0.032
FB does not Granger Cause INFLATION		0.432	0.652
INVESTMENT does not Granger Cause FB	40	0.667	0.520
FB does not Granger Cause INVESTMENT		0.583	0.563
REER does not Granger Cause FB	40	0.386	0.682
FB does not Granger Cause REER		5.499	0.008
INFLATION does not Granger Cause GDPGR	40	0.408	0.668
GDPGR does not Granger Cause INFLATION		0.203	0.817
INVESTMENT does not Granger Cause GDPGR	40	3.057	0.060
GDPGR does not Granger Cause INVESTMENT		0.179	0.837
REER does not Granger Cause GDPGR	40	0.732	0.488
GDPGR does not Granger Cause REER		0.388	0.681
INVESTMENT does not Granger Cause INFLATION	40	0.470	0.629
INFLATION does not Granger Cause INVESTMENT		1.840	0.174
REER does not Granger Cause INFLATION	40	2.783	0.076
INFLATION does not Granger Cause REER		0.690	0.508
REER does not Granger Cause INVESTMENT	40	0.069	0.934
INVESTMENT does not Granger Cause REER		1.123	0.337

4.4 Long run Results

The long run results are presented in Table 4.5. The long run R squared of 0.05193 implies that 5.1% of the variation in current account balance is explained by the 2 independent variables (Fiscal balance and real exchange rate index) in the long run. The overall model was significant as demonstrated by an F statistic of 0.37 (p value= 0.003). This further implied that the two independent variables had a good joint explanatory power on current account balance. The results indicated that real exchange rate has a negative and significant relationship with current account balance of payment (Beta= -0.0059, P-value=0.007883). This implies that depreciation in real exchange rate by one unit improves the current account balance of payments by 0.0059 units. A depreciation in real exchange rates lowers the competitiveness of the exports hence more exports are sold thus improving the CA. The results also indicated that in the long run fiscal balance has a positive and insignificant relationship with current account balance of payments.

Table 4.5: Long run Results

Dependent Variable: CAB				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FISCAL_BALANCE	0.15662	1.257912	0.124508	0.901553
REER	-0.00596	0.022038	-2.2703	0.007883
C	-5.35761	2.885998	-1.85642	0.070961
R-squared	0.05193			
F-statistic	0.37703			
Prob(F-statistic)	0.002034			

4.5 Engel Granger Cointegration test

The study used the long run equation to test to test for presence of cointegrating systems in the model. The Stationarity of the residual was tested using ADF. The results were presented on Table 4.6. The results indicate that the residual is stationary (i.e. has no unit roots) at 1%, 5% and 10% levels. This implies that there is the presence of cointegrating systems in the model and hence the study went ahead to conduct an ECM.

Table 4.6: Cointegration test

Variable Name	ADF Test	1% Level	5% Level	10% Level	Conclusion
	-3.35845	-2.62258	-1.9491	-1.61182	Stationary

4.6 Error Correcting Model

Given that cointegration was found to exist among long run/non stationary variables, an error-correction model can be specified to link the short-run and the long-run relationships. Residuals from the cointegrating regression are used to generate an error correction term (lagged residuals) which is then inserted into the short-run model. The specific lagged residual term is LAGRESIDUAL. The estimates of the error-correction model are given in Table 4.7.

Results in indicate that in the short run, the coefficient of determination (R squared) was 0.3057 implying that 30.57% of the variations in the short run current account balance were explained by the short run independent variables. The overall model was significant as revealed by an F statistic of 3.08 (p value=0.020). This further implied that the independent variables were good joint good predictors of short run current account balance.

Results revealed that the short run real exchange rate has a negative relationship with short run current account balance. A regression coefficient of -0.01 (p value=0.03) shows that the relationship is significant at 5% level of significance. This implies that a depreciation of short run real exchange rate by one unit improves the short run current account balance by 0.4685 units. If there is depreciation in the exchange rate, then this will lead to a fall in the foreign price of the exports of the country. It will become more competitive and therefore there will be a rise in the quantity of exports. A depreciation of the exchange rate, will also lead to an increase in the cost of buying imports. This will lead to a fall in demand for imports and also help to reduce the current account deficit thus improving it.

