CAPITAL FLIGHT AND EXTERNAL BORROWING IN KENYA: AN EMPIRICAL ANALYSIS (1980-2010)

By

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X50/65555/2010

A RESEARCH PAPER SUBMITTED TO THE SCHOOL OF ECONOMICS, UNIVERSITY OF NAIROBI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN ECONOMICS

NOVEMBER, 2012

Declaration

This research paper is my original work and has never been presented for any degree av. rd in any other university.

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Approval

This research paper has been submitted with our approval as university supervisors.

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Dedication

I dedicate this research paper to the memory of my late parents Mr. and Mrs. Okungu for having taught us the importance of hard work, to my dear friend, Miss. Celestine Lwangu and to my brothers for their support.

Acknowledgements

My foremost gratitude goes to our Almighty God for enabling and guiding me through my academic life. Besides, my appreciation goes to the University of Nairobi, School of Economics for giving me the opportunity to undertake my Masters Degree. A lot of thanks go to my supervisors; Prof. Kiriti Ng'ang'a and Dr. Daniel Abala for their guidance and advice at all stages of my research project. Their positive criticisms, suggestions and prompt comments gave me the impetus to refine and produce quality work.

My gratitude is also extended to my family members and friends for their immense moral and spiritual support, in particular my Brothers. Special thanks also go to my colleague, Mr. Benard Gibet, Economist at the Ministry of Finance, for his support with data analysis. They deserve special recognition.

Despite all this able assistance, I accept full responsibility for any flaws in the writing of this paper. It has been a joy researching on this field and hope this paper will advance knowledge in the area of capital flight from Kenya.

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ACRONYMS AND ABBREVIATIONS

ADB	-African Development Bank
ADF	-Augmented Dickey Fuller Test
BOP	-Balance of Payment
CBK	-Central Bank of Kenya
ED	-External Debt
ECM	-Error Correction Model
FDI	-Foreign Direct Investment
GFI	-Global Financial Integrity
GDP	-Gross Domestic Product
IMF	-International Monetary Fund
IFAD	-International Fund for Agricultural Development
KNBS	-Kenya National Bureau of Statistics
LDC	-Least Developed Countries
OECD	-Organization for Economic Co-operation and Development
US	-United States
SSA	-Sub-Saharan Africa
UNCTAD	-United Nations Conference on Trade and Development

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ABSTRACT

External borrowing is undertaken to acquire the additional resources needed for development purposes. This study uses the annual time series data to study the determinants of capital flight from Kenya for the period 1980-2010. The long-run relationship and short-run interactions among variables is examined using cointegration tests. In this regard, Ordinary Least Squares (OLS) technique of data analysis has been employed on secondary data and appropriate tests conducted with the aid of Eviews programme.

The OLS results indicate that external borrowing in Kenya is still within sustainable levels and therefore does not impact on capital flight levels. The findings suggests that external debt accumulation is statistically insignificant in determining the amount of capital flight from Kenya and therefore the debt revolving door syndrome does not hold in the case of Kenya (Dooley, 1986). Changes in rates of inflation and terms of trade were found to stimulate capital flight from Kenya. Growth in the real gross domestic product is confirmed to reduce the rate of capital outflows. To stem capital flight from Kenya, there is need to maintain stable macroeconomic environment conducive for investments from both local and foreign investors. The existing debt management policies on external borrowing should be maintained to ensure external debt accumulation is at sustainable levels.

CHAPTER ONE
1.0 INTRODUCTION

1.1 Background

Capital flight refers to the movement of capital from capital scarce regions mostly in the sub-Saharan Africa to capital rich regions. It signals the transfer of resources from the low income countries to the high income countries. The study of capital flight from the Sub-Saharan African countries remains as relevant today as it was in the 1980s when the first debt crisis occurred in the Latin American nations of Mexico and Argentina leading to massive capital outflows (Schneider, 2003). Capital outflows undermine growth by stifling the process of capital formation in the short-run. The long-run consequences of capital flight includes the over reliance on a few exports due to the under development of the manufacturing sectors, high vulnerability to terms of trade shocks and a narrow tax base, these results into low investment levels in the sub-Saharan. Therefore, capital flows from this region, which is estimated to exceed the debt service costs, to acquire assets abroad has been termed as capital flight or illicit financial flows (Warris and Froberg, 2011). A majority of the countries in the sub-Saharan region are commodity dependent, particularly on agriculture which forms the major contributor to the annual gross domestic product, an indicator of the infancy level of development that characterizes a majority of these countries. Past studies on capital flight indicate the existence of comparatively low levels of capital outflows from countries with more developed or advanced financial systems, only South Africa is considered to be of such status in the region, leaving many countries with no option but to monitor their levels of capital outflows (Ndikumana and Boyce, 2008).

The unexpected direction of capital flows i.e. from developing countries to developed countries that are already capital rich is termed as capital flight or illicit capital flows as the flows are rarely recorded in the official balance of payments accounts of the country experiencing the capital loss (Ajayi, 1997; Ndung'u, 2007). The Global Financial Integrity group ranks Africa highest among regions with high capital flight in comparison to other regions at a rate of 21.9 percent per annum of the total outflows which translates to around "four times the budget that is needed to implement the Millennium Development Goals on health, education, water and sanitation and other human development targets" (Kar and Curcio, 2011; Kristina and Waris, 2011).

The government borrows in the domestic and external markets to finance its budget deficit (which expands due to declining taxable base attributed to capital flight) and to finance development expenditures (Public Debt Management Report, 2011). The high level of external debt accumulation in the region has its source in the international oil price shocks of 1973-74 and the subsequent decline of the commodity prices which formed the core of the regions' exports (Greene, 1989). The total external debt stock owed by the Sub-Saharan African countries as at 1994 was estimated at US$ 1,921 billion, an increase of eight percent from the 1993 estimates. The increasing borrowing has also been attributed to the massive outflows of capital to safe havens (Ndung'u, 2007). In Kenya, external debt, from both multilateral and bilateral sources, is owed by the government who is responsible for the servicing of these debts. Currently, the authorities do not maintain records of existing external debts to the private sector (Public Debt Management Report, 2011). By the year 2011, external debt service amounted to 3.8 percent[1] of Kenya's gross domestic product (GDP).

Kenya's high external debt stock, which currently stands at Ksh 1.63 trillion (49 percent of the GDP) as at June 2012, is due to the need to finance the budget deficit of 6.9 percent of the total gross domestic product in 2012. The high current external borrowing is attributed to the current variable inflation rates, the depreciation of the Kenya shilling against other major currencies in which the external debt is denominated and the lack of proper debt management policies by the government (Public Debt Report, 2011). The above conditions have led to over borrowing by the government in the past from creditors, who have also been overly generous to advance credit, given that debt service obligation is a legal government priority (Ng'eno, 1994). In order to realize the country's development plan of achieving an economic growth rate of 10 percent per annum from 2012 an investment rate of five percent per annum and maintenance of a stable macroeconomic environment as envisioned in the Vision 2030, the government has no option but to continue borrowing externally to acquire the funds necessary to meet the above objectives (Ministry of Planning, 2010). Current and prospective domestic

[1] The government aims to maintain the total budget deficit as a ratio of GDP at 4.3 percent for the financial year 2013.

investors will be expected to react to the above government actions by either increasing or reducing their investment levels in anticipation of the future increases in the cost of doing business in the country. This may come in the form of the government raising future taxes to finance the increased debt service costs. High taxation coupled with low interest rates for investors from their investments leads to reduced returns and therefore acts as a disincentive to capital accumulation. Uncontrolled borrowing may also lead to the migration of human labour to other countries as a way of escaping the anticipated high personal taxes, cost of living and high unemployment rates in the domestic economy. Therefore; economic planners should consider the impact that changes in the leading macroeconomic variables might have in the economy especially when they affect the business returns negatively. This will help solve the problem of capital flight from the country.

The paper is organised as follows; chapter one presents the definition of capital flight, its sources, measurement and a review of capital flight from Kenya and finally evolution of external debt in Kenya. Chapter two outlines the theoretical and empirical literature on capital flight while chapter three outlines the model and methodological issues that provide the basis for the estimation. Finally chapters; four and five presents the empirical results, conclusions and policy recommendations.

1.2 Defining Capital Flight

Capital flight is defined in this study as representing all the unrecorded financial outflows from the developing to the developed economies. The absence of a precise and universally acceptable definition makes it possible to view capital flight in two perspectives based on the direction of flows. Capital outflows from developed countries are viewed as foreign direct investment while the same activity when undertaken by the residents of a developing country is referred to as capital flight since there is scarcity of capital in the developing countries (Pastor, 1990). This view derives from the fact that capital is expected to flow from capital rich regions to capital scarce regions (developing regions) and not vice versa.

