RELATIONSHIP BETWEEN EXCHANGE RATE FLUCTUATIONS AND THE DEMAND FOR CREDIT AMONG COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

This Research Paper is my original work and has not been presented for a degree qualification in any other university or institution of learning.

SIGNED ---------- Date----------

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Supervisor's Declaration

This Research Project has been submitted for examination with my approval as the University Supervisor.

SIGNED…….. Date ……..

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DEDICATION

The research project is dedicated to my husband, Boniface Kyalo and son, Rene Kyalo. They have been a source of inspiration, encouragement and have granted me immeasurable support throughout this research project.

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ABSTRACT

Events in the economy are capable of having many effects in the foreign exchange market. A foreign exchange rate affects several variables which form great basis for demand of credit in an economy. Given the openness of most contemporary economies, money demand functions should include the effect of external monetary and financial factors approximated by movements in foreign rate and exchange rate. The demand for money is one of the key functions in formulating effective and appropriate monetary policy. An understanding of the determinants of the demand for money is important because it bears on monetary theory and policy, and sheds light on how changes in money supply and related variables such as interest rates are transmitted to the economy and on how they affect the level of economic activity. The objective of this study was to establish the relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya

The research utilized descriptive research and the population consisted of all the commercial banks in Kenya, licensed by Central Bank of Kenya hence a census. The sampling frame was based on time series annual data of the independent and dependent variables for a period of 13 years between 2000 and 2012. Secondary data from the Central Bank of Kenya was used in the analysis. In order to establish the relationship, a regression analysis was carried out.

The study findings established that that there was a strong negative relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya. The study findings further established that Kenyan currency has been loosing value over one of the major foreign currencies- US$, Gross loans and advances had been increasing as well as inflation rate, Average lending rate and government domestic borrowing. The study recommends enactment of policies that control demand and supply of foreign currency to facilitate strengthening of Kenyan currency, control of lending rates while reducing inflationary pressures.

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ABBREVIATIONS AND ACRONYMS

CBK	-	Central Bank of Kenya
CBR	-	Central Bank Rate
CIRP	-	Covered Interest Rate Parity
CRB	-	Credit Reference Bureaus
DTM	-	Deposit-Taking Microfinance Institutions
EU	-	European Union
IFE	-	International Fischer Effect
GDP	-	Gross Domestic Product
MFC	-	Mortgage Finance Company
PPP	-	Purchasing Power Parity
SPSS	-	Statistical Package of Social Sciences
UCIRP	-	Uncovered Interest Rate Parity
US$/USD	-	United States
Ksh.	-	Kenya Shillings

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The effectiveness of monetary policy geared towards overcoming economic fluctuations is the main objective of the policy makers and it calls for clarity regarding what factors affect the demand for money. The collapse of several pegged exchange rate regimes during the 2000s led to the perception that these regimes were more prone to both currency and financial crises after sharp credit expansions. In this context, in a study of the occurrence of twin crises, Kaminsky and Reinhart (1999) show banking crises and currency crises in close succession. Overall, evidence on the link between crises and alternative exchange rate regimes is not clear-cut, but the literature suggests that the exchange regime may have an impact on developments in financial markets and asset prices, through several channels.

An economy with pure floating exchange rate regime capital inflows would appreciate the domestic currency with no further effect on monetary aggregates. With a fixed exchange rate, however, the central bank would be forced to intervene, accumulating international reserves so as to maintain the peg. According to Nicolas, Carmen & Esteban, 2012, Part or all of this reserve accumulation can be (in principle) offset through sterilization, a contraction in domestic credit affected through open market sales of domestic bonds. In practice, sterilization is usually partial; as it is costly (risk premiums on domestic bonds may be large in emerging economies) and foreign exchange intervention is associated with expanding the monetary base. Consequently, economies with less flexible exchange rate regimes are more likely to experience credit expansions in the presence of large capital inflows, the main channel being bank intermediation of these flows.

Montiel and Reinhart (2001) describe another channel through which exchange regimes may affect financial markets. They argue that by extending implicit improperly-priced guarantees, fixed exchange regimes may contribute to stronger credit growth than flexible ones, especially in the context of large capital inflows. Hence, deposit guarantees and a

peg are perceived as a guarantee to foreign currency claims, increasing the scope for banks' expansion through external funds, which can potentially feed into domestic credit for example an increase in the banking system's leverage ratio). In a different context, Backe and Wojcik (2007) develop a simple framework with an increasing trend in productivity growth in an emerging economy that pegs its domestic currency to a developed economy with constant productivity growth. The peg gives place to lower interest rates and higher domestic credit compared to the equilibrium with a flexible regime. Bakker and Gulde (2010) analyze the experience of new EU member states in Emerging Europe in the context of large capital inflows during the 2000s. They notice that, as economic activity and inflation accelerate, credit booms in countries with fixed exchange rate regimes are difficult to contain as increasing inflation lowers real interest rates further fueling credit demand. In countries with floating exchange rates, credit booms can be mitigated by letting the exchange rate appreciate, which will keep inflation low and real interest rates high.

A credible fixed exchange rate regime may also place incentives for taking on debt in foreign currency. To begin with, the increase in banks' leverage loan to deposit ratios that large capital inflows usually bring about can place incentives to lend directly in foreign currency, as this would allow banks to avoid currency mismatches in their balance sheets. As for debtors, in credible pegs, a small differential between interest rates in domestic and foreign currency may create incentives to borrow in the latter, as they would deflate a lower interest rate by expected domestic inflation or wage growth. These incentives have typically played a critical role during inflation stabilization programs, especially when they were coupled with policies allowing liability dollarization. Cavallo and Cottani (1997), for example, analyze the Argentinean experience with the currency board where the peg, as a nominal anchor, played a fundamental role in the dollarization of the financial system.

1.1.1 Exchange Rate Fluctuations

Given the openness of most contemporary economies, money demand functions should include the effect of external monetary and financial factors approximated by movements

in foreign rate and exchange rate. An increase in (expected) foreign interest rates would induce domestic residents to increase their holdings of foreign assets which would be financed by drawing down domestic money holdings. Also a change in exchange rate would affect portfolio decisions between domestic assets and foreign assets. So, if, for example, domestic currency is expected to depreciate, domestic portfolio holders would adjust their portfolio in favor of foreign assets and vice versa. It can be postulated from such effect of external factors that foreign interest rate and exchange rate expectations may have a negative effect on the demand for money.

The current account balance of a host country can be viewed as an indicator of the strength of is currency. A deteriorating current account balance is likely to lead to a depreciation of the host country's currency. It is possible that potential foreign and local investors view current account deficits negatively because such deficits may lead to inflation and exchange rate variations thus affecting interest rates (Dhakal, et al, 2010)

The adverse consequences of exchange rate volatilities on various parts of the domestic economy have now been well documented in numerous research works. In particular, a rise in exchange-rate volatilities has been found to have negative consequences on the trade sector (i.e. exports and imports) of the local economy (McKenzie (1999), Chou (2000), Rahmatsyah, et al, (2002) and Siregar & Rajan (2004)). A similar message was conveyed in a paper of Calvo & Reinhart (2002). They show that the monetary authority needs to intervene and manage the fluctuation of the local currency in order to achieve its desired level of inflation target.

1.1.2 Demand for Credit

The demand for money is one of the key functions in formulating effective and appropriate monetary policy. The existing literature on demand for money reveals that not much attention has been given to analyze the relationship between money demand and its determinants in developing countries like Kenya. Some of the previous studies on money demand have neglected the role of foreign monetary developments and changes in exchange rates. In open economies monetary developments like foreign interest rate and

exchange rate influence the domestic demand for real cash balances under flexible exchange rate. Hence, it can make the domestic money demand functions unstable more especially a reduction in the amount demanded in form of credit. Mundell (1963) first of all pointed out the existence of the relationship between demand for money and exchange rate. He was of the opinion that in addition to the traditional variables the impact of exchange rate on demand for money cannot be ignored. The less restricted movement of capital and growing needs of foreign trade may make money demand functions unstable.

The demand for money is a well-explored field of monetary econometrics. The main objective of this theoretical and empirical work is to find a stable money demand function, which is considered to be a prerequisite for an effective monetary policy. Stability of demand for money may facilitate an assessment of the path to be attained. To this end, various forms of the money demand functions have been estimated by including various variables in the money demand functions. Researchers have employed various econometric techniques in estimating the money demand functions. It is widely accepted that conventional models explain the demand for money to be determined by a scale variable represented by the rate of interest and/or inflation rate (Khan, 1994; Pradhan and Subramanian, 1997; James Obben, 1998; Bahmani-Oskooee and Bohl, 2000; Bahmani-Oskooee, 2001; Bahmani and Rehman, 2005). In addition, several attempts have been made to incorporate foreign opportunity cost variables such as exchange rate, foreign interest rate or interest rate differentials (Bahmani-Oskooee, 1991; 1996; Tan, 1997; Chowdhury, 1997; Khalid, 1999; Bahmani-Oskooee and Rehman, 2005).

