RELATIONSHIP BETWEEN EXCHANGE RATE VOLATILITY AND DEMAND FOR FOREIGN CURRENCY IN KENYA

BY

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DECLARATION

I declare that this project is my original work and has not been presented for an award of a degree in any other University.

Signature: ………………………… Date: ……………………..

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This research project has been submitted for examination with my approval.

Dr. Martin Odipo – Supervisor.

Signed:………………………… Date:………………………….

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DEDICATION

This research paper is dedicated to my family all who has encouraged me greatly as soldiered through the Master of Science – Finance program. Many thanks for your unconditional support throughout.

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ABBREVIATIONS & ACRONYMS

CBK - Central Bank of Kenya

CIRP - Covered Interest Rate Parity

EMU- European Monetary Unit

FCD- Foreign Currency Deposits.

GMM - Generalized Methods of Moments

GDP - Gross Domestic Product

IRP – Interest Rate Parity

KSH. - Kenya Shillings

M3 – Extended Broad Money Supply

OLS – Ordinary Least Square

PPP - Purchasing Power Parity

RER- Real Exchange Rate

UCIRP - Uncovered Interest Rate Parity

US$/USD - United States Dollar

ABSTRACT

There has been an expanding enthusiasm by the general public and part of the media in regards to the development of the Kenya Shilling conversion standard in the past. Therefore, the quantity of interested commentators on the subject has risen. Examinations have concentrated on the sufficiency of the current foreign and local exchange reserves in the country. Since the beginning of 2011, currency depreciation has occurred in Kenya, just as in other parts of the African Continent. The CBK's essential obligation is planning and executing money related approaches and policies to accomplish stability in the overall price of item; this incorporates the exchange rates which is the cost of the Kenya Shilling as expressed against other currencies.

The purpose of the current investigation is to examine the existing relationship between the volatility of the rate of exchange and the demand for foreign currency within Kenya. The examination depends on a multi-point of view unlimited portfolio balance model in use within the country. The ratio of foreign currency deposits that are in Kenya to the broad money supply is used as the dependent variable, against determinants of money demand, namely exchange rate, interest rates and the rates of inflation as the independent variables in the study. The findings of the investigation established that, the level of demand for foreign currency remained at about 15 % average but was highly related to exchange rate volatility, during the period of focus – 2009 to 2014. As expected, during periods of high volatility like in year 2011, the demand for other currencies increased to a high of 18%. The investigation concludes that there exists a very strong correlation between the volatility of the rate of exchange and the demand for foreign currency in Kenya.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The purpose of this study is to investigate the connection between the dependent variable (exchange rate volatility) on one hand and the independent variable (foreign currency) within Kenya. Inside the financial sector, there has been a rapid expansion in the amount of deposits of foreign currency and it has likewise turned into a typical practice for a few organizations and families to utilize the U.S. dollar as medium of trade in inclination of the Shilling. This inclination is more predominant in parts of the urban administration segment such as the real estate and the private institutions, and to a less degree in retail area – for the most part high esteem imported purchaser merchandise, for example, computers and its accessories and some mobile devices and not forgetting the airline ticketing. For the better part of the year 2015, we had a very volatile foreign exchange rates which saw the local currency depreciate by about 15%.

Kenya's exchange rate has undergone through various transitions in exchange rate management regimes. This has seen shifts from the usual fixed rates of exchange through crawling peg to flexible exchange rate regime currently. In October 1993 a floating exchange rate was adopted and since then, the value of the shillings has remained market driven with the CBK only intervening in the foreign exchange market when need be to smooth out excessive fluctuations in the exchange rate. The floating exchange rate framework received in the mid-90s was required to be invaluable for Kenya. To start with, it was required to permit a more ceaseless change of the exchange rate to shifts in the interest for and supply of outside trade. Second, it would help in equilibrating the interest for and supply of remote trade by changing the ostensible conversion scale as opposed to the levels of stores. Third, it would give the nation the opportunity to seek after its fiscal approach without being worried about adjust of installments impacts. In this manner Kenya was to have an autonomous financial strategy, however one that is steady with the conversion scale developments. Under the skimming framework outer

uneven characters are typically reflected in conversion scale developments as opposed to save developments - Central Bank of Kenya, 2013

Be that as it may, the swapping scale was permitted to persist while there was abundance liquidity, and monstrous deterioration and high and quickening swelling took after. The conversion scale was downgraded three times in 1993 alone. After 1993, the conversion standard acknowledged affected by transient capital streams exploiting the current high loan cost on the administration of treasury bills. The individuals who were bringing in on exchange credit amid this time were dubious with respect to what costs they would need to pay for outside trade when their letters of credit (LCs), matured, and henceforth needed to figure the normal remote trade recovery into their value structure. This raised the winding of expansion further.

In any economy, the aggregate demand for money is a total of money demanded by households, firms and government, each with separate money demand function. Money provides liquidity by facilitating transactions and can earn interest. Demand for money results from the trade-off between the liquidity preferred standpoint of holding cash and the premium favorable position of holding option resources. The interest for cash is predominantly affected by the level of costs, the level of financing costs, and the level of genuine or real GDP and national yield (Kipsang J, 2013). Different measures of the supply of exist, which include M_0, M_1, M_2, M_3 and M_4. These classifications are country dependent, either because of institutional framework or other considerations. The Central Bank of Kenya (CBK) defines M_1 as including notes and also coins circulating within the economy furthermore, other cash counterparts effortlessly convertible into money. M_2 incorporates M_1 and brief time stores in commercial banks and a 24 hour currency showcase reserves. M_3 comprises of M_2 and incorporates longer-term time stores and currency advertise reserves with more than $24 -$ hour development. M_1 is referred as narrow money while broad money describes M_2 and M_3. Cash serves as a medium of trade, as a store of significant worth and as a unit of record. Money underpins all sectors of the economy and ensures smooth operation of economies. Its expected, demand for

foreign currency to raise as the level of exchange rate volatility for the local currency increases.