The terms capital flight and capital outflows are used inter-changeably in the study to refer to the same phenomena as no distinction is made between normal and abnormal

flows. All the unrecorded flows are considered as capital flight. This is illustrated further in a study on how Africa and Europe can end illicit capital flight titled, ''Bringing the Billions Back'' by Warris and Froberg, (2011). This definition includes all outflows from developing to developed countries and does not distinguish the legal outflows from the illegal components as it is assumed that developing countries are resource deficient and therefore we expect capital inflows and not outflows. The above definition, which is considered as a broad definition of capital flight, is in line with the traditional definition of capital flight; also referred to as the residual method (World Bank, 1985 and Pastor, 1990). It includes all reported and unreported outflows from the domestic economy that if invested locally would add to the overall domestic returns hence promoting domestic output levels (Schneider, 2003). The major drawback of this definition is that it tends to overestimate capital flight and may lead to subjectivity due to its broad nature.

The various definitions of capital flight in existence are a result of the different variables included in its estimation. This has led to narrow definitions of capital flight which considers movement in the short term domestic assets, the legal or illegal capital flight which captures trade misinvoicing, and finally capital flight can be defined as a response to the discriminatory treatment of domestic capital in the home economy (Cuddington, 1986 and Cervena, 2006).

1.3 Sources of Capital Flight

Capital flees from the home economy in various forms which ranges from monetary to non-monetary instruments. Monetary instruments include foreign and or domestic currency, where residents of a country decide to keep their money in safe havens abroad. This forms the most prevalent source of capital outflows from the developing countries which have been associated with dictatorial regimes in the past, countries like Zaire during Mobutu's rule and Kenya before the multi-party era fall in this category (Ndikumana and Boyce, 2008; Ng'eno, 1997, Froberg and Warris, 2011). This form of capital flight is carried out mostly by the wealthy members of the society who have free access to state funds as a majority of them hold state offices and also through corruption. In some instances the inflows from external borrowing have been diverted to developed economies for investments by the same people, creating what has been referred to as the 'revolving door syndrome' or 'round tripping' (Dooley, 1986). It has been argued that this form of capital haemorrhage can be controlled by the domestic authorities through

foreign exchange controls, however; this has not been successful as the majority of those involved are government authorities in control of state power (Ajayi, 1991).

Non-monetary outflows of capital include the export and sale of valuable items like minerals, works of art and wild animal's products like tusks and illegal drugs[2]. These usually leave the home economy illegally through smuggling across the borders and the proceeds do not come back (Cervena, 2006; Bhagwati, 1974). The non- monetary sources of capital flight is common in countries with two parallel market structures where a black market is also in existence besides the official markets under the control of the authorities. It has also been found that the non-monetary outflows also form a common source of capital flight in countries with unstable governments or during periods of political turmoil (Nyoni, 2000). The amount of money transferred through the black market is difficult to estimate as it does not pass through the balance of payment of a country.

1.4 Measuring Capital Flight

From the literature on the definitions and sources of capital flight, it is not possible to derive an accurate measure of capital flight as this usually depends on the particular definition adopted by the author (whether broad or narrow measure, legal or illegal measure is preferred). Also, the amount of capital outflows from a particular country should be viewed as an estimate of the phenomenon and not an actual measure as this depends on the variables included in the estimated model. This paper reviews some of the traditional methodologies of estimating capital flight. The broad or residual measure of capital flight computes capital flight as the residual of the total outflows from the total inflows for the period under analysis (World Bank, 1986; Pastor, 1990). The method acknowledges the difficulty of separating normal from flight motivated flows of capital and therefore treats all outflows from domestic residents as capital flight. It is presented as follows:

$$CF_{WB} = \Delta ED + FDI - CAD - \Delta FR$$

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[2] Kenya is noted to have suffered this particular form of capital outflows when local residents colluded with foreigners to export illegal drugs worth Ksh 6.0 billion illegally in the year 2010.

Where; CF denotes capital flight, ΔED is change in external debt stock as reported by the World Bank (the balance of payments accounts is believed to underestimate the amounts of external debt), FDI is net foreign direct investment, and CAD denotes the net current account deficit, whereas ΔFR is net additions to the stock of foreign reserves. The change in external debt stocks (ΔED) and net foreign direct investments (FDI) represents the total cash inflows, the current account deficit (CAD) and change in foreign reserves (ΔFR) represents the uses of funds. The residual amounts, which in this model represents the excess of the sources of funds over the uses of funds is the estimated capital flight in for the period. The estimated capital flight amount includes the assets of both the banking and the non-banking sector. The broad measure is suitable for use in developing countries where identification of capital flight elements is problematic.

A modification of the World Bank approach presented above is provided by the Guarantee (1986) measure which incorporates changes in the foreign assets of the banking system as a revised estimate of the capital flight:

$CF_G = \Delta ED + FDI + B - (CAD + \Delta FR)$, where; B represents the banking system foreign assets. This measure therefore presents a slightly narrower measure of capital flight.

The World Bank and the Guarantee Co. measures illustrated above are categorized as broad measures of capital flight since all capital outflows from developing countries are considered as capital flight. An alternative measure is the 'hot money' method which sums up net errors and omissions and non-bank short-term capital flows in estimating capital flight (Cuddington, 1986). This method considers only short term[3] capital outflows while ignoring longer-term outflows when estimating capital flight.

1.5 Capital Flight in Kenya 1980-2010

Studies on capital flight in Kenya by Ng'eno (1994) and World Bank (1990) have attributed it to causes like the military coup attempt of 1982 which significantly affected investments, the unpredictable scenario of the first multiparty elections of 1992, eruption of ethnic clashes, the withholding of foreign aid by donor countries, poor delivery of

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[3] Short-term capital flows is defined as speculative capital that responds faster to changes in the economic and political environment of the country, Cuddington (1986).

public services, power cuts or rationing and official corruption leading to the slowdown in both the sectoral and economic performance of the country.

It is important to understand some of the forces that lead to capital flight from a country. From the literature, we note that political factors, corruption by the ruling elites and mismanagement of public resources are some of the factors that have led to capital haemorrhage from Kenya which stands at Kshs 61 billion or US$ 686 million according to the 2008 Global Financial Integrity report for the period 2002-2006. The economic factors responsible for capital flight in Kenya include overvaluation of the domestic currency, domestic inflation and interest rates and the expanding external loans disbursements (Ishrat and Diwan, 1989).

Despite its long existence, capital flight in Kenya was brought to the fore front in 1991 as a result of the increased capital outflows during this period believed to have been triggered by the withholding of aid disbursements from the international donor community particularly the Brettons Woods institutions of the World Bank (WB) and International Monetary Fund (IMF), the consequence was a balance of payments disequilibrium (Ng'eno, 1991). Structural adjustment programmes, aimed at achieving economic recovery instituted by the international community on the developing economies, coupled with inconsistent macroeconomic policies evoked great interest on the issue of private capital outflow from Kenya to "safe havens" among policy makers, both locally and internationally (Ng'eno, 1997).

Like in other sub-Saharan African countries e.g. Nigeria, one can argue that the recorded capital flight from Kenya is a direct response by the investors to the accumulation of external debts. Capital flight can be debt-fuelled whereby; the inflow of capital provides both the motive and the resources for capital flight where borrowed funds are transferred abroad. There are two processes through which money can be transferred. First, government can borrow money and this is sold to domestic residents who transfer this money abroad through legal or illegal means. In this case, government is the provider of foreign exchange. Secondly, government on-lends funds to private borrowers through a national bank. The borrowers in turn transfer part or all of the capital abroad. In this case, the external borrowing provides the necessary fuel for capital flight (Ajayi, 1997).

In the periods before and after 1991, Kenya recorded increased levels of capital flight mostly attributed to the economic liberalization policies pursued by the government at this particular time. Therefore capital flight phenomenon occurs in economies both with and without wholly or partially liberalized capital controls (Schneider, 2003) and the flows can take place even if they are not motivated by flight factors.

The causes of capital flight from Kenya according to the Global Financial Integrity report includes portfolio diversification motives, macroeconomic instability, fiscal deficits and devaluation of local currencies (Global Financial Integrity report, 2011). The report ranks Kenya first in East Africa as leading in the amounts of illicit money stashed away in the Swiss accounts at shillings 105.3 billion for the period 2005-2007. The loss of capital results to acceleration of income disparities when the higher income class shifts their incomes outside leaving the poor to pay taxes on the services provided by the government. Other consequences include reduced government revenues and high levels of unemployment rates due to reduced rates of capital formation (Ndikumana and Boyce, 1998). When capital flight is controlled, then corruption becomes less profitable and casier to trace, governments become less accountable to donors and more accountable to the citizens and leads to the creation of a free and fair environment.

