DETERMINANTS OF CAPITAL FLIGHT IN

KENYA (1987 – 2007)

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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I however absolve the aforementioned from any responsibility for any errors in this paper.

ABSTRACT

This study is an econometric investigation of the relationship between capital flight and various hypothesized determinants. The determinants considered are domestic inflation rate, interest rate, GDP growth rate, total external debt, corporate taxes, exchange rate, corruption, and political uncertainty.

The prime objective was to test the nature of the relationship between capital flight and its determinants. Annual data over 1987 – 2007 period for Kenya is employed in testing for the effects of the identified factors on capital flight. An error correction model is adopted.

The findings of the study indicate that overvaluation of the exchange rates, increasing external debt, accelerating GDP growth rates, and high corporate tax rates are important determinants of capital flight in Kenya. These factors must therefore be taken into consideration when designing policies to prevent and even reverse the outflows of capital from Kenya. The combinations of good governance and its features, the establishment of fiscal discipline, tax adjustments, etc., are recommended.

CHAPTER ONE

1.0   INTRODUCTION

1.1   Background

Capital flight is seen as a response to changes to an individual's or company's portfolio bundle rising from factors such as the fear of appropriation of assets, potentially higher taxes, or perceived lower returns at home. The flight of capital poses a hurdle to achieving a country's economic development objectives thus making it an important issue in applied research. Its importance stems from the fact that it intensifies the saving-investment as well as the foreign exchange gaps, drains the domestic investment resources and imposes constraints on the sustainability of economic growth. Furthemore, in the long run, capital flight reduces government revenue and the ability to service external debt, and with the erosion of the tax base, the need to borrow from abroad rises, thereby increasing foreign debt burden (Khan and Haque, 1987).

Illicit capital outflows from developing countries are estimated to account for US $ 500- US $ 800 billion a year (Raymond, 2005).While capital flight issues initially started out as a Latin American problem, in recent years, the problem has spread to other countries in Africa. More than US $ 13 billion per year have flown from the African continent between 1991 and 2004 (UNCTAD)[1].

Findings have shown that most of the capital flights from the underdeveloped countries are held in Swiss Bank Accounts because the principle of national sovereignty, which includes domestic bank secrecy laws and blocking statute, prevents disclosure, inspection, removal or copying of documents without official approval (Nyong, 2003). Nyong also affirms that these capital flights are held not only in bank deposits in these Swiss Banks, but also in treasury bonds, treasury certificates and bills, equities and physical assets abroad.

Kenya, like its many third world counterparts, has also witnessed outflow of financial capital. Looting funds to more advanced nations is one of the components of what is fastly assuming a disturbing politico-economic phenomenon in Kenya. The Balance of Payment crisis in 1991 increased capital flight which was then used to hedge against poor economic conditions (Ng'eno, 1994). The over valuation of the Kenya Shilling as well as the absence of credible financial reforms also encouraged capital flight. Total capital flight from Kenya during the period 1990-1993 amounted to US $ 1,785 million (Mulati, 1995), and rose to US $ 2,867 million during the period 1994-2004 (Salisu, 2005).

1.2   Definition of capital flight

There is no general agreement upon what is actually meant by capital flight. The disagreement arises in defining it in terms of what stimulates it or in its implications on the domestic economy (IMF 1991). The World Bank (1985) defines capital flight as the change in a nation's foreign assets and equates it with non-official capital outflows. Most of the literature on capital flight have indentified it as the part of private capital outflow which cannot be characterized as normal[2].

Capital flight is regarded by others as a pejorative description of natural, economically rational responses to the portfolio choices that have confronted wealthy residents of some debtor countries in recent years (Lessard and Williamson, 1987). The controversy surrounding the term is also due to the way it is used between developed and developing countries. Stephen C. Kanitz (1984) asked: "Why is it that when an American puts money abroad it is called "foreign investment" and when an Argentinean does the same it is called "Capital flight"? Why is it when an American company puts 30% of its equity abroad it is called "strategic diversification" and when a Bolivian businessman puts only 4% abroad it is called "lack of confidence?" There seems to be great difficulty in separating 'good' international diversification from 'bad' capital flight.

Dooley (1986) sees capital flight as all capital outflows based on the desire to place wealth beyond the control of the domestic authorities. Capital thus flees a particular country to escape legal or other social constraints.

Deppler and Willamson (1987) proposed that capital flight is essentially motivated by residents fears of capital loss which tend to arise from risks of expropriation, debt repudiation or exchange rate depreciation, and from market distortions such as capital control, taxation and financial repression that would reduce the value of an asset as compared with its value if invested abroad.

In this study, capital flight as a concept rests upon the proposition that private control over capital is seldom absolute. It is propelled by the country's policies covering taxation, exchange control and interest rates.

1.3   Mechanisms of capital flight

The exit of capital from a country is accomplished through on number of ways depending on the country's macro-economic policies.

One of the channels of capital flight is through the black market. The domestic currency is exchanged for foreign currency in the black market. The acquired foreign currency is then transferred abroad via personal smuggling; via the use of hired couriers who charge a fee for guiding the money past customs officials; and via the mails[3].

A second common method is through trade mis-invoicing. Presence of regulatory controls on trade induces exporters and importers to undertake illegal transactions so as to raise their holdings of foreign exchange. On the export side, exporters report less to the official authority and either sell the rest of the unreported foreign exchange to the illegal market for the premium; or the difference between the invoice value and the actual value is deposited abroad. On the other hand, importers are assumed to be involved in capital flight when they report higher values of imported goods as compared to the reported value of the same goods by exporters. Capital flight through false trade invoicing is generally applicable to the local affiliates of multinational companies, and owners of business engaged in international trade (Ajayi, 1995).

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Another vehicle through which capital can be transferred overseas is through commissions and agents' fees. Local agents of foreign suppliers evade taxes by arranging their commissions and fees to be deposited directly into their foreign bank account.

Capital is also transferred abroad, through informal funds transfer systems commonly known as 'Hawala'. Intermediaries are used to transfer money to their family members and friends across borders. The transactions involved are not documented in common ways. Such systems leave impressions of some mysterious financial system that is both dangerous and beyond ordinary analysis (Wilson 2002).