1.1.1 Exchange Rate Volatility

Foreign exchange can be described as the process of changing the money of one nation for the currency of another; i.e. the proportion at which the cost of one nation's currency expressed as far as another nation's money. Foreign exchange volatility refers to the change in the exchange rates among the currencies involved by specifying the value of one nation's currency to that of the other nation. An increase in volatility will either be due to increase in transaction demand for money, or due to a rise in speculative demand for money.

Given the openness of almost all contemporary economies and the interdependence thereof, the demand functions of money need to incorporate the impact of outside fiscal and money related elements approximated by developments in remote loan cost and conversion scale. An expansion in (expected) outside loan costs would prompt residential inhabitants to build their property of foreign resources which would be financed by drawing down local cash possessions. Likewise development in conversion scale would influence portfolio choices between local resources and outside resources. In this way, if, for example, the household money is relied upon to devalue, local portfolio holders would modify their portfolio holding for outside resources and the other way around (Kinyanjui H, 2013).

The current balance of the host nation is usually viewed as a pointer of the power of its domestic currency. On the other hand, a depreciating current account balance has the tendency of causing a deteriorating effects on the value of the currency of the host nation. It is contended that potential remote and nearby speculators see current record deficiencies contrarily in light of the fact that such shortages may prompt to expansion and exchange rate (ER) varieties therefore influencing interest costs (Dhakal, et al, 2010).

The adverse effects of conversion rates volatilities on different parts of the local economy have now been very much archived in broad research works (Fischer, 2001). For

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example, an ascent in conversion scale volatilities has been found to have negative results on the exchange area (i.e. the exports and a nations' imports) of the domestic economy (Fischer, 2001; McKenzie, 1999 and Chou, 2000). A similar message was communicated by Siregar & Rajan (2004). They concluded that the money related power ought to mediate and deal with the change of the nearby cash keeping in mind the end goal to accomplish its coveted level of inflation related targets.

Kenya engages in international market through trade, hence not insulated against the rates of currency exchange shocks. Variations in the rates of exchange discourage risk-averse exporters and this could lower foreign income from the export sector. Exchange rate volatility tend to have asymmetric effects on macroeconomic variables. Rise of the rates of currency exchange will result in a rise in the demand for imports and a reduction in demand for exports while depreciation would expand export and discourages imports. Devaluation of conversion rates causes a move from the utilization of outside merchandise to products delivered locally.

A lot of literature on the relationships between RER volatility and economic growth exist. However, not many studies have been conducted focusing specifically on the economy of Kenya. Most of the investigations that have been conducted in the country on RER behavior focuses on investigating the determinants of exchange rate behavior. An investigation done by Ndung'u (1999) to determine if the rates of exchange in Kenya were influenced by the monetary policy and establish whether the effect could be transitory or permanent. Ndung'u (1999) was based on the premise that the optimal rate of exchange chosen was dependent on the various factors like the objective of the policy makers in the economy, the sources of shock and once the choice is made, the authorities are presumed to adjust the macroeconomic policy to suit the selected exchange rate policy stance.

1.1.2 Demand for Foreign Currency

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Understanding the interest for cash in an economy is an important prerequisite for formulating and conducting monetary policy. The interest for cash is primarily impacted by the levels of costs, financing costs and the real national output.

The demand for cash is an imperative capacity in formulating effective and appropriate monetary policy. Much of existing written literature on demand for cash uncovers that very little consideration has been given to investigating the relationship between cash request and its determinants in creating nations like Kenya. Some past studies on cash request have ignored the part of remote financial advancements and changes in exchange rates. In open economies financial improvement components like remote loan cost and conversion scale impact the residential interest for genuine money adjusts under an adaptable swapping scale administration. Thus, this can profit request capacities insecure all the more especially a reduction in the amount money demanded. The less confined development of capital and developing needs of remote exchange may profit request works entirely flimsy. The interest for cash is a very much investigated and explored field of financial econometrics.

Demand for aggregate cash is dictated by three principle calculates to be specific: Interest rate, value level and real national pay. An ascent in the loan cost will bring about every person in the economy to decrease her interest for cash. Price levels refers to the cost of an expansive reference wicker container of merchandise and ventures as far as the coin. On the off chance that the value level ascents, singular family and firms must spend more cash than before to buy or to keep up same level of liquidity as some time recently. An expansion in the genuine estimation of exchanges raises the interest for cash given the value level.

Financial strategy lays on the relationship between the rates of enthusiasm for an economy, which is the cost at which cash can be obtained, and the aggregate supply of cash (Eichengreen, & Hausmann, 1999). Money related approach utilizes an assortment of apparatuses to control either of these, keeping in mind the end goal to impact results like financial development, swelling, trade rates with different monetary standards and level of unemployment (Dhakal, Nag, Pradhan & Upadhyaya, 2010). Where cash is under

an imposing business model of issuance, or where there is a controlled arrangement of issuing coin through banks which are attached to a national bank, the financial power can modify the cash supply and consequently impact the loan fee (to accomplish approach objectives (Darrat, 1985). In the event that private specialists (people, family units and firms) expects that policymakers are focused on bringing down swelling, they will envision future costs to be lower than something else (how those desires are shaped is simply an alternate matter; if for example we contrast levelheaded desires and versatile desires) (Bahmani-Oskooee, 1991). In the event that a worker anticipates that costs will be high later on, he or she will agitate for a wage contract with a high wage to coordinate these costs (Dornbusch, 1989). Subsequently, the desire of lower wages is reflected in wage-setting conducted amongst workers and managers (bring down wages since costs are relied upon to be lower) and since wages are in reality bring down there is no request pull swelling since representatives are getting a littler wage and there is no cost push expansion since bosses are paying out less in type of wages (Frenkel, Jacob and Richard, 1975).