1.6 Evolution of Kenya's External Debt

From the year 1980 to 2010, the average domestic growth rate has ranged from 5 percent to 7.5 percent per annum. The lowest rate was in year 2000 when the economy grew by negative three percent, the low average growth rate has meant that over the years the budget deficit has continued to widen forcing the government to borrow externally to finance this deficit and meet its development objectives (Annual Report on Debt Management,2011). Additionally, external borrowing by the government provides the needed funds for domestic imports such as industrial supplies, fuel and machinery, thus accelerating the accumulation of external debt stocks which ultimately results into a higher debt burden in the future.

Indeed, external resources both debt and grants still constitutes a major portion of the development expenditure in many developing countries including Kenya, however; their effectiveness and efficacy have remained wanting due both to economic and non-economic factors (Simpson, 2006). The stock of public and publicly guaranteed debt has

been on the increase over time as shown in table 1, since independence and the debt to GDP ratios which measures the levels of debt service burden remains high in Kenya. The increase in external debt accumulation has not been matched by an equal increase in exports, in fact; the country's export earnings have been declining as a result of the fluctuations in the international commodity prices (Ng'eno, 1997). After rising to US$ 2,083 million in 1996, exports fell to US$ 2,059 million and US$ 2,012 million in 1997 and 1998 respectively, then decelerated to US$ 1,755 million and US$ 1,765 million in 1999 and 2000 respectively against the backdrop of a steadily increasing imports from US$ 2,598 million, in 1996 to US$ 2,944 million and US$ 3,028 million in 1997 and 1998 respectively. This had the consequence of widening the current account deficit and a fall in the foreign exchange reserves from the declining inflows both in current and capital accounts. The above scenario has been attributed to the increased outflows to service the accumulating external public debts (Kirira, 2000).

Table1: Shows the trend of Kenya's external debt situation over the years in relation to GDP for the same period.

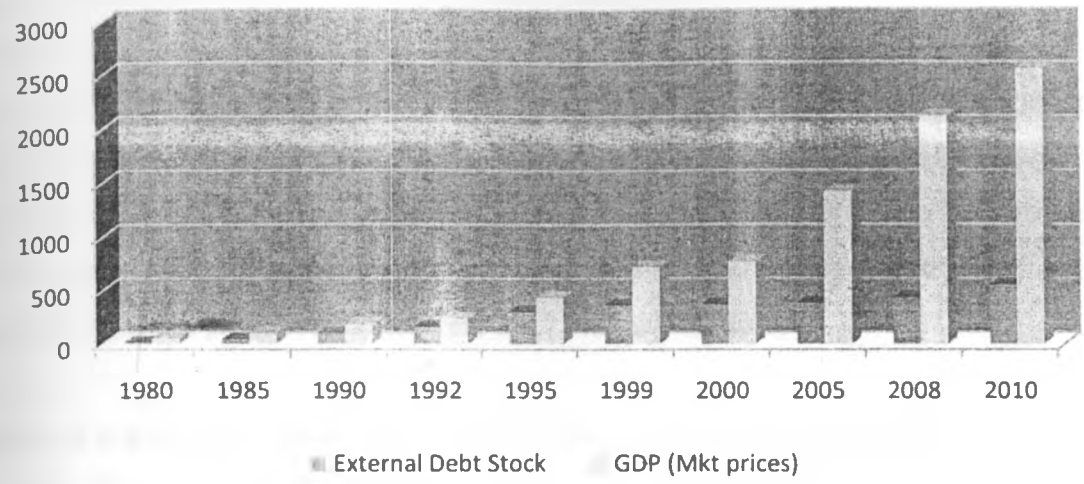
Table 1: Kenya's External debt and GDP (1980-2010) Ksh Billion

Year	1980	1985	1990	1992	1995	1999	2000	2005	2008	2010
External Debt Stock	15.25	43.87	99.59	161.74	302.30	362.03	367.98	384.02	435.02	552.90
GDP (Mkt prices)	53.91	100.81	183.93	238.50	432.99	715.59	764.62	1,415.73	2,111.17	2,551.16

Source: The World Bank (2010) and Ministry of Finance 2010

The rise in external debt in relation to the growth in GDP over the period 1980-2010 is captured in figure 1.

Figure 1: Trend of the GDP and External Debt progression (1980-2010)



Source: The World Bank (2010) and Ministry of Finance 2010.

Figure 1 shows the increasing level of indebtedness over the period from 1980 to 2010. This shows that the debt service burden that the country is subjected has been increasing over the period (Annual Public Debt Management Report, 2011). The above scenario is supported by authors who posit that countries in the Sub-Saharan Africa have generally adopted a development strategy that heavily relies on foreign financing from both official and private sources (Ng'eno 1994; Were 2001; Ajayi 1990). The outflow of capital causes shortage of liquidity in the economy and leads to the exertion of an upward pressure on the domestic interest rates, depreciation of the domestic currency in cases of floating exchange rate regimes (Ajayi, 1997).

Rising external debt accumulation is associated with low investments in two important ways; first, the debt service payments reduce the funds available for short-term and long term investments in the domestic economy. Secondly, from economic theory of investment and savings, the national savings levels is reduced by the amount of debt service thus reducing the current rates of consumption and the country's economic growth rate (Pastor, 1990).

1.7 Statement of the Problem

Over the past two decades, the government succeeded in reducing its fiscal deficits from just 10 percent of GDP in 1980 to 8 percent by the year 2010. This has been possible despite declining revenues recorded over the period. Government expenditure levels,

inflation rates and interest rates have been on the increase. During this period, gross external debt service increased sharply, from Kshs 1,720 million, in 1980, to Kshs 27,593 million in 2010 as shown in appendix II, an increase of 1,504 percent. External debt service diverts away resources necessary for investments, the provision of basic services and for development purposes. Kenya is currently implementing its Vision 2030, with the broad objectives of achieving increased savings and capital accumulation (investments) in the long-run to realize the desired economic growth rate of 10 percent per annum of the gross domestic product from the year 2012 and into the future.

High debt levels also crowd out the private sector in the domestic economy by reducing liquidity. This is worsened when capital in form of money also flees from the domestic economy to safe havens thus increasing the costs of credit to the private sector as liquidity levels declines further. The government should therefore maintain external borrowing at sustainable levels and ensure stability in the macroeconomic variables i.e. interest rates, inflation, BOP deficit and GDP growth to avoid capital outflows from the domestic economy. To achieve these objectives, it is necessary to adopt policies that will ensure there is no capital outflow from the economy and instead increased foreign direct investments and capital inflows is realized. There is need for current information on the determinants of capital flight from Kenya and their causal relationship with capital flight to enable the government come up with policies aimed at reversing capital outflows. The negative effects of reduced investments and growth from capital flight should be included in the development policy papers adopted by the government to promote an understanding of the same among policy makers. This study therefore strives to add to the available information on the causes and effects of capital flight from Kenya.

1.8 Objectives of the Study

The aim of this study is to provide estimates of the factors responsible for capital flight from Kenya for the period 1980-2010. Specifically, the study intends to:

1. Provide new econometric evidence on the determinants of capital flight from Kenya for the period 1980-2010.
2. Determine the extent to which external borrowing stimulates capital flight from Kenya.

3. Finally, based on the findings of the study, to draw policy recommendations that aim at addressing the problem of capital flight attributable to external borrowing among other factors.

1.9 Significance of the Study

This is not the first study assessing the relationship between capital flight and external debt in Kenya. The effect of external debt accumulation on capital flight in Kenya has been analyzed by Ng'eno (1994) and Mayore (2000) respectively. The study by Ng'eno theoretically analyzed the impact of capital flight in the economy while Mayore adopted the empirical analysis in his study and found no causality between capital flight and external debt, however the variables moved in the same direction implying some association. Ng'eno did not cover the effects of external borrowing on capital flight from Kenya. The two studies estimated capital flight from Kenya using various measurement methodologies. The conclusions drawn from the above studies covered different time periods with the most recent up to 2000. This therefore presents an information gap on the factors affecting capital flight from Kenya.

This study therefore, sets out to provide the causes of capital flight from Kenya specifically the effects of external borrowing on capital flows by capturing the changes that have taken place in the social, political and macroeconomic climate since the last studies were conducted.