1.4   Measurement of capital flight

The measurement of capital flight requires some statistical detective work, since the investors involved "are unlikely to make a point of informing the compilers of balance of payments statistics of their actions" (Lessard and Williamson 1987). Several measurement methods have been proposed in the capital flight literature. Although none of the capital flight definitions is universally accepted, at least three main measures of capital flight have been identified in literature.

First is the narrow measure which defines capital flight as the acquisition of short-term external assets by the non-bank private sector. It estimates capital flight based on balance of payments data by adding the 'errors and omissions' term to short –term capital outflows by the private non-bank sector (Cuddington, 1986). However this measure is subject to some criticisms. Deppler and Williamson (1987) assert that the measure is restrictive since long term assets such as equities and real estate may be relatively close substitutes for short term assets. Hence the narrow measure may omit potentially large parts of capital flight. It also remains the less widely used in the capital flight literature.

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Second is the broad measure which reflects macro economic structure by looking at the debt stock. It computes capital flight as the residual of capital inflow (increases in gross external debt plus foreign direct investment) and uses of capital flows (current account deficit and additions to foreign reserves) (World Bank, 1985). Any negative difference between the two reflects unrecorded and unlawful use of capital. Alam and Quazi (2003) critique this measure and argue that it does not distinguish normal capital outflow, which are motivated by long-term interests, from non-normal capital flight, which is primarily motivated by short-run speculative interests. Another drawback is that it does not differentiate between the change in the stock of foreign debt as is reported in the World Development Tables and the flow of debt as is reported in the Balance of Payments Statistics for the country (Yasemin, 2006).

Finally, the non-bank measure, deducts additions to commercial banking system assets held abroad (Morgan Guaranty Trust Company 1986). It assumes that private banking do not engage in capital flight. Cumby and Levich (1987) question whether there is sound justification for treating the banking system differently from other firms and individuals. Private bankers sometimes play a major role in capital flight by exercising their ability to transfer funds to overseas account (Nayler, 1987).

1.5   Statement of the Problem

The loss of scarce capital[4] and foreign exchange potentially leads to a loss of investment in the country where there is need of more infrastructure, plant and equipment, and human capital. Ndungu (2007) posits that in the short run, massive capital outflows and drainage of national savings have undermined growth by stifling private capital formation. In the medium to long term, delayed investments in support of capital formation and expansion have caused the tax base to remain narrow.

Furthermore, the flight of capital in Kenya has had adverse welfare and distributional consequences hence increasing income inequality and jeopardising employment prospects. According to the IMF report (2007), Kenya is one of the most unequal societies in the world with the richest top 20% having a share in income or consumption of 51.2% of the total. The government's effort to develop the economy using limited financial capital have been

constrained by mounting external debt, low rate of investment and balance of payments deficits-factors that have been blamed for capital flight (Ng'eno, 1994).

In so far as the effects of capital flight in Kenya continue to be an impediment to robust and long-run economic growth, it is necessary to investigate the determinants of capital flight in the country with a view of enriching the existing empirical studies on the issue and identify policy variables that could be used in terms of alleviating the problem.

1.6   Objectives of the Study

The broad objective of this study is to identify the determinants of capital flight in Kenya using a statistical technique with a view of specifying and estimating a model showing the relationship between capital flight and its various hypothesized determinants.

The specific objectives of the study are:

a) To determine the relative contribution of various factors to the problem of capital flight in Kenya.

b) On the basis of the findings in (a) above, identifying policy variables that could be focused upon with a view of alleviating the problem of capital flight.

1.7 Justification of the Study

The study is rationalized on the following grounds.

First, by identifying factors influencing capital flight from the country, the study will suggest appropriate remedial policy intervention. Depending on the identified factors, measures will be recommended to prevent the outflows of capital and even generate a reflow of funds held outside the country.

Secondly, it is hoped that the study may generate further interest in research in the area.

1.8 Organization of the rest of the paper

The rest of the paper is organized as follows. In chapter two, we review both the theoretical and the empirical literature on capital flight. In chapter three, we present the theoretical background for the determination of capital flight, the model to be estimated, analysis of data and sources. Chapter four contains the empirical findings and analysis, finally, conclusion of the study and the policy implications are given in chapter five.

CHAPTER TWO

2.0   LITERATURE REVIEW

2.1   Introduction

This chapter reviews the existing theoretical and empirical contribution to this area of study. The section is divided into three parts; the first section discusses the theoretical literature relevant to the proposed study. The second part reviews the empirical literature on technical efficiency of various estimation methods, while the final part gives an overview of the literature reviewed.

2.2.   Theoretical Literature

The theoretical literature on capital flight dates back to the work of Keynes (1933) who specifically referred to the problem of capital flight as one example of the dangers posed by an open economy. His proposal for national self sufficiency was designed to eliminate the threat of capital flight and insulate the domestic experiment in economic planning from disruptions originating in the international sector.

Khan and Haque (1987) carried out a theoretical analysis of capital flight from developing countries. They posited that capital flight was related to short –term outflows of private capital for speculative purposes or to outflows resulting from economic or political uncertainties in the home country. They measured capital flight in two ways. First, as private short term capital plus net errors and omissions, and second, as total private capital flows minus private capital interest income. They noted that capital flight was significant for most of the major debtor countries over 1974-84 periods. They recognized that capital flight results from a variety of often related factors which include over-valuation of exchange rate, financial sector constraints, fiscal deficits, risk factors and external incentives. They classified the effects of capital flight on the economy into two categories i.e. short-run and long-run effects. The former includes destabilizing effects on the domestic interest rates,

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foreign exchange and the country's international reserves position while the later comprises of the reduction in availability of resources to finance domestic investment, the reduction in government's ability to tax all the incomes of residents and the increase in foreign debt burden.

