

**RELATIONSHIP BETWEEN EXCHANGE RATES AND SELECTED MACRO
ECONOMIC VARIABLES IN KENYA**

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DECLARATION

STUDENT'S DECLARATION

This research project is my own original work and has not been presented for examination in any other University. No part of this research should be reproduced without my consent or that of University of Nairobi.

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This research project has been submitted for examination with my approval as the University supervisor.

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DEDICATION

I dedicate this paper to the Almighty God whose grace sustained me through this journey. I also wish to dedicate it to my super mummy Batula Hirsi. There is no doubt in my mind that without her continued support and counsel I would not have completed this process.

ABSTRACT

Many developing economies have experienced challenges in handling the exchange rate equilibrium. This translates into a high degree of uncertainty for the two main monetary policy objectives that policymakers often seek to achieve: price stability and economic growth. Despite the importance of determinants of exchange rate policies in economic management, few government agencies have implemented the recommendations by scholars. Kenya, just like other developing countries has experienced a combination of exogenous shocks such as worsening terms of trade mainly on account of fluctuations in international commodity prices, oil price shocks and volatility in capital flows, which have created macroeconomic management policy challenges. The purpose of this study was to investigate the factors that determine exchange rates in Kenya and how those factors influence the exchange rates. This study adopted a quantitative research design. Secondary data involved the collection and analysis of published material and information from other sources such as the Central Bank of Kenya, Kenya National Bureau of Statistics, Ministry of The National Treasury and Ministry of Commerce and Tourism. Data was analyzed using SPSS and presented by use of figures and graphs. The study concludes that the exchange rate is high in Kenya and that it is on the increase. The study further concludes that exchange rates in Kenya are significantly affected by political factor, balance of payment, average annual interest rate and inflation rates. This study therefore recommends that policy makers should enact policies that improve the balance of payment so as to contribute towards gaining value of the Kenyan shilling against foreign currencies. The policy makers should come up with policies that will contribute to lowering the exchange rates in Kenya and contribution to reversing this trend. The study also recommends that policy makers should enact policies that will lower the inflation rates in Kenya.

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ABBREVIATIONS

ANOVA	-	Analysis of Variance
GDP	-	Gross Domestic Product
KES	-	Kenya Shilling
KNBS	-	Kenya National Bureau of Statistics
PPP	-	Purchasing Power Parity
RER	-	Real Exchange Rate
SPSS	-	Statistical Package for Social Sciences
UK	-	United Kingdom
USA	-	United States of America
USD	-	United States Dollar

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Exchange rates have been fixed by government action rather than determined in the marketplace for most of the twentieth century (Defrenot and Yehoue, 2006). Before World War I the values of the world's major currencies were fixed in terms of gold, while for a generation after World War II the values of most currencies were fixed in terms of the U.S. dollar. However, some of the world's most important exchange rates change frequently (Barnett and Ho Kwag 2007). Equilibrium in exchange rate is determined in the foreign exchange market at a point where demand for and supply of foreign currency equates. Demand for a currency comes from net export while supply of the currency comes from net foreign investment. Any change in demand for and supply of currency effect its value just like a good market that is if demand for a currency increases its value (exchange rate) will be increased while increase in supply of the currency will reduce its value(exchange rate) in the foreign exchange market. In recent decades, it is observed a rapid development of global capital market and financial services. In these circumstances, the dynamics of exchange rates have an increasing impact on the overall macroeconomic situation in countries around the world (Civcir, 2003). This applies particularly to small open economies, where domestic monetary policies don't have an impact on world interest rates. For these countries, the exchange rate becomes a major tool to adapt to changing external conditions.

Each country has a currency in which the prices of goods and services are quoted the dollar in the USA, the euro in France, the pound sterling in the UK, the yen in Japan, and the kroner in Denmark and hundreds in a line (Closterman and Schnatz, 2000). Exchange rates play a central role in international trade because they allow us to compare the prices of goods and services produced in different countries. In daily newspapers you can see relative prices of national currency per foreign unit. Weekly or monthly magazines and journals show growth trends over specific period. As long as exchange rates are part of our everyday business or main factor that effect the way how our business goes, it is worth to analyze how currency rates change and what are the determinants that control this movement. One of the major elements of monetary system of a country is the exchange rate, where the exchange value of national currency of one country expressed in monetary units of another country (Opoku-Afari et al., 2004).

Kenya is an open economy undergoing intense globalization, hence an understanding of its exchange rate is important (Were et al., 2001). This study attempts to give a holistic perspective of Kenya's exchange rate determination by integrating theory and institutional realities. It attempts to provide guidance as to what factors need to be considered when attempting to understand and forecast Kenya's exchange rate trends. The studies on exchange rates and possible variations of currency rates attracted great interest in 70s; and so far this topic one of the leading ones in economic sphere.

1.1.1 Exchange Rates

Exchange rates are prices that are determined by supply and demand. For some countries the exchange rate is the single most important price in the economy because it determines

the international balance of payments (Levich, 2001). There is no general theory of exchange rate determination, but Eiteman et al (2001) divide the potential exchange rate determinants into five areas: parity conditions, infrastructure, speculation, cross-border foreign direct investment and portfolio investment, and political risks. Although no model has been consistent in predicting short-term foreign exchange rate behavior, there are several major concepts that play a role in determining the long-term behavior of foreign exchange rates. The first concept is based on the idea that the current price of an asset reflects all available information; and therefore, only unexpected events cause exchange rates to fluctuate.

Simwaka (2004) points out that the character and the context of the change will greatly affect the nature of the change. The nature of the change is the effect it has on the exchange rate, whether exchange rates move immediately, reach a new equilibrium, overreact, or continue to adjust. For example, “character” affects the nature of the change depending on whether the change is unanticipated versus anticipated changes, permanent versus temporary changes, real versus nominal changes, and single industry versus economy-wide changes. Additionally, the extent that an opinion is held on the change and the level of the rate of change will affect the nature of the change. Lim (2006) also talks about the “context” of the change having an effect on exchange rate movement. For example, regarding “context” he is referring to how monetary authorities are perceived, the demand for home country currency and securities, the level of liberalization, and the source of the change.

In the short term exchange rates seem to be affected by news about fundamental economic events, although economic models still remain unreliable for short term

forecasting. In the last 25 years economists have adopted the asset approach to exchange rates in an attempt to explain exchange rate movements. The asset approach emphasizes the role of expectations. In the monetary approach the exchange rate establishes a relative price between two currencies. In the portfolio-balance approach, exchange rates reflect the relative risk and return of two currencies. (Razin and Collins, 2007)

1.1.2 Factors That Determine Exchange Rates

There is no general theory of exchange rate determination, but (Frankel, 2007) divide the potential exchange rate determinants into five areas: parity conditions, infrastructure, speculation, cross-border foreign direct investment and portfolio investment, and political risks. Although no model has been consistent in predicting short-term foreign exchange rate behavior, there are several major concepts that play a role in determining the long-term behavior of foreign exchange rates. The first concept is based on the idea that the current price of an asset reflects all available information; and therefore, only unexpected events cause exchange rates to fluctuate (Youngblood, 2004).

Eita and Sichei (2006) asserts that the basic principles of this system are that, the countries have their own choice to any system of the exchange rate fixed or floating, established unilaterally or through multilateral agreements. As a result, the dynamics of the exchange rate has become to provide greater influence on the overall macroeconomic situation than it was before. The successful outcomes of policies and practices of floating exchange rate is that the mechanism of this type is most suited to modern principles of openness of national economies and their integration with the world economy. In turn, the system of fixed parities forcing the country to hold the exchange rate at a certain

level, which may hinder the direct effect of external factors on the domestic economy (Hopper, 2009). It conserves the structure and proportions, which are no longer relevant for changed international conditions of production and exchange.

Razin and Collins (2007) points out that like any price, exchange rate deviates from the valuation basis the purchasing power of currencies under the influence of demand and supply of currency. The correlation of such supply and demand depends on several factors. Multiple factor exchange rate reflects its relationship with other economic categories - cost, price, money, interest, the balance of payments, etc.