McKinnon (1982) advocated specific channel of effects called currency substitution hypothesis which suggested that the countries with flexible exchange rates are subject to external monetary shocks transmitted through international financial markets. During the past two decades the focus of researchers remained on the impact of monetary developments on money demand functions (Bahmani-Oskooee, 1991; Chowdhury, 1997; Khalid, 1999; Ibrahim, 2001; Bahmani-Oskooee and Rehman, 2005).

Majority of the existing literature focused on modeling credit demand on aggregate level, mainly due to data unavailability for cross-country analyses on more disaggregated levels. In the models, most studies employ a simple set of explanatory variables, which usually include GDP per capita or real GDP, some kind of interest rate and the inflation rate (Calza *et al*., 2003; Brzoza-Brzezina, 2005; Calvo-Gonzalez , 2002 and Kiss, Nagy and Vonnák, 2006), Calza et el. (2001) estimated credit demand on aggregate level in the euro area. Calza *et al*. (2003) included a new measure of the cost of loans, obtained as a weighted average of bank lending rates, and extracted information content of the loan overhang/shortfall on the future inflation, concluding that loans disequilibria helps predict future changes in inflation. Empirical studies on demand for credit were aimed at estimating demand for loans on a more disaggregated level, i.e. by institutional sectors. Fase *et al*. (1992) analyzed credit demand of households by including more precise measures of costs of loans, such as bank interest rates on mortgage credit and interest rates on credit for consumption, as well as by including other variables, such as property prices. Jeanfils (2000) reports equations for mortgage loans and consumer credit in the Banque.

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An understanding of the determinants of the demand for money is important because it bears on monetary theory and policy, and it throws light on how changes in money

supply and related variables such as interest rates are transmitted to the economy and on how they affect the level of economic activity. Since the 1930's, economists have developed theories underlying the demand for money along several lines while diverse theories often posit similar variables to explain the demand for money. They frequently differ on the specific role assigned to each other.

1.1.3 Relationship between Exchange Rate Fluctuations and Demand for Credit

Exchange rates play a pivotal role in determining the price of a nation's product in the rest of the world and the domestic price of goods imported from abroad. Exchange rate movements have important consequences, depreciation of domestic currency brings about adverse consequences that boost inflation at home, reduce consumer's purchasing power and produce unfavourable terms of trade effects. (Lloyd B,2006). A deprecation of domestic currency may stimulate economic currency initially, through an increase of prices of foreign goods relative to domestic goods. By increasing competitiveness of domestic industries internationally, depreciation diverts spending from foreign goods to domestic goods (Guittian (1976). Currency depreciation gives with one hand, by lowering export prices, while taking away with the other hand, by increasing import prices.

Corsetti et al. (1999) argued that external borrowing, particularly by private commercial banks and firms is among the key factors responsible for the severity of the East Asian financial and currency crises during the late 1990s. Providing a more in-depth look at the features of currency crises, Cavallo, et al. (2002) developed a model that suggests the size of foreign currency denominated debt of a country contributes to the occurrences of exchange rate overshooting, sudden stop of capital flows and output drop in the domestic economy. Cavallo (2005) further argues that the exposure to foreign currency liabilities magnify the cost of exchange rate depreciation.

Arango and Nadiri (1981) are of the opinion that depreciation of domestic currency (or appreciation of foreign currency) increases the domestic currency value of foreign assets which leads to an increase in the wealth of country leading to an increase in the demand

for real cash balances. This indicates that exchange rate depreciation has positive impact on the demand for money. Bahmani-Oskooee points out that depreciation of domestic currency and its expectation of further depreciation may result in holding less of domestic currency and more of foreign currency, leading to fall in demand for money. This reveals that exchange rate depreciation has a negative impact on the demand for domestic 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 (Bergen, 2010).

According to Bergen, (2010), countries will engage in large-scale deficit financing to pay for public sector projects and governmental funding. While such activity stimulates the domestic economy, nations with large public deficits and debts are less attractive to foreign investors. This is because a large debt encourages inflation, and if inflation is high, the debt will be serviced and ultimately paid off with cheaper real dollars in the future.

Central Bank of Kenya recons that credit risk is the largest factor affecting the soundness of financial institutions and lending is the principal business activity of most banks. The total percentage of loans to total assets for the period ended 31st March 2013 was 57%. In order to identify potential risks and improve understanding of credit risk, the Central Bank of Kenya introduced a quarterly Credit Officer Survey effective March 2012.CBK sent out forty three questionnaires and received responses from all the institutions. The survey found out that demand for credit generally decreased in all economic sectors in the quarter ended March 31st 2013. The major factor cited as contributing to this decline was political risk, other factors include issuance of debt securities, funding from non-banking

institutions and internal financing. Notably, retention of CBR at 9.5% in the quarter (CBR was 11% in December 2012) decreased volatility of funding costs, which translated to improved investor confidence. However, the then prevailing political risk associated with March 2013 general elections dampened the demand for credit as investors adopted a wait and see attitude.(Central Bank of Kenya, 2013)

1.1.4 Commercial Banking Industry in Kenya

The banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and other various prudential guidelines issued by the CBK. As at 31st December 2012, the banking sector consisted of the Central Bank of Kenya (CBK), as the regulatory authority, 44 banking institutions (43 commercial banks and 1 mortgage finance company -MFC), 5 representative offices of foreign banks, 8 Deposit-Taking Microfinance Institutions (DTMs), 2 Credit Reference Bureaus (CRBs) and 112 Forex Bureaus. Out of the 44 banking institutions, 31 locally owned banks comprise 3 with public shareholding and 28 privately owned while 13 are foreign owned. The 8 DTMs, 2 CRBs and 112 forex bureaus are privately owned. The foreign owned financial institutions comprise of 9 locally incorporated foreign banks and 4 branches of foreign incorporated banks (CBK, 2013).

According to CBK (2013), the banking sector total net assets stood at Ksh. 2.3 trillion as at 31st December 2012 and the 27 locally owned commercial banks accounted for 62.4 percent. The 13 foreign owned commercial banks accounted for 33.4 percent of the sector's net assets. During the year 2012, banks increased their branch network by 111, which translated to a total of 1,272 branches. The increase is an indication of increased provision of banking services. Nairobi County accounted for the highest number of new branches in 2012 as it recorded a growth of 53 branches. Kenyan commercial banks are classified into three peer groups using a weighted composite index that comprises assets, deposits, capital size, number of deposit accounts and loan accounts. A bank with a weighted composite index of 5 percent and above is classified as a large bank, a medium bank has a weighted composite index of between 1 percent and 5 percent while a small bank has a weighted composite index of less than 1 percent.

According Central Bank of Kenya, the Banking Sector demonstrated a continued growth though at a declining rate in the quarter ended March 31st 2013. The aggregate balance sheet increased by 2.55% from Kshs 2.35 trillion in December 2012 to Kshs 2.41 trillion in March 2013. Gross loans and advances expanded by 2.9 percent from Kshs 1.36 trillion in December 2012 to Kshs 1.40 trillion in March 2013.Credit risk is the single largest factor affecting the soundness of financial institutions and the financial system as a whole and lending is the principal business activity for most banks. The total percentage of loans to total assets for the period ended 31st March 2013 was 57%. (CBK, 2013)

1.2 Research Problem

Events in the economy are capable of having many effects in the foreign exchange market. A foreign exchange rate affects several variables which form great basis for demand of credit in an economy. For example, a decrease of the money supply causes higher interest rates and therefore also causes an increase of the demand for dollars in the foreign exchange market whereas an increase of the money supply would have the opposite effect. In fiscal policy context, an increase of the deficit will raise interest rates as the government borrows to meet its budgetary provisions and therefore raise the demand for dollars in the foreign exchange market. It can be seen that the monetary and fiscal policies of an economy have an impact on interest rates which end up affecting foreign exchange market performance.