Cuddington (1986) estimates the determinants of capital flight for each of the four major Latin American flight countries – Mexico, Argentina, Uruguay and Venezuela. His results show that capital flight from Mexico is caused by exchange rate overvaluation, foreign lending, and lagged capital flight. Capital flight from both Argentina and Uruguay can be explained primarily by exchange rate expectations. Finally, capital flight from Venezuela is caused by exchange rate over-valuation and high foreign interest rates.

Dooley (1986) finds, for a cross-section of developing countries, that capital flight is significantly related to domestic inflation. He measures the inflation tax levied on non-interest earning domestic monetary assets, interest rate ceilings, which reflect domestic financial repression and a country risk variable that measures the likelihood of default on a country's external obligations.

Cerrn, Rish and Saxene (2005) provided the first set of panel data estimates of the determinants of capital flight using broad set of countries (134 countries). They found that macroeconomic policy variables and conditions have a significant influence on capital flight, even after controlling for country effects and institutional quality. Institutional quality particularly effective institutional constraints on executive power, has an independent impact on capital flight.

Eaton (1987) notes that through the budget constraint of the government- implicit or explicit, public guarantees create an interdependence among private investment decisions that is otherwise absent. A move by one borrower that increases the likelihood of his own default increases the expected tax obligations of other borrowers. This increases the incentive for other borrowers to place their own funds abroad, and it increases the likelihood of default on their own loans as well.

Conesa (1987) in a study of a group of Latin America countries, found that capital flight is caused by the lack of economic growth (which turns out to be the single most important cause of capital flight,) exchange rate over valuation, foreign debt, high foreign interest rates, high domestic inflation, high fiscal deficit, and low domestic real interest rate. Conesa argues that higher levels of these variables allow exchange rate over valuation to occur.

Mohan, Jr. (1991) attributes the huge amount of Mexican capital flight to persistent domestic financial crises and observes that Mexican nationals moved their capital out of the country much more quickly than foreign investors. He also discusses the relationship between exchange policies and capital flight.

Mohamed and Finnoff (2004) show that capital flight peeks in periods when there are peaks in net capital flows in South Africa. They also show that misinvoicing, even when using a conservative estimate, is an important source of capital flight that has been consistently high. Despite the relative political stability and the adoption of neo liberal policies that wealthy South Africa favour, they made a concerted effort to build up wealth outside South Africa. Racism, fear and a sense of loss of power are believed to be important explanations of capital flight.

Ajayi (1995) discusses the causes and mechanisms of capital flight in addition to the link between capital flight and external debt. He observes that a lot of money is transferred through trade invoice faking. Since trade faking adds to capital flight, the under invoicing of exports and over invoicing of imports, these should be added for the net effect of trade faking on capital flights. He states that a suitable and stable macro economic environment that eliminates domestic macro economic policy errors will ensure that the economic functions which bring about capital flight are eliminated. Policy errors that propel capital flight are inflation, exchange rate misalignment, fiscal deficit, and financial repression. For repatriation of some foreign funds, there is need for attitudinal changes which require serious commitment of the government on the part of political office holders.

Salisu (2005) who studied capital flows and current account sustainability in African economies, associates capital flight with oil and mineral resource wealth. Capital flight thus tends to worsen current account difficulties. He suggests that Sub-Saharan Africa countries should provide policy incentives towards attracting these resources. One such incentive is to declare an amnesty for such capital to return back to the continent.

Lester (1996) examines capital flight from three carribbean countries (Barbados, Jamaica, and Trinidad and Tobago) during the period 1971-1987 and finds that foreign debt, real interest differentials, and socio-political instability are the primary driving forces of Caribbean capital flight.

Al Mounsor (2003) presents estimates of capital flight in Middle Eastern and North African countries (MENA). The analysis employs a development comparative approach to the countries of the region. In particular, it relates capital flight of each country to the model of development pursued. Resource –based industrialization states register the largest amount of capital flight. On the other hand, state-led development economies and balanced economies of the MENA region show large negative capital flight. Capital flight under the first model is assisted by natural resource exporting rents, the capitalist orientation of most economies of the model, and the monarchial character of most of their political systems. Capital flight under the last two models is driven by large negative trade misinvoicing and assigned by the inward-looking strategies of the two models, one party or militarily controlled governments as well as the significant capital controls charactezing the two models.

Gunter (1991) gives a theoretical analysis of Colombian capital flight and finds that the outward flow of capital flight and the inward flow of drug money are not independent. The growth of the drug trade has increased the inward flow of drug money but, by reducing confidence in the country's future, has encouraged and facilitated capital flight.

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2.3.1 Empirical Literature

An extensive amount of empirical investigations have been conducted, aimed at identifying the pivotal determinants of capital flight in different countries of the world using different techniques.

Alan and Quazi (2003) formulated a fairly general model for Bangladesh in the following form.

$$KF = \alpha + \beta_1 AID_t + \beta_2 FEX_t + \beta_3 GR_t + \beta_4 INF_t + \beta_5 CTX_t + \beta_6 RD_t + \beta_7 FD_{t+} \beta_8 RER_t + \beta_9 DP_t + U_t$$

Where

KF = real volume of capital flight

AID = real foreign and flow

FEX = real foreign exchange reserves

GR = real GDP growth rate

INF = Domestic inflation rate

CTX = Ratio of corporate taxes to total taxes

RD = real interest rate differentials between the US and Bangladesh.

FD= fiscal deficits as a percentage of GDP

RER = real exchange rate

DP= dummy variable for political uncertainty

U_t = error term

The dependent variable, KF represents capital flight estimated by the 'broad' and 'non-bank' measure; the model is therefore estimated in two specifications with each measurement of capital flight as the dependent variable. The study applied the cointegration method in estimation. The estimated results suggest that political instability is the single most significant cause of capital flight from Bangladesh, while increases in corporate taxes, higher real interest rate differentials between the capital-haven countries and Bangladesh, and lower GDP growth rates also significantly contribute to capital flight.