1.1.3 Relationship between Exchange Rates and Selected Macro Economic Variables

Political or psychological factors are believed to have an influence on exchange rates (Youngblood, 2004). Many currencies have a tradition of behaving in a particular way such as Swiss francs which are known as a refuge or safe haven currency while the dollar moves (either up or down) whenever there is a political crisis anywhere in the world. Exchange rates can also fluctuate if there is a change in government. Foreign investors inevitably seek out stable countries with strong economic performance in which to invest their capital. A country with such positive attributes will draw investment funds away from other countries perceived to have more political and economic risk. Political turmoil, for example, can cause a loss of confidence in a currency (depreciation) and a movement of capital to the currencies of more stable countries.

It is widely held that exchange rates move in the direction required to compensate for relative inflation rates (Elbadawi and Sato, 2005). For instance, if a currency is already overvalued, i.e. stronger than what is warranted by relative inflation rates, depreciation

sufficient enough to correct that position can be expected and vice versa. It is necessary to note that an exchange rate is a relative price and hence the market weighs all the relative factors in relative terms (in relation to the counterpart countries). The underlying reasoning behind this conviction is that a relatively high rate of inflation reduces a country's competitiveness and weakens its ability to sell in international markets. This situation, in turn, will weaken the domestic currency by reducing the demand or expected demand for it and increasing the demand or expected demand for the foreign currency (increase in the supply of domestic currency and decrease in the supply of foreign currency). As a general rule, a country with a consistently lower inflation rate exhibits a rising currency value, as its purchasing power increases relative to other currencies. During the last half of the twentieth century, the countries with low inflation included Japan, Germany and Switzerland, while the U.S. and Canada achieved low inflation only later. Those countries with higher inflation typically see depreciation in their currency in relation to the currencies of their trading partners. This is also usually accompanied by higher interest rates.

A net inflow of foreign currency tends to strengthen the home currency vis-à-vis other currencies (Kempa, 2005). This is because the supply of the foreign currency will be in excess of demand. A good way of ascertaining this would be to check the balance of payments. If the balance of payments is positive and foreign exchange reserves are increasing, the home currency will become stronger. A ratio comparing export prices to import prices, the terms of trade is related to current accounts and the balance of payments. If the price of a country's exports rises by a greater rate than that of its imports, its terms of trade have favorably improved. Increasing terms of trade, shows greater

demand for the country's exports. This, in turn, results in rising revenues from exports, which provides increased demand for the country's currency (and an increase in the currency's value). If the price of exports rises by a smaller rate than that of its imports, the currency's value will decrease in relation to its trading partners.

An important factor for movement in exchange rates in recent years is interest rates, i.e. interest differential between major currencies. In this respect the growing integration of financial markets of major countries, the revolution in telecommunication facilities, the growth of specialized asset managing agencies, the deregulation of financial markets by major countries, the emergence of foreign trading as profit centers per se and the tremendous scope for bandwagon and squaring effects on the rates, etc. have accelerated the potential for exchange rate volatility. Interest rates, inflation and exchange rates are all highly correlated. By manipulating interest rates, central banks exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise. The impact of higher interest rates is mitigated, however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down (Razin and Collins, 2007). The opposite relationship exists for decreasing interest rates - that is, lower interest rates tend to decrease exchange rates.

1.1.4 Exchange Rates in Kenya

The liberalization experience in Kenya shows that domestic interest rates have remained high even when inflation has been low and declining (Adam, 1992). That is, the economy

has been on a deflationary trend since 1994, save for a few blips in 1997, and the exchange rate has been volatile (Elbadawi and Sato, 2005). In this liberalization period, Kenya has experienced short-run capital flows responding to an interest rate differential. These capital flows are essentially portfolio flows for speculation. In this period, conflicting goals and objectives in managing the exchange rate have brought the authorities a policy dilemma. It relates to targeting both a competitive exchange rate and low inflation in a floating exchange rate regime. To pursue these goals, the authorities have intervened occasionally in the foreign exchange market to stabilize the nominal exchange rate in the face of volatile capital flows. Then they have to follow this action by sterilizing these capital flows in the money market, thereby raising the domestic interest rates. The result has been that the exchange rate has been stabilized in the short run but at the cost of high interest rates, which jeopardize the goal of increased domestic investment and economic recovery.

In the 1990s the Kenyan Government liberalized the financial, foreign exchange and domestic goods markets (Mungule, 2004). The liberalization of the foreign exchange market in Kenya was gradual, from a fixed exchange rate regime up to 1982 to crawling peg during the period 1983 to 1993 before a floating exchange rate regime was adopted in 1993. Following the liberalization of the foreign exchange market, Kenya attained monetary independence to control inflationary pressures but lost the nominal anchor to tie domestic prices down and thus globalization effects are transmitted directly into the country. According to a study done by Killick and Mwega (2009) shows that the Kenya shilling real exchange rate (RER) has gone through several phases since its liberalization in 1993. The shilling real exchange rate depreciated by 21.0 % in January 1995 to

October 1999 followed by a period of relative stability in October 1999 to December 2004. Recently however, the shilling real exchange rate has experienced a strong appreciation. In December 2004 to December 2007, the shilling real exchange rate appreciated by 30.0 % representing a major deviation from its past levels. This appreciation of the shilling real exchange rate has also attracted public attention especially from exporters who have argued that the strengthening shilling is eroding their competitiveness.

In addition to the developments in the Kenya shilling exchange rates, there have been significant changes in the terms of trade, degree of openness and the level of external inflows. The country's terms of trade remained fairly stable in 2005 to 2006, with an average decline of only 0.6% compared with an average decline of 2.6% in 2001 to 2006. However, in the 2007- 2012 period, the terms of trade declined by an average of 3.8%. Similarly, the degree of openness as measured by the ratio of total trade to GDP rose from an average of 41.0% to 42.7% while it averaged 46.2% in the 2010- 2012 period. Also, net external capital inflows as a ratio of GDP averaged 3.0% in 2007 to 2008 compared with an average of 2.6% in 2009 to 2012. The net external capital inflow in 2010 and 2012 was on average 3.9% of GDP (KNBS Economic Survey, 2012).

1.2 Research Problem

Many developing economies have experienced challenges in handling the exchange rate equilibrium (Razin and Collins, 2007). This translates into a high degree of uncertainty for the two main monetary policy objectives that policymakers often seek to achieve: price stability and economic growth. Exchange rates are associated with unpredictable

movements in the relative prices in the economy among other determinants as discussed above. Therefore, exchange rate stability is one of the main factors that promote total investment, price stability and stable economic growth (AL Samara, 2009).

Despite the importance of determinants of exchange rate policies in economic management, few government agencies have implemented the recommendations by scholars (Lim, 2006). It is already recognized in the literature that the real exchange rate is an endogenous variable that responds to both exogenous and policy induced disturbances and that prolonged real exchange rate misalignment will usually generate macroeconomic disequilibrium (Elbadawi, 1997). Part of the policy induced disturbances emanate from the money market. There are some studies that have traced disturbances in the exchange rate to the disturbances in the money market in Latin America (Broeck and Slok, 2006).

Kenya, just like other developing countries has experienced a combination of exogenous shocks such as worsening terms of trade mainly on account of fluctuations in international commodity prices, oil price shocks and volatility in capital flows, which have created macroeconomic management policy challenges (Killick and Mweya, 2009). External shocks require appropriate fiscal and monetary policies and the adoption of a flexible exchange rate regime to prevent emergence of unsustainable current account deficits, growing foreign debt burdens and steady losses of international competitiveness. Kenya's vulnerability to external shocks is amplified by concentration in agricultural products exports such tea, coffee and horticulture, thus exposing the country to direct impact of fluctuations in global commodity prices. Moreover, given that oil import bills account for over 20% of total merchandise imports, oil price hikes in world markets are

transmitted to domestic prices and lead to a worsening of the country's balance of payment position (KNBS, 2012).