CHAPTER TWO
2.0 LITERATURE REVIEW

2.1 Introduction

The theoretical and empirical literature on the effects of external borrowing on capital flight indicates that there has been a lot of research on the subject both in the developed and the developing world. Although there has been extensive research on capital flight from the developing world, not much literature has been published on the effects of external borrowing on capital flight from Kenya under the current conditions of rising external borrowing.

2.2 Theoretical Literature

Rising foreign debt ratios are a cause for concern among researchers. Earlier research on the effects of foreign debt accumulation suggests that when the accumulated debt stock exceeds 50 percent of a country's GDP, a debt crisis tends to occur unless decisive measures are taken to stabilize or reduce the debt to GDP ratio (Fry, 1989). In Kenya, the ratio of external debt to GDP currently stands at 49 percent in June 2012. The rising debt levels have been associated with the increase in the magnitude of capital flight from the developing. Studies have shown that this scenario can be corrected by adopting appropriate domestic policies on interest rates, exchange rates, capital convertibility and fiscal balances to limit capital flight (Cline, 1995).

According to the IMF (2003) country report on Kenya using the accounting approach established that, Kenya's debt is sustainable in the medium term and the debt levels would remain in the medium term at levels where they could be financed. However, it cautions that the debt dynamics in Kenya are sensitive to macroeconomic environment and in particular negative shocks to the exchange rate or a weaker export growth, could lead to significantly higher debt ratios.

Kosimbei (2009) argues that although government external borrowing does not directly affect domestic interest rates and the supply of loanable funds, it may also crowd out private investment through its impact on the prices or the nominal exchange rates. According to Gray and Woo (2000), when the budget deficit stems from expenditure on locally produced goods, external borrowing brings about an appreciation of the real effective exchange rate that has a crowding out effect on certain local producers.

In a speech to the Central Bank governors' from Africa on the effects of capital flight from Africa, the Central Bank of Kenya governor puts it thus, "Paradoxically, the accumulation of external liabilities in the region is mirrored by massive outflows of resources in the form of capital flight-**the voluntary exit of private residents' own capital for safe havens away from the continent**. The latest estimates published by UNCTAD suggest that capital flight from Sub-Saharan Africa is fast approaching half a trillion dollars, more than twice the size of its aggregate external liabilities" (Ndung'u, 2007).

Capital flight negatively impacts on the macroeconomic stability of the country as it leads to reduction in liquidity in the economy. This affects the exchange rates and the monetary management policy of central banks, which may have to spend resources on sterilization to prevent exchange rate appreciation (Schneider, 2003). When a rising fiscal deficit is financed through printing of money, it leads to inflation and to the erosion of monetary base which residents will avoid by moving their investments out of the economy and also as a way of avoiding the anticipated inflation tax (Dornbush, 1985). When the deficit is financed through bond sales, domestic residents may expect that at some future date their tax liabilities may increase to pay for the national debt.

Other economic factors affecting capital flight include interest rate differentials between the home economy and its trading partners, exchange rate misalignment, financial sector constraints, fiscal deficits and disbursements of new loans to developing countries (Cuddingnton, 1986). Non-economic factors include corruption by political leaders and extraordinary access to government funds (Ajayi, 1995). Schneider (2003) views capital flight as a response to discriminatory treatment of domestic capital. In this context capital flight is only that part of resident capital outflow which is a response to asymmetric risk. It is also the accumulation of claims on nonresidents by residents that escape control of the domestic government. Capital flight by this definition is estimated by a calculation of gross external claims that generate income that is not reported in the balance of payments data (Dooley, 1986).

Capital flight represents the stock of privately held foreign assets which earn income, but the income is not reported to domestic authorities and therefore is not recorded in the balance of payments accounts (Dooley, 1986). This definition brings out the normality of

capital flows by specifically separating out normal and abnormal capital flows. Normal outflows are those outflows that generate a stream of income recorded in the balance of payments, while abnormal outflows are those motivated by the desire to place assets beyond the control of domestic authority to avoid taxation of these incomes. It also represents the amounts of short-term speculative outflows of capital (Cuddington, 1986). It therefore represents the short term external assets by the non-bank private sector plus the errors and omissions in the balance of payments.

Capital flight can also be viewed as the deployment of assets by both local and foreign investors to destinations offering higher returns away from those associated with poor or no returns. It may also occur because of the asymmetrical treatment of capital for the domestic and foreign investors when analyzed in the context of asymmetries in information, risk, return and the political stability of the country (Schneider, 2003). The dynamic process of growth, and technological advancements, which have led to increased interactions among economies in terms of trade, has resulted into various complex sources of capital flows between residents and foreigners. Much of the capital flight literature is based on the assumption that resident capital outflows coincide with non-resident capital inflows, a two way flows relationship (Schneider, 2003). Domestic investors, it is assumed, are aware of the differences in risk involved in investing at home and abroad. Investment risks can be higher at home due to the taxation structure and/or unattractive rates of return combined with an underdeveloped financial system. In developing countries, foreign investors are protected by the government guarantees giving them competitive advantage over their domestic counterparts. The asymmetric structure therefore provides the motivation for foreign sources of finance flowing in and private capital from developing countries moving out (Dooley, 1986). However, economies at their early stages of development, suffer the most from such flows since foreign capital contributes less in the local development process due to repatriation of profits abroad (Boyce, 1992)

According to the International Monetary Fund, the external debt of many developing countries is underreported and their capital accounts are poor indicators of gross capital outflows and inflows. This makes the accumulated debt stocks reported in the balance of payments data lower than the stock of debt data compiled by the OECD and the World

Bank. The difference in the data has been attributed to illegal capital flight which is not properly recorded by authorities (Schneider, 2003).

2.2 Empirical Literature

Studies on the determinants of causes of capital flight from the Latin American countries by Cuddington (1987), and Boyce (1992) have attributed the phenomenon to changes in the macroeconomic fundamentals like interest rate differentials, external debt flows, capital flight, inflation and exchange rates. It is estimated that during the period 1973-85, exit of residents own capital from Latin America amounted to US$ 151 billion (Pastor, 1990). When compared to the increase in debt over the same period, the study found that: 40 percent of the debt build up was used to finance current liabilities. This implied that resource availability for domestic investment and capital formation declined hence adversely affecting the country's current and future prospects. The income generated as well as the wealth held abroad is a loss to the government and is outside the purview of relevant authorities and cannot therefore be taxed to add to the government revenues.

Manasse, Roubin and Schimmelpfennig (2003), using logit models of debt crisis and a binary recursive tree technique for a panel of 47 market access countries for the 1970 to 2002 period find that macroeconomic factors predict a debt crisis and the entry in it. They also find that sovereign debt crisis is persistent and last longer than currency crisis. Their models predict better an entry into than an exit from the crisis since it's not easy to determine the factors that trigger an exit.

Moss and Chiang (2003) argue that high debt stock adversely affects economic growth, occasions high administrative costs, slows down development of public institutions and thereby affecting sustainability of economic reforms. They argue that economic growth is adversely affected through the debt overhang effects, liquidity constraint, fiscal effects and suppression of productivity.

They also state that high debt affects policy credibility and leads to short term policy decisions with a preference towards current expenditure instead of development expenditure. Milesi-Ferretti and Razin (1996) state that a government running budget deficits would be solvent if it generated equivalent present value surpluses in the future. If the time horizon is infinite, the present value budget surpluses equated to current debts

would imply public sector sustainability which is determined by government direct policies on taxation and expenditure

Sachs (2002) argues that low-income countries have experienced stagnation or negative growth over the past twenty- five years due to heavy debts. He argues that little progress has been made in the field of international legislation to protect sovereign debtor states from a creditor grab race and ensure a fresh start. He argues that low-income countries are trapped in poverty cycles with inadequate savings needed for investment and hence debt relief alone would not spur economic growth. He criticises debt sustainability analysis under the enhanced HIPC initiative as arbitrary set without considering country-specific macroeconomic environment. He argues that a country's debts could appear sustainable whereas its people are not able to meet the basic needs.

In a study of the linkages between external debt and capital flight in the Philippines using time series analysis, Boyce (1992) concludes that a direct causal linkage between external debt and capital flight exists- a confirmation of debt-flight revolving door syndrome. To explain the relationship between external borrowing and capital flight in 25 low-income Sub-Saharan African countries, Boyce and Ndikumana (2001) employs both time series and cross-sectional data from 1970 to 1996 and conclude that a direct and significant relationship exists between capital flight and external debt accumulation.