All other short run variables did not have a significant relationship with short run current account balance of payments.

Table 4.7: Error Correction Model/Short run model

Dependent Variable: DCA				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DFISCAL	11.73371	10.25374	1.144335	0.260251
DREER	-0.010349	0.062376	-2.165909	0.030818
GDPGR	-0.43463	0.366882	-1.18466	0.244135
INFLATION	-0.04252	0.099908	-0.42558	0.673019
LAGGEDRESID	-0.42582	0.126889	-3.35583	0.001916
C	1.502757	2.910198	0.516376	0.608839
R-squared	0.305703			
Adjusted R-squared	0.206517			
F-statistic	3.082138			
Prob(F-statistic)	0.020792			

4.8 Post Estimation Test

The study conducted the normality, Heteroskedasticity and autocorrelation tests on the residual of the short run model to ensure that the assumptions of OLS were not violated.

4.8.1 Normality tests

The Jarque-Bera test was used to determine whether the residuals are normally distributed. The Figure 4.5 below indicates the results of the Jarque-Bera test. The null hypothesis under this test is that the residuals are not significantly different from a normal distribution. Given that the p-value is greater than 5% level of significance, the null hypothesis is accepted and thus the conclusion that the residuals are not statistically different from a normal distribution.

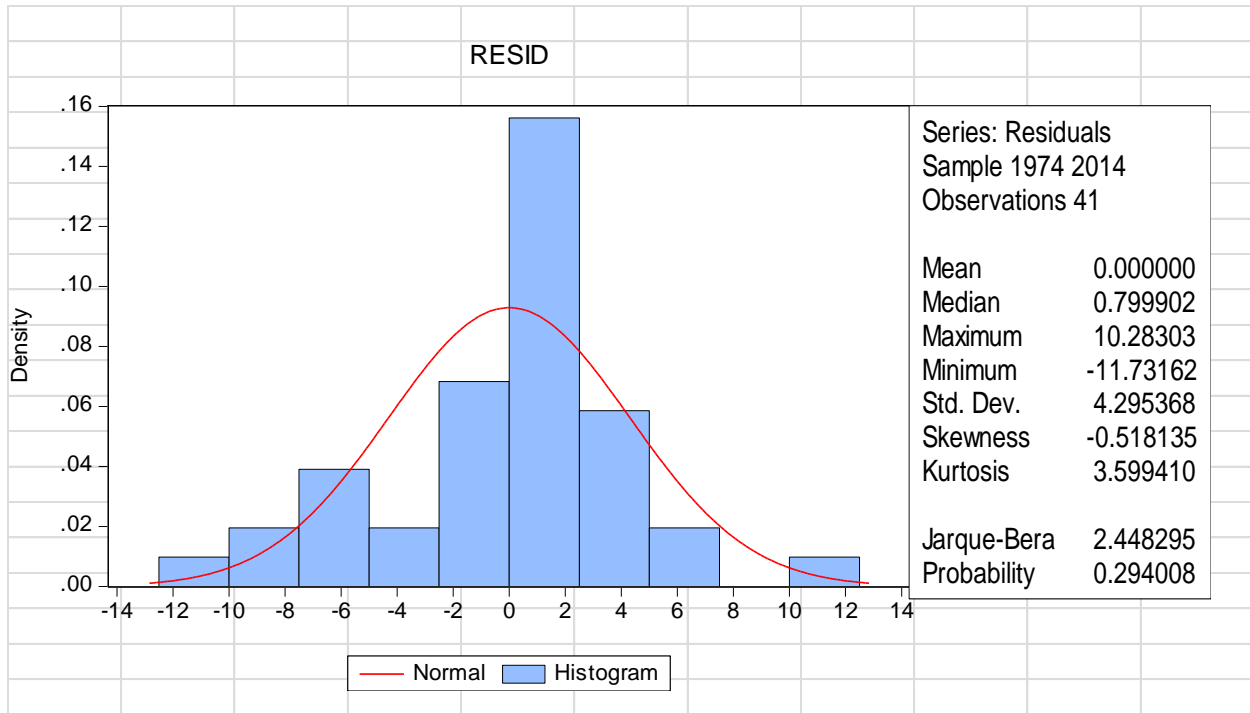


Figure 4.6: Normality tests

4.2.2 Heteroskedasticity

Ordinary least squares (OLS) assumption requires that the residuals should have a constant variance (i.e. they should be homoscedastic). The White’s test was used to test for the same where the null hypothesis of the test is that error terms have a constant variance (i.e. should be homoscedastic).