Several scholars have studied exchange rate fluctuations and the demand for credit among commercial banks in Kenya. For example, Otuori, (2013) carried out a study on the influence of exchange rate determinants on the performance of commercial banks in Kenya and concluded that higher levels of interest rates lead to higher profitability in commercial banks in Kenya. Mwaniki (2012) studied sensitivity of Kenya banks' stock returns to interest rate and exchange rate changes. The study established that 73.2 % changes stock price of commercial banks listed at the NSE could be accounted for by changes in foreign exchange. Nyapara (2012) looked at the relationship between interest rates and profitability of commercial banks in Kenya and found out that on overall, there

is positive relationship between interest rate changes and profitability of banks. Ndung'u, and Ngugi (1999) did a study on adjustment and liberalization in Kenya by considering the financial and foreign exchange markets and established that the inflation profile changes with exchange rate policy, interest rates have not been market determined even after liberalization, interest rate spreads have increased with liberalization, a reflection of inefficiency in the financial market, while foreign and domestic interest rate differential and short-term speculative capital inflows affect the real exchange rate. From the above discussions, it can be noted that the studies concentrated on other areas of fiscal and monetary effects on the exchange rates and interest rates which determines the demand for credit. This study therefore seeks to extend the existing literature by investigating the relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya. To achieve this, the study will seek to answer one research question: what is the relationship between of exchange rate fluctuations on the demand for credit among commercial banks in Kenya?

1.3 Objective of the Study

To establish the relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya.

1.4 Value of the Study

The findings of this study would be useful to the following groups:

The findings of this study would give management of various banking industry players relevant information to help them build improve their lending portfolio. They would also have information on the relationship between exchange rate fluctuations, lending rates, inflation and the demand for credit to guide their strategic decisions.

The study will be beneficial to the government, specifically Central Bank of Kenya in relation to monetary policies and their impact on demand for credit from different economic sectors. More specifically it would enlighten then policy makers on what to expect in terms of demand for credit whenever there is exchange rate volatility.

The findings of this study would enrich existing knowledge and hence would be of interest to both researchers and academicians who seek to explore and carry out further investigations. It would provide basis for further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature pertinent to the study as presented by various researchers, scholars' analysts and authors. This chapter covered the theoretical literature and the empirical literature of the study.

2.2 Theoretical Review

There are several theories that link exchange rates, interest rates and inflation. Five of these are discussed below.

2.2.1 Interest Rate Parity Theory

The interest rate parity condition was developed by Keynes (1923), as what is called interest rate parity nowadays, to link the exchange rate, interest rate and inflation. The theory also has two forms: covered interest rate parity (CIRP) and uncovered interest rate parity (UCIRP). CIRP describes the relationship of the spot market and forward market exchange rates with interest rates on bonds in two economies. UCIRP describes the relationship of the spot and expected exchange rate with nominal interest rates on bonds in two economies. This is the normal form of the covered interest rate parity, which states that the domestic interest rate must be higher than the foreign interest rate by an amount equal to the forward premium (discount) on domestic currency. According to CIRP, if the exchange rate of, say, the shilling against the USD is fixed, the interests of the two countries should be equal. Thus, a small country with a pegged exchange rate regime cannot carry out monetary policy independently.

Empirically, using weekly observations from January 1962 to November 1967, Frenkle & Levich (1975) confirmed that CIRP held. Later (1977) they extended their studies into three periods: 1962–1967, known as the "tranquil peg"; 1968–1969, the "turbulent peg"; and 1973–1975, the managed float, and strengthened the findings of their previous study that CIRP still holds during these periods even when the effect of transaction costs is taken into account. They indicated that deviations from CIRP might occur due to four

major reasons: transaction costs, political risk, potential tax advantages, and liquidity preference. However, investors face uncertainty over future events. In a rational expectation framework, the forward exchange rate may be strongly influenced by the market expectations about the future exchange rate if new information is taken into consideration. In an uncertain environment, an un-hedged interest rate parity condition may hold. Very few empirical studies support UCIRP. For example, using a K-step-ahead forecasting equation and overlapping techniques on weekly data of seven major currencies.

2.2.2 Purchasing Power Parity Theory (PPP)

This theory postulates that exchange rates adjust completely to offset the effects of different rates of inflation in two countries. This implies that inflation does not impair a nation's long run competitive position in the world trade if freely floating exchange rates prevail. The exchange rate is predicted to move and compensate for differences in inflation among countries, leaving each nation's products relatively unchanged in price in foreign markets. According to PPP theory, floating exchange rates allow countries with chronically high inflation to remain competitive in world trade. (Lloyd, 2006), PPP establishes that exchange rate between currencies are in equilibrium in the event of equality in the purchasing power of each of the countries. This means that the ratio of price level of a fixed amount of goods and services of two countries and exchange rate of those two countries must be equivalent. PPP is based on the 'law of one price'. If inflation rate within a country's economy increases then the value of the currency needs to depreciate to revive the PPP.

The theory requires very strong preconditions. Generally, Absolute PPP holds in an integrated, competitive product market with the implicit assumption of a risk-neutral world, in which the goods can be traded freely without transportation costs, tariffs, export

quotas, and so on. However, it is unrealistic in a real society to assume that no costs are needed to transport goods from one place to another. In the real world, each economy produces and consumes tens of thousands of commodities and services, many of which have different prices from country to country because of transport costs, tariffs and other trade barriers (Kanamori & Zhao, 2006).

2.2.3 The Balassa-Samuelson Model and External Debt

The standard version of the B-S model is presented using a single-factor aggregate production function in Obstfeld & Rogoff (1996). The Balassa-Samuelson model is one of the cornerstones of the traditional theory of the real equilibrium exchange rate. The key empirical observation underlying the model is that countries with higher productivity in tradable items compared with non-tradable ones tend to have high price levels. The B-S model hypothesis states that productivity gains in the tradable sector allow real wages to increase commensurately and, since wages are assumed to link the tradable to the non-tradable sector, wages and prices also increase in the non-tradable sector. This leads to an increase in the overall price level in the economy, which in turn results in an appreciation of the real exchange rate.

However, the model has some shortcomings. First, it assumes that the tradable price at home is the same as that abroad. This is clearly an unrealistic special form of PPP, but for tradable goods only. Under this setting, how the prices of tradable goods are determined remains unknown. Second, since it says nothing about the demand side, it is criticized by the Keynesian school, which regards price to be rigid or sticky. Third, without considering the behavior of consumers, or the demand side, it is difficult to interpret how market prices are formed. Lastly, this model does not deal with the role of money; it can at best explain partly how the real exchange rate is determined (Kanamori & Zhao, 2006).

Integrating the model with a model of accumulation of capital and with the demand side of the economy, Holub & Cihak (2003) claimed that that the predictions of their model were generally consistent with empirical findings for Central and Eastern European countries. But the extended model still does not have room for money and the nominal exchange rate. This implies that money is assumed out of this kind of model and that prices are assumed to be flexible enough to adjust to supply and demand.

2.2.4 The Balance of Payments Theory

The balance of payments theory of exchange rate is also known as 'General equilibrium theory of exchange rate. According to this theory, the exchange rate of the currency of a country depends upon the demand for and supply of foreign exchange. If the demand foreign exchange is higher than its supply, the price of foreign currency will go up. In case, the demand of foreign exchange is lesser than its supply, the price of foreign exchange will decline (Kanamori & Zhao, 2006). The demand for foreign exchange and supply of foreign exchange arises from the debit and credit items respectively in the balance of payments. The demand for foreign exchange comes from the debit side of balance of payments.

The supply of foreign exchange arises from the credit side of the balance of payments. It is made up of the exports of goods and services and capital receipts. If the balance of payments of a country is unfavorable, the rate of foreign exchange declines. On the other hand, if the balance of payments s favorable, the rate of exchange will go up. The domestic currency can purchase more amounts of foreign currencies (Kanamori & Zhao, 2006).

When the exchange rate of a country falls below the equilibrium exchange rate, it is a case of adverse balance of payments. The exports increase and eventually the adverse

balance of payment is eliminated. The equilibrium rate is restored. When the balance of payments of a country is favorable, the exchange rate rises above the equilibrium exchange rate resulting in the decline of exports (Kanamori & Zhao, 2006).

2.2.5 International Fischer Effect (IFE) Theory

The IFE theory suggests that foreign currencies with relatively high interest rates will tend to depreciate because the high nominal interest rates reflect expected rate of inflation. (Madura, 2000). This theory also proposed that changes in the spot exchange rate between two countries will also tend to equate the differences in their nominal interest rates (Demirag and Goddard, 1994). High interest rates affect demand for credit, hinder economic growth and consequently hurt the economy (Solnik, 2000). Several factors that could cause exchange rate variations include changes in foreign exchange supply and demand, balance of payment problems, rising inflation, interest rates, monetary supervision, changing expectations and speculation (Khalwaty, 2000)

Linking of exchange rates with changes in interest rates and inflation rates, the IFE theory states that the future spot rate of exchange can be determined from nominal interest differential. The differences in anticipated inflation that are embedded in the nominal interest rates are expected to affect the future spot rate of exchange (Sundaqvist, 2002)

2.3 Determinants of Exchange Rate Fluctuations

Determinants of exchange rate volatilities have remained one of the key research agenda for both academics and policy makers due to its widespread economic implications. Several attempts have been made recently to particularly examine the role of external debt/borrowing in explaining the fluctuations of the local currency. For instance, Corsetti et al. (1999) argued that external borrowing, particularly by private commercial banks

and firms is among the key factors responsible for the severity of the East Asian financial and currency crises during the late 1990s.