Elbadawi and Ndungu (1996) and Were (2001) notes that debt servicing as a result of past debt accumulation impacts negatively on economic growth due to the debt overhang effect and the debt-service ratio, which also captures the crowding out affect in the private sector. The studies indicate that compressed budget deficits among countries results from the high debt service costs which is the result of high external debt accumulation.

In a study on the foreign investments from Africa, titled, ''is Africa a net creditor to the world?'' Boyce and Ndikumana (2001), finds that the private assets held abroad in form of capital by Africans far outweighs the total debt claims on the continents residents. This shows that low income countries are losing more resources via capital flight than through debt servicing.

Ng'eno (1994) found that improved economic performance as a result of the mini-tea boom recorded in Kenya in 1986 was responsible for the reduced capital flight in the periods 1974, 1987 and 1990. The model adopted by the author to estimate capital flight in Kenya, however; did not include external debt as one of the determinants of capital flight, thus leaving a gap for future studies to analyse the effects of external debt on capital flight in Kenya. The generalised functional form of the model employed is presented below:

$CF=(r,r^*, \prod, R, Y)$.....2.1

Where; CF=capital flight measured by cross border non-bank deposit approximations, r=domestic interest rate, r*=foreign interest rate, $\prod$=domestic inflation rate, R=real effective exchange rate, Y=real GDP. The study concludes that lagged capital flight variables and domestic inflation were statistically significant. Real GDP was insignificant but with the expected sign. The other three variables were statistically insignificant and with unexpected signs, this could have been a result of model misspecification. This model however, did not capture the effects of external borrowing on capital flight from Kenya for the period. The other weakness of this study is that it employed cross-border bank deposits, which have been shown to underestimate the magnitude of capital flight.

Ng'eno (2000) analysed the causes of capital flight from Kenya using time series data. The study empirically analysed the effects of changes in interest rates, inflation and real GDP on capital flight in Kenya. The study concluded that capital flight was high during the periods of high deficits, fluctuating interest rates and high inflation rates. This indicates that investors moved away from the domestic economy to avoid erosion of their capital base. The study recommended the adoption of a stable macroeconomic environment to curb capital outflows.

Changes in external debt and its effects on capital flight in Kenya up to the year 2000 have been analyzed in a study by Mayore, (2000). Using time series data, the granger causality analysis between capital flight and external debt does not reject the null hypothesis of no causality between these two variables. However, changes in external debt and capital flight are found to move in the same direction for the period 1980-2000 implying some association in the variables. This therefore leaves an information gap on

the true relationship between external debt accumulation and capital flight. The study found real GDP to be negatively related to capital flight from Kenya.

Nyoni (2000) analysed capital flight from Tanzania using time series data for the period 1973 to 1992. The study captured the effects of real growth rates, changes in interest rates, exchange rate differentials and political shock as a dummy variable. The study found that that lagged capital flight, real growth rates, changes in interest rates and exchange rate differentials had significant impact on capital flight while political shock had no statistically significant. Increased domestic income would encourage accumulation of foreign asset indicating that it is negatively related with capital flight from the country.

2.3 Overview of the Literature

The literature reviewed has highlighted a number of factors as determinants of capital flight from the economy to include; the widening fiscal deficits, risk hedging motives among investors and political and macroeconomic factors. Growth in the national incomes a country positively affect capital flight by motivating more capital inflows into the domestic economy, changes in inflation rates and interest rate differentials also impacts on the magnitudes of capital flows leading to inflows or outflows from the economy. It is also evident from the literature that external debt accumulation stimulates capital flight from the country; therefore policies to be adopted in order to curb capital flight should correspondingly aim at maintaining external debt at sustainable levels. Since independence in the early 1960s indebtedness in most Sub-Saharan African countries was considered normal because of the increasing returns to capital and therefore future debt repayments was not a major concern of many governments (Ajayi, 1997). African countries were encouraged to borrow abroad to create an environment conducive for foreign investment in order to promote their economic growth. This led to accumulation of debt stocks that eventually culminated to expectations among investors that future debt service will be financed with distortionary types of taxation, inflation tax or a cut in productive public investment (Ng'eno, 1997). The returns from investing in the country therefore might face a high marginal tax which reduces the incomes accruing to the external investors; any activity that involves incurring costs upfront for the sake of increased output in the future will be discouraging to investors (Corden, 1989).

CHAPTER THREE
3.0 METHODOLOGY

3.1 Introduction

The study explores the earlier findings in the empirical literature that groups the determinants of capital flight into four categories: (i) macroeconomic fundamentals- real interest rates, rate of inflation and current account deficit (ii) rate of return differentials and the real GDP growth. (iii) Capital inflows (external debt growth) show a positive and significant relationship between capital flight and the cumulative stock of external debt, (Ljungwall and Wang, 2010).

3.2 Analytical Framework

To meet the objectives of this study, a linear econometric model for the analysis of capital flight has been adopted as used by Folorunso (1998) to study capital flight in Nigeria. The model is preferred as it captures the effects of more variables in estimating capital flight. The documented traditional methods of estimating capital flight from developing countries do not consider the effects of some of the variables included in this study Erbe (1985), World Bank (1985) and Ng'eno (1990). Nigeria's economy shares many characteristics with Kenya's; both have a fairly developed domestic markets where interests rates are market determined, a faster growing population rate, both borrow externally for budget support and have a similar governance structure.

From the literature on the causes and effects of capital flight, the general functional equation for capital flight is as shown below:

RCF=f (GDP, ED, TOT, INT, INF, POL).....3.1

The equation suggests that capital flight from the country is a function of real GDP growth, accumulation of external debt stocks, the trade balance which proxies the position of the current account, changes in interest rate differential between the home country (Kenya) and the rest of the world (represented by the short-term domestic rates in the US), changes in the domestic inflation rates and the political stability in the country.

3.2.1 Definition and Measurement of Variables

The variables included in the model are those identified in the literature as determining capital flight from the domestic economy, they include:

Table 2: Variable description

Variable	Symbol	Description	Expected Sign
Annual Real capital flight	RCF	Real annual capital flight represents the dependent variable in the model.	N/A
Cumulative External debt stock	ED	Annual external debt stock is one of the explanatory variables in the model. The investor's expectations are captured in the model by lagging it by one period. External debt service costs for developing countries may result into increased future taxes for businesses and individuals hence reducing their returns. This may lead to future inflationary financing. As domestic investors anticipate this scenario, they will avoid this future burden by hoarding their investments abroad.	positive
Inflation rate	INF	Persistent increases in the domestic price level leads to the erosion of the capital base (macroeconomic instability). The domestic investors will shift their investments abroad to hedge against this particular loss in value of the assets.	positive
Interest Rate Differential	INT	Capital outflows exert an upward pressure on the domestic interest rates by reducing liquidity in the economy (Ajayi, 1997). Interest rate differentials indicate the differential returns to investors	Negative

		depending on the location of their investments. High interest rates attract capital inflows, hence affecting the choice of capital location. Capital flees to economies with comparatively higher returns. From economic theory, investors aim to maximize returns from investments, fluctuations in interest differentials will stimulate outflows (Hermes, Lensink and Murinde, 2002). The higher the interest rate differential between countries, the higher the levels of capital flight. African economies currently offer higher interest rates than their counter parts in Europe, hence we expect capital inflows.	
Real Gross Domestic Product	RGDP	High real gross domestic is an indicator of the increasing returns to domestic investments and shows the increased investment opportunities in the domestic economy. This discourages foreign investments by the local investors thus reducing the levels of capital flight.	Negative
Terms of Trade	TOT	The variable is introduced in the model to capture changes in the trade balance. Fluctuations in the trade balance of a country are an indicator of the macroeconomic stability of the country. Positive terms of trade are associated with a bigger external sector hence more transactions with outsiders, an adverse situation present the opposite effect. More transactions with outsiders open up more avenues for capital flight from the domestic economy and vice versa. Success in trade is therefore expected to trigger more capital flight.	Positive

Political stability	POL	Political stability is an indicator of the degree of risks involved in holding wealth domestically. A politically unstable environment stimulates domestic capital outflows to regions considered to be stable and therefore will offer interrupted streams of returns. Owing to lack of consistent data that indicate the level of political risk in Kenya, we treat political risk as a dummy variable. A dummy of 1 represents a particular election year which occurs after every five years and is hypothesized to correspond to high capital flight while zero denotes no capital outflows from the country as investors are not worried of any changes in the macroeconomic environment.	Positive

3.2.2 Empirical Model Specification

The capital flight equation 3.2 shows the linear combination of the variables responsible for capital flight. The model also captures the effects of the dummy variable on the movement of capital flows from the domestic economy.