Table 4.2: Test for Heteroskedasticity

Heteroskedasticity Test: White			
F-statistic	1.567252	Prob. F(20,20)	0.161535
Obs*R-squared	25.02961	Prob. Chi-Square(20)	0.2003
Scaled explained SS	23.70649	Prob. Chi-Square(20)	0.255448

The null hypothesis is accepted given that the observed chi square p-value is 0.2003 and is greater than 0.05 as indicated in Table 4.2. The conclusion made was that the residuals were homoscedastic.

4.6.2 Autocorrelation

The study also ran the serial correlation tests to check for correlation of error terms across time periods. Serial/auto correlation is tested using the Breusch-Godfrey serial correlation LM test. The null hypothesis is that no first order serial /auto correlation exists. The p value of 0.756 indicates that we accept the null hypothesis and conclude that the series has no first order serial correlation. These results are presented in Table 4.3.

Table 4.3: Test for Autocorrelation

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.22786	Prob. F(2,33)	0.797478
Obs*R-squared	0.558485	Prob. Chi-Square(2)	0.756357

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

5.1 Summary Findings

The descriptive statistics indicated that the current account balance of payments to nominal GDP has been experiencing unsteady trends. The mean current account balance of payments as a ratio of GDP was -6.11 between 1973 and 2014. The findings also indicated that GDP growth rate had fluctuating trends though most of the years recorded a positive growth rate. The mean GDP growth rate recorded in the study period was 3.89%. The inflation rate was above the CA to nominal GDP values. The mean inflation rate recorded in the study period was 12.83%. The trend analysis of real exchange rates index indicated an upward trend. The mean real exchange rates index in the study period was 115.631. Fiscal balance as a ratio of nominal GDP also had unsteady trends.

The long run results indicated an R squared of 0.05193 which implies that 5.1% of the variation in current account balance is explained by the 2 independent variables (Fiscal balance and real exchange rate index) in the long run. The overall model was significant as demonstrated by an F statistic of 0.37 (p value= 0.003). This further implied that the two independent variables had a good joint explanatory power on current account balance. This further implied that the two independent variables had a good joint explanatory power on current account balance. The results indicated that real exchange rate has a negative and significant relationship with current account balance of payment (Beta= -0.0059, P-value=0.007883). This implies that depreciation in real exchange rate by one unit improves the current account balance of payments by 0.0059 units. Depreciation in real exchange rates lowers the competitiveness of the exports hence more exports are sold thus improving the CA. The results also indicated that in the long run, fiscal

balance has a positive and insignificant relationship with current account balance of payments. The study used the long run equation to test for presence of cointegrating systems in the model. The results indicated that the residual is stationary (i.e. has no unit roots) at 1%, 5% and 10% levels which indicated the presence of cointegrating systems in the model and hence the study went ahead to conduct an ECM. Given that cointegration was found to exist among long run/non stationary variables, an error-correction model was used to link the short-run and the long-run relationships.

The results of the ECM indicated that in the short run, the coefficient of determination (R squared) was 0.3057 implying that 30.57% of the variations in the short run current account balance were explained by the short run independent variables. The overall model was significant as revealed by an F statistic of 3.08 (p value=0.020). This further implied that the independent variables were good joint good predictors of short run current account balance.

Results revealed that the short run real exchange rate has a negative relationship with short run current account balance. A regression coefficient of -0.01 (p value=0.03) shows that the relationship is significant at 5% level of significance. This implies that a depreciation of short run real exchange rate by one unit improves the short run current account balance by 0.4685 units. If there is depreciation in the exchange rate, then this will lead to a fall in the foreign price of the exports of the country. It will become more competitive and therefore there will be a rise in the quantity of exports. A depreciation of the exchange rate, will also lead to an increase in the cost of buying imports. This will lead to a fall in demand for imports and also help to reduce the current account deficit thus improving it. All other short run variables did not have a significant relationship with short run current account balance of payments.