Cavallo, et al. (2002) developed a model that suggests the size of foreign currency denominated debt of a country contributes to the occurrences of exchange rate fluctuation, sudden stop of capital flows and output drop in the domestic economy. Cavallo (2005) further argues that the exposure to foreign currency liabilities magnify the cost of exchange rate depreciation. Likewise, Devereux & Lane (2001) underline the need to extend the list of variables important for understanding bilateral exchange rate volatility beyond those suggested by optimal currency area theory. Their study shows that for developing countries, in particular, volatility in their bilateral exchange rates is strongly and negatively affected by the stock of external debt.

2.4 Determinants of Demand for Credit

An understanding of the determinants of the demand for money is important because it bears on monetary theory and policy, and it throws light on how changes in money supply and related variables such as interest rates are transmitted to the economy and on how they affect the level of economic activity. Since 1930's, economists have developed theories underlying the demand for money along several lines while diverse theories often posit similar variables to explain the demand for money. They frequently differ on the specific role assigned to each other.

Livingston and Ord (1994) argued that the amount an individual wishes to buy of a commodity depends on factors such as his/her taste or preference, which may be influenced by factors such as age, sex, education or religion. Other factors include, the amount an individual buys may depend on the price of the commodity. Therefore, if the goods are very expensive, the buying power is reduced and vice versa. In the credit market, this consideration is on implicit and explicit costs of credit, which are added costs

to business operators and have to be considered when making a decision to borrow or not to borrow and from which source. Livingston and Ord (1994) explained that amount bought is affected by availability of other goods. This applies more to close substitutes like in this case, consideration of borrowing credit from commercial formal institutions, formal government subsidized institutions, or from informal credit markets. If formal markets prove expensive, borrowers are likely to turn to informal markets. The opposite will apply if the informal markets are expensive.

Central Bank of Kenya recons that credit risk is the largest factor affecting the soundness of financial institutions and lending is the principal business activity of most banks. The total percentage of loans to total assets for the period ended 31st March 2013 was 57%. In order to identify potential risks and improve understanding of credit risk, the Central Bank of Kenya introduced a quarterly Credit Officer Survey effective March 2012.CBK sent out forty three questionnaires and received responses from all the institutions. The survey found out that demand for credit generally decreased in all economic sectors in the quarter ended March 31st 2013. The major factor cited as contributing to this decline was political risk, other factors include issuance of debt securities, funding from non-banking institutions and internal financing. Notably, retention of CBR at 9.5% in the quarter (CBR was 11% in December 2012) decreased volatility of funding costs, which translated to improved investor confidence. However, the then prevailing political risk associated with March 2013 general elections dampened the demand for credit as investors adopted a wait and see attitude.(Central Bank of Kenya, 2013)

2.3 Empirical Literature

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. The opposite relationship exists for decreasing interest rates - that is, lower interest rates tend to decrease exchange rates (Bergen, 2010). Karfakis & Kim (1995) using Australian exchange rate data found that unexpected current account deficit is associated with exchange rate depreciation, and a rise in interest rates. Evidence is found that current account deficits diminishes domestic wealth, and may lead to overshooting of exchange rates. A fall in the real value of currency was also reported by Obstfeld & Rogoff (1995), Engel & Flood (1985), and Dornbusch & Fisher (2003).

According to Solnik (2000) the balance of payments approach was the first approach for economic modeling of the exchange rate. The balance of payments approach tracks all of the financial flows across a country's borders during a given period. All financial transactions are treated as a credit and the final balance must be zero. Types of international transactions include: international trade, payment for service, income received, foreign direct investment, portfolio investments, short- and long-term capital flows, and the sale of currency reserves by the central bank. 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 (Solnik, 2000).

Bahmani-Oskooee and Pourhedrian (1990) point out that depreciation of domestic currency and its expectation of further depreciation may result in holding less of domestic currency and more of foreign currency, leading to fall in demand for money. This reveals that exchange rate depreciation has a negative impact on the demand for domestic currency.

Bahmani-Oskooee and Malixi (1991) assessed whether a change in real effective exchange rate has any impact on the demand for money in 13 developing countries using quarterly data over 1983-1985:87 Estimates of the short-run elasticity indicated that there are positive as well as negative effects. However, in the long run a change in real effective exchange rate has a significant negative effect on demand for money function in nine out of eleven cases. This indicates that where the currency of each of these countries depreciates, the public holds less domestic currency and more foreign currency which means demand for money increases. This means that there is some kind of substitutability between the domestic currency and some foreign currencies. Empirical results of studies of some of the Arab countries lend strong support to the hypothesis that external developments represented by exchange rate, and in some cases, foreign interest rates influence domestic currency holdings.

Domowitz and El Badawi (1987) study indicated that there is a strong effect of the exchange rate variable - defined as a number of units of the country's currency per unit of U.S. dollar - on the demand for money function in Sudan. Darrat's (1984, 1985), and Ghamdi (1989) studies found that exchange rate along with foreign interest rate have significant negative effect on the demand for money function in Saudi Arabia. Also,

Darrat's (1986) study showed that foreign interest rates play a major role in explaining money demand in the open economies of Saudi Arabia, Libya and Nigeria. Without such a variable, all of the estimated money demand functions appear seriously mis-specified and structurally unstable. Ghamdi's (1991) study tested the effect of the openness of the Jordanian economy on the demand for money function by including foreign interest rate as well as the inflow of foreign aid as major determining factors which were found to have significant effects. The inflow of foreign aid has a significant positive effect on demand for money while low foreign interest rate tends to lower it. So, when exchange rate is identified as one of the determinants of demand for money function in some developing countries, it means that external monetary and financial factors have significant influence on such economies. This implies that the role of fiscal and monetary policy should be changed to reflect such results. It also indicates that there is some degree of substitution between domestic and foreign assets. Monetary policy, which is designed to counteract the effect of external factors on macroeconomic variables such as inflation, for example, must consider the effect of such factors on the demand for money function.

Moses & Anne (2012) used dynamic frameworks to estimate an empirically stable demand for money functions. Price, real GDP, nominal 91-Day Treasury bill rate, nominal interbank rate, nominal deposit rate and foreign interest rate were found to affect the long-run demand for money functions to different degrees. They found the demand for money functions to be unstable over the period for the parameter values, implying that the current monetary targeting policy framework is inappropriate. However, there are challenges in adopting an alternative monetary policy framework.

2.4 Chapter Summary

This chapter discussed past studies and literature relating to impact of exchange rate fluctuations on the demand for credit among commercial banks in Kenya. The literature reviewed literature pertinent to; theoretical literature, interest rate parity and interest

rates, purchasing power parity and inflation rates, the Balassa-Samuelson model and external debt, the balance of payments theory, empirical literature, and related literature. The chapter undertook a review of recent work with the aim of identifying main findings and research gaps that exist in the literature review which this study sought to fill.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter covered the research design and target population. It also covers data collection as well as data analysis.

3.2 Research Design

This research utilized descriptive research which includes surveys and fact finding enquiries and describes the state of affairs as they exist at present. It also assists to ascertain and be able to describe the characteristic of the variables of interest. Descriptive research design aims to observe and describe a subject without affecting its normal actions.

This research utilized secondary data from Central Bank of Kenya to carry out a comparative study on the relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya. The research focused on a set of organizations carrying out similar business ventures in this case the commercial banking.

3.3 Population

A population refers to an entire group of persons or elements that have at least one thing in common. A population is a group of individuals, objects or times from which samples are taken for measurement. The population of study consisted of all the commercial banks in Kenya, licensed by Central Bank of Kenya. This study was a census of all the commercial banks. The benefit of using this method was that it increases confidence interval.

The sampling frame was based on time series annual data of the independent and dependent variables for a period of 13 years between 2000 and 2012. The reason for sampling this period was the fact that there have been wide fluctuations during the period as well as data availability.

3.4 Data Collection

Method of data collection that was used involved secondary data. The data was collected from various websites including Central Bank of Kenya and World Bank website.

