THE EFFECT OF FOREIGN EXCHANGE EXPOSURE ON THE NON FUNDED INCOME OF COMMERCIAL BANKS IN KENYA

LILIAN CHEPNG'ENO LANGAT

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DECLARATION

This research project is my original work and has not been presented for award of any degree in any University.

Signature _____ Date: _____

Lilian Chepnge'no Langat

D63/63981/2013

Supervisor

This project has been submitted for examination with my approval as University of Nairobi supervisor.

Signature _____ Date: _____

Dr. Mirie Mwangi

Department of Finance and Accounting

University of Nairobi

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DEDICATION

I dedicate this project to my dearest husband, Paul Sang and our lovely daughters Sharleen, Joan and Grace for giving me support in my pursuit of knowledge, and for the love they have showed me. God Bless you abundantly.

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LIST OF ABBREVIATIONS

ATM Automatic Teller Machines

CBK Central Bank of Kenya

FX Foreign Exchange

GBP Great Britain Pound

IFE International Fisher Effect

IRP Interest Rate Parity

JPY Japanese Yen

KNBS Kenya National Bureau of Statistics

MNCs Multi-National Corporations

NBFIs Non-Bank Financial Institutions

NFI Non-Funded Income

NPLs Non-Performing Loans

POS Point Of Sale

PPP Purchasing Power Parity

ROA Return on Assets

SPSS Statistical Packaging of Social Sciences

USD United States Dollar.

ZAR South African Rand

ABSTRACT

The objective of this study was to determine the effect of foreign exchange exposure on non funded income of commercial banks in Kenya. The research used a descriptive survey research design and data was analyzed using Statistical Package for Social Sciences (SPSS). The descriptive survey was ideal because it ensured thorough description of the situation ensuring least possible bias in data collection. The study made use of secondary data collected from annual reports submitted to the CBK for the target population comprised of all the commercial banks in Kenya. Summaries of data findings together with their possible interpretations were presented using tables, charts, correlations, standard deviations and regression. The study found out that mean of Forward Contracts is relatively high as compared to other variables while Currency Swaps had the highest standard deviation. Options had the highest positive correlation. Currency Swaps and forward contracts also had high and positive correlation with non funded income. This shows that currency swaps shows had the highest variability or high volatility (Risk) in the financial performance as measured by non funded income. This implies that the foreign trading variables currency options, Forward Contracts, and Options are very crucial in determining performance of commercial banks in Kenya. From the regression equation it was found that holding forward contracts, cross currency swaps and options to a constant zero, return on assets would be 1.952. A unit increase in forward contracts would lead to improvement on non funded income by 3.514 units. A unit increase in currency swaps would lead to improvement of non funded income by 5.828 units and a unit increase in options would lead to improvement on non funded income by 9.235 units. The study concluded that a unit increase in forward contracts, currency swaps and options would lead to improvement on non funded income. Overall options had the greatest effect on return on assets, followed by cross currency swaps then forward contracts. Therefore the study recommends that foreign exchange risk management should always be taken in to account to improve the banks non funded income and hence the performance of the banks. The commercial banks should engage in Forex trading where the returns are highly maximized since investments in capital projects involve huge investment capital. Furthermore the banks management should put structures in place so as to enhance returns on capital and assets and in turn maximize returns to the commercial banks. Policy makers should undertake to understand risk affecting the foreign exchange markets among commercial banks to improve capital investments to maximize returns of the banks hence overall performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Foreign exchange exposure refers to the sensitivity of a firms cash flows, real domestic currency value of assets, liabilities, or operating incomes to unanticipated changes in exchange rates. This study develops a model of foreign exchange exposure dependent on only two variables: the percentage of the firm‘s revenues denominated in foreign currency and its net assets. The study is to find out whether foreign exchange exposure is quite low where firms have been able to match their foreign currency revenues leaving them with little net exposure. Such operational hedges may help to explain why previous studies have found low or negligible levels of exposure when they studied the sensitivity of share prices to foreign exchange rates. In addition to allocating corporate responsibilities, a thorough foreign exchange policy must specify approved techniques for hedging exposures (Resnick, 1988).

Exchange rate movements have been a big concern for investors, analyst, managers and shareholders since the abolishment of the fixed exchange rate system of Bretton Woods in 1971. This system was replaced by a floating rates system in which case the price of currencies is determined by supply and demand of money. Given the frequent changes of supply and demand influenced by numerous external factors, this new system is responsible for currency fluctuations (Abor, 2005). These fluctuations expose companies to foreign exchange risk. Moreover, economies are getting more and more open with international trading constant increase and as a result, companies become more exposed to foreign exchange rate fluctuations.