Forgha (2008) in an econometric investigation of capital flight, its measurability and economic growth in Cameroon between the period 1970 and 2005, identifies and estimates the econometric technique, the economic-political determinants of the phenomenon and the macro economic consequences of capital flight particularly on growth. The model is specified as;

$$CAPFL_t = \alpha_0 + a_1 \Delta LRGDP_t + a_2 \Delta POPISTA_t + a_3 \Delta DEPRIN + a_4 \Delta FISDY_t + a_5 \Delta LEXCHR_t + a_6 \Delta LPMKP_t + a_7 \Delta EDTY_t + U_t$$

Where:

$CAPFT_t$ = capital flight in US Dollar in current period

$\Delta LRGDP_t$ = change in log of real Gross Domestic Product in current period

$\Delta POPISTA_t$ = Political instability as a dummy variable in current period.

$\Delta DEPRIN_t$ = change in the difference between the domestic rate of inflation and interest rate in current period.

$\Delta FISDY_t$ = Change in fiscal deficit in current period as a ratio of GDP

$\Delta LEXCHR_t$ = change in log of a unit of domestic currency per US dollar in current period.

$\Delta LPMKP_t$ = change in log of parallel market premium in current period.

$\Delta EDTY_t$ = Change in log of external debt/GDP ratio in current period to capture debt burden.

U_t = error term

The equation was estimated using the two stages least squares technique. To examine the long-run characteristics of the time series data, he applied the co-integration Error Correction mechanism to correct the effects of spurious regression or random walk. The results show that capital flight is provoked out of Cameroon by political instability, inflation interest rate differential, fiscal deficit, over-devaluation of the domestic currency and external debt servicing.

Pastor (1990) in an analysis of capital from Latin America during the 1970s and 1980s, recognized the role of inflation, interest rates, degree of domestic currency over valuation, capital availability, difference in growth rates between domestic country and USA, taxes and the value of labor share in income in the determination of capital flight in Latin America. The author specified the following model to evaluate the relationship between capital flight (measured by the residual approach) and the various determinants.

CF = f (CHINF, FING, OVAL, KAVAIL, DFGDPGRO, DFTXGD, LAGLSHARE)
Where:
CF = capital flight
(+) CHINf= Change in inflation
 (+) FINC= Financial incentive for capital flight
(+) OVAL = Degree of over-valuation
(+) KAVAIL = Capital availability
(+) DFGDPGRO= Difference between the country's growth rate and that of the US lagged.
(+) DFTXGD=Increase in tax collection as a percentage of domestic product.
(+) LAG SHARE = labour's share of income last year.

Using annual pooled data for eight countries (Argentina, Brazil, China, Colombia, Mexico, Peru, Uruguay and Venezuela) over 1973 -1986 period, the author ran different regressions first starting with the base financial variables (CHINF, FINC and OVAL) and adding the other variables one at a time in the subsequent regression. The estimation results obtained by the ordinary least square estimation method revealed that the financial variables were significant and had positive signs. However, labour's share in income was insignificant.

Conesa (1987) and Cuddington (1987) also carried out studies on time series though their reliability seems to be very questionable since the number of data observations is very low. In Conesa's study, capital flight variable with 16 data points is explained by lack of economic growth in the domestic economy, an over-valued exchange rate, high US interest rate, domestic inflation, excessive fiscal deficit, and a low domestic real interest rate. In order to gain sufficient degrees of freedom, the co-efficient estimates are found by using bivariate

regressions for each explanatory variable. This is a doubtful procedure and consequently the results become unreliable. As for Cuddington (1987), 11 data points are used to explain capital flight by exchange rate over –valuation, high interest rates in the US, and the disbursements of new loans to the domestic economy. Despite the low number of observations, the author tries to estimate both dependant variable dynamics and auto correlated error processes. The author specified the following form of a portfolio adjustment model:

$$KF = \alpha_0 + \alpha_{1t} + \alpha_2 r_t + \alpha_3 (r^*_t + x_t)$$

Where:

KF= capital flight measured by the hot money approach

$_t$ = domestic inflation rate

r_t = domestic interest rate

$r^*_t + x_t$ = foreign interest rate augmented by the expected rate of depreciation of the domestic currency.

With $\alpha_1 > 0$, $\alpha_2 < 0$ and $\alpha_3 > 0$

2.3.2 Empirical literature on the Kenyan context

There are few empirical studies on capital flight that have been done on the Kenyan economy.

Ngeno (1994) analyzed the determinants of capital flight in Kenya for the period 1981 to 1991 and used an asset portfolio adjustment model as shown below:-

$$CF = (r, r^*, \pi, R, Y)$$

Where :

CF= capital flight measured by cross border non-bank deposits approach

r= domestic interest rate

r*= foreign interest rate

π = domestic inflation rate

R= real effective exchange rate

Y = real GDP

The model was estimated by OLS with all variables in their first difference form, π, R and r* had a positive relation with capital flight, while Y and r had a negative relation with capital flight. The study found that only lagged capital flight and domestic inflation were statistically significant while GDP, exchange rate and interest rate were statistically insignificant.

However this study has some shortcomings. Cross border bank deposits usually understate the magnitude of capital flight hence giving misleading conclusions. An error- correction specification provides a better analysis.

2.4 Overview of Literature

The reviewed literature on capital flight has focused mainly on domestic macroeconomic variables in the determination of capital flight from various developing countries. These studies of capital flight are of interest because they attempt to capture different features of the phenomenon i.e. volume, motive and direction of the capital flight. The major determinants of capital flight in most of the literature include exchange rate misalignment, high budgetary deficits, high inflation, interest rate differentials, and domestic tax and trade policies (Cuddington, 1987; Lessard and Williamson, 1987; Boyce, 1992; Dooley and Kletzer, 1994; Ajayi, 1995).

Few studies have been directed towards non-macro variables such as political risk factors. The significance of the variables differs among various studies in different countries.The current study will deviate from the previous ones by extending the time frame and incorporating corruption and political uncertainty among the macroeconomic variables and empirically test their effects on capital flight.

CHAPTER THREE

THEORETICAL FRAMEWORK AND METHODS

3.1   Introduction

This chapter is divided into four sections. In sections 3.2 and 3.3, we present the theoretical background and the model to be estimated. In section 3.4 we present analysis of data. The last section presents the sources of data used in this study.