3.5 Data Analysis

The data collected was analyzed using descriptive statistics, correlations, and multiple regression technique. This was achieved through the use of Statistical Package for Social Sciences (SPSS) software package version 21.0 programme. The technique assisted to come up with estimated coefficients in the empirical equation that measured the change in value of the independent variable, holding the other independent variables constant, to determine the independent variables that have a positive effect on the dependent variable at a given level of significance. The analysis sought to answer research questions and explain the associations and dependencies between the variables of the study. The output was presented in form of tables and figures.

The empirical model is as explained below;

$Y= \beta_0 + \beta_{ij} X_{1j} + \beta_{ij} X_{2j} + \beta_{ij} X_{3j} + Є$

Where

Y-dependent variable- Demand for Credit

β_0-is the constant (y intercept)

X_{ij} is a set of - independent variables *i* for company *j* these variables include the exchange rate fluctuations (X_1), interest rates (X_2), Government Domestic borrowing (X_3), and inflation (X_4).

B_{ij} -regression coefficient *i* for variable *j*

Є-the stochastic error term

In relation to the objectives of the study the researcher used SPSS to estimate the following multivariate regression analysis covering the impact of exchange rate fluctuations on the demand for credit among commercial banks in Kenya as shown below:

$$R = \beta_0 + \beta_1 AER + \beta_2 ADI + \beta_3 GB + \beta_4 AIR + \varepsilon$$

Where R: is Demand for Credit at time (t). This was measured by taking aggregate Gross loans and advances from all commercial banks.

AER: Exchange Rate was measured by Average Annual Rate of exchange of Kenya Shilling to US$

ADI: Average Domestic Interest Rate, was measured by taking Average Lending Rate in the banking industry.

AIR: Average Annual Inflation Rate

GB: Domestic Government Borrowing

β0 is the intercept; and reflects the constant of the equation.

β1 is the sensitive coefficient of each independent variable (i=1,2,3).

ε is the error term.

The T-test, Coefficient of Determination and Anova test were used to test the extent to which exchange rate fluctuations, interest rates, inflation and government spending influence the demand for credit among commercial banks in Kenya. These tests will be conducted at 95% level of confidence (α=0.05).

CHAPTER FOUR:

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

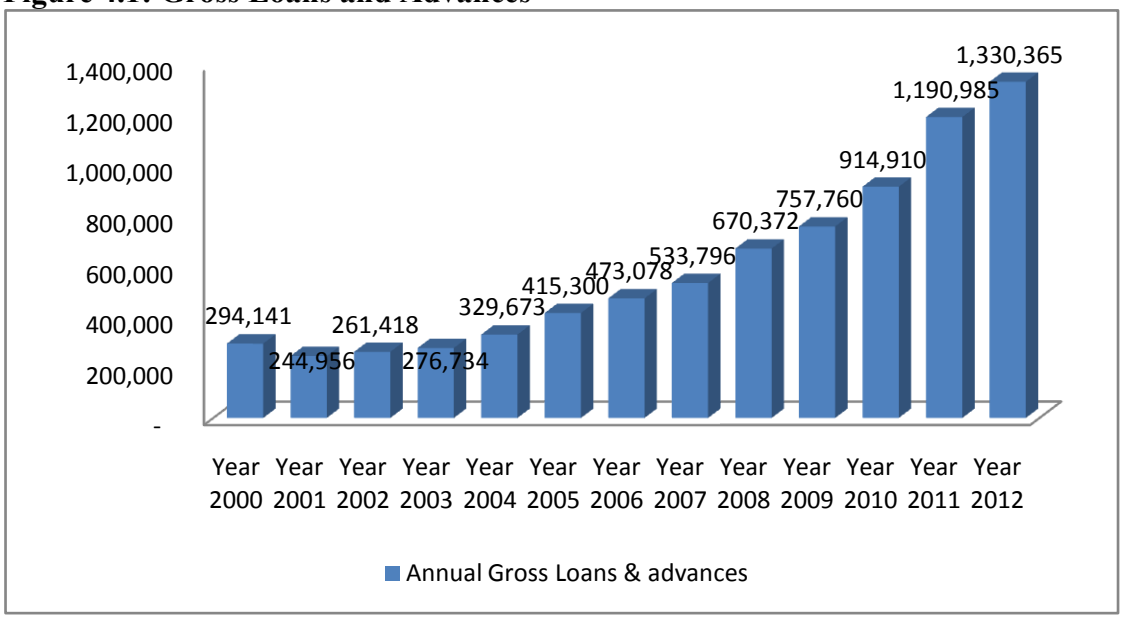
This chapter presents analysis and findings of the study as set out in the research objective and research methodology. The study findings are presented on the relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya. The data was gathered exclusively from the secondary source at the Central Bank of Kenya including annual bank supervision reports. The study also used data on Average Annual Lending Rate from World Bank website as a control since the data collected from Central Bank was monthly average.

4.2 Data Presentation

4.2.1 Aggregate Gross Loans and Advances

The study here sought to establish the movement in the aggregate gross loans and advances for all commercial banks in Kenya for the study period the year 2000 to the year 2012. The findings were as presented in the figure 4.1 below and appendix II.

Figure 4.1: Gross Loans and Advances

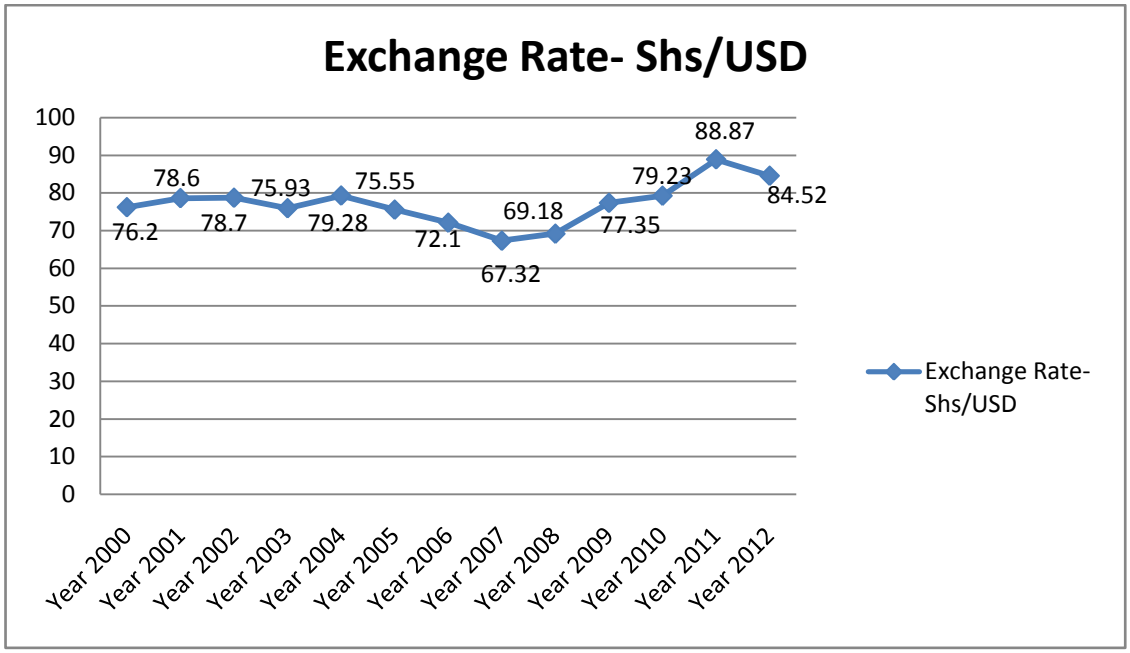


From the findings illustrated in the figure 4.1 above, the study established that annual gross loans and advances started at Kshs 294,141 million in the year 2000 then reduced slightly to Kshs. 244,956 million in the year 2001. Thereafter, the annual gross loans and advances increased steadily. By the end of the study period, the annual gross loans and advances had increased to Kshs. 1,330,365. From the data findings, the annual gross loans and advances had been increasing rapidly toward the end of the study period. This could be attributed to the increased demand for loans advances.