1.1.1 Foreign Exchange Exposure

Generally, companies are exposed to three types of foreign exchange risk: accounting (translation) exposure, transaction (commitment) exposure and economic (operational, competitive or cash flow) exposure (Eiteman et al., 2006). In practice, economic exposure is computed as the net sensitivity of some aggregate measure of firm value to currency fluctuations. By focusing on the net sensitivity, economic exposure includes the direct and indirect effects of currency fluctuations. In practice, there is little consensus on the use of appropriate choice of aggregate measure.

Economic theory suggests that changes in the exchange rate can produce a shift in stock prices, directly in the case of multinational firms, exporting and importing companies, firms which import part of their inputs and indirectly for other companies. Exchange rate movements affect both the prices of imported finished goods and the costs of imported inputs, thus influencing indirectly those companies that compete with such firms (Grambovas and McLeay, 2006).

Foreign currency exposures arise whenever a company has an income or expenditure or an asset or liability in a currency other than that of the balance-sheet currency. Indeed exposures can arise even for companies with no income, expenditure, asset or liability in a currency different from the balance-sheet currency. When there is a condition prevalent where the exchange rates become extremely volatile the exchange rate movements destabilize the cash flows of a business significantly. Such destabilization of cash flows that affects the profitability of the business is the risk from foreign currency exposures. Exchange rates may affect a firm through a variety of business operation models: a firm may produce at home for export sales as well as

domestic sales, a firm may produce with imported as well as domestic components, and a firm may produce the same product or a different product at plants abroad. The model of the firm must be broad enough to capture all of these channels (Eun and Resnick, 1988).

1.1.2 Non Funded Income Performance

Non funded income includes bank and creditor income derived primarily from fees. They include deposit and transaction fees, insufficient funds fees, annual fees, monthly account service charges, inactivity fees; check and deposit slip fees (Adler and Dumas, 1984). Commercial banks charge fees that provide non-interest income as a way of generating revenue and ensuring liquidity in the event of increased default rates. Measurement of financial performance can be generally be arrived at by the following major factors; length or period of operation, exposure to foreign markets or exchange and size of the bank or institution. Various performance measures are available which include return on assets, return on equity, return on revenue, turnover, market share, number of products among others. In this study, performance will be measured by Return on Assets

De Young and Rice (2004) found that relationship banking tends to generate increases in noninterest income and that some technological advances, for example cashless transactions, contribute to increased earnings from non-interest income. At the same time, however, technological advances such as loan securitization contribute to reduced noninterest income flows at banks. Findings also indicate that large banks generate relatively more noninterest income, while well-managed banks rely less heavily on earnings from non-intermediation.

1.1.3 Foreign Exchange Exposure and Non Funded Income

The importance of non-interest income (NII) has stimulated research on the factors which have underpinned its performance. International evidence has shown that bank characteristics as well as environmental factors such as deregulation, globalization, and investment in technology and developments in the financial architecture have played a significant part in explaining trends in NII. Caribbean, Craigwell and Maxwell (2005) showed that ATM technology and bank-specific characteristics in Barbados were the main factors influencing the performance in non-interest income at these banks over the period 1985 to 2001. More specifically, these bank-specific features included the composition of the loan portfolio as well as the degree of personal service offered by the banking institution.

The increasing reliance on non-interest income by commercial banks has also been shaped by the increased prominence of ATM and POS technology. Furthermore, an analysis of the data has revealed that strong acceleration in the pace of growth in non-interest income coincided with periods of heightened macroeconomic volatility. The fact that economic conditions is an important determinant of non-interest income, is supported by the De Young and Rice (2004) study of U.S. commercial bank data over the period 1989 to 2001. Non-interest income is the part of a bank's revenue that is not generated by its interest-bearing business. NII can generally be divided into commission and fee activities and trading activities. The components of non-interest income at Jamaica banks includes service charges, transaction fees and commissions, dividends and trading profits on securities, foreign exchange gains and losses and

other income. DeYoung and Roland (2001) suggested and explained three reasons why non-interest income may increase the volatility of bank earnings.