1.1.3 Exchange Rate Volatility and Demand for Foreign Currency

There has been an expanding enthusiasm by people in general and media with respect to the development of the Kenya Shilling conversion rates in the past. Thus, the quantity of observers on the subject has risen. Examinations have concentrated fundamentally on the ampleness of the current remote trade holds. An appropriate treatment of the subject should along these lines begin with a comprehension of the CBK's general value strength part and the practice of this order inside a coasting conversion scale administration and a changed capital record. In 1944, when the International Monetary Fund was established, its primary part was plainly characterized to bolster nations encountering transitory stuns in their adjustment of installments so they didn't need to make radical alterations in the cost of their household money. The presence of this office offered ascend to trust in monetary forms prompting to smoother universal exchange. This is in reality the prime part of remote trade saves.

In such manner, outside trade saves likewise serve as a backhanded instrument of financial approach and can be utilized for liquidity administration. This is on the grounds that purchasing or offering of outside trade infuses or pulls back Kenya Shillings from the market. In our changed outside trade administration, the CBK permits the conversion scale to move in accordance with the market basics in the economy. One central point that decides the request and supply of outside trade in the nation is the estimation of fares and imports of products and enterprises, which constitute the present record adjust. A developing deficiency in the present record will flag that the swapping scale will in future devalue because of decreased supply of remote trade in the market.

The superseding objective of fiscal approach is to maintain the value strength of the nation's currency. Financial approach is planned in accordance with the expansion profile, given this is the chief danger to money related steadiness in any given nation. Expansion can genuinely demolish the estimation of the Kenya Shilling (conversion scale), making trades lose intensity and thusly diminishing profit of outside trade. Over the long haul, once a fitting fiscal arrangement position for taking care of expansion has been built up, the Central Bank conveys its instruments to oversee liquidity along the foreordained way predictable with that money related approach position. This may include clean up or infusion of liquidity required, utilizing instruments, for example, Repos, Term Auction Deposits or outside trade deals or buys.

The present market liquidity circumstance in the nation is in this way as an aftereffect of cognizant and hazard disinclined choices by market members. In any case, since the market basics are correct, money related arrangement operations ought to work to oversee such liquidity in the short term. The monetary basics stay sound; thus the swapping scale is basically assuming its part as a programmed stabilizer to smoothen any variances (National Bank of Kenya, 2013).

1.1.4 Exchange Rate Volatility in Kenya

Since the start of 2011, money devaluation has happened in Kenya, just as in other parts of the African Continent, though at varying rates. The CBK's essential obligation is

defining and actualizing fiscal approach to accomplish steadiness in the general value level; this incorporates the swapping scale which is the cost of the Kenya Shilling communicated in different monetary forms.

To understand the value solidness objective the CBK may utilize a mix of circuitous financial arrangement apparatuses or instruments, for example, Open Market Operations, and statutory necessities stipulated by law. These instruments incorporate outside trade showcase operations. The CBK takes an interest in the remote trade showcase fundamentally to gain outside trade to administration official obligation, back government imports, fabricate its outside trade holds, and, in times of instability, purchase or offer remote trade to balance out the market.

1.2 Research Problem

The volatility of the rates of exchange of a country's currency has been noted in numerous economies across the world. This has the potential to affect the economic performance of a country favorably or adversely. A component that builds the interest for cash may unfavorably influence financial execution by expanding ostensible wage and speed of cash dissemination. Similarly, it's has been argued that it may be probable and to a great extent that uncertainty should raise the demand for cash balances, which eventually results to reduced velocity. The implication is that the increase of money demand will show greater reluctance by institutional investors towards holding of securities. Additionally, prospective bond issuers have the incentive to grow the interest rates they offer on bonds. Also, volatility of exchange rates could affect monetary policy since the rise of money demand emanating from high volatility of exchange rates could require the central bank to increase its target growth ranges for the various monetary aggregates.This study will address the effects of fluctuations of the rates of exchange of a country's currency on the demand for foreign currency in Kenya.

1.3 Objectives of the study

1.3.1 General objective

The key objective of the investigation is to establish the relationship that exists on the exchange rate volatility and the demand for foreign currency in Kenya for the period 2009 to 2014.

1.3.2 Specific objectives;

The Study will be based on the specific research objectives set below

i. To determine the trend of exchange rate volatility in the Kenyan Economy.

ii. To establish the determinants of the demand for foreign currency in the Kenyan Economy.

iii. To investigate the effect of the rates of exchange on the volatility on the demand for foreign currency.

iv. To propose necessary policy recommendations related to the findings of the study.

1.4 Significance of the Research

The examination would be of importance to various groups, economic policy makers, Investors and the entire members of the public interested on their economy. For the monetary policy decision makers the study will evaluate the benefits and challenges of macro-economic management in an economy and possibly suggest options. For the general public and investors, the study will shed light on how to make investment decisions and which currency to hold for the various motives.

This study is likely to expand the understanding of the behavior of demand for money and other functions in an emerging market economy among various people where more than one currency circulates. Beside this, late developing business sector monetary emergency and the general increment in worldwide capital portability have prompted to the requirement for a re-evaluation of the part of rate of exchange in determining the

demand for money. It can likewise be evaluated for individual family units' household cash requests or as a total interest for cash over a particular locale.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter contains a review of the existing literature relevant to the investigation as stated by various other researchers and scholars on this subject. Theoretical literature expounds on theories on exchange rate and interest for money while the empirical part of the literature provides detailed previous studies done on exchange rate volatility and demand for foreign currency.

2.2 Theoretical Literature Review

Over the years, economists have developed a number of theories to explain the existing connections between the volatility in the rates of exchange and the interests and demand for money. Three of these are discussed below.