Few studies have been conducted to explain exchange rate movements in Kenya. Even fewer have linked the exchange rate and the monetary policy. Most studies have concentrated on explaining the domestic rate of inflation, where the nominal exchange rate enters as one of the explanatory variables (Mwega, 1990; Ndung'u, 2000, 2001). Others have estimated a money demand equation where the nominal exchange rate enters as one of the explanatory variables (Adam, 1992). Only two of these studies attempt to establish a statistical relationship between money and the exchange rate. For example, in Barnett and Ho Kwag (2005) and Ndung'u (2000), money supply growth, inflation and exchange rate (among other variables) are analysed in a vector autoregressive model. None of the studies tries to investigate factors that determine exchange rates in Kenya; hence the study begged the questions which are the factors that determine exchange rates in Kenya and how do those factors influence the exchange rates?

1.3 Research Objective

To investigate the factors that determine exchange rates in Kenya and how those factors influence the exchange rates.

1.4 Value of the Study

The real exchange rate, both bilateral and multilateral, has been a policy target, and in most exchange rate regime changes the aim is to maintain a stable and competitive real exchange rate. Real exchange rates are crucial not only for attaining sustained general economic performance and international competitiveness, but have a strong impact on

resource allocation amongst different sectors of the economy, foreign trade flows and balance of payments, employment, structure of production and consumption and external debt crisis. With regard to the impact of the real exchange rate on international trade (the genesis of all other impacts), the real exchange rate is usually used as an indicator of the need for devaluation of a currency. An appreciation in the real exchange rate may signify that a country may experience current account difficulties in the future because it usually leads to an overvaluation of the exchange rate. Overvaluation makes imports artificially cheaper for consumers and exports relatively expensive for producers and foreign consumers; hence it reduces the external competitiveness of a country. Thus, the most important use of the real exchange rate is as an indicator of a country's international competitiveness. This study is, therefore, of greater significance to Kenya policy makers, as it is to those of many other developing countries, where the export sector is expected to contribute more to the growth of the economy and address the problem of unemployment that has recently raised much criticism of the Kenyan government.

This study is of significance to both current and potential Kenyan and foreign investors for from the findings of the study, they can learn how exchange rate influence the prices hence they would consider the macro-economic variable in their investment decision. The study is invaluable to the monetary policy decision makers for they can innovatively formulate foreign exchange strategies that ensure that the exchange rate in the financial market at anytime do not negate investments in the economy. Being that few studies have been done in Kenya on the determinants of exchange rates this study is of importance to Kenyan scholars and academician for the knowledge it adds in the area. Therefore, this study acts as a point of reference for future studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The aim of this chapter is to identify the set of variables that may potentially act as determinants of the real exchange. The chapter is divided into three sections. The first section covers theoretical literature on the determination of the real exchange rate, while the second section covers empirical findings on this subject. The last section concludes with the summary of the empirical literature focusing on the gaps to be filled.

2.2 Theoretical Review

There are three important theories that aptly explain fluctuations in exchange rates. Theory of Purchasing Power Parity (P.P.P), Interest Rate Theory and Bop and Exchange Rate Theory have been discussed below.

2.2.1 Purchasing Power Parity Theory

An important concept to understand when evaluating the economic health of nations and the relative dynamics between international markets is the idea of purchasing power parity (Teh Kok and Shanmugaratnam, 1992). The basic theory asserts that the prices of common goods between two countries should be equal once prices have been converted to a common currency. Distilled to its basic form, purchasing power parity is a ratio that displays the relative price level differences across two countries for similar products or group of products. PPP is used as a first step in making inter-country comparisons based in real terms of gross domestic product (GDP) and its component expenditures. GDP is

commonly used as an economic indicator for size, growth, and health of a nation. PPP allows countries to be viewed through a common reference point. Taken as a long-term theory, one should expect a convergence of all prices for common goods around the world in order for equilibrium to take affect and mitigate cost arbitrage opportunities. This note will provide the reader a deeper understanding of how the theory of purchasing power parity works, the practical application of PPP, flaws surrounding the application, and the relationship between PPP and real exchange rates (Blair, 1994).

To begin to understand PPP, one can start at how the theory is developed from the law of one price and then translated or generalized to the concepts of absolute purchasing power parity and relative purchasing power parity. One of the basic theories on exchange rate relates the price level in a country to the exchange rate (Hoque, 1995). Purchasing power parity (PPP) is a theory of exchange rate determination which compares the average costs of goods and services between countries. It proposes that if identical products and services are sold in two different markets at two different prices, the exchange rate would be such that the price of the product/service is still same even if product/service price may be stated in two different currencies. In other words, exchange rate between currency pairs is in equilibrium when purchasing power is same. PPP indicates that exchange rate between two countries should equal to the ratio of similar goods and services in both countries.

According to Ghura and Grennes (1992), the spot rate between two countries can be determined by comparing the price index of a basket of similar goods and services. It is very important to understand at this point is that price index should comprise of “similar” goods and services” consumed by residents of both countries. If the actual spot exchange

rate equals the rate calculated by PPP, then PPP holds true. However, it is empirically proved that PPP in absolute form based on single product or based on a price index does not hold good.

2.2.2 Interest Rate Theory

This theory states that premium or discount of one currency against another should reflect the interest differential between the two currencies, the currency of the country with a lower interest should be at a forward premium in terms of the currency of the country with a higher rate. Interest rate parity theory in an efficient market with no transaction costs, the interest differential should be (approximately) equal to the forward differential when this condition is met, the forward rate is said to be at interest rate parity and equilibrium prevails in the money markets (Kiguel, 1992). Interest rate parity theory thus, the forward discount or premium is closely related to interest differential between the two currencies. If it is looked at differently, interest rate parity says that the spot price and the forward, or futures price, of a currency incorporate any interest rate differentials between the two currencies summing there are no transaction costs or taxes.

Covered interest rate parity ensures that the return on a hedged (or covered) foreign investment will just equal the domestic interest rate on investments of identical risk. This means the covered interest differential the difference between the domestic interest rate and the hedged foreign rate- is zero. Interest rate parity says that high interest rates on a currency are offset by forward discounts and that low interest rates are offset by forward premiums. Interest rate parity is one of the best documented relationships in international finance. In fact, in the Eurocurrency markets, the forward rate is calculated from the

interest rate differential between the two currencies using the no-arbitrage condition (De Grauwe, 1994).

2.2.3 Bop and Exchange Rate Theory

This theory asserts that the consistent adverse balance of payment will make the currency to depreciate in near future and the consistent surplus in balance of payment will make the currency appreciate in near future. Forecasting Exchange Rates Forecasting future exchange rates is virtually a necessity for a multinational enterprise, inter-alia , to develop an international financial policy It is particularly useful for an international firm if it intends to borrow from or invest abroad It is also useful for framing a hedging policy . Forecasting Exchange Rate in Short-term Three methods are used for the purpose: Method of Advanced Indicators: - the ratio of country's reserves (gold, foreign currencies and SDRs) to its imports - The ratio indicates the number of months (N) imports, covered by the reserves (R) $N = R/I \times 12$ $N = (30/80) \times 12 = 4.5$ months As a general rule, if reserves are than 3 moths' value of imports, the currency is vulnerable and may face devaluation (Pilbeam, 1992).

Use of Forward Rate as Predictor of Future Spot Rate: Ohno (1990) believe in the efficiency of markets and consider that forward rates are likely to be an unbiased predictor of the future spot rate In other words, the rate of premium or discount should be an unbiased predictor of the rate of appreciation or depreciation of a currency. Forecasting exchange rate in short-term graphical methods: Rate-time curve bar chart curve of resistance curve of support the charts or graphs are prepared to gain insight into the trend of fluctuations and forecast the moment when the trend is likely to reverse.

Forecasting exchange rate in medium and long-term economic approach: Structure of the balance of payments Reserves in gold or in foreign exchange Interest rates Inflation rates Employment level 2. Sociological and Political Approach (Edwards, 1994)

2.3 Empirical Review

2.3.1 Global Empirical Literature

Global literature includes MacDonald (2008) among others. MacDonald (2008) presents a reduced form model of the real exchange rate to re-examine the determinants of real exchange rates in a long run setting. His model features productivity differentials, terms of trade effects, fiscal balances, net foreign assets and real interest rate differentials as key fundamental determinants of the real exchange rate. Using multivariate co integration methods, the model is implemented for the real effective exchange rates of the U.S. dollar, Yen and the Deutschmark, over the period 2004 to 2007. He found evidence of a significant and sensible long run relationship for his model, indicating that the fundamentals mentioned above have an important and significant bearing on the determination of both long and short run real exchange rates. All the variables were found to have a positive relationship with the real exchange rate; an increase in any of them leads to an appreciation of the real exchange rate.