4.2.2 Exchange Rate- KShs/USD

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 4.2 below and appendix II:

Figure 4.2: Exchange Rate

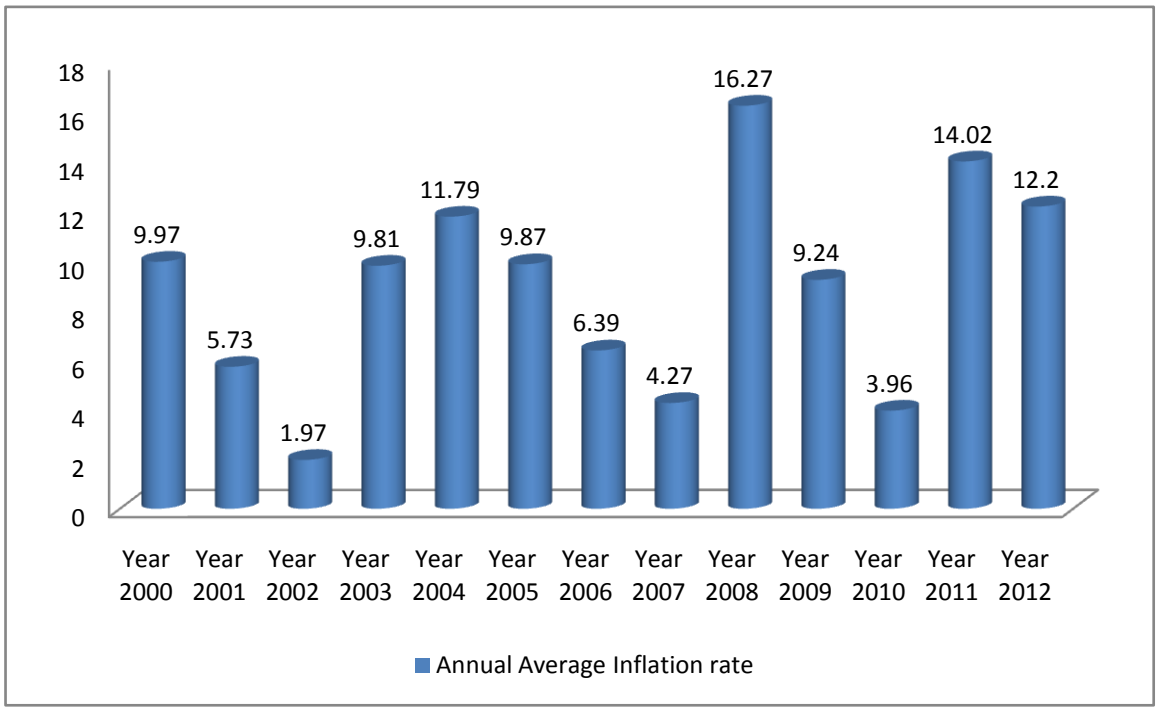


As illustrated by figure above, the study findings established that over the study period, the exchange rates of Kenyan shilling against the United States Dollar has been high over the study period. in the year 2000, the avarage exchange rate against the USD was Kshs. 76.2. The exchange rate increased to Kshs. 78.6 in the year 2001 and then to Ksh 78.7 in 2002. However, over the following year, the kenya shiling gained value against the USD to Kshs. 75.93 in 2003. In the year 2004 the exchange rate was at Kshs79.28 which reduced in 2005 to Kshs.75.55. As at the year 2006, The Kenyan Shilling gained value against the USD as the exchange rate was at Ksh 72.1 which further strengthened to Kshs 67.32 in 2007. In 2008, the rate at which Kshs excahnged for USD was Ksh 69.18 but this excahnge rate increased over the next three year indicating that the Kenyan Shilling had been losing value against the USD. The currency lost ground against the Dollar in the year 2010 to Ksh 79.23 which further increased to Ksh 88.87 in 2011 before a decrease to Ksh 84.52 in 2012. This implies that the Kenyan shilling has been losing value against the US$ over the years which could be as a reasult of instability in the global economies.

4.2.3 Annual Average Inflation rate

The study sought to establish the trend in the movement of annual average inflation rates over the study pereiod. the findings are presented in figure 4.3 below and appendix II.

Figure 4.3: Annual Average Inflation rate

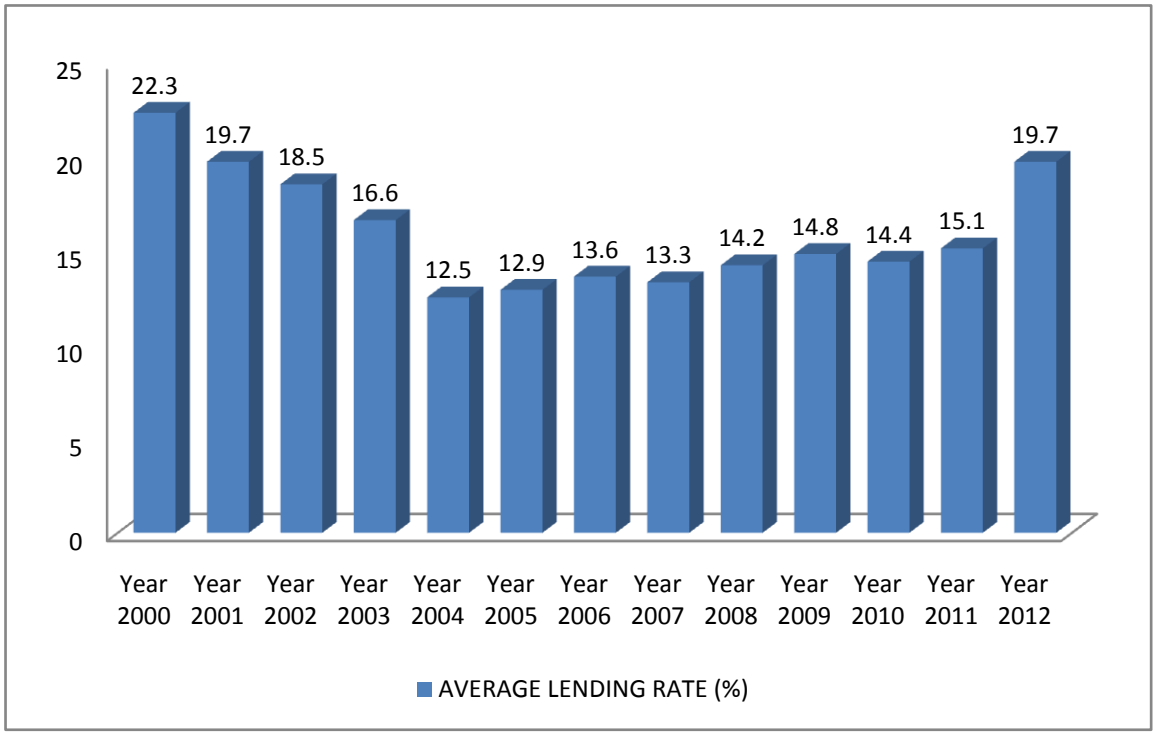


From the findings presented above, the study established that in the inception year 2000, the average inflation rate Ksh. 9.97%. The average inflation rate decreased to 5.73% in 2001 and further to 1.97% in 2002. In 2003, the annual inflation rate increased rapidly to 9.81% and further to 11.79% in 2004. However, over the following for three years, the average inflation rate declined. In 2005, the inflation rate decreased to 9.87% , then to 6.31% in 2006 and a further decreased to 4.27% in 2007. In 2008, the average inflation rate rose to 16.27% which was the highest inflation rate recorded over the study period. this was followed by a decrease in the inflation rate to 9.24% in 2009 and a further to 3.96% in 2010. In the year 2011, the average inflation rate rose to a high of 14.02% and then decreased to an average of 12.2% at the end of of the study period. This is an indication that the inflation rate has been high in Kenya.

4.2.4 Average Lending Rate (%)

The study sought to establish the trend in the movement of average lending rate in the banking industry. The findings were as shown in the figure 4.4 below and and appendix II.