1.1.4 Commercial Banks in Kenya

The Kenyan financial system is one of the most developed in Sub-Saharan Africa and includes all types of financial institutions. The largest and most dominant of these financial institutions are the commercial banks. As at October 07, 2007 Kenya had a total of 43 commercial banks (Central Bank of Kenya, 2008). Overall profitability for 2007 was Ksh.36 billion and the total asset base amounted to Ksh. 960 billion. Nairobi and other urban areas are generally overbanked. Commercial banking in Kenya was introduced in the late 1890s by traders along the Kenyan coast especially Mombasa. The first bank to open up was the National Bank of India. More banks opened up first in Mombasa and as the century wore on more branches were opened in the mainland. Four banks dominated the banking scene in Kenya up to the 1940s, these were: Barclays Bank, DCO (Dominion, Colonial and Overseas), Grind lays Bank and the Standard Bank.

Since then commercial banking sector in Kenya has undergone tremendous changes and this will continue for years to come. In the middle of the 1990s however, the banking sector underwent a period of instability and upheavals caused by the following factors: Stiff competition in the sector caused by the entry of numerous NBFIs and BFIs, reckless lending by the Government-owned commercial banks and depressed economic environment caused by several factors including poor economic and social infrastructure. The acceptance of deposits and extension of credits in foreign currencies as well as taking positions in foreign currency pose potential

foreign exchange risk to the balance sheet of commercial banks in Kenya, which could have serious negative impact on the capital position of banks. Therefore, prudent management of banks' activities in foreign currencies is crucial to ensuring the safety and soundness of the individual banks and the banking system as a whole. Based on this rationale CBK has issued guidelines on foreign exchange risks among licensed banks these Guidelines shall apply to all foreign currency denominated assets and liabilities held by banks, whether on or off balance sheet. For the purpose of reporting, each bank shall be required to compute its exposures in each foreign currency asset and liability that it holds (Barland, 2006).

Regulation of banks in Kenya rests with the Central Bank of Kenya under The Banking Act; Cap 488 of 1968 and The Central Bank of Kenya Act; Cap 491 of 1967. (Both Acts have been amended severally). Its Supervision Department carries out the function of supervising banks to ensure the liquidity, solvency, and proper functioning of a stable market-based banking system. Based on the Central Bank of Kenya internal rating system audited performance of the banking sector is measured in terms of capital adequacy, asset quality, liquidity and earnings (The Kenya Banking Act, Cap 488 of 2008).Foreign exchange exposure return is a requirement for all listed commercial banks which is submitted every working day to the CBK for auditing.

1.2 Research Problem

Exchange rate movement in Kenya has been variable with periods of rapid depreciation of the domestic currency Kenya Shilling, which adversely affect the Kenyan economy. Even though studies have been conducted on the exchange rate

regimes and the implications for macroeconomic management as well as managing foreign exchange risk (Abor, 2005), very little has been done on the study of the firm exposure to exchange risk in Kenya. It is in this context that this research is to evaluate the effects (if any) that variations in the exchange rate has in the financial performance of the selected listed commercial banks in Kenya in the Nairobi Stock Exchange with regards to non funded income.

Bartov and Bodnar (1995) investigated the impact of different currencies under the two accounting rules and found that it did make a difference in investors' ability to discern the impact on firm value. Shin and Soenen (1999) concluded that there was a significant relationship between currency risk (using the U.S. dollar as the benchmark currency) and stock market performance. They also found that the relationship exists with a one-month lag after the fiscal year with the impact decreasing over time. Bazaz and Senteney (2001) found that unrealized foreign currency gains and losses were valued by investors under FAS. Pinto (2001), using a sample of 204 MNCs with operations in Germany and Mexico, found that per share foreign currency translation gains and losses predicted changes in earnings per share. Louis (2003), however, found that the translation gain or loss was not important in valuing a sample of manufacturing firms. A related study on stock prices and currency risk has been published by Jorion (1991) who found a statistically significant relationship between stock returns and the value of the U.S. dollar.

DeBondt (2008) tested a stock price model that indicated fundamental factors beyond a firm's price-earnings ratio, such as exchange risk, are important in determining share price. In general, the results on the return or pricing impacts of the currency

accounting under FAS 52 (and relative to its predecessor FAS 8) have been mixed with initial results not indicating significant abnormal returns and later studies providing evidence of some impact as it relates to earnings.

A number of studies (Robinson, 1995; Chance & Lane, 1980; Flannery, 1981 & 1983; Houpt and Embertsi, 1991) have examined the extent of banks‟ exposure to interest-rate risk. Most of these studies have used data on how bank stock prices react to interest-rate movements. Bank stock returns that respond to unexpected changes in interest rates indicate that banks are exposed to interest-rate risk. Other studies use bank accounting data to infer the average maturity structure of assets and liabilities and to judge the long-run effect on banks‟ profitability from changes in interest rates (Robinson, 1995).