Antonopoulos (2011) tests the so-called “Shaikh hypothesis”, which states that the real exchange rate is fundamentally determined by the ratio of relative real unit labour costs (as a proxy for productivity differentials) of tradable goods between two countries. However, Antonopoulos’s model adds capital flows to the “Shaikh hypothesis” and employs co integration methodology on Greece’s data covering the period 1990 – 2010.

The study provides evidence that real exchange rate movements cannot be explained by the PPP hypothesis, that there is a strong role of the productivity of the export sector of Greece *vis-à-vis* that of the rest of the world, and that there is a less important role of net capital inflows. The evidence in this study suggests that an improvement in the relative productivity of Greece's export sector and in capital inflows appreciates the country's real exchange rate.

Kempa (2005) takes as a starting point a simple textbook version of the Dornbusch model of exchange rate determination and transforms it to obtain a decomposition of exchange rate, output and price level data of the British- U.S., German-U.S. and Japanese-U.S. bilateral. Real exchange rates, as well as relative price levels and output movements, are decomposed into components associated with nominal shocks as well as shocks to aggregate supply and demand. In other words, Kempa (2005) identifies two distinct sources driving exchange rates: one arising in financial markets and other in the real economy. Nominal shocks are measured as changes in money supply and money demand and aggregate supply shocks are measured by a series on industrial production, while the rate of domestic absorption and elasticity of the current account are used as proxies for aggregate demand shocks. The decomposition suggests that nominal shocks account for less than 33 per cent of overall real exchange rate variability, aggregate supply shocks explain less than 10 per cent of overall variability and the remaining variability are accounted for by aggregate demand shocks, particularly at longer forecast horizons. Thus, the evidence in this study suggests that exchange rate fluctuations appear to be predominantly equilibrium responses to real shocks, rather than volatility in financial markets.

As noted in the last section, Edwards (2009) pioneered the fundamentals models of the determination of real exchange rates for developing countries. Edwards started by developing a theoretical model of the real exchange rate determination and then estimating its equilibrium value for a panel of 12 developing countries (Brazil, Columbia, El Salvador, Greece, India, Israel, Malaysia, Philippines, South Africa, Sri Lanka, Thailand and Yugoslavia) using conventional co integration tests on time series data. To analyze the relative importance of real and nominal variables in the process of real exchange rate determination in the short and long run, he uses the following partial adjustment model: $RER = v$ (terms of trade, government consumption, capital controls, exchange controls, technical progress, domestic credit, real growth, nominal devaluation). The study found that in the long run only real variables affect the long run equilibrium real exchange rate. In the short run, however, real exchange rate variability is explained by both real and nominal factors. More precisely, the most important factors identified in this study as affecting the equilibrium real exchange rate are the terms of trade and composition of government spending, the control of foreign exchange and the movement of goods (openness), technical progress and capital inflow. An increase in government consumption, capital inflows, terms of trade and a decrease in technological progress and openness appreciate the real exchange rate (Edwards, 2009). Edwards further investigates the impact of real exchange rate misalignment on economic performance, and concludes that countries whose real exchange rates are closer to equilibrium outperform those with misaligned real exchange rates.

Edwards's pioneering work inspired a number of studies on not only the determinants of the real exchange rate, but also on the effects of real exchange rate misalignment, the

majority of them using co integration tests rather than classical regressions. These studies include Ghura and Grennes (2007) who use a panel of Sub-Saharan countries, excluding South Africa, to investigate the determinants of the real exchange rate and the impact of real exchange rate misalignment on economic performance. Ghura and Grennes (2007) employ a classical regression methodology and found that the real exchange rate becomes appreciated with (i) an improvement in the terms of trade, (ii) a capital inflow, (iii) a decrease in openness, (iv) an increase in excess domestic credit, and (v) an improvement in technology. Nominal devaluation, the last variable in their model, depreciates the real exchange rate. With regard to the impact of real exchange rate misalignment and variability, they found that real exchange rate misalignment and variability negatively affect income growth, exports and imports, and investment and savings.

Elbadawi (2006) also develops a model of the determination of the long run equilibrium real exchange rate. The fundamental determinants of the long run equilibrium real exchange rate in this model include the terms of trade, openness (a proxy for commercial policy), the level of net capital flows relative to GDP, the share of government spending in GDP and the rate of growth of exports (a productivity measure). Elbadawi empirically estimates his model on annual data for Chile, Ghana and India. The findings of this study suggest that, in all three countries, the real exchange rate and all the fundamentals identified in the model are non-stationary and co-integrated. In addition, the qualitative signs of these fundamentals' coefficients in the co-integrating regressions are in accord with theoretical predictions.

2.3.2 Local Empirical Literature

There are very few studies that have analyzed the determination of the real exchange rate and its relationship locally. As mentioned earlier in this study, the period after the transformation of the Kenyan economy remains largely neglected. The few studies that have investigated the determinants of the real exchange rate of the Kenyan shilling include the pioneering work of Mwega (1990). Musyoki, Pokhariyal and Pundo (2000) were reviewed in the previous sub-section on empirical literature from other developing and emerging markets. As noted there, the main finding in this study is that, in the long run, only real variables affect long run equilibrium real exchange rates of a panel of 12 developing countries, including Kenya, while in the short run the real exchange rate is driven by both real and nominal factors. However, since the study employed panel methods, it did not provide a specific result for Kenya.

Ndung'u (2001) employ a co integration framework with single equation equilibrium error correction models to investigate the short and long run determinants of the quarterly real effective exchange rate for Kenya, over the period 1970:1 – 1995:1. Ndungu found a co integrated equilibrium from a theoretical model characterizing equilibrium as the attainment of both internal and external balance for sustainable capital flows and trade tax regimes, given terms of trade and technology. Specifically, they estimate an equation based on the following explanatory variables: $RER = F$ (terms of trade, price of tea, tariffs, capital, official reserves, openness, nominal depreciation, government share in GDP, domestic credit, technological progress). An increase in the terms of trade, price of tea, tariffs, capital inflows, official reserves, government share in GDP, domestic credit and technological progress, all lead to an appreciation of the real exchange rate in Kenya,

while an increase in openness and nominal depreciation depreciates the real exchange rate. Their finding that an increase in the terms of trade leads to an appreciation of the real exchange rate suggests that the income effect dominates the substitution effect in Kenya. However, the remaining variables (nominal depreciation and domestic credit) show only a short term impact on the real exchange rate.

Finally, Kiptoo (2003) also estimate the equilibrium real exchange rate for Kenya using the Johansen co integration estimation procedure and data spanning from 1970:1 – 2002:1. The explanatory variables included in their model include real interest rate differential, real GDP *per capita* relative to trading partners (productivity), real commodity prices, openness, the ratio of fiscal balance to GDP and the ratio of net foreign assets of the banking system to GDP. Based on their co integration estimation results, much of the long run behavior of the real effective exchange rate of South Africa can be explained by real interest rate differentials, relative GDP *per capita* (productivity), real commodity prices (terms of trade), trade openness, the fiscal balance and the extent of net foreign assets. As in other empirical studies, they found that an increase in the real interest rate differential, productivity, terms of trade, fiscal balance and net foreign assets appreciate the real exchange rate in Kenya, while an increase in openness depreciates it. They further found that if the real exchange rate deviates from its equilibrium level owing to temporary factors, it can be expected to revert to equilibrium fairly quickly, in the absence of further shocks.

2.4 Summary of Literature Review

The main objective of this chapter has been to investigate the potential determinants of the real exchange rate. There are several theoretical models of the determination of the real exchange rate, let alone of its measurement, but the so-called fundamentals models have emerged as the most popular in empirical analysis on this subject. These models combine several other models to come up with potential fundamental determinants of real exchange rates. In other words, they provide a unified dynamic framework for analyzing the behavior of the real exchange rate.