2.2.1 Interest Rate Parity Theory

The parity of the rates of interest condition is a hypothesis that expresses that the span of the forward premium (or the calculated discounts) ought to be equivalent to the interest cost differential between the two nations of concern (Frenkel, Jacob and Richard, 1975). There are two structures, the Covered Interest Rate Parity (CIRP) and Uncovered Interest Rate Parity (UCIRP). The CIRP depicts the relationship of the spot showcase and forward market trade rates with financing costs on securities in two economies. Then again the revealed intrigue equality depicts the relationship of the spot and expected swapping scale with ostensible loan costs on bonds in two economies (Huang and Malhotra, 2004). The typical type of the secured financing cost equality, expresses that the residential loan fee must be higher than the outside loan cost by a sum equivalent to the forward premium (markdown) on local cash (Calvo, 2001). As per CIRP, if the conversion standard of, say, the shilling against the USD is settled, the interests of the two nations ought to be equivalent. Along these lines, a little nation with a pegged swapping scale administration can't complete money related arrangement freely.

Empirically, Frenkle and Levich (1975) affirmed that CIRP held. Later (1977) they broadened their studies into three periods: 1962–1967, known as the "peaceful peg"; 1968–1969, the "turbulent peg"; and 1973–1975, the oversaw drift, and reinforced the discoveries of their past study that CIRP still holds amid these periods notwithstanding when the impact of exchange expenses is considered (Calvo, 2001). Their discoveries showed that deviations from CIRP may happen because of four reasons to be specific: exchange costs, political hazard, potential expense points of interest, and liquidity inclination. In any case, financial specialists confront instability over future occasions. In a judicious desire hypothesis system, the forward swapping scale might be unequivocally affected by the market assumptions about the future conversion standard if new data is mulled over.

2.2.2 Theory of Portfolio Balance Model

The original portfolio balance model is associated with John Keynes, but was further developed by James Tobin (1958), and sees exchange rates as the aftereffect of the substitution amongst cash and money related resources. It's derived by considering the demand for money as a choice problem with emphasis on risk and the expected returns on different financial assets. The individual is assumed to behave under uncertainty and thus will accumulate a number of assets in his/her portfolio depending upon the tradeoff between returns and risk of holding bonds. The portfolio balance approach states that a currency conversion rate is resolved at any rate in the short keep running by the free market activity in the business sectors for an extensive variety of monetary resources.

The model assumes that individuals allocate their wealth which is fixed at a point in time among alternative asset. Domestic cash/ money denoted as (m) locally issued both and remote denominated in the outside currency (f) in a basic one-nation demonstrate. Hypotheses of monetary development give the exact structure to the study, the established hypothesis of financial development expect the presence of an impeccably focused economy where imperceptible hand will distribute assets proficiently. In this approach, the demand for money is viewed as a joint demand alongside all liquid assets. Holding of money is preferred by the people as it enables them to maintain cash

disbursements and carry out transactions when there is lack of synchronization between timings or receipts of income and payments.

This approach views the gross substitutability amongst cash and every single other resource, prompting to exact utilitarian structures as indicated by which the interest for cash depends emphatically on a scale variable, for example, riches or pay, and adversely on the arrival of every option class of benefit. In the event that the accessible resources are household money, outside cash, securities designated in local coin and securities named in remote cash, the interest for local coin is accepted to depend contrarily on the normal conversion scale deterioration through two modes: substitutability versus remote (coin substitution) and substitutability opposite outside security (capital portability).

The holding of cash balances, is expensive, as it involves costs which can be measured in terms of the rate of interest forgone by not holding other forms of income yielding liquid assets. For balancing the different degrees of different characteristics of these different assets, the portfolio assets will be so maintained by prudent investors that funds will be distributed in such proportions of the given assets that their marginal yields become equal. Thus the choice between money and near-money asset is primarily decided on the basis of the average of return and the relative variance in certainty of expected income yields.

2.2.3 Purchasing Power Parity Theory

Under complete form the theory is founded on the notion that in nonexistence of transnational obstacles consumers will change their demands of products to wherever the prices of their desired items are low. This has the implication that inflation does not impair a nation's long run competitive position in the world trade if freely floating rates of exchange are in place. The currency conversion 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 the PPP theory, floating exchange rates allow countries with continuously high inflation to remain competitive in world trade. (Lloyd, 2006). PPP establishes that exchange rate between monetary

standards are in harmony in case of fairness in the buying force of each of the nations. This implies the proportion of value level of an altered measure of products and ventures of two nations and swapping scale of those two nations must be identical. PPP depends on the law of one cost, henceforth if swelling rate inside a nation's economy expands then the estimation of the cash needs to devalue in accordance with the PPP.

The hypothesis would exist under extremely solid preconditions. Total PPP holds in an incorporated, focused item showcase with the supposition of a hazard unbiased world, in which the products can be exchanged unreservedly without transportation costs, duties, trade quantities, et cetera (Dornbusch, 1989). In any case, it is impossible in a certifiable to accept that no expenses are expected to do exchanges or even transportation. It recommends that costs of a similar wicker container of items in two distinct nations ought to be equivalent when measured utilizing a similar money (Dhakal, Nag, Pradhan, & Upadhyaya, 2010). In the event that an error in costs as measured by a typical cash exists, the request ought to move so that these costs change in accordance with harmony. In the present reality, however, every economy delivers and devours a huge number of products and administrations, huge numbers of which have distinctive costs from in various nations, in light of transport costs, duties and other exchange boundaries (Kanamori and Zhao, 2006).

It's a typical conviction held that, a nation with a reliably bring down expansion rate will display a rising coin esteem, as its buying power expands in respect to different monetary forms (Accam, 1997). Amid the last 50% of the twentieth century, nations with low expansion included Japan, Germany and Switzerland, while the U.S. what's more, Canada accomplished low expansion much later (Cavallo, and Cottani, 1997). Then again nations with higher expansion rates will, commonly observe deterioration in their money in connection to the monetary forms of their exchanging accomplices.