An empirical study conducted in Kenya (Cherutoi, 2006) sought to establish the extent to which commercial banks are exposed to foreign exchange risk. While applying an augmented market model, Cherutoi (2006) regressed the Nairobi Stock Exchange (NSE)-share and banking sector indices against the daily percentage changes in US$/Kshs exchange rate. The study established that there is a high exposure of commercial banks in Kenya to FOREX risk. A annual report by the Barclays Bank of Kenya (BBK) [2003] further revealed that the key risks facing the banks in Kenya include credit risk, market risk, liquidity risk, interest rate risk, operational, legal and tax risks. Given the volume of interest-rate transactions that are conducted daily within the banking sector, there was need therefore to establish the extent of exposure to interest rate risks in order to ensure that that commercial banks returns are commensurate with associated risks.

Ngari (2012) investigated foreign exchange exposure on firms listed in the Nairobi Stock Exchange. The study found out that foreign exchange exposure can be minimized where firms have been able to match their foreign currency revenues and costs leaving them with little net exposure. Wekesa (2012) conducted a study on relationship between foreign exchange risk management and profitability of airlines in Kenya and found out that the airlines fully hedged using forwards, futures and money contracts but they partially hedged options and swaps but failed to link foreign currency risk to operational costs. Wanyonyi (2011) conducted a survey of the Foreign Exchange Risk Management Practices of Kenyan Based Subsidiaries of Multinational Corporations but failed to link foreign currency risk to operational costs.

Anene (2011) studied the behavior of stock prices at the Nairobi Securities exchange and concluded that the overall volatility of the currency has a spiral effect of stock prices, hence making them vary with foreign currency fluctuations. Further studies have concluded that financial leverage and other factors along with currency translation effects influence stock prices and returns. These studies have looked at the overall effect of the various forms of foreign exchange exposure and the risk management practices. The current study looks at the impact of foreign exchange exposure to non funded income of commercial banks. The research sought to answer the following research question. What is the impact of foreign exchange exposure to the performance of non-funded income of commercial banks in Kenya?

1.3 Research Objectives

The objective of this study is to investigate the effect of foreign exchange exposure on non funded income of commercial banks in Kenya.

1.4 Value of the Study

The study is beneficial to a number of parties. First, it will benefit the players in the stocks' market as they address the foreign exchange risk exposures and how it affects their operations, as well as the management strategies they can use to minimize the losses incurred due to the exposure.

Other firms that deal in inter-country trade such as multinational corporations will also benefit through the lessons on the valuation of shares as affected by the operating foreign exchange exposures. These players will also benefit from the recommendations the study will make.

The study will assist who can validate the model in similar firms elsewhere in the world. Further, the study also provides a source of motivation for future studies based on the areas of further study that will be recommended. The purpose of this study is to evaluate the effect of exchange rate exposure through a survey of commercial banks in Kenya to show course and showcase how commercial banks are exposed by currency movements.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter considers literature relevant to the subject under study. The section includes; the theoretical literature review, determinants of non-funded income, empirical literature review and summary to the literature.

2.2 Theoretical review

This section gives a brief overview of the foreign exchange theories which include the purchasing power parity (PPP) theory; international fisher effect theory; and interest rate parity theory.

2.2.1 The Purchasing Power Parity Theory

According to the Purchasing power parity (PPP) theory under a floating exchange regime, a relative change in purchasing power parity for any pair of currency calculated as a price ratio of traded goods would tend to be approximated by a change in the equilibrium rate of exchange between these two currencies (Shapiro and Rutenberg, 1996).The relationship between relative interest rates and foreign exchange rates is explained within the interest rate theory of exchange rate expectations. Nominal interest rate differentials between two countries tend to reflect exchange rate fluctuations.

Purchasing power parity (PPP) is an economic theory and a technique used to determine the relative value of currencies, estimating the amount of adjustment needed on the exchange rate between countries in order for the exchange to be

equivalent to (or on par with) each currency's purchasing power. It asks how much money would be needed to purchase the same goods and services in two countries, and uses that to calculate an implicit foreign exchange rate. Using that PPP rate, an amount of money thus has the same purchasing power in different countries (Lawrence, 1992).

2.2.2 International Fisher Effect Theory

The International Fisher Effect (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, 2010).According to (Cumby and Obstfeld, 1981) in the long-run, a relationship between interest rate differentials and subsequent changes in spot exchange rate seems to exist but with considerable deviations in the short run. The international Fisher effect is known not to be a good predictor of short-run changes in spot exchange rates.