Previous researchers have empirically estimated these fundamentals models, but only selecting variables that suit their different situations. However, it is self-defeating to come away from the vast literature covered in this chapter without more than a feeling that the main determinants of the long run real exchange rate in developing countries include changes in the terms of trade, productivity (technological progress) and real interest rate differentials *vis-à-vis* trading partner countries, fiscal policy (sectoral composition of government spending), international transfers and capital flows, commercial policies and the extent of net foreign assets. However, shocks to nominal variables, such as changes in monetary and nominal exchange rate policies, may cause the real exchange rate to deviate from its long run path, but their effects will only be transitory. Thus, the real exchange rate is determined by both real and nominal variables in the short run, while only real variables influence the real exchange rate in the long run.

The Local studies partly covers the post-multiparty period, but does not employ other analytical techniques, such as multivariate regression model, which can provide a wealth

of information on dynamic effects on the real exchange rate. Further, the study will include some variables which other researchers have not used in analyzing the determinants of foreign exchange, such as political factors, inflation rates, balance of payments and interest rates. These and other gaps that have already been mentioned will be addressed in this study. It can be noted from the foregoing empirical literature review that there is a myriad of factors that affect the real exchange rate.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out various stages and phases that were followed in completing the study. It involved a blueprint for the collection, measurement and analysis of data. In this stage, most decisions about how research was executed and how respondents were approached, as well as when, where and how the research was completed. Therefore in this section the research identified the procedures and techniques that were used in the collection, processing and analysis of data. Specifically the following subsections were included; research design, data collection instruments, data collection procedures and finally data analysis.

3.2 Research design

Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The plan is the overall scheme or program of the research (Cooper and Schindler, 2003). This is a plan that specifies how data from the study was collected and analyzed. For this study, quantitative approach was used specifically a case study design is chosen due to its ability to provide in-depth of the case to be studied. It was appropriate for gathering data from various sources including documentary reading, questionnaires and interviews. It was also useful in studying a particular social unit and it guaranteed a particular freedom and flexibility in the actual process of data collection in the area of study. This study covered a period of less than 10 years i.e. (2003 - 2012).

3.3 Data Collection

Data collection is gathering empirical evidence in order to gain new insights about a situation and answer questions that prompt undertaking of the research (Kothari, 2004). In this research, secondary data was collected from sources such as Central Bank of Kenya, Kenya National Bureau of Statistics, Ministry of The National Treasury and Ministry of Commerce and Tourism.

3.4 Data Analysis

Data collected was sorted, classified and coded then tabulated for ease of analysis. The data will be summarized and categorized according to common themes. Data collected was analyzed using frequency distribution tables, descriptive statistics and inferential statistics. The SPSS (version 17) computer software aided the analysis as it is more users friendly. The data was entered into the Statistical Package for Social Sciences (SPSS) and analyzed using descriptive, correlation and regression analyses. One-way analysis of variance was preferred because it is capable of comparing the means of three or more groups on a given attribute (Kothari, 2004).

3.4.1 Analytical Model

The four predictors in the model were; political factors, inflation rates, balance of payments and interest rates. The study used USD since it is the major currency in trade globally. The USD was highly favoured due to its stability against other world currencies. Other major currencies like Euro are highly susceptible to economic distortions in the European region.

The data was collected is on monthly USD/KES exchange rates over the years from Central Bank, monthly inflation rates figures from Central Bank and the level of aggregation of trade flows from Kenya National Bureau of statistics library. The study also analysed monthly interest rates from Central Bank for the last ten years. Political factor was measured by yearly foreign direct inflow levels as a percentage of GDP.

A multivariate regression model was applied to determine the relative importance of each of the variables with respect to exchange rate in Kenya.

The regression model used was as follows:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y = Exchange rates

β_0 = Constant term

X_1 = Average Annual Interest Rate

X_2 = Average Annual Inflation Rate

X_3 = Level of aggregation of trade flows as measured by Balance of Payment

X_4 = Political factor as measured by Foreign Direct Inflows as a ratio of GDP

ϵ = error term

ANOVA was the most preferred in the study because it could be used to examine differences among the means of several different groups at once. Since ANOVA is used

to test independent variables, the researcher opted to use it. The correlation coefficients from the regression showed the effect (whether positive or negative) of the independent variables on the dependent variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

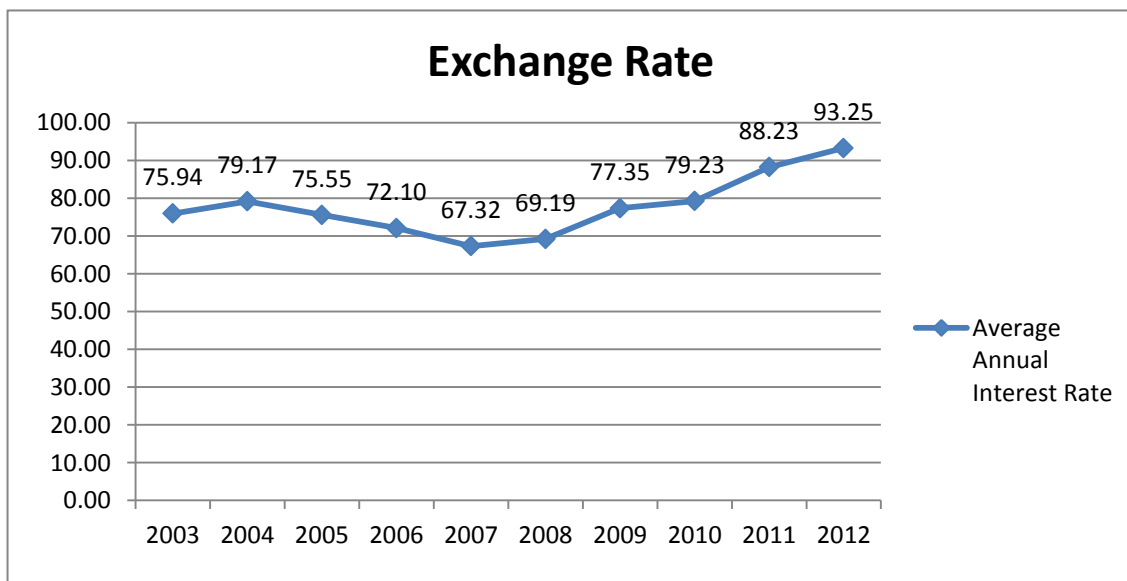
This chapter presents analysis and findings of the study as set out in the research objective and research methodology. The study findings are presented on the factors that determine exchange rates in Kenya and how those factors influence the exchange rates. The data was gathered exclusively from the secondary source.

4.2 Descriptive Statistics

4.2.1 Exchange rates

The study sought to establish the trend in the movement of exchange rates in Kenya with reference to the mostly used foreign currency which was United States Dollar. The findings were as shown in the Figure 4.1 below and appendix I:

Figure 4.1: Exchange rates

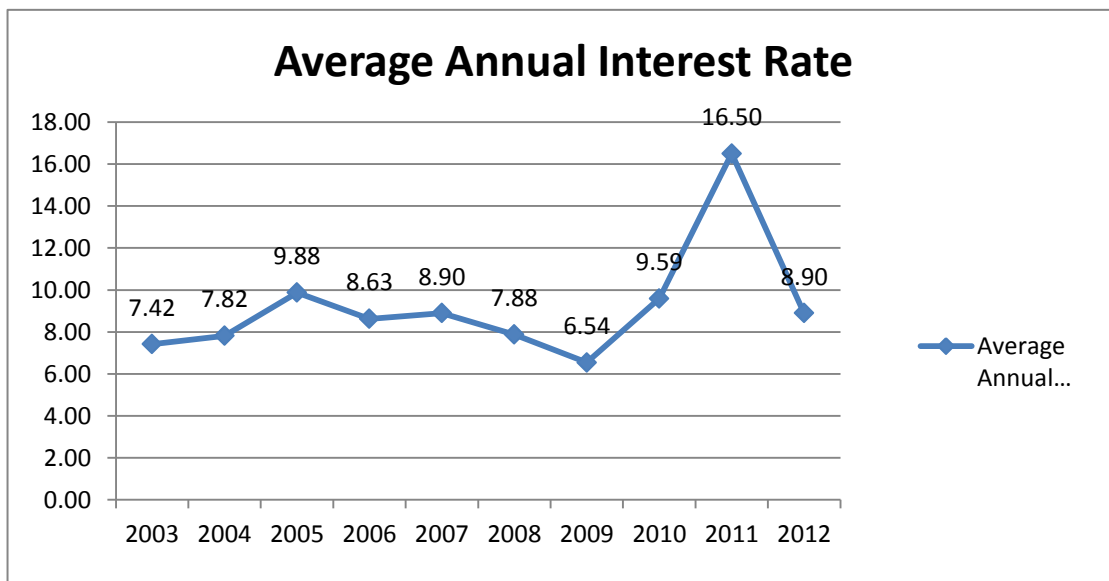


From the findings presented above, the study established that in the inception year 2003, the amount of Kenya shillings exchanged for a United States Dollar was Ksh. 75.94. The currency however lost ground against the Dollar to reach a high of Ksh. 79.17 in 2004. In the year 2005, the exchange rates against the dollar was Ksh. 75.55 after which it appreciated to exchange at Ksh 72.10 in 2006 and further appreciated to a exchange at Ksh. 67.32 against the us dollor in the year 2007. the For the year 2008, the exchange rate was at Ksh. 69.19 after which it the kenyan shilling lost value continuously against the us dollar over the rest of the study period were by it increased to Ksh 77.35 in 2009, then to Ksh 79.23 in 2010, then to Ksh 88.23 in 2011 and finaly to Ksh. 93.25 in 2012.

4.2.2 Average Annual Interest Rate

The study sought to find out the trend in the movement of annual average interest rates over the study period. The findings were as shown in the Figure 4.2 below and appendix II:

Figure 4.2: Average Annual Interest Rate

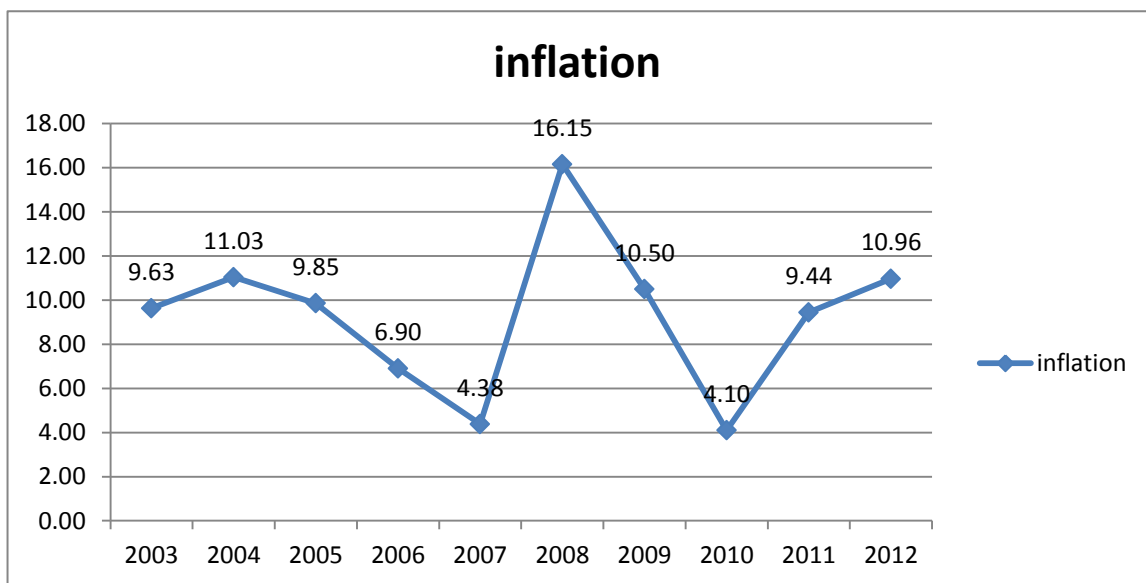


At the inception year 2003, the average annual interest rates were 7.42 after which the rate increased to 7.82 in 2004 and then to 9.88 in 2005. Over the following four year, the average interest rates declined continuously. The year 2006 posted an average annual interest rate of 8.63 after which it decreased to 8.90 in 2007 then to 7.88 in 2008 and further to 6.54 in 2009. The year 2010 posted an average annual interest rate of 9.59 which increased to further to an all times high of 16.50 in 2011 before declining to 8.90 as at the end of the study period.

4.2.3 Average Annual Inflation Rate

The study sought to establish the trend in the movement of average annual inflation rates in Kenya over the study period. The findings were as shown in the Figure 4.3 and appendix III:

Figure 4.3: Average Annual Inflation Rate



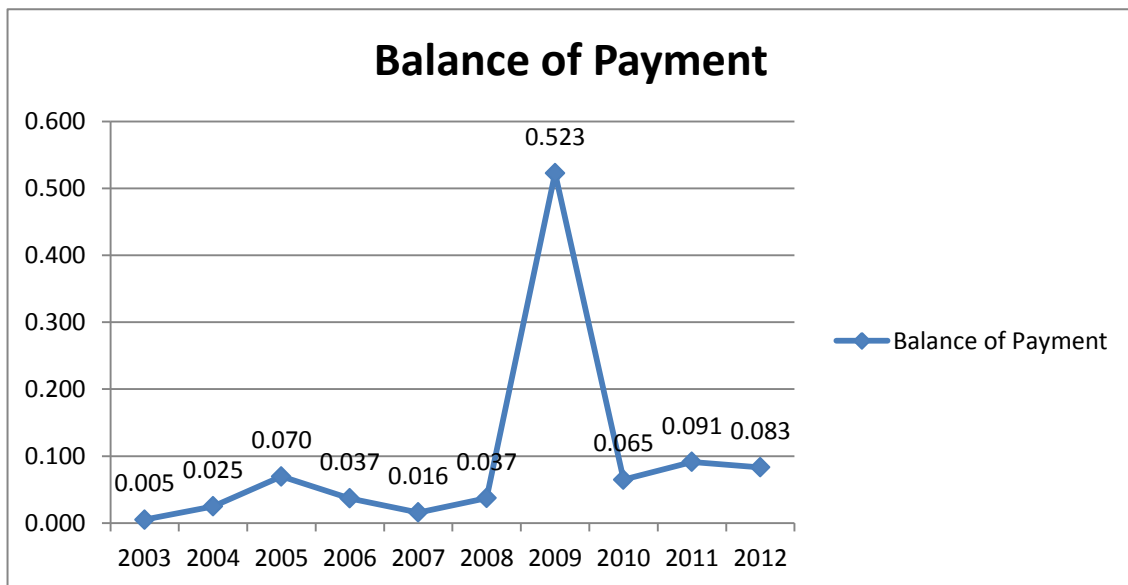
From the findings, the study established that inflation rates had been fluctuating over the study period. As at the year 2003, inflation rate was 9.63 after which it increased to 11.03 in 2004 before a continuous decrease to 9.85, 6.90 and then to 4.38 in the year 2005, 2006 and 2007 respectively. Annual inflation rates however increased sharply to 16.15 in 2008 before declining to 10.50 in 2009 and further to all time low of 4.10 in the year 2010. Over the rest of the study period, the inflation rates increased continuously were by the year 2011 posted an average inflation rate of 9.44 which increased further to 10.96 in 2012.

4.2.4 Level of aggregation of trade flows as measured by Balance of Payment

The study also sought to establish the level of aggregation of trade flows as measured by balance of payment for the study period. The BOP was expressed as a ratio of the GDP.