5.2 Conclusion.

Based on the study findings, the study concluded that in the long run, the effect of FB on CAB is insignificant while the effect of REER on CAB is significant. The study also concluded that, in the short run only REER has a significant effect on CAB while FB, GDP growth rate and inflation have insignificant effect.

5.3 Recommendations:

The study recommends that short fiscal policies set by Treasury regarding REER should have a bias towards improving the CAB by for example, devaluing the currency at times so as to increase the exports and reducing the imports.

5.4 Areas of Further Research

Given the significance of FB to the current account balance, further research should be undertaken to establish the optimum FB policies that will result in the improvement of current account balance in Kenya.

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Appendix A: Economic Data for Kenya

Year	Inflation (consumer prices in annual %)	REER (Index)	GDPgr (Annual %)	Fiscal Balance (Fiscal balance(LCU)/ Nominal GDP(LCU))	Current Account Balance (CAB(US Dollars)/Nominal GDP (US Dollars))
1973	9.281194	106.9685	5.203104	-2.16452	-5.11
1974	17.80995	107.005	4.902386	-1.93566	-10.16
1975	19.12018	107.3541	-0.37221	-1.94318	-6.95
1976	11.44903	106.8764	4.026567	-1.68476	-2.84
1977	14.82096	107.1319	9.177973	-1.43801	0.61
1978	16.93178	106.4752	8.991228	-1.5241	-12.52
1979	7.979353	107.1874	3.755869	-1.39329	-8.00
1980	13.85818	109.0996	5.591467	-1.22288	-12.06
1981	11.60305	104.4879	3.764922	-0.98863	-8.19
1982	20.66671	108.4093	3.687316	-0.8254	-4.75
1983	11.39778	103.1919	1.308677	-0.77677	-0.79
1984	10.2841	110.7485	1.797248	-0.70194	-2.05
1985	13.00657	111.0239	4.303448	-0.59984	-1.87
1986	2.534276	95.14691	7.140968	-0.56765	-0.62
1987	8.637673	89.00113	5.949148	-0.48939	-6.30
1988	12.26496	86.55056	6.197577	-0.43678	-5.64
1989	13.78932	87.12032	4.695042	-0.37546	-7.13
1990	17.78181	80.55621	4.191115	-0.34025	-6.15
1991	20.0845	77.68079	1.427997	-0.24618	-2.62
1992	27.33236	79.71032	-0.79318	-0.2043	-2.19
1993	45.97888	68.10724	0.359784	-0.18132	-4.55
1994	28.81439	86.93576	2.628958	-0.20724	-6.28
1995	1.554328	87.52577	4.405201	-0.13233	-17.45
1996	8.864087	85.59883	4.144981	-0.07578	-7.98
1997	11.36185	95.97181	0.27032	-0.04765	-13.65
1998	6.722437	100.3603	3.355667	-0.04468	-18.68
1999	5.742001	92.45838	2.104661	-0.0173	-18.34
2000	9.980025	100	0.497638	0.004473	-1.57
2001	5.738598	106.0263	4.467158	0.018589	-2.47

2002	1.961308	103.3851	0.571771	0.012971	-0.89
2003	9.815691	105.7844	2.905255	0.002515	0.89
2004	11.62404	103.488	5.103615	0.031138	-0.82
2005	10.31278	115.2366	5.912295	0.062933	-1.45
2006	14.45373	132.673	6.325842	0.063243	-2.27
2007	9.75888	142.7536	6.993046	0.076632	-3.99
2008	26.23982	165.6993	1.527247	0.09781	-6.67
2009	9.234126	170.2594	2.735152	0.10469	-5.55
2010	3.961389	167.8787	5.764265	0.113155	-6.89
2011	14.02155	182.4161	4.417604	0.125011	-12.23
2012	9.378396	211.3858	4.556923	0.082279	-10.45
2013	5.718274	223.4348	5.530743	0.095799	-2.90
2014	6.9	217.4103	4.088656	0.101326	-7.50

Source: The World Bank: Data