The dependent variable is the annual real capital flight estimates adjusted by the annual consumer price indices. The capital flight equation is stated as follows:

$$RCF_t=\beta_0-\beta_1 ED_{t-1}+\beta_2 INF_t+\beta_3 INT_t+\beta_4 RGDP+\beta_5 TOT_t+\beta_6 POL_t+\varepsilon_t \quad \text{.....3.2}$$

β_o = Intercept of relationship in the model/ constant

$\beta_1 - \beta_6$ = coefficients to be estimated

The error term (ε_t), captures variations in capital flight that are not accounted for by the explanatory variables presented in the model (omitted variables etc).

3.2.3 Estimation Techniques

The study has employed the linear regression method to run the regression using the Eviews 5 data analysis package. The study makes use of annual time series data for

Kenya for the period 1980-2010. The long-run relationship was derived from the formulated equation in 3.2 followed by unit root test, which is also the test for cointegration among the variables. After ascertaining the presence of cointegration, an ECM model is formulated to analyse the short-run relationships among the variables. The data is differenced twice to a level form before the short-run analysis is carried out to ensure meaningful results as shown in summary table 6. The test for stationarity on all the variables was done using the Augmented- Dickey-Fuller (ADF) tests.

Cointegration test was done on variables that are non-stationary individually but becomes stationary in their linear combination before short-run regression was carried out. The ECM procedure was done using the 2-stage OLS regression technique. Diagnostic tests for heteroskedasticity, autocorrelation and model specification tests (Ramsey RESET test) were done on the variables.

3.2.4 Data type and sources

The analysis is based on the time series regressions of the annual macroeconomic variables. The sources of the secondary data used include Economic Survey (various issues) from the Kenya National Bureau of Statistics (KNBS), International Fund for Agricultural Development (IFAD) estimates of capital flight, Global Development Finance 2011, World Bank country data and the Central Bank of Kenya.

The data on inflation and domestic interest rates are sourced from the monthly publications of the Kenya National Bureau of Statics (various publications) while data on inflation is from the Central Bank of Kenya annual bulletins (various issues). Data on external debt stocks is from the World Bank country data information page. The data on the European domestic interest rate on short term securities (3-months) is from the Swiss National Bank website.

CHAPTER FOUR

4.0 DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter deals with the procedures of data analysis and interpretation of empirical results based on the steps described in chapter 3. The data was transformed (de-trended) by differencing it twice for long-run analysis. The time series properties determined using ADF tests for stationarity.

4.2 Unit root tests

Most time series data suffer from the problem of non-stationarity, hence the norm to always test for stationarity before moving on with regression analysis. Regression results from non-stationary time series data may be spurious as a result of the problem of non-constant mean and variance. Since the study uses time series data, it's therefore important to establish the stationarity of the data or the order of integration to ensure that the results obtained are not spurious. In this regard ADF unit root tests have been used to test for stationarity of the variables.

From the annual trend analysis (see Appendix AI) of the variables from 1980 to 2010 indicates that the variables are not stationary. The results of the unit root tests (see Appendix Tables A3), shows that the variables real capital flight and political stability are stationary at 1% level. External debt stock, inflation rates, interest rate differential and terms of trade became stationary after the first difference. The variables are significant at 1% level. Real GDP data is stationary after second difference at 1% level. We therefore difference the non-stationary variables to level form before we carry out the regression analysis.

The regression results based on the estimated equation 3.2, is presented below:

$$RCF_t=\beta_0+\beta_1 ED_t+\beta_2 INF_t+\beta_3 INT_t-\beta_4 RGDP+\beta_5 TOT_t+\beta_6 POL_t+\varepsilon_t \quad \text{.....4.1}$$

The regression results are as shown in table 3:

Table 3: Summary of Regression Results for long-run model

Dependent Variable: RCF				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CONSTANT	379.6357	11258.08	0.033721	0.9734
ED	-0.234777	0.0667	-3.520755	0.0018
INF	-19.2667	6.5595	-0.293721	0.7715
IRD	-12.3983	7.3791	-1.680184	0.1059
RGDP	0.09119	0.0191	4.775926	0.0001
TOT	0.361066	0.1129	3.198484	0.0039
POL	3.625	1.1335	0.349560	0.7297

R-squared	0.556156	Mean dependent var	6045.613
Adjusted R-squared	0.445195	S.D. dependent var	31774.51
S.E. of regression	23667.32	F-statistic	5.012174
Sum squared resid	1.34E+10	Prob(F-statistic)	0.001859
Log likelihood	-352.2475		
Durbin-Watson stat	2.306693		

The empirical results above indicate that all the coefficients except that of changes in inflation rates and interest rate differentials are highly significant at 1% level. A positive and statistically significant relationship exists between real GDP and real capital flight at 1%. Terms of trade has a positive and statistically significant relationship with real capital flight. The variable, political stability indicates a positive an increase in the real capital flight from the country. The above results imply that a 1 per cent increase in external debt accumulation will result in 0.24 percent decrease in capital flight. This is

against the model specification expectation of a positive relationship between capital flight and external debt accumulation.

The intercept β_0 (380) shows the value of the real capital flight when the explanatory variables are zero or indeterminate.

From the results, the R^2 of 0.56 suggests that 56% of the variation in capital flight can be explained or caused by changes in the explanatory variables. The F-statistic (0.002) shows that even at 1%, the overall fitness of the model is good which implies that the model is well specified. The d statistic is >2 indicating the absence of serial autocorrelation in the residuals from the previous years.

Equation 4.1 is modified from the stationarity results by differencing the non-stationarity variables twice (same level) and lagging the external debt variable by one period as shown in table 4:

$$D(RCF,2)=\beta 1D(ED,2)(-1)+\beta 2D(INF,2)+\beta 3D(INT,2)+\beta_4 D(RGDP,2)+\beta 5D(TOT,2)+D(POL,2)+\varepsilon_t \quad \text{.....4.2}$$

The regression results are as shown in table 4:

Table 4: Summary Regression results of the preferred long-run model

Dependent Variable: RCF				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ED(-1)	-0.6015	0.3056	-1.968	0.0618
INF	1.2354	1.3504	1.6103	0.1216
IRD	-1.3564	0.8964	-0.0387	0.9695
RGDP	-0.645942	0.2138	-3.02187	0.0063
TOT	0.7299	0.1541	4.7371	0.0001
POL	-1.518	1.004	-1.512212	0.1447

R-squared	0.635010	Mean dependent var	724.0000
Adjusted R-squared	0.535468	S.D. dependent var	69104.08
S.E. of regression	47098.99	Durbin-Watson stat	2.759122
Sum squared resid	4.88E+10	Mean dependent var	724.0000
Log likelihood	-349.1837		
R-squared	0.635010		

The constant term has been eliminated in the modified model (equation 4.2) to solve for the problem of perfect collinearity in the data.

The empirical results indicate that in the long-run, all the explanatory variables are statistically insignificant at 1% except real GDP, terms of trade and external debt stock. This may be attributed to data modification.

From the results, the value of the R^2 is 0.64 suggests that 64% of the variation in capital flight can be explained or caused by changes in the explanatory variables. The d statistic is >2 indicating that the residuals are serially independent (not auto correlated) from previous years observations.

Differencing of non-stationary variables to achieve stationarity leads to the loss of important information regarding the long run equilibrium relationship between the variables (Bhaskara, 1994). To overcome this drawback, cointegration test has been performed. If individual time-series are non-stationary and their linear combination is stationary then these variables are cointegrated. Granger representation theorem states that if the variables are cointegrated, then an error correction model (ECM) may be used to model the relationship.

4.3 Causality Analysis

This is a test of whether lagged variables predict changes in other variables. One variable say external debt is said to predict capital flight (ED→RCF) if past values of external debt

can predict present values of capital flight. The causality may be unidirectional or bi-directional. The following equations are estimated for causality.

$RCFt=\beta_0+\sum_{i=1}^{m}\beta_1\Delta RCF_{t-1}+\sum_{i=1}^{m}\beta_2\Delta ED_{t-1}+\delta ECM_{t-1}+\varepsilon_t$.....4.6

$EDt=\alpha_0+\sum_{i=1}^{m}\alpha_1\Delta ED_{t-1}+\sum_{i=1}^{m}\alpha_2\Delta RCF_{t-1}+\rho ECM_{t-1}+\mu_t$.....4.7

Where ε_t and μ_t are white noise disturbances.