Figure 4.4: Average Lending Rate



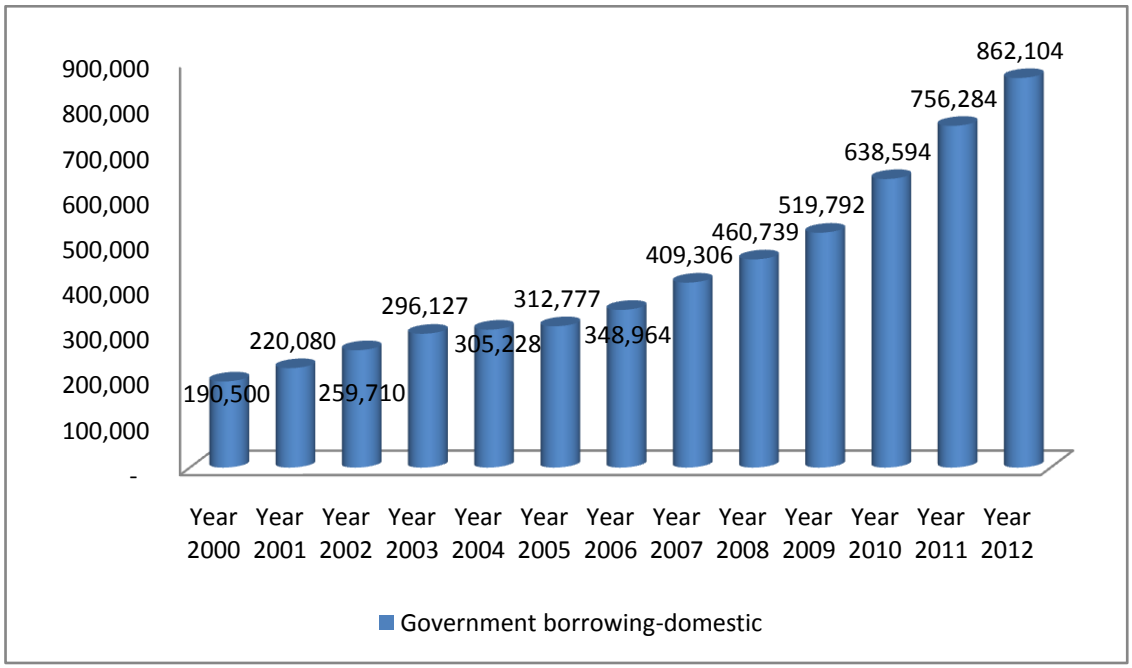
The study findings established that at the inception year 2000, the average lending rate was 22.3% which declined to 19.7% in 2001 and further to 18.5% in 2002. In 2003, the lending interest rates were 16.6%. These rates decreased in the year 2004 to 12.5%. Since then the study findings established that the lending interest rates have been on increase. In the year 2005 the lending interest rates were at 12.9% which increased gradually to 13.6% in the year 2006, before a slight decrease to 13.3% in 2007. In the year 2008, the interest rate increased to 14.2%, then to 14.8% in the year 2009 and further increase was recorded in the year 2010 when the lending interest rates was 14.4%. By the year 2011, the interest rates had increased to 15.1% after which in the year 2012, there was a rapid increase in lending interest rates whereby the rates increased to 19.7%. The results

obtained showed that in the recent years, the average lending rates have been increasing which could be attributed to factors such as movement of Central Bank Rate, banks' cost of funds, lenders perception on borrowers' ability to pay (risk profile), political risk and general changes in the economy.

4.2.5 Government Borrowing-Domestic

The study sought to determine the trend in movement of Government domestic borrowing over the study period. The findings are presented in figure 4.5 below and appendix II.

Figure 4.5: Government borrowing-domestic



From the data findings, the government domestic borrowing was at 190,500 million shillings in the year 2000 which was followed by an increase to 220,080 million shillings in 2001, and further to 259,710 million in 2002. In 2003, the government domestic borrowing had increased to 296,127 million shillings before a further increase to 305,227 million shillings in 2004. In the year 2005, the government domestic borrowing was 312,777 million shillings after which it increased to 348,964 in the year 2006. Since 2006 up to the end of the study period, the study findings established that there was a rapid

increment in the government domestic borrowing. In 2007, government domestic borrowing amounted to 409306 million shilings after which it increased to 460,739 million shillings in the year 2008. In 2009, the government domestic borrowing increased further to 519,792 million shillings followed by a further increase to 638,594 million shillings in the year 2010. By the year 2011, government domestic borrowing were at 756,284 million shillings which further increased to 862,104 million shillings in the year 2012. These findings indicate that there has been an increase in government domestic borrowing over the years.

4.2.6 Regression Analysis

In order to determine the relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya, the researcher conducted multiple regression analysis. The study findings were as illustrated in the table 4.1 below:

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993[a]	.987	.980	51206.75734
a. Predictors: (Constant), Government borrowing-domestic, Average Lending Rate (%), Annual Average Inflation rate, Exchange Rate- Shs/USD				

In order to establish the extent by which demand for credit was explained by the predictor variables, the study used the coefficients of determination. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the independent variables or the percentage of variation in the dependent variable that is explained by the independent variables.

From the analysis, the independent variables (government borrowing-domestic, average lending rate (%), annual average inflation rate, exchange rate) in this study contributed to 98.7% of the variation in demand for credit as explained by adjusted R^2 of 0.987. This implied that demand for credit had a strong relationship with the predictor.

In order to test the significance of the model the, the study conducted an Analysis of Variance. The findings were as shown below:

Table 4.2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1556282902089.59	4	389070725522.397	148.38	.000[b]
	Residual	20977055974.718	8	2622131996.840		
	Total	1577259958064.308	12			
a. Dependent Variable: Annual Gross Loans & advances						
b. Predictors: (Constant), Government borrowing-domestic, Average lending rates (%) (%), Annual Average Inflation rate, Exchange Rate- Shs/USD						

From the ANOVAs table above, the probability value of .000[b] was obtained implying that the regression model was significant in predicting the relationship between demand for credit and the predictor variables as it was less than $\alpha=0.05$.

Table 4.3: Coefficients of Determination

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-175385.721	217928.641		-.805	.444
Exchange Rate-Shs/USD	-1603.466	3366.021	-.025	-.476	.0647
Annual Average Inflation rate	4578.521	3746.091	.053	1.222	.0256
Average lending rates (%)	7198.335	5327.243	.062	1.351	.0214
Government borrowing-domestic	1.713	.090	.993	18.940	.000

a. Dependent Variable: Demand for Credit

The researcher conducted a regression analysis so as to determine relationship between demand for credit and the predictor variables. The following regression equation was obtained:

R = -175385.721-1603.466AER + 7198.335 ADI + 1.713GB + 4578.521AIR

From the regression model obtained above, holding all the other factors constant, the demand for credit will be -175385.721. This implies that there is a negative relationship between exchange rate fluctuations and demand for credit.

A unit change in exchange rate- Kshs/USD holding the other factors constant would lead to change the in demand for credit by -1603.466; A unit change in average lending rate in the banking industry holding the other factors constant would change the demand for

credit by 7198.335. A unit change in domestic government borrowing holding the other factors constant would change the demand for credit by 1.713 while a unit change in average annual inflation rate holding the other factors constant would change the demand for credit by 4578.521.

This implied that average lending rate had the highest influence on the demand for credit followed by annual average inflation rate, then amount of Government borrowing-domestic and finally Exchange Rate.

The obtained regression equation further implied that there was a direct relationship between demand for credit and average lending rate, annual average inflation rate and amount of Government domestic borrowing while there was an inverse relationship between demand for credit and Exchange Rate fluctuations.

The analysis was undertaken at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was through comparing the obtained probability value and $\alpha=0.05$. If the probability value was less than α, then the predictor variable is significant otherwise it is not. Average lending rates, Government borrowing-domestic and Annual Average Inflation rate were significant in the model as their corresponding probability values were .0214, 0.000 and 0256 which were less than $\alpha=0.05$ while Exchange Rate was insignificant in the model as the probability value was 0647 which was greater that $\alpha=0.05$.

4.3 Summary and Interpretation of Findings

Aggregate Annual gross loans and advances had been increasing over the years as established by the study findings. The study established that there is a strong negative relationship between exchange rate fluctuation (Ksh/USD) and demand for credit among commercial banks. These findings concur with Ghamdi (1989) study which established that exchange rate along with foreign interest rate have significant negative effect on the demand for credit. They also compare favouraby with Bahmani-Oskooee and Pourhedrian (1990) who pointed out that depreciation of domestic currency and its expectation of further depreciation may result in holding less of domestic currency and

more of foreign currency, leading to fall in demand for money. This reveals that exchange rate depreciation has a negative impact on the demand for domestic currency. Bahmani-Oskooee and Malixi (1991) study established that in the long run a change in real effective exchange rate has a significant negative effect on demand for money function in nine out of eleven cases. This indicates that where the currency of each of these countries depreciates, the public holds less domestic currency and more foreign currency which means demand for money increases.

Exchange rates play a pivotal role in determining the price of a nation's product in the rest of the world and the domestic price of goods imported from abroad. Exchange rate movements have important consequences, depreciation of domestic currency brings about adverse consequences that boost inflation at home, reduce consumer's purchasing power and produce unfavorable terms of trade effects. The study findings further established that the exchange rates of Kenyan shilling against the United States Dollar was volatile over the study period. In the year 2000, the avarage exchange rate against the USD was Ksh. 76.2. By the year 2004 the exchange rate was at Ksh79.28 which reduced to Ksh 67.32 in 2007 followed by continous loss of value of the kenyan shilling over the next four years to reach at Ksh 88.87 in 2011 before a decrease to Ksh 84.52 in 2012.