2.3 Empirical Literature Review.

There exists a number of investigations touching on the topic of the volatility of the exchange rates and demand for money as enumerated below.

A study focusing on the impact of volatility of exchange rates on economic growth on small and open economies at the European Monetary Unity (EMU) periphery was conducted by Schnabl (2007). He estimated using panel data of 41 nations in the EMU margin from 1994 to 2005. Volatility was captured as a yearly average of monthly percentage exchange rate. He carried out both OLS and GMM and the result gave suggestions that the rates of currency exchange volatility has a significantly negative effect on the economic growth of a country. The study concluded that macroeconomic solidity is essential to sustain the peg, since a stable exchange rate positively influences economic growth.

Dornbusch (1989) concentrated on the distinctions in RER unpredictability amongst creating and industrialized nations. He distinguished the way that exchange rate unpredictability is higher in creating nations, when contrasted with industrialized nations. Eichengreen and Hausmann (1999) discovered presence of a solid negative connection between swapping scale dependability and development for 12 nations over a time of 120 years.

Accam (1997), who surveyed the currency conversion rate unpredictability and FDI streams in some chose 20 slightest created nations, utilizing OLS estimation, while utilizing standard deviation as an intermediary for shakiness in swapping scale instability, the outcome demonstrates a noteworthy negative relationship between swapping scale vulnerability and FDI streams amid the period. Agodo (1978), who utilized 33 U.S private assembling firms', having 46 interests in Africa, presumed that residential market measure, crude material gift, nearness of infrastructural offices and political solidness were the drivers of FDI as opposed to conversion scale instability.

Huang and Molhorta (2004) sought to investigate the impact of conversion scale administration on monetary development rates for creating Asian and propelled European nations. The study dissected 12 creating and rising Asian economies and 18 propelled European economies from 1976-2001. They used OLS for panel analysis and de-factor exchange rate classification. Their results indicated that, the importance optimal of exchange rate regime is dependent on the rate of development of the economy of a

country. For developing economies, fixed exchange and managed float is preferred as is associated with high economic growth. However, for advanced economics, the regime selected has less or no significant impact on the level of growth of that economy. There is a substantial prove has been found that present record deficiencies reduces residential riches, and may prompt to overshooting of trade rates. A fall in the genuine estimation of cash was additionally reported in a study by (Obstfeld and Rogoff 1995).

Bahmani-Oskooee and Pourhedrian (1991) bring up that devaluation of residential coin and its anticipated further deterioration may bring about holding less of household cash and a greater amount of remote cash, prompting to fall sought after for cash. This uncovers conversion scale devaluation negatively affects the interest for local coin. Bahmani-Oskooee and Malixi (2005) assist surveyed whether an adjustment in genuine viable swapping scale has any effect on the interest for cash in 13 creating nations utilizing quarterly information more than 1983-1985:87. Evaluations of the short-run versatility comes about showed that there are sure and also negative impacts. Be that as it may, over the long haul an adjustment in genuine powerful swapping scale has a noteworthy negative impact on interest for cash work in nine out of thirteen cases. This demonstrates where the coin of each of these nations deteriorates, the general population holds less local cash for more remote money which implies interest for cash increments. This focuses at presence or some likeness thereof of substitutability between the household money and some remote monetary forms. Observational results on studies in a portion of the Arab nations loan solid support to the theory that outside advancements spoke to by swapping scale, and now and again, remote financing costs impact residential cash property.

Darrat's (1985), considers presumed that swapping scale together with remote loan fee have huge negative impact on the interest for cash work in Saudi Arabia. Additionally, without such a variable, the assessed cash request capacities show up genuinely mis-indicated and fundamentally unsteady. Ghamdi's (1991) examine looked to test the impact of the openness of the Jordanian economy on the interest for cash work by including outside loan fee and additionally the inflow of remote guide as major affecting

components which were found to have noteworthy impacts (Agodo, 1978). The outcomes inferred that inflow of remote guide has a huge beneficial outcome on interest for cash while low outside loan fee tends to lower it. In this way, when conversion standard is recognized as one of the determinants of interest for cash work in some creating nations, it implies that outer money related and monetary variables will have huge impact on such economies (Dornbusch, & Fisher, 2003).

This infers the part of both financial and money related arrangement ought to be changed to reflect such results. It promote demonstrates that there is some level of substitution amongst residential and outside resources (Cavallo and Cottani, 1997). Fiscal approach, which by plan is to check the impact of outer components on macroeconomic factors, for example, expansion, must consider the impact of such variables on the interest for cash work. Financial focusing on arrangement structure is improper (Dornbusch, 1989). In any case, there are difficulties in endeavoring to receive an option money related arrangement structure.

Sichei and Kamau (2012) completed the interest for cash works in Kenya propelled by the way that since the past study on the subject, the 19 nations had experienced money related changes in the late 1980s and mid 1990s and in addition embraced a drifting conversion standard administration. The particular goal of the study was to utilize most recent information to discover the steadiness of the evaluated relationship. Utilizing correlation vector auto-regression (VAR) examination for the quarterly information of the period between 1997: Q4 to 2011:Q2, the study reasoned that interest for the diverse money related totals are influenced to differing degrees by changes in genuine GDP, ostensible Treasury charge rate, ostensible trade rates and ostensible outside financing cost. The discoveries likewise found that interest for the distinctive fiscal totals was shaky suggesting that the current financial strategy system in light of steady and unsurprising interest for cash was wrong.

King'ori (2003) examined on the determinants of cash speed in Kenya for the period 1992 – 2002 by deciding four speed elements of cash as coin available for use, limit cash, wide cash and expanded wide cash. The study utilized correlation models and mistake

adjustment models, and built up long-run relationship and short run elements. The aftereffects of the study showed that short run cash speed as very affected by monetary developments and the remote trade advertise; while genuine loan fee had lesser impact. Expansion rate did not have huge impact on cash speed. The genuine per capita pay was found to a reverse association with cash speed.