Table 5: Results of the Pairwise Granger Causality Tests

Sample: 1 31

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Probability
ED does not Granger Cause RCF	30	0.99093	0.32835
RCF does not Granger Cause ED		1.01712	0.32216

From the test results above, we cannot reject the null hypotheses that ED does not granger cause RCF neither does RCF granger cause ED. This confirms the earlier studies that showed absence of granger causality between the two variables Mayore, (2000).

The long-run model is reformulated into an error correction model (ECM) which integrates short run dynamics to the long-run dynamics. This is done by testing for unit roots in the residuals of the cointegrating relationship i.e. from the long-run model. The unit root test results from the regression (see. appendix IV) shows that the variables are stationary after first difference except the real GDP which is differentiated twice at 1% level of significance.

The regression equation for the ECM model (short-run analysis) is developed from equation 4.3 as follows:

$RCF_t=\beta 1ED_{t-1}+\beta_2INF_t+\beta_3INT_t-\beta_4RGDP_t+\beta_5TOT_t+\beta_6ECM_{t-1}+\varepsilon_t$.....4.6

This is achieved by including the lagged error term in the differenced regression model.

The results of the unit root tests on the residuals obtained from ADF tests are as follows:

The model: $\Delta\mu_t=\beta_1\mu_{t-1}$ 4.5

The outcome of the ADF unit root test on the residuals is as follows:

$$\Delta\mu_t= -0.5000\mu_{t-1}$$

Standard error (0.0622)

t- Statistic = -8.0420

$R^2= 0.690$

The ADF critical values: 1% critical value -4.3098

5% critical value -3.5742

10% critical value -3.2217

The tau (τ) critical value at 1% level of significance, for regression with a constant and a trend, is -4.31. We therefore reject the null hypothesis since -8.042< -4.31 and we conclude that the error term i.e. ECT is stationary meaning it is 1(0). The variables are therefore cointegrated.

The dependent variable (RCF) and other independent variables are cointegrated; it means that there is a long-term, or equilibrium relationship between the dependent and independent variables. It is therefore important to treat the error term (μ_t) as the 'equilibrium error'. The equilibrium error term is then used to tie the short run behavior of RCF (dependent variable) to its long run value. The regression results for the short-run analysis are as shown in table 5.

The coefficient of the lagged ECM variable captures the disequilibrium in the long-run model. It represents attempts to correct the deviations from the long-run path and is interpreted as representing the speed of adjustment.

Table 6: Results of the ECM regression (short-run behavior)

Dependent Variable: RCF				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(ED,2)	-0.427119	0.252979	-1.688358	0.1055
D(INF,2)	1.7548	0.95321	0.547512	0.5895
D(IRD,2)	-0.9815	0.8756	-0.796467	0.4343
D(RGDP,2)	-0.348425	0.195783	-1.779648	0.0890
D(TOT,2)	0.374594	0.139332	2.688493	0.0134
ECM(-1)	-0.757218	0.243048	-3.115505	0.0050

R-squared	0.720421	Mean dependent var	724.0000
Adjusted R-squared	0.644173	S.D. dependent var	69104.08
S.E. of regression	41221.46	Durbin-Watson stat	2.040486
Sum squared resid	3.74E+10	Mean dependent var	724.0000
Log likelihood	-345.3183		
R-squared	0.720421		

The coefficient of the error correction term posses the expected negative sign and is quite significant. The coefficient is not significantly different from zero, -0.76 suggesting that any disequilibrium in the long-run movement of capital is fully corrected in the subsequent period, with the speed of correction estimated at 76 percent (Gujarati, 2003). It is from the results of the long-run regression model (preferred model) that our analysis is made.

4.3.1 Regression analysis

From the regression of the data in table 4, the econometric model was found to be

$$RCF=-0.6015ED_T.$$

$$_t+1.235INF_T-1.356INT_T-0.6459RGDP_T+0.7299TOT_T-1.518POL_T.....4.2$$

(-1.968) (1.610)*** (-0.039) (-3.022)* (4.737)* (-1.512)*****

The numbers in brackets represent the t-statistics.*indicate that the estimated coefficient statistic is significant at 1% level, ** the coefficient is significant at 5% and *** the coefficient is significant at 10% level of significance.

Contrary to the theoretical prediction we found a negative and statistically insignificant correlation between external debt accumulation and real capital flight at 1% level. Its coefficient with respect to capital flight is -0.60 indicating that the long-run effects of external debt accumulation on capital flight may require far longer lags in the debt data than was incorporated in our model. External debt stock is statistically insignificant in the determination of changes in capital flight in the short-run.

A change in inflation rates has a positive and statistically insignificant correlation with capital flight both in the short-run and long-run analysis. In his study on the effects on inflation on capital flight in Kenya, Ng'eno (2007) found the same results for the effects of inflation on capital flight. This supports the theory of investment behavior among investors since high inflation results to the erosion of the capital base thus lowering the level of investments. A positive relationship was expected between the two variables even though the consequence of inflation is not significant on capital outflows in Kenya.

Interest rate differentials have a negative and statistically insignificant correlation with capital flight of -1.36. This confirms the a priori expectations of a negative relationship between the dependent and independent variables since the domestic interest rates tend to be higher than in Europe. However, the relationship is insignificant both for the short and long-run analysis at 1% and 5% level of significance respectively. Interest rate differential represents the opportunity cost of investing in one economy to the other. According to economic theory, interest rates and investment levels are inversely related (Were, 2001).

Real GDP and terms of trade were found to be negatively and positively correlated with real capital flight, with both having coefficients of -0.65 and 0.72 respectively. The two variables were both statistically significant in the short and long-run analysis. The reviewed literature states that high GDP growth is a signal to investors to the high domestic returns to investments from the domestic economy. Therefore, a prior negative relationship between GDP and capital flight was expected. This study has confirmed the effects of GDP growth on capital flight in other countries i.e. Nigeria (Ayadi, 2008).

This study introduced the effect of political stability on capital flight from the country. The results show that capital flight will decline during periods of political stability. The reverse i.e. increases of capital outflows should be expected during electioneering periods or periods of uncertainties. The relationship between the dummy variable and the dependent variable is therefore negative. Investors are in constant move to economies considered safe for investments where the investment returns are assured and the risk of expropriation is low.

The variables interest rates differentials and inflation are correlated and therefore endogeneity is expected between them. To test for the presence of endogeneity, diagnostic tests for presence of heteroskedasticity and model specification tests were carried out (see. appendix II), the F-Statistic shows the parameters are jointly statistically significant at 1% according to the Breusch-Pagan test which is used to test for presence of heteroskedasticity with a null hypothesis of constant variance. From the analysis, we fail to reject the null hypothesis, and therefore we conclude that there is no heteroskedasticity in the model. The Ramsey RESET test which is a specification error test was done to test if the model was properly specified. The test is based on a null hypothesis of no omitted variables. From our F-statistic results, we fail to reject the null hypothesis and we conclude that the model was properly specified. The Durbin-Watson test for autocorrelation had indicated satisfactory results according to summary table 4. According to the diagnostic tests; OLS technique was employed in data analysis.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

This chapter begins with drawing conclusions from the empirical findings in chapter four. This is followed by policy conclusions and finally policy implications of the study findings.

5.1 Summary

This study was on capital flight from Kenya and how external borrowing and other factors stimulates capital flight. It was motivated by the increasing external debt accumulation, the fluctuations in the domestic interest rates and the exchange rates, factors that may lead to reduced economic growth when local investors decide to migrate to other investment destinations in anticipation of higher future cost of doing business. The objective of the study therefore was to capture the extent to which external borrowing stimulates capital flight from Kenya and come up with policy recommendations to curb the outflows.

The main findings of this study based on empirical results indicate a negative relationship between external borrowing and capital outflows from the domestic economy. This does not capture the theoretical model specification and implies that more studies needs to be carried on the impacts of external borrowing on capital outflows. The available data on external borrowing indicates a rising trend over time.

5.2 Conclusion

In conclusion, we find that real GDP, terms of trade and inflation rate variables affect capital outflows from the country, however; the effects of changes in inflation rates for the case of Kenya was not significant at all levels. The literature reviewed in chapter two indicated that external debt accumulation has positive correlation with capital flight in other countries like Nigeria (Ayadi, 2008). However, the results of this study do not confirm this for Kenya. The outcome of this study may be attributed to the fact that, the ratio of Kenya's debt to GDP has not reached the levels considered as unsustainable. The effects of political stability has been analysed and found to increase capital outflows from the country. Considering that the variable has been treated as a dummy in the model and the scarcity of information on political stability, it is suggested that more research needs

to be carried out on the effects of political stability on capital flight from Kenya for future decision making.