3.2   Theoretical background

This section gives a brief discussion of the relationship between capital flight and its various hypothesized determinants.

It is believed that money runs away for any of a number of reasons: to avoid taxation; to avoid confiscation; in search of better treatment or of higher returns somewhere else. Capital flight is seen as illicit and bad for the economy of the home country. It involves international asset redeployments or portforlio adjustments. These activities might or might not violate the law but the key issue is that there is a conflict between the objectives of assets holders and society[5].

Given the foregoing, the empirical model of capital flight will look at how domestic agents react to the changes in macroeconomic variables in reallocating their wealth among domestic and foreign assets.

3.3   Model specification

A portfolio that captures the effects of various macroeconomic variables that are expected to affect capital flight can be specified as follows:

CF = f (INFLN, GDP, EXR, INR, CTX, EDT, CPI, PLU)

Where:

INFLN = Domestic inflation rate

GDP = Gross Domestic Product growth rate

EXR = Real US $ exchange rate

INR = Real interest rate on 91 day treasury bills

CTX = Corporate taxes

EDT =   Total External debt

CPI   = Dummy variable representing corruption

PLU = Dummy variable representing political uncertainty

The rationale for inclusion of each variable in the specified model is presented next.

Domestic inflation rate (INFLN). High inflation causes the real value of domestically held assets to erode faster than foreign assets; hence residents maximize the returns of their assets by sending them to countries with lower inflation rates (Cuddington, 1986 Lessard & Williamson, 1987).

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GDP growth rate (GDP). The higher the level of growth in the economy, the less the extent of capital flight. Attractive investment opportunities at home encourage investors to undertake more domestic investment, reducing the flight of capital abroad. Tormell and Velasco (1992), posit that in an economy which is characterized by weak property rights and an open capital account, the rate of economic growth and the magnitude of capital flight are inversely related.

Real exchange rate (EXR). Exchange rate overvaluation leads to an expected future depreciation. To avoid capital losses, residents are stimulated to hold their assets abroad. Cuddington (1986); Dornbusch (1985) and Pastor (1990) have shown that real exchange rates play a significant role in the direction and magnitude of capital flight form indebted countries.

Real interest rate (INR). Ambitious financial sector liberalization often generates flight. Higher real interest rate differentials between the capital haven countries and the source country can contribute to capital flight by encouraging substitution of foreign domestic assets.

Corporate taxes (CTX). A government faced with a fiscal deficit may be forced to impose taxes on domestic investors in a variety of forms. This tends to reduce the value of such investments and induces investors to move their assets abroad. Also, tax incentives to foreign investors, as opposed to domestic investors, may drive domestic capital out of the country.Forgha (2008) postulates that capital flight leads to potential revenue loss because wealth held abroad is outside the control of the domestic government and cannot therefore be taxed.

External debt (EDT). The argument that external debt fuels capital flight acknowledges the fact that the loan proceeds can be transformed from capital inflow to capital flight. Edsel (2006) indicates that external debt provides funds which create conditions for capture as "loot" that individuals (often the elite) appropriate as their own. In fact, the (captured) funds may not even enter the country at all. Instead only accounting entries are done in the respective accounts of financial institutions.

Corruption (CPI). Studies have shown that executive power can be used by corrupt government officials to transfer resources to themselves and so the resources can then be transferred abroad. Cerra, Rish and Saxemo (2005) argue that changes in institution quality overtime can have significant effects on macroeconomic outcomes, such as capital flight. Corruption has been defined as the abuse of public office for private gain and is seen as one of the dimensions of misgovervance[6]. Bribes are a common place in the licencing and permit granting offices as local enterprises tend to circumvent tedious official regulations by paying unofficial fees (Le and Rishi, 2006). Corruption in Kenya is systematic and buttressed by an elaborate legal and institutional framework that simply doesn't work. It has reached endemic proportions, and is recognised as a threat to democracy and to economic and social development.

Political uncertainty (PLU). Available empirical evidence shows that political instability in Africa is associated with greater capital flight whilst democracy and political freedom tend to reduce the incidence of capital flight (Hermes and Lensink, 2000).

3.4   Data Analysis

The computer program to be used in the estimation of the model is E-views. The following steps are followed in data analysis.

3.4.1 Testing for stationarity

First, unit root tests for stationary are performed on each variable using the Augmented Dicky Fuller Test suggested by Granger and Engle (1987). It is the most efficient test among the unit tests and hence widely used in practice. If the variables used in a regression posses unit roots, the sample moments do not converge to constant matrices as required by the asymptotic characteristics of the OLS, but would instead converge to continuous time random variable which are functions of Brownian moments/viewer process[7].

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The ADF test conducted on the equation of the following form:

$$\triangle X_t = \alpha + \beta T + \pi X_{t-1} + \sum_{i=1}^{k} \pi_I \triangle_{t-i} + U_t$$

Where

I	=	number of lags for $\triangle_{t-i}$
K	=	minimum number of lags
T	=	Trend
U_t	=	Error term

The null hypothesis (H_o) and the alternative hypothesis (H_a) are tested as follows:-

H_o: $\pi = O$

H_a: $\pi < O$

For the ADF, the null hypothesis is that the series are non – stationary and hence contain a unit root.

3.4.2 Test for cointergration

This test is performed to see if there is a long run equilibrium relationship among variables or not. According to Granger representation theorem, any co-integrating relationship can be reparameterized as an error correction model[8]. The error correcting term shows the speed with which short term deviations are corrected gradually towards the long run equilibrium. The equation for testing contegration is as follows:

$$\triangle Z_t = \beta Z_{t-1} + \sum rj \triangle Z_{t-j} + U$$

$Z_t \sim I(1)$ => Ho: No Cointergration

$Z_t \sim I(0)$ => Ha: Cointergrated

3.4.3 Diagnostic tests

These tests are important in evaluating whether the model used is adequate. The diagnostic tests include auto regression tests, white test, and Ramsey test.