The findings were as presented Figure 4.4 and appendix II:

Figure 4.4: Level of aggregation of trade flows as measured by Balance of Payment

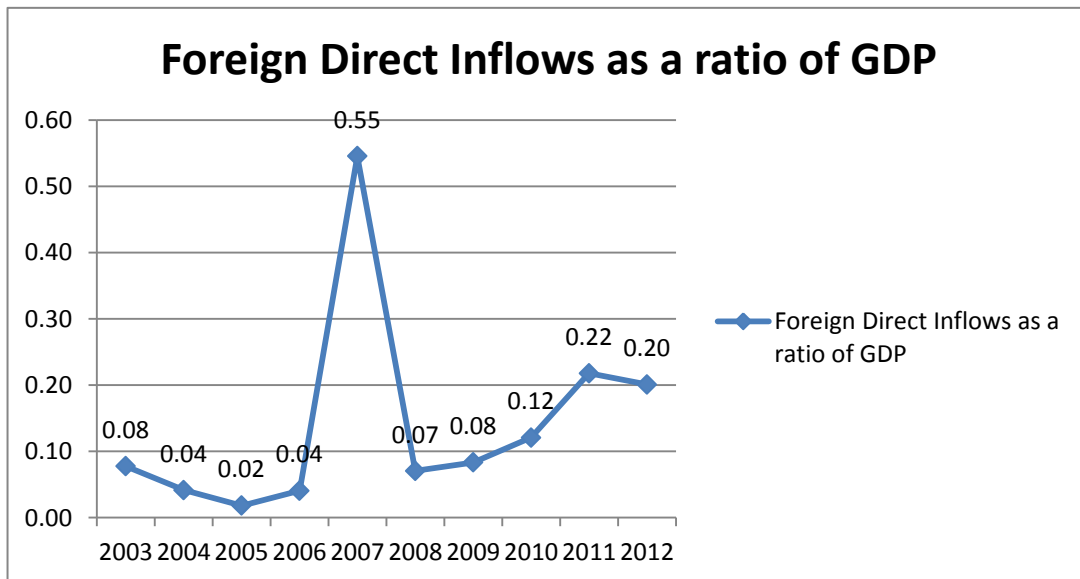


From the findings of the study shown in Figure 4.4 above and appendix II, the Balance of Payment started at a positive 0.005 in 2003. BOP increased continuously over the next two years to record 0.025 and then 0.070 in 2004 and 2005 respectively. In 2006 the BOP declined to 0.037 then further to 0.016 in 2007. In 2008, BOP gained an upward trend whereby it increased to 0.037 and the sharp increase was recorded afterward whereby the BOP increased to a all times high of 0.523 in 2009. The year 2010 posted a drop whereby BOP decreased to 0.065 after which it increased to 0.091 in 2011 before a slight decrease to 0.083 in 2012.

4.2.5 Political factors as measured by Foreign Direct Inflows as a ratio of GDP

The study also sought to establish movement in Political factors as measured by Foreign Direct Inflows as a ratio of GDP over the study period. The findings were as presented Figure 4.5 and appendix II:

Figure 4.5: Political factors as measured by Foreign Direct Inflows as a ratio of GDP



As at the year 2003, Foreign Direct Inflows expressed as a ratio of GDP was 0.08. The ratio decreased to 0.04 and further to 0.02 in 2004 and 2005 respectively. In 2006, it gained an upward trend whereby the ratio increased to 0.04 in 2007 and further to an all time high of 0.55 in 2007. A sharp decline was posted in 2008 whereby the ratio decreased to 0.07. Since 2008, the ratio of Foreign Direct Inflows to GDP increased continuously over the rest of the study period. The ratio increased to 0.08 in 2009, then to 0.12 in 2010, then to 0.22 in 2011 and finally to 0.20 in 2012.

4.3 Inferential Statistics

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.557^a	.510	-.242	8.91931
a. Predictors: (Constant), FDI , Balance of Payment, Average Annual Interest Rate , Inflation Rates				

The four independent variables that were studied, explain only 51.0% of the exchange rates in Kenya as represented by the adjusted R². This therefore means that other factors not studied in this research contribute 49.0% of the exchange rates in Kenya. Therefore, further research should be conducted to investigate the other factors (49.0%) that affect exchange rates in Kenya.

Table 4. 2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	178.771	4	44.693	.562	.002 ^b
	Residual	397.771	5	79.554		
	Total	576.541	9			
a. Dependent Variable: Exchange rates						
b. Predictors: (Constant), FDI , Balance of Payment, Average Annual Interest Rate , Inflation Rates						

The significance value is 0.002 which is less than 0.05 thus the model is statistically significant in predicting how FDI , Balance of Payment, Average Annual Interest Rate and Inflation Rates affect exchange rates in Kenya.

Table 4. 3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	61.195	15.333		3.991	.010
	Average Annual Interest Rate	1.598	1.126	.550	1.420	.215
	Inflation Rates	.195	.962	.086	.203	.047
	Balance of Payment	8.401E-009	.000	.225	2.591	.041
	FDI	-7.811	21.750	-.154	-2.359	.034
a. Dependent Variable: Exchange rates						

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of

variation in the dependent variable (exchange rates) that is explained by all the four independent variables.

As per the SPSS generated table above, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon_i$) becomes:

$$Y = 61.195 + 1.598(X_1) + 0.195(X_2) + 8.401 * 10^{-009}(X_3) + -7.811(X_4)$$

The table above presents the regression analysis result for the relationship between the dependent variable (exchange rates) and the independent variables. The intercept term was 61.195 which was significant as P-Value obtained was which less than 0.05. According to the model above, when the FDI , balance of payment, are held constant, a unit increase in average annual interest rate will increase the exchange rate by 1.598. When other factors are held constant, a unit increase in Inflation Rates will decrease the exchange rates by 1.598. The model also shows that FDI had a negative relationship with exchange rates such that a unit increases in FDI holding other factors constant will lead to a decrease in exchange rates by -7.811. The study also found that a unit increase in Balance of Payment will lead to an $8.401 * 10^{009}$ increase in the exchange rates.

4.5 Summary and Interpretation of Findings

The study found that the exchange rates are high in Kenya and that they are on increase. The coefficient of the rate of change in the exchange rates was 61.195 which were significant. This shows that the relationship between exchange rates and the independent variables which included average annual interest rate, inflation rates, balance of payment and political factor was significant. This is consistent with Razin and Collins (2007) who point out that like any price, exchange rate deviates from the valuation basis the

purchasing power of currencies under the influence of demand and supply of currency. The correlation of such supply and demand depends on several factors. Multiple factor exchange rate reflects its relationship with other economic categories - cost, price, money, interest, the balance of payments, etc.

An important factor for movement in exchange rates in recent years is interest rates, i.e. interest differential between major currencies. The coefficient of average annual interest rate was 1.598 which was not significant, $p - value = 0.215 > 0.05$. This indicated that there was a positive but insignificant relationship between changes in exchange rates and average annual interest rates. This is similar to what Razin and Collins (2007) previously posited that higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise. The impact of higher interest rates is mitigated, however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down.

It is widely held that exchange rates move in the direction required to compensate for relative inflation rates (Elbadawi and Sato, 2005). For instance, if a currency is already overvalued, i.e. stronger than what is warranted by relative inflation rates, depreciation sufficient enough to correct that position can be expected and vice versa. Consistent with these earlier studies, the coefficient of inflation rates for this study was 0.195 which was significant; $P - value = 0.047 < 0.05$. the findings show that exchange rates in Kenya were significantly and directly sensitive to the rates of inflation. Higher rates of inflation resulted into greater the changes in the exchange rates.

The coefficient of balance of payment was 8.401×10^9 which was significant; p – $value = 0.041 < 0.05$. This indicated that there was a significant relationship between changes in exchange rates and balance of payment. This concur with Kempa (2005) who observed that a net inflow of foreign currency tends to strengthen the home currency vis-à-vis other currencies because the supply of the foreign currency will be in excess of demand.

The findings also show that there was an inverse relationship between FDI flow and exchange rates with a magnitude of -7.811 at a p -value of 0.034. This implies that higher FDI resulted into low exchange rates. In line with this, Youngblood (2004) observed that political or psychological factors are believed to have an influence on exchange rates. Foreign investors inevitably seek out stable countries with strong economic performance in which to invest their capital. A country with such positive attributes will draw investment funds away from other countries perceived to have more political and economic risk. Political turmoil, for example, can cause a loss of confidence in a currency (depreciation) and a movement of capital to the currencies of more stable countries.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is organized into five parts; the summary of findings, conclusions of the study, recommendations for policy and practice and suggestions for further research.