The major observation from the findings of this study is that capital outflows can be controlled and capital repatriation realized only if the developing economies adopt appropriate policies that promote domestic investment and capital accumulation while ensuring the fiscal deficit is maintained at the minimum level.

From the empirical results of the effects of external borrowing on capital flight from Kenya as shown in this study for the period 1980-2010, it is hoped that a better understanding of the causes and effects of capital outflows from Kenya is provided that is sufficient to support the development of policy implications to curb further capital outflows and instead realize capital repatriation in the future.

5.3 Policy Implications

From the results it can be seen that the effects of external borrowing on capital flight is significant in the short-run analysis hence the need for the government to monitor its borrowing activities as this stimulates capital outflows. There is need to control the rate of external debt accumulation by putting in place sound debt management policies with the aim of ensuring the macroeconomic balance is not distorted by high debt levels. The government should strive to reduce the current debt to GDP levels at 49% to below 45% levels as stipulated by the IMF and the World Bank by ensuring that future borrowing is done only at concessional terms only. Commercial borrowing by the government which currently goes to the energy sector should be at very minimal levels to limit the future costs of debt service.

The second option of dealing with external debt accumulation effects is for the government to diversify its export base to increase the country's export revenues to cover the future debt service costs.

Diversification of the current primary produce will help in realizing favorable terms of trade. There is need for the government to continue the promotion of the export processing zones (EPZ) by offering export related incentives to exporters. A constant review of the existing trade policies will ensure increased exports and avoidance of importation of luxury goods is avoided.

The government should strive to maintain competitive and market determined interest rates to ensure capital does not flee from the country. Policies on inflation and exchange rates should be determined with the overall aim of maintaining a sound macroeconomic balance at all times. This is necessary to maintain the confidence of both domestic and foreign investors at all times.

Political stability should be maintained in the country to ensure predictability in the returns to investments. The government revenue is negatively affected when investors decide to migrate outside or to emigrate as a result of lack of political stability. Property laws against asset expropriation and confiscation of property without compensation should be in place to create confidence amongst asset owners.

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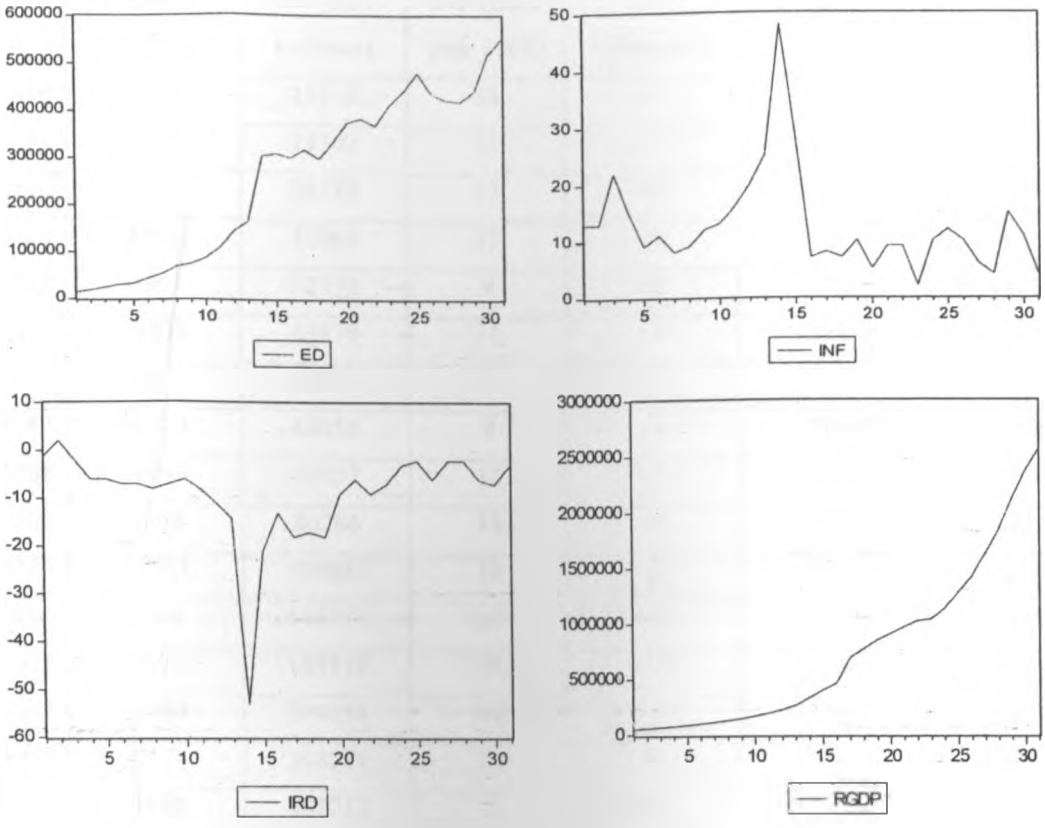
APPENDIX I

A1: Trend analysis of the movements in variables



A2: Diagnostic Statistic Tests

	Breusch-Pagan test	**Ramsey RESET test**
F-statistic	2.80	0.97
P-Value	0.033	0.5392

	Breusch-Godfrey test
Chi^2	1.470
F-statistic	1.470
P-value	0.2377

APPENDIX II

A2: Raw Variable Data for Regression

Year	RCF(Ksh Millions)	ED (Ksh millions)	INF (Base year 2009)	INT Differential	RGDP (Ksh Millions)	TOT(Ksh millions)	POL
1980	1152	15252	13	-1	53910	-6502	0
1981	-2844	19307	13	2	62016	-5081	0
1982	-884	24575	22	-2	70247	-3335	1
1983	4597	30063	15	-6	79592	-629	0
1984	-5901	32970	9	-6	89243	-1829	0
1985	12538	43870	11	-7	100812	-7691	0
1986	-3709	53691	8	-7	117460	-7021	0
1987	11773	69058	9	-8	131156	-12820	0
1988	-4959	74032	12	-7	148284	-16265	1
1989	5368	86266	13	-6	170404	-24385	0
1990	12843	109045	16	-8	196434	-12078	0
1991	4746	144837	20	-11	224230	-5868	0
1992	4691	165878	28	-14	264472	-5804	1
1993	-6380	304253	46	-53	333611	-27563	0
1994	-7974	308971	29	-21	400658	-29437	0
1995	3840	301212	2	-13	465251	-57829	0
1996	-41946	318338	9	-18	687998	-50286	0
1997	10602	299127	11	-17	770313	-70228	1
1998	39648	332816	7	-18	850808	-76608	0
1999	-33131	375833	6	-9	906928	-83842	0
2000	-13272	384020	10	-6	967837	-113277	0
2001	-100338	369658	6	-9	1020221	-142518	0
2002	33496	412601	2	-7	1035373	88427	1
2003	19061	441807	10	-3	1131782	10055	0
2004	-26173	480466	12	-2	1274329	-10433	0
2005	18500	435915	10	-6	1415725	-19064	0
2006	54070	423020	6	-2	1622434	-36803	0
2007	64200	419304	4	-2	1833513	-69475	1
2008	32800	441814	15	-6	2111173	-137147	0
2009	42000	519792	11	-7	2365453	-130609	0
2010	59000	552899	4	-3	2551161	-199053	0

APPENDIX III

A3: Stationarity test results (ADF-Test)

Variable	Test-statistic (level)	Critical values	1st difference	Critical values	2nd difference	Critical values	
Real CF	-3.938*	-2.644@1% -1.953@5% -1.610@10%	-	-	-	-	I(0)
ED(-1)	-2.338	-4.297@1% -3.568@5% -3.218@10%	-4.789*	-4.310@1% -3.574@5% -3.222@10%	-	-	I(1)
INF	-2.835	-4.297@1% -3.568@5% -3.218@10%	-5.138*	-4.310@1% -3.574@5% -3.222@10%	-	-	I(1)
INT	-3.077	-4.297@1% -3.568@5% -3.218@10%	-7.172*	-4.310@1% -3.574@5% -3.222@10%	-	-	I(1)
RGDP	1.924	-4.297@1% -3.568@5% -3.218@10%	-3.040	-4.310@1% -3.574@5% -3.222@10%	-6.852*	-4.324@1% -3.581@5% -3.23@10%	I(2)
TOT	-1.058	-2.644@1% -1.952@5% -1.610@10%	-6.859*	-2.647@1% -1.953@5% -1.611@10%	-	-	I(1)
POL	-5.385*	-2.644@1% -1.952@5% -1.610@10%	-	-	-	-	I(0)

* Significant at 1% level