2.4 Summary

In summary both theoretical and empirical findings regarding the effects of volatility of exchange rates on demand for money have been revealed. Factors include inflation, exchange rate volatility and interest rate. Previous studies have shown that during periods of high exchange rate volatility for the local currency, demand for foreign currency goes up.

The observational studies reviewed estimate the interest for cash in view of various factors (going from salary to riches) and the open door cost of holding money (includes claim rate of cash and expected rate of profit for option resources for cash and measured as loan fees, yields on government securities, business paper and reserve funds stores, foreseen rate of swelling and trade rates). In Kenya, the expansive cash measured by M3 is utilized ordinarily as a result of its part as the halfway focus under the current money related strategy structure. Contemplates looked into concentrated on the general interest for cash in Kenya, however none has concentrated on interest for outside coin. This is the examination crevice, which this study is proposed to fill.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the design and the methodology of the research. It describes the target population, the sampling plan and procedures, the methods of collecting data, as well as data analysis. The chapter contains; the design of the research, the target population of the research, the data collection techniques, data analysis and the research model used.

3.2 Research Design

This is the structure and the plan of the examination to be followed in order to get responses to the questions of the research. A descriptive research technique was used in this study. The major purpose of descriptive research design is to provide information on features of the study population or a phenomenon.

The key objective of the current investigation is to establish the connection between the volatility of the rates of currency exchange and the demand for money in Kenya, with emphasis to demand for foreign currency. The study used the foreign currency ratio deposit balances to extended broad money supply as the dependent variable and regress it with established elements of money demand namely the exchange rate volatility, rates of interest levels and the inflation rates. The research is designed to explore the causal relationship between these factors and demand for foreign currency.

The research utilized secondary data from Central Bank of Kenya to carry out a comparative study on the connection between the demand for foreign currency and demand for money variables.

3.3 Study Population

In a study, this consists of overall Kenyan Economy as per data compiled by Central Bank of Kenya over the target period. This study took a census approach. The benefit of using this method is that it increases confidence interval. The data for the study was based on time series monthly data of the independent and dependent variables for a period of six (6) years between 2009 and 2014.

3.4 Data Collection

All the data utilized for the investigation study was Secondary data that were obtained between 2009 and 2014, which was extracted from Central Bank of Kenya (CBK) and the Kenyan Bureau of statistics (KBS). The researcher used various publication by the CBK, journals, annual reports, statements which indicates Total banks deposit, Foreign currency component of total bank deposits, KSH component of total deposit, Exchange rate of KSH : USD, Consumer price index, Purchase power of the Kenyan Shilling (a function of the consumer price index and indication by the depreciation or increase of the rates of exchange) ,a function of the percentage composition of the Foreign currency vis-a – vis the total bank deposits. Thus the research gathers all the secondary data concerning the monetary policy.

3.5 Validity Data and their Reliability

The use of the secondary data ensured reliability and relevance of information from the target population and to save on time and cost. Reliability can be referred to as the degree to which a research instrument can be depended upon or yield consistent results after a repeated trial. To test reliability a researcher may use test-retest method. This involves administering the same instrument twice to the respondents within a week, and then check, if the result correlates using correlation coefficient. The higher the correlation co-efficient, the higher the test-retest reliability.

Validity is usually referred to as the accurateness and meaning of interpretations based on a given results of research. An instrument is valid only when it measures what it purports to measure and gives a desired result. For instance, if the outcome from the results

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analysis of the pre-test data reveals the intended purpose, then the instrument is said to be valid

3.6 Analysis of Data

The data collected was analyzed using descriptive statistics, correlations, and multiple Regression technique. This was achieved through the use of Microsoft Excel data analysis tool kit. The method helped in drafting the estimated coefficients in the experimental equation that sought to measure the relative changes in the 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.

3.6.1 Model specification

We experiment with the ratio of external currency deposit (FCD) to the comprehensive supply of money (M3) to estimate the extent to which foreign currency; particularly the U.S. dollar is used in Kenyan economy as a store of value.

Among the variables applied in this case are the rates of interest differentials between foreign and the domestic currencies, the expected depreciation in the rates of exchange and the expected rates of inflation. The basic formula of the estimated models for the research were expressed as follows;

$$M_t = \alpha_0 + \beta_1 R_t + \beta_2 V_t + \beta_3 I_t + U_t \text{ ---------------------} \quad (1)$$

Where:

$M_t \ = \ $ Demand for foreign currency, the dependent variable.

$\alpha_0 = $ Intercept

$R_t = $ Expected return on deposits.

$V_t = $ Exchange rate volatility

$I_t = $ Inflation rate.

$t = $ Monthly data for years 2009 to 2014

$\mu_t = $ Error term.

3.6.2 Variable Definition and Expected Sign.

Variables	Description	Expected Sign
Dependent Variable		
M_t – Demand for Foreign currency.	This is the foreign currency ration of deposit to the broad supply of money	
Independent Variables		
R_t – Expected Return on deposits.	A rate of return on an alternative asset. Measured in percentage	Negative
V_t – Volatility of the rates of Exchange	Average rates of exchange of local currency per USD. Measured in Ksh.	Positive
I_t – Inflation Rate.	Refers to the overall rise in the prices of services and goods in the entire economy of a country. Measured as a percentage change in consumer price index.	Positive

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter is composed on the presentation of the research findings and the analysis of data as set out in the objectives of the research and stated in the methodology of the investigation. All the relevant variables were used in building the regression equation for determining the factors affecting demand for foreign currency in Kenya. The study starts with the descriptive statistics then analyses the various relationships between the variables (correlation matrix) and finally regression. Likewise, it is significantly important to state that the research data found was analyzed using Microsoft excel data analysis tool kit. The results reflect the exact output of the analysis of data disclosed in the tables.