5.2 Summary

This study sought to investigate the relationship between exchange rates in Kenya and the factors which included FDI, Balance of Payment, Average Annual Interest Rate, and Inflation Rates. This study adopted a quantitative research design. Secondary data involved the collection and analysis of published material and information from other sources such as the Central Bank of Kenya, Kenya National Bureau of Statistics, Ministry of The National Treasury and Ministry of Commerce and Tourism. Data was analyzed using SPSS and presented by use of figures and graphs.

This study used regression analysis model in which the dependent variable was the average annual interest rates in Kenya. The study findings established that exchange rates were on continuous increase over the last years of the study period. The study findings further established that there were fluctuations in average annual interest rates, inflation rates, balance of payments and FDI. The study also revealed that exchange rates were directly affected by Average Annual Interest Rate, Inflation Rates and Balance of Payment while they were inversely related to Political Factor which was measured as a ratio of Foreign Direct Inflows to GDP.

5.3 Conclusions

From the study findings and discussion, the study concludes that the exchange rates are high in Kenya and that they are on increase. The study further concludes that exchange rate in Kenya is significantly affected by political factor, balance of payment, average annual interest rate and inflation rates.

From the study findings and discussions the study concludes that Average Annual Interest Rate is directly related to exchange rates whereby an increase in Average Annual Interest Rate increases the exchange rates in Kenya. The study further concludes that the Annual Interest Rates in Kenya are high.

The study also concludes that inflation rates have a direct relationship with the exchange rates in Kenya whereby an increase inflation rates increases the exchange rates in Kenya. The study further concludes that inflation rates are high in Kenya.

From the study findings, the study concludes that balance of payment has a direct relationship with the exchange rates in Kenya. In addition the study concludes that political factor is inversely related to rates of exchange of Kenya shillings against other foreign currencies.

5.4 Recommendations for Policy and Practice

The study finding established that the political factor was inversely relates to exchange rates this study therefore recommends that policy makers should enact policies that improve the political factor it contributes towards gaining value of the Kenyan shilling against foreign currencies.

The study findings established that exchange rates are high in Kenya and were on increase. This implied that the Kenyan shilling was losing value against foreign currencies. This study therefore recommends that the policy makers should come up with policies that will contribute to lowering the exchange rates in Kenya and contribution to reversing this trend.

The study recommends that policy makers should enact policies that will lower the inflation rates in Kenya as found out in the study that inflation rates are high and that they contribute towards increasing the exchange rates in Kenya..

5.5 Limitations of the Study

The strength of this research lies in its time limit. The scope of this research was for the less than to years ending and including the year 2012. It is not known whether the results would hold if a longer period would have been researched upon. Further it is not possible to tell whether the same findings will hold for the period after 2012.

The quality of the data may be a weakness of this study. It is not possible to tell from this research whether the results are simply due to the nature and quality of data used or whether it is the true picture of the situation. Actually the use of the data from the various sources is based on the assumption that the data are accurately captured.

The measures used may keep on varying from one year to another subject to the prevailing condition. For example the Balance of payment was deeply affected by the post election violence which slowed down trade with other nations as either the goods to trade in were lacking or the demand for imported goods was low.

The data used is also affected by political stability of the nation which plays an important role in the international trade. As such, political stability plays an important role in determining exchange rates and balance of payments.

5.6 Suggestions for Further Research

This study focused on the empirical historical data only. Exchange rates are also affected by non empirical factors. There is need to complement the findings of this research by incorporating other factors that affect exchange rates in Kenya.

The study further recommends that another study be conducted in Kenya on the relationship between foreign exchange rates and economic development to check whether changes in the foreign exchange affect the income per capita of the citizens.

The study also suggests that further studies be carried out on the influence of macroeconomic policies on exchange rates in Kenya. Exchange rates are a function of many macro economic variables. By establish the influence of each macroeconomic variable on foreign exchange rates will enable policy makers know what tool to use when controlling the foreign exchange rate levels.

Finally, the study suggests that further research be conducted on the relationship between Balance of payment and economic development because through international trade, a country's development is affected in so many ways including provision of employment and foreign currency.

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APPENDICES

Appendix I: Exchange rates

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Average
2003	77.72	76.84	76.58	75.66	71.61	73.72	74.75	75.96	77.9	77.77	76.74	76.02	75.94
2004	76.29	76.39	77.26	77.91	79.24	79.27	79.99	80.83	80.72	81.2	81.2	79.77	79.17
2005	77.93	76.94	74.8	76.15	76.4	76.68	76.23	75.81	74.1	73.71	74.74	73.11	75.55
2006	72.21	71.8	72.28	69.62	71.76	73.41	73.66	72.87	72.87	72.29	71.13	69.63	71.96
2007	69.88	69.62	69.29	68.58	67.19	66.57	67.07	66.95	67.02	66.85	65.49	63.3	67.32
2008	68.08	70.62	64.92	62.26	61.9	63.78	66.7	67.68	71.41	76.66	78.18	78.04	69.19
2009	78.95	79.53	80.26	79.63	77.86	77.85	76.75	76.37	75.6	75.24	74.74	75.43	77.35
2010	75.79	76.73	76.95	77.25	78.54	81.02	81.43	80.44	80.91	80.71	80.46	80.57	79.23
2011	81.03	81.47	84.24	83.89	85.43	89.05	89.9	92.79	96.36	101.27	86.66	86.66	88.23
2012	80.67	86.21	74.8	84.52	76.4	87.08	86.45	93.5	98.31	99.06	92.86	92.12	87.66

Appendix II: FDI, GDP, Balance of Payment and average annual interest rate

	FDI (CURRENT US \$)	GDP	Ratio of FDI to GDP	average annual interest rate	Balance of Payment	Balance of Payment expressed as ratio of GDP
2003	81,738,242.64	1055658000	0.08	7.42	5,302,622.90	0.005
2004	46,063,931.45	1109541000	0.04	7.82	27,618,447.10	0.025
2005	21,211,685.40	1175133000	0.02	9.88	81,738,242.60	0.070
2006	50,674,725.18	1249470000	0.04	8.63	46,063,931.50	0.037
2007	729,044,146.04	1336846000	0.55	8.90	21,211,685.40	0.016
2008	95,585,680.23	1357263000	0.07	7.88	50,674,725.20	0.037
2009	116,257,608.99	1394387000	0.08	6.54	729,044,146.00	0.523
2010	178,064,606.75	1474763000	0.12	9.59	95,585,680.20	0.065
2011	335,249,880.28	1539306000	0.22	16.50	140,522,653.20	0.091
2012	320,853,226.78	1597198472	0.20	8.90	133,035,869.70	0.083

Appendix III: Average Annual Inflation Rates

Inflation	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Jan	1.1	8.9	12.7	9.9	3.8	2.6	16.9	12.1	9.1	4.7	18.9
Feb	1.7	7.4	13.1	14.9	7.7	3.1	16.3	11.9	5.9	4.1	18.3
March	2.1	8.1	12.9	13.9	9.5	3.3	16.7	10.5	5.3	3.6	16.7
April	1.3	10.7	8.9	14.2	9.6	3.1	17.2	7.8	4.1	4.2	15.6
May	3.2	12.7	9.7	10.4	7.5	2.1	18.2	9.9	2.7	3.9	13.1
June	3.5	11.2	9.9	10.3	6.6	2.7	17.3	6.2	3.2	4.7	12.2
July	2.8	10.9	10.9	11.9	5.5	5.3	18.1	12.8	4.3	4.5	10.1
Aug	1.5	8.9	12.6	11.8	5.1	6.2	15.9	12.1	3.3	14.49	7.7
Sep	1.4	12.3	9.9	6.9	5.8	5.1	11.7	10.5	2.6	16.6	6.1
Oct	1.3	7.8	11.6	4.3	6.9	4.4	13.9	9.9	3.1	15.5	5.4
Nov	1.6	8.4	10.8	3.7	7.9	5.2	16.4	12.4	2.9	17.3	4.14
Dec	2.2	8.2	9.4	6	7.3	9.5	15.2	9.9	2.7	19.7	3.3
Average	1.975	9.625	11.03	9.85	6.90	4.38	16.15	10.5	4.1	9.44	10.96