The average inflation rate was high over the study period as established by the findings of this study. In 2000, the average inflation rate Ksh. 9.97% after which it decreased to 1.97% in 2002 before increasing to 11.79% by the year 2004. Average inflation rate, over the following years decreased up to 4.27% by the year 2007 before a sharp increase to 16.27% in 2008. By 2010, the average inflation rate had decreased to 3.96%. by the end of the study period, the average inflation rate was of 12.2%.

On the average lending rate, the study findings established that the average lending rated had decreased from the year 2000 to 2004 after which these rates increased over the rest of the study period. The study established that there is a very strong direct relationship between exchange rate fluctuations and average lending rate. These findings concur with Karfakis & Kim (1995) who found that unexpected current account deficit is associated with exchange rate depreciation, and a rise in interest rates.

With regard to government domestic borrowing the study findings established that there is a continous rise in government domestic borrowings throughout the study period. Further, the study established that there is a direct relationship between exchange rate fluctuations and government domestic borrowings.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This chapter presents the summary of key data findings, conclusions drawn from the findings and recommendations that were made. The conclusions and Recommendations drawn were aimed at addressing research objective of establishing the relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya.

The researcher set out to establish whether there is a relationship between appreciation or depreciation of the Kenya Shilling to the United States Dollar and loan uptake from commercial banks. The other dependent variables used in the model included average industry interest rate, annual average inflation rate and government domestic borrowing which are also seen to have a strong relationship with exchange rates.

The findings of the study established that Gross loans and advances increased in the period of study. The exchange rates were volatile and the Kshs reached lowest levels in ear 2011 and 2012 during which Gross loans were increasing but at a decreasing rate.

The study found out that there is a negative relationship between exchange rate fluctuations (Kshs/USD) and Gross loans and advances. This implies that as the domestic currency depreciates, the Gross loans and advances increase and vice versa. However, the relationship between exchange rate fluctuations (Kshs/USD) and annual lending rate, annual inflation and domestic government was positive.

5.2 Conclusion

This study concludes that there is a very strong relationship between exchange rate fluctuations and the demand for credit among commercial banks in Kenya. The study further concludes that the exchange rates of Kenyan shilling against the United States Dollar has been high over the study period period. The study further concludes that over the recent years the Kenyan currency has been loosing values over the foreign currency

and that the excahnge rates inversily affect the rate of annual gross loans and advances among commercial banks in Kenya. The study also concludes that the annual gross loans and advances among commercial banks in Kenya have been increasing.

With regard to average inflation rate, the study concludes that the avarage inflation rates have been flactuating over the study period. The study urther concludes that the relationship between average inflation rate and the rate of annual gross loans and advances in banks is positive.

The study concludes that average lending rates are directly related to gross loans and advances in banks. The study further concludes that the average lending rates have been increasing in the recent years as compared to initial years of the study.

This study concludes that the governmrnt domestic borrowing is directly related to gross loans and advances in banks and that governmrnt domestic borrowing has been increasing over the study period. the study further concludes that the rate of governmrnt domestic borrowing is increasing at an alarming rate over the recent years.

5.3 Policy Recommendations

The findings established that the exchange rates have been volatile and inversely affect the demand for credit among commercial banks in Kenya. This study therefore recommends that the Central Bank of Kenya takes necessary measures aimed at ensuring that the Kenyan shilling appreciates against the major foreign currencies. The policy makers need to come up with policies that control the demand and supply of foreign currency and facilitate strengthening the Kenyan currency.

Secondly, the study findings established that the average lending rates have been on increase in Kenya. This study therefore recommends that the Government through Central Bank which is tasked with the responsibility of regulating the lending rates should put in place measures to control the lending rates while controlling the inflationary pressures.

Thirdly, the study established that the average inflation rates have been high over the study period. This study therefore recommends that policymakers should come up with policies aimed at controlling the rate of inflation in the country especially import inflation.

Finally, the study established that the government domestic debt has a direct relationship with exchange rate volatility. Policy makers reckon the same has a direct relationship with interest rate too and further increase in domestic government debt will lead to crowding out private investment and ultimately reduction in economic growth. The study therefore recommends the government to look for alternative funding of its expenditure and reduce public debt.

5.4 Limitations of the Study

A limitation for the purpose of this study was defined as any factor that hindered the attainment of research objectives. For the purpose of this study, there were several limitations. Key among them, being that the study relied on secondary data which was collected for other purposes and affected by several macroeconomic variables which varied from one year to another. This may have affected the trend witnessed in the study.

Secondly, the figures used are subject to external factors like politics. However, it was not easy to measure the impact of some of these variables so that it could be eliminated. For example, during the 2007/2008 political Violence, the economy was negatively affected yet the figures have been applied as though this was not a major event.

Another limitation involved the high changes that have taken place within the Kenyan leadership within the study period. There have been two elections and two government regimes. Elections distort several factors of government revenue

The final limitation involved collection of data whereby the researcher had to visit Central Bank of Kenya several times to access some data that was not available from the

CBK website and the staff involved were busy therefore delaying the data collection exercise. The access of information from the website, printing and binding of the research project was also costly and the researcher was constrained financially.

5.5 Suggestions for Further Studies

Based on the crucial role played by Microfinance institution, this study recommends that such a studies be carried to the microfinance institutions institutions in Kenya.

The study reccomends for further studies to be done on establishing the effectiveness of the existing monetary policies in controling the exchange rates fluctuations in Kenya. Kenya has over the past few years experienced high currency depreciation as the exchange rates hit all time high. Future studies need to examine the management of exchange rates in Kenya.

The study further recommends that future studies be conducted on the relationship between foreign exchange rates fluctuations and economic development in Kenya. As much as the foreign exchange rates negatively affect the demand for loans, it would be important if its effects on economic development are established.

Finally, the study recommends that further studies be done to establish the determinants of public debt in Kenya and their influence on the demand for credit among commercial banks in Kenya.

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APPENDICES

Appendix I: List of Commercial Banks licensed by CBK as at 31.12.2012

1. African Banking Corporation Ltd.
2. Bank of Africa Kenya Ltd.
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya Ltd.
6. CfC Stanbic Bank Ltd.
7. Chase Bank (K) Ltd.
8. Citibank N.A Kenya.
9. Commercial Bank of Africa Ltd.
10. Consolidated Bank of Kenya Ltd.
11. Co-operative Bank of Kenya Ltd.
12. Credit Bank Ltd.
13. Development Bank of Kenya Ltd.
14. Diamond Trust Bank (K) Ltd.
15. Dubai Bank Kenya Ltd.
16. Ecobank Kenya Ltd.
17. Equatorial Commercial Bank Ltd.
18. Equity Bank Ltd.
19. Family Bank Ltd.
20. Fidelity Commercial Bank Ltd.
21. Fina Bank Ltd.
22. First Community Bank Limited.
23. Giro Commercial Bank Ltd.
24. Guardian Bank Ltd.
25. Gulf African Bank Limited.
26. Habib Bank A.G Zurich.
27. Habib Bank Ltd.
28. I & M Bank Ltd.
29. Imperial Bank Ltd.
30. Jamii Bora Bank Ltd.
31. Kenya Commercial Bank Ltd.
32. K-Rep Bank Ltd.
33. Middle East Bank (K) Ltd.
34. National Bank of Kenya Ltd.
35. NIC Bank Ltd.
36. Oriental Commercial Bank Ltd.
37. Paramount Universal Bank Ltd.
38. Prime Bank Ltd.
39. Standard Chartered Bank (K) Ltd.
40. Trans-National Bank Ltd.
41. Victoria Commercial Bank Ltd.
42. UBA Kenya Bank Ltd.
43. Housing Finance Ltd

Appendix II: Dataset

Year	Aggregate Annual Gross Loans & advances (Million Ksh)	Exchange Rate-Ksh/USD	Annual Average Inflation rate	Average lending rate(%)	Government borrowing-domestic (Million Ksh)
2000	294,141	76.2	9.97	22.3	190,500
2001	244,956	78.6	5.73	19.7	220,080
2002	261,418	78.7	1.97	18.5	259,710
2003	276,734	75.93	9.81	16.6	296,127
2004	329,673	79.28	11.79	12.5	305,228
2005	415,300	75.55	9.87	12.9	312,777
2006	473,078	72.1	6.39	13.6	348,964
2007	533,796	67.32	4.27	13.3	409,305.6
2008	670,372	69.18	16.27	14.2	460,738.8
2009	757,760	77.35	9.24	14.8	519,792
2010	914,910	79.23	3.96	14.4	638,93.8
2011	1,190,985	88.87	14.02	15.1	756,283.7
2012	1,330,365	84.52	12.2	19.7	862,104