4.2. Descriptive Statistics of the Research Findings

Table 4.1 displays the established descriptive data of the variables of interest (both dependent and independent) over the period of study (2009-2014) in Kenya.

Table 4.1 Statistic Summary

Statistic	Mt	Rt	Vt	It
Mean	14.97186702	5.7475	83.99492	9.061388889
Standard Error	0.132636578	0.175486	0.607961	0.508748169
Standard Deviation	1.125458689	1.489049	5.15872	4.316871358

Sample Variance	1.26665726	2.217267	26.61239	18.63537833
Kurtosis	0.259149378	-0.8548	0.824483	-1.095182213
Skewness	0.60925346	0.063788	0.408397	0.621682082
Range	4.904096365	5.63	26.531	13.14
Minimum	13.29397451	3.41	74.739	3.93
Maximum	18.19807088	9.04	101.27	17.07
Sum	1077.974426	413.82	6047.634	652.42
Count	72	72	72	72
Confidence Level (95.0%)	0.264469826	0.349909	1.21224	1.014415037

Source: Research Finding

Where:

M_t =   Demand for foreign currency, the dependent variable.

Rt =   Expected return on deposits.

$Vt_=$ Exchange rate volatility

$It_=$ Inflation rate.

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From table 4.1, it is found that among the independent the variables exchange rate has the most deviation from the mean with a standard deviation of 5.16. Demands for foreign currency appear to deviate least at 1.13. Over the period of analysis demand for foreign currency seem to average 15%, interest on deposits has a mean of 5.75%, exchange rate has an average of Ksh 83/USD and inflation was at an average of 9 % pa.

4.3. Correlation Analysis Matrix.

Table 4.2 displays the coefficient of correlation amongst the variables.

Table 4.2 Correlation Matrix

	Mt	*Rates of Interest (r)*	*Ex. Rates*
Rates of interest (r)	0.60839007		
Ex. Rate	0.6641722	0.265519827	
Inflation	0.39557512	0.40751005	-0.15699321

Source: Research Finding

This measure can be used to compare linear relationship between two variables and takes values between -1 and +1. Where it's close to+1(-10, there is strong positive (negative) relationship.

From the table, it is observed that there is a significantly positive association between the demand for foreign currency (Mt) and level of Interest rate (It). This is also true for the relationship between Mt and Exchange rate volatility, both of which are at 0.61 and 0.66 respectively. The relationship between demand for foreign currency in Kenya and Inflation, though positive is not that strong, which as at 0.40. The only variables with a negative relationship as per the results, is inflation and exchange rate which depict a

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weak negative relationship at -0.16. The other explanatory variables return a positive relationship though not very significant, standing at 0.27 and 0.41.

4.4. Multiple Regression Results.

This section presents various econometric regression test results which were adopted to investigate whether the model was a reasonable fit for the data. One of the main reasons for testing was to determine whether the model conformed to the classical assumptions of the Ordinary Least Squares (OLS) regressions such as normality, no serial correlation, and homoscedasticity and correct functional form.

Table 4.4.1 below has the regression statistics.

Table 4.4.1 Regression Statistics

Regression Statistics	
Multiple R	0.868135589
R Square	0.753659401
Adjusted R Square	0.742791434
Standard Error	0.570784633
Observations	72

Source: Research Finding

The Multiple R' or the correlation coefficient shows the significance of the linear relationship between the variables. The value here at 0.87, points at a strong and significant linear connection between the independent and dependent variables.

R' Square or the coefficient of determination expresses the proportion of the variation in demand for foreign currency which is clarified by the variation in the independent variable. The results has R square at 75.4% and adjusted R at 74.3% implying that over 74% of any changes in some of the dependent factors/ variables in the study are determined by the independent variables with only about 25% being determined by other variables. The estimation indicates that the model fits the data well as evidenced by value of adjusted R-squared which is at 0.75. The standard error is at 0.57, which is an estimate of the standard deviation (SD) from the error term.

In order to test the implication of the model the, the study conducted an Analysis of Variance. The findings were as shown below in table 4.4.2

Table 4.4.2 ANOVA - Analysis of Variance

	df	SS	MS	F	Significance F
Regression	3	67.77859882	22.5928663	69.34685766	1.19059E-20
Residual	68	22.15406665	0.3257951		
Total	71	89.93266548			

Source: Research Finding

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From the results above, the F ratio 69.34 is greater than table value of 1.19, inferring the F ratio is significant meaning the difference is significant.

Model Equation.

The model as specified in 3.6.1, above was as below

$M_t = \alpha 0 + \beta 1 \, Rt + \beta 2 Vt + \beta 3 It + Ut$ ----------------------

From the regression results the fitted equation would be as in table 4.4.3 below

Table 4.4.3 Model Coefficients

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.93561803 8	1.16881916 7	0.800481 43	0.4262198 04	- 1.3967242 97	3.267960 37
Interest rate	0.2111103 19	0.05351528	3.944860 55	0.0001915 14	0.1043222 39	0.317898 4
Ex. Rate	0.1418669 56	0.01428335 3	9.932328 56	7.20416E-15	0.1133649 69	0.170368 94
Inflation	0.1000717 73	0.01802026 9	5.553289 78	5.03468E-07	0.0641128 87	0.136030 66

Source: Research Finding

From above results, the fitted model would have the following equation

$M_t = 0.93 + 0.21 Rt + 0.14Vt + 0.1It + Ut$

The coefficient for the independent variables has the expected signs other than that for interest rate, which has a positive sign against expected negative sign.

Where:

M_t = Demand for foreign currency, the dependent variable.

Rt = Expected return on deposits.

$Vt_=$ Exchange rate volatility

$It_=$ Inflation rate.