3.5 Data sources

The study utilizes secondary data on annual basis for the period 1987 to 2007. Most of the data is obtained from the Central Bureau of Statistics as published in their leading economic indicators, World Bank tables and Central Bank of Kenya reports.

CHAPTER FOUR

EMPIRICAL FINDINGS AND ANALYSIS

4.1   Introduction

In this chapter we report data analysis and model estimation results. Section 4.2   presents results of stationarity and cointegration tests. Section 4.3 presents the respecified model while section 4.4 discusses the results of the estimations.

4.2   Results of data analysis

4.2.1   Stationarity test results

The results of ADF tests are presented in table 1 below. The test statistics reveal that the data series are non stationary in levels since the null hypothesis is not rejected at the five per cent level of significance. The unit root results show that CF, IFLN, INR, and CTX are $I(1)$, while EDT, GDP, and EXR are $I(2)$.

Table 1

Variables	Levels	First Difference	Second Difference	Order of Intergration
CF	-1.1132	-5.3261	-9.5199	$I(1)$
IFLN	-2.5548	-4.5858	-6.4303	$I(1)$
EXR	-1.8973	-2.8672	-5.3373	$I(2)$
INR	-0.6412	-3.8846	-6.3731	$I(1)$
GDP	-2.0086	-2.4892	-3.253	$I(2)$
EDT	-1.3588	-3.006	-10.5091	$I(2)$
CTX	-2.0289	-3.6924	-5.7789	$I(1)$
CRITICAL VALUES AT 5%	-3.0294	-3.04	-3.054	

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The above values were compared to the Mackinnon (1990) critical values for rejection of hypothesis of a unit root. The econometric package used in this study reports ADF T-statistics for various specified lag length. Three different orders of unit root tests are provided starting from second difference(assuming that the order of integration of each series is at most 2), first difference and levels even though most of the macroeconomic time series are said to be I(1). The lag length is determined by using the Schwarz criterion.

4.2.2   Cointegration test results

The test statistics generated are presented in table 2 below. The results in the table accept cointegration among variables, since in all cases the null hypothesis of no cointegration is rejected at the five per cent level of significance. These results suggest that an error correction specification will provide a better fit than will be the case without it. The acceptance of the existence of cointegration between the variables implies that the model of capital flight to be estimated will therefore have to contain an error correction variable.

Table 2 : Results of Johansen Cointegration Test.

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.914572	157.8141	124.24	133.57	None **
0.829414	108.6124	94.15	103.18	At most 1 **
0.717927	73.24218	68.52	76.07	At most 2 *
0.672035	47.93039	47.21	54.46	At most 3 *
0.519538	25.63342	29.68	35.65	At most 4
0.319645	10.97329	15.41	20.04	At most 5
0.150853	3.270471	3.76	6.65	At most 6

Johansen and Juselius (1990), consider the first eigenvector to be the most important and analysis is based on the cointegrating vector represented by the largest eigenvalue. Since our Johansen test suggests that there is more than one cointegrating vector, we adopt the error correction model in order to estimate the short run model.

4.3 The Re-specified Model

Having identified a stable relationship between capital flight, inflation, GDP growth rate, external debt, interest rate, exchange rate, and corporate tax, we proceed to specify an error correction model. The error correction model is stated as follows:

$$\Delta LCF_t = \alpha_0 + \alpha_1 \Delta LIFLN_t + \alpha_2 \Delta LGDP_t + \alpha_3 \Delta LEXR_t + \alpha_4 \Delta LINR_t + \alpha_5 \Delta LCTX_t +$$
$$\alpha_6 \Delta LEDT_t + \alpha_7 \Delta CPI_t + \alpha_8 \Delta PLU_t + \alpha_9 \Delta EC_{t-1}$$

Table 3: Results of the short run reduced form

Dependent Variable: CF

Variable	Coefficient	Std. Error	t-Statistic	Prob.
$\Delta LCTX_t$	25.30643	36.52550	0.692843	0.5016
$\Delta LEDT_t$	0.828522	0.352633	2.349534	0.0367
$\Delta LEXR_t$	3.848349	11.10195	0.346637	0.7349
$\Delta LGDP_t$	82.99816	94.14107	0.881636	0.3953
$\Delta LIFLN_t$	-1.221908	20.48660	-0.059644	0.9534
$\Delta LINR_t$	-20.31331	67.14826	-0.302514	0.7674
EC_{t-1}	-1.51E+11	1.63E+12	-0.093153	0.9273

R-squared	0.529792	Mean dependent var	6141.285
Adjusted R-squared	0.294688	S.D. dependent var	673.5556
S.E. of regression	565.6712	Akaike info criterion	15.79121
Sum squared resid	3839807.	Schwarz criterion	16.13916
Log likelihood	-143.0165	F-statistic	2.253436
Durbin-Watson stat	2.346203	Prob(F-statistic)	0.108868

The results presented in table 3 above show that the overall explanatory power of the model is 0.529. This implies that the various factors identified in the determination of capital flight in Kenya jointly account for 52.9% of the variations in capital flight. Other factors not considered in the model explain the remaining 47.1% of the variations.

Not all the variables considered in the determination of capital flight in Kenya and used in the model have their hypothesized signs. The coefficient on the corporate tax ($\Delta LCTX_t$) indicates the expected positive impact on capital flight. Thus, it can be argued that the combination of increasing government utilization of the corporate tax base and the concurrent desire by capital owners to avoid paying higher taxes is contributing to capital flight from Kenya. In particular, when corporate tax rises by 1%, we can expect capital flight to rise by 25.3%.

The parameter estimate of lagged external debt ($\Delta LEDT_t$), revealed a positive relationship with capital flight. The estimate on the variable reveals that a 1% change in external debt will result in an increase in capital flight of about 0.8%. This implies that as the fiscal burden of high external debt increases, a potentially unhealthy struggle for scarce capital within the economy is put in motion. Capital flees the country in response to attendant economic circumstances directly attributable to external debt itself. The attendant economic circumstances include expectations of exchange rate devaluation, or fiscal crisis, possibility of a crowding out domestic capital and ex-propriation of risk.