μ_t = Error term

4.5. Summary of Data Analysis Results.

An analysis of the research data over the period of research which covered six years, 2009 to 2014 shows that the demand for foreign currency has averaged 15%. This is despite the fact that there has been a lot of fluctuation on the independent variable particularly the level of exchange rate. The Coefficient of correlation shows a strong positive relationship, between demand for foreign currency and level of exchange rate and interest rate level. The relationship between demand for foreign currency and inflation though positive is however at a moderate level.

The model used has proved to be a good one as the coefficient of determination indicates, over 74 % of variation in demand for foreign currency is explained by the independent variables picked, living a partially 25% to other omitted factors. The ANOVA test indicated existence of significant relationship. Two coefficients of the independent variables returned the expected positive signs with one giving a negative sign contrary to the expected positive sign.

This study concurs with a previous one by Sichei and Kamau (2012) who estimated the demand for money functions in Kenya, motivated by the fact that since the last study on the subject, the 19 country had undergone financial reforms in the late 1980s and early 1990s as well as adopted a floating exchange rate regime. The aftereffects of the study uncovered that short run cash velocity s exceedingly affected by money related developments and the currency exchange market; while real IR had lesser impact. The rates of inflation didn't have any critical impact on cash speed.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This part gives a rundown of key information discoveries, conclusions established from the discoveries and proposals for developments that were made. The conclusions and the recommendations were aimed at tending to research objective of setting up the relationship between the rates of volatility of currency exchange and the demand for outside/ foreign currency 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 the level of foreign currency deposits within the Kenyan economy. The other independent variables used in the model included average monthly deposit interest rate and monthly inflation rate which also have a strong relationship with exchange rates.

The results of the investigation established that the levels of the demand for foreign currency remained at about 15 % average but was highly related to exchange rate volatility. During periods of high volatility like in year 2011, the demand for foreign currency increased to a high of 18%. The study found out that there exists a significantly positive association between the rates of exchange volatility and the demand for foreign currency. This implies that as the local currency devalues the demand for foreign currency increase and vice versa. There was also a positive connection between the dependent and the independent variables in the study used ie deposit interest rate and inflation rates.

5.2 Conclusion

This investigation establishes that there exists a very strong and significant relationship between exchange rate volatility and the demand for other/ foreign currency in Kenya. The study further concludes that the rates of currency exchange of Kenyan shilling

compared to the United States Dollar/ currency has always been volatile over the study period. The study further concludes that demand for foreign currency in Kenya is also influenced by level of interest rate and inflation level.

The multiple regression result has shown that the model used to determine demand for foreign currency was appropriate. The result give a value of adjusted R square of 74.3% implying that about 75% changes in the demand for foreign currency could be explained by the three independent variables used. This implies that the higher the volatility of the rate of exchange the more the tendency by the residents to increase their holding of foreign currency especially the US Dollars as a store of value. This is evident as in October 2011 when the Kenyan shilling depreciated to its lowest level during the period of study, the demand for foreign currency as a ratio of broad money rose to its unprecedented level of 18%.

5.3. Recommendations for Policy

The demand/ interest for cash is a key function in defining successful and fitting monetary strategy. The CBK's essential duty is detailing and implementing money related policies to accomplish strength in the general value level; this incorporates the conversion standard which is the cost of the Kenya Shilling communicated in different monetary forms. Financial policies lays on the relationship between the rates of interest for an economy, which is the cost at which cash can be acquired, and the aggregate supply of cash. Fiscal arrangement utilizes an assortment of apparatuses to control either of these, to impact results like financial development, rates of inflation, rates of currency exchange with other different monetary currencies and the rates of unemployment.

The results show a significant positive relationship between demand for foreign currency and the rate of volatility of currency exchange, implying that taming the volatility of exchange rates could influence currency portfolio investment and consequently reduce the spiral of local currency depreciation due to reduced demand/ interest in foreign currencies. Similarly, the results show that the existing relationship between demand for foreign currency and inflation is positive. This means that an increase in the overall levels

of price of goods would decrease the value of real currency balance, and hence increase the demand for foreign currency in order to preserve value.

From the results it's implied that there is a dire need for the fiscal policy makers to pursue policies that would reduce exchange volatility, attain stable price levels and and a sustainable interest rate level. Among others, there is the need for the government to continue creating favorable investment climate and improve the infrastructural base of the economy to improve capital formation. There is need for the policy makers to regulate the level of transactions being undertaken in foreign currency within the economy. There is evidence which suggests that demand for foreign currency in general is driven by a yearning by organizations and family units to hedge themselves against unexpected inflation and rates of currency exchange risks. All things considered, macroeconomic arrangements that guarantee long stretches of low rates of inflation and stable rates of exchange could go far towards decreasing interest for remote cash deposits. Second, purposeful endeavors could be coordinated towards building up a vibrant money related market with expanded scope of investment and speculation outlets as neighborhood cash named enthusiasm bearing resources. Such a move could give alternative speculation and investment chances to foreign cash deposits.

5.4 Study Limitations

A limitation for the purpose of this investigation is defined as any factor that hindered the attainment of research objectives. For the purpose of this study, there were a number of 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 could have varied from one period to the other. This may have affected the trend witnessed in the study. Secondly, the figures used are subject to external factors like politics. Another limitation involved the inability to obtain data of the foreign currency in circulation which could tilt the figures. The study relied on the foreign currency deposits as reported by Central bank of Kenya, yet it's a fact that a substantial amount of currencies will be in the hands of the residents.

5.5 Suggestions for Further Studies

Based on the increased number of transactions and level of borrowing being undertaken in foreign currency, this examination strongly recommends that such an investigation be conducted to find out the existence of currency substitution within Kenya economy. The study recommends for further studies to be done on establishing the effectiveness of the existing monetary policies in controlling 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. Additionally, this investigation recommends that future studies be carried out on the existing relationship between foreign exchange rates fluctuations and economic development in Kenya. This study covered a period of six years, it's suggested that in future the sample could be increased and incorporate other variables such level of GDP and number of domestic transactions effected in foreign currencies.

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