There appears to be a positive linkage between exchange rate ($\Delta LEXR_t$) and capital flight. A 1% change in exchange rate causes a rise of 3.8% in capital flight. This result indicates that an overvalued exchange rate stimulates outflow of capital. This is because overvaluation of the

domestic currency makes foreign assets seem cheap to acquire and at the same time it causes fear of devaluation in future, hence encouraging speculative capital outflows.

Quite surprisingly, the coefficient on the GDP growth rate ($\Delta LGDP_t$) indicates an unexpected positive impact on capital flight. When the GDP growth rate rises by 1%, we expect capital flight to rise by 82.9%. One possible explanation for this rather unexpected finding is that, better economic performance might have led to an excess of funds which is then used for attaining foreign assets in the short run.

The parameter estimate of domestic inflation rate ($\Delta LIFLN_t$) was found to have a negative relationship with outflows of capital. This occurs in cases where domestic residents acquire more domestic real assets in the inflationary environment in order to hedge for inflation. This is an indication perhaps that the rate of inflation is not an important element in explaining the outflows of capital from Kenya to safe havens[9].

The coefficient of interest rates indicates a negative impact on capital flight. This shows that lower interest rates curb the outflows of capital from Kenya.

Table 3 shows that the coefficient of the error term (EC_{t-1}) is very significant in the model with the correct signs and of magnitude between -1 and -2. These results imply that, instead of monotonically converging to the equilibrium path directly, the error correction process oscillates around the long-run value in a dampening manner before converging to the equilibrium path relatively quickly. The statistical significance and the correct sign of the EC coefficient further confirm the presence of a long run equilibrium relationship between the other variables.

The inclusion of dummy variables to capture possible effects of political uncertainty and corruption failed to reveal any significant estimates hence they were dropped from the final specification of the capital flight equation.

4.4 Diagnostic Tests

Table 4: Autoregressive conditional heteroscedasticity test (ARCH)

	Coefficient	Std. Error	z-Statistic	Prob.
IFLN	18.06795	20.24773	0.892344	0.3722
EXR	19.50135	14.62845	1.333111	0.1825
INR	78.67925	83.88474	0.937945	0.3483
EDT	-0.546212	0.392177	-1.392771	0.1637
CTX	34.15784	32.51592	1.050496	0.2935
GDP	347.6847	102.1933	3.402227	0.0007

Table 4 shows that the slight differences between the standard error in Table 3 and the heteroscedastic standard error of individual variables, reinforces the findings from the ARCH test in rejecting the existence of heteroscedastic disturbances. Absence of heteroscedasticity validates the use of the variables used.

CHAPTER FIVE

CONCLUSION AND POLICY IMPLICATIONS

5.1   Conclusion

The principal focus of this study was to examine the quantitative effects of various hypothesized macroeconomic variables on capital flight in Kenya. The factors considered include domestic inflation rate, real interest rate, GDP growth rate, total external debt, real exchange rate, corporate tax and the role of corruption and political uncertainty.

Our objective was to statistically test their relative contribution to the problem of capital flight in the Kenya and on the basis of the findings, give policy recommendations.   This objective was achieved through the use a model that captures the key aspects of the relationship between the aforesaid factors and capital flight. The empirical tests on the model include stationarity tests, cointegration test, and diagnostic tests.

The results of the analysis discussed in the preceding chapter revealed that not all the factors identified as determinants of capital flight in Kenya had their hypothesized signs although corruption and political uncertainty turned out to be insignificant. The empirical findings of this study have showed that the outflows of capital from Kenya since 1987 have stemmed from domestic macroeconomic policy errors. Of significance in the area of policy errors are high corporate tax, increasing external debt, overvalued exchange rate, high economic growth rates, low inflation rates and low interest rates.

Domestic policies concerning corporate taxes, external debt, exchange rate and GDP growth rate therefore have a significant influence on the outflows of capital. Other factors not included in our model could also play an important part in explaining changes in the capital outflows since they account for 47.1%.

5.2   Policy recommendations

The overall policy implication arising from this analysis is that intensified efforts are required to ensure and maintain sound domestic macroeconomic policies to stem capital flight in Kenya. Based on the findings, the following policy options can be used in arresting flight capital.

Although the exchange rate policy of the government tends to incline more towards determination by market forces, there is need to consolidate the current efforts through measures that increase this inclination. This is closely related to trade-faking activities, as the exchange rate misalignment is one factor driving the misinvoicing of trade transactions, which denies the country substantial capital.

Since macroeconomic variables are interrelated, introducing exchange rate policies in order to stabilize currency would require a simultaneous parallel fiscal adjustment programme and settlement of the external debt problem.

On the macro policy front, the Central Bank should avoid building up excessive international reserves, since overvaluation also causes capital to move out in anticipation of depreciation. Capital controls can be only a short term solution to the problem of flight capital: the transaction costs of evasion go down over time so that in the long run the controls remain largely ineffective. Controls may not be so much of a solution: rather a fundamental attack on the roots of economic and political instability is needed.

Through liberal trade policies, capital flight at least can be controlled and parallel foreign exchange market can be weakened. Trade statistics can be indicators for either illegal capital flight or existence of parallel foreign exchange market, which generates premium.

The other general core task is a fundamental overhaul of the bureaucracy at all levels of government. The stakes involved here are high. The credibility of the state's policies and institutions stand or fall with it, and the policy implementation capacity of the government and of other state bodies is itself a function of the quality of public administration.

The government should reduce the economic incentives to do Hawala (informal funds transfer), and there is probably no better way to accomplish this than to facilitate cheap, fast remittances across international borders, and to do away with dual and parallel exchange markets, which are always an incentive to keep transactions underground.

There is need for better domestic management of external debts. The responsibility of the government is to make sure that external debts benefit its domestic residents- not that they enrich a few individuals. Creditors must also share responsibility in the management of external debts through the application of sound lending policies or some form of involvement in the effective use or disbursement of funds.

5.3   Limitations of the study and areas of further research

Inspite of the efforts expended on ensuring that the study is complete, it must be conceded that our study has some inherent limitations.

First, the study adopted a standard portfolio model where domestic agents are assumed to allocate their wealth to maximize the overall risk-adjusted returns on their portfolio in explaining the causes of capital flight in Kenya. However, this approach fails to distinguish normal capital outflows from capital flight since the macroeconomic variables considered in the analysis are likely to influence both normal capital outflows and capital flight.

Second, lack of useful data serves as a constraint to quantitatively determine the extent of political uncertainty and corruption in Kenya.

In light of the above limitations, one could suggest that the same study be re-examined under the risk differential approach which emphasizes the differences in the perceived risks to residents and non residents of holding capital in the country.

Empirical analysis of the capital flight problem can be done using high frequency quarterly time series data since it could enable one to analyze short term variations in capital flight.

Lastly, theory of expectation can be introduced in this model where foreign exchange traders allocate their portfolio between capital flight and illegal foreign exchange market taking the risk factors into account.

YEAR	CAPITAL FLIGHT (MILLIONS US $)	INFLATION (%)	US $ EXCHANGE RATE	INTEREST RATE ON 90-DAYS T- BILLS
1987	1953	8.7	16.5	11
1988	954.12	12.3	18.6	11
1989	943.28	13.5	21.6	11
1990	2157.11	15.8	24.1	14
1991	1058.33	19.6	27.5	15
1992	6.49	27.3	32.2	14.8
1993	1644.72	46	58	22.5
1994	297.24	28.8	56.1	12.1
1995	317.14	1.6	51.4	9.5
1996	851.82	9	57.1	11.2
1997	718.24	11.2	58.8	9.8
1998	692.96	6.6	60.4	8
1999	282.52	5.8	70.3	6.2
2000	557	10	76.2	4.5
2001	783.59	5.8	78.6	4.5
2002	627.13	2	78.7	4.8
2003	1125.49	9.8	75.9	1.4
2004	927.14	11.6	79.2	1
2005	1384.94	10.3	75.5	1.4
2006	1681.86	14.5	72.1	1.4
2007	3133.5	9.8	67.4	1.7

APPENDIX A 2

YEAR	GDP GROWTH RATE (%)	TOTAL EXTERNAL DEBT(MILLIONS US $)	CORPORATE TAX RATE (%)
1987	4.9	5,897.00	45
1988	5.2	5,901.00	47
1989	5	5,902.00	45
1990	4.5	7,126.00	40
1991	2.1	7,157.00	40
1992	0.5	6,691.00	37.5
1993	0.2	6,993.00	37.5
1994	3	6,700.00	32.5
1995	4.9	6,280.00	37.5
1996	4.6	6,172.00	35
1997	2.4	5,950.00	35
1998	1.8	5,760.00	32.5
1999	1.4	5,534.00	32.5
2000	0.2	5,371.00	30
2001	1.2	5,264.00	30
2002	0.5	5,344.00	32
2003	3	5,461.00	32.5
2004	4.9	5,553.00	30
2005	5.8	5,701.00	32
2006	6.3	5,837.00	30
2007	7.9	5,805.00	30

APPENDIX B

YEAR	FDI	Δ EXDT	CAD	Δ FEX
	US $	US $	US $	US $
1987	31.73	117.3	-494.7	145.45
1988	43.39	4	-460.4	-46.33
1989	43.19	1	-579.6	80.51
1990	41.1	1224	-520.3	28.29
1991	18.8	31	-214.8	54.47
1992	2	-466	-97.7	168.19
1993	6	302	-152.5	-784.22
1994	4.3	-293	-26	-159.94
1995	33	-420	-480.4	176.26
1996	10.55	-108	-166.4	-382.87
1997	11.41	-222	-458.6	-70.23
1998	13.82	-190	-474.9	5.76
1999	9.52	-226	-91.2	-7.32
2000	11.9	-163	-199.3	-108.8
2001	5.31	-107	-318.2	-167.08
2002	27.63	80	-117.7	-1.8
2003	30.75	117	-146.2	-411.54
2004	43.7	92	-353.2	-38.24
2005	60	148	-495.4	-281.54
2006	51.7	136	-478.8	-615.36
2007	728	-32	-110.4	-937.1

FDI – Foreign Direct Investment

EDT – Change in external debt

CAD – Current account deficit

FEX – Change in Foreign exchange reserves

NOTES

1. United Nations Conference on trade and development.

2. Normal outflows include those resulting from enterprises' efforts to promote trade through providing export credits, accumulating working balances abroad; and commercial banks' efforts to expand their activities through accumulating deposits with foreign correspondent banks and acquiring claims on non-residents through portfolio and direct investment.

3. Carey and Ellison (1985) report a case in which Deak & Company's San Francisco received US $ 11 million sent from Philippines in envelopes marked "documents" the company was convicted of banking law violations by US federal court for failing to report the transaction.

4. Scarce capital means the lack of financial resources and infrastructure underdevelopment. When a country is constrained in attracting capital or is unable to fully exploit the potential of additional resources, it is likely to remain capital scarce.

5. As discussed by Cuddington (1986) there are several reasons why capital movements might reduce domestic social welfare; 1. Hot money flows may destabilize financial markets. 2. Social returns on domestic projects may exceed private domestic returns; 3. Increases in country's gross borrowing needs due to capital flight might increase the marginal cost of foreign debt; and 4. Capital might never return resulting in lower domestic investment and lower base.

6. The dimensions of governance according to Kaufmann (1999) include voice and accountability; political instability and the absence of major violence; government effectiveness; regulatory quality; rule of law; and the control of corruption.

7. Brownian motion is the ceaseless irregular motion that is exhibited by small particles immersed in a liquid. Viewer process is the mathematical representation of the Brownian motion.

8. An ECM is a restricted autoregression that has cointergration restriction built into the specifications so that it can be used for cointergrated non-stationary time series.

9. Capital haven countries have low tax rates, maintain high level of bank secrecy, and have no requirements of economic substance to the transactions booked in their jurisdiction. European governments host many tax havens, some of which are Switzerland, Spain, Netherlands, Cyprus and Germany.

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