The theory states that the currency of a nation with a comparatively higher interest rate will depreciate in value in comparison to the currency of a nation with a comparatively lower interest rate (Hill, 2004). The study also states that the extent of depreciation will be equal to the difference in interest rates in those two nations. It is based on the observation that the level of real interest rate in an economy is closely linked to the level of local inflation rate and is independent of a government's monetary policies. Thus, in general, the higher the inflation rate, the lower the value of currency.

2.2.3 Interest Rate Parity Theory

Interest Rate Parity (IPR) theory is used to analyze the relationship between the spot rate and a corresponding forward (future) rate of currencies. The IPR theory states interest rate differentials between two different currencies will be reflected in the premium or discount for the forward exchange rate on the currency if there no arbitrage the activity of buying shares or currency in one financial market and selling it at a profit in another (Yuhang, 2007).

The theory further states size of the forward premium or discount on a foreign currency should be equal to the interest rate differentials between the countries in comparison. If IRP theory holds then arbitrage in not possible. No matter whether an investor invests in domestic country or foreign country, the rate of return will be the same as if an investor invested in the home country when measured in domestic currency. If domestic interest rates are less than foreign interest rates, foreign currency must trade at a forward discount to offset any benefit of higher interest rates in foreign country to prevent arbitrage (Jonathan, 2005). If foreign currency does not trade at a forward discount or if the forward discount is not large enough to offset the interest rate advantage of foreign country, arbitrage opportunity would exist for domestic investors. Domestic investors can benefit by investing in the foreign market. If domestic interest rates are more than foreign interest rates, foreign currency must trade at a forward premium to offset any benefit of higher interest rates in domestic country to prevent arbitrage

2.2.4 Financial Intermediation Theory

The financial intermediation theory was developed by Gurley and Shaw (1960). It is based on the theory of informational asymmetry and the agency theory. A banks core activity is to act as a financial intermediary. It pays interest to depositors, while it receives income from the borrowers. The interest income received from borrowers is higher than that paid to depositors, since the bank has to be remunerated for services rendered but also for the risk it takes in order to lend money to third parties. The fact that banks have usually large numbers of customers means that they have potential buyers of other bank and or non –bank related services like insurance ,bank assurance ,stock brokerage ,factoring ,asset management and other services (Karlos, 2009).

Over the years and according to different needs and conditions, several types of banking institutions have evolved such as: Commercial banks which offer core banking activities, which are financial intermediation and offering of liquidity. However some banks offer nearly any service on the financial spectrum; they can be categorized as corporate or retail depending on clientele. Finally, Merchant banks which originally charged a fee to guarantee clients bills of exchange. This way they provided their clients with liquidity in time. These banks have evolved and are considered as investment banks. If a banking group is big enough in order to be able to render a wider spectrum of financial services it can be considered to be a financial conglomerate, these institutions benefit from economies of scale and scope as well as high number of customers which they can sell a lot of different services (Karlos, 2009).

2.3 Determinants of Non-Funded Income

Commercial banks offer a wide range of financial services and the increasing level of information, has led people to invest and to offer funds in money markets. Technological progress has allowed the banks develop new products and services for which they can charge fee income. Deregulation has also widened the field of services that banks can provide hence leading to extra income beyond interest income (Karlos, 2009).

2.3.1 Size of Commercial Banks

The size of a bank is obviously likely to influence the magnitude of its engagement in both interest and non-interest earning activities. Participation in nontraditional activities according to Rogers (1998) varies greatly across banks due to differences in size, and other characteristics. According to Rogers and Sinkey (1999), the most obvious factor related to the level of nontraditional activities is firm size. They posit that participation in certain nontraditional activities generally requires some degree of specialization for the bank which may be achieved through the recruitment of staff with special knowledge as well as the acquisition of modern technology. The size of commercial banks can positively affects performance measured; the size of the company can have a positive effect on financial performance because larger firms can use this advantage to get some financial benefits in business relations (Mathur and Kenyon, 1997). Large companies have easier access to the most important factors of production, including human resources. Also, large organizations often get cheaper funding.

In the classical theory, capital structure is irrelevant for measuring company performance, considering that in a perfectly competitive world performance is influenced only by real factors. Recent studies contradict this theory, arguing that capital structure play an important role in determining corporate performance (Kakani, Biswatosh and Reddy, 2001). Barton and Gordon (1988) suggest that entities with higher profit rates will remain low leveraged because of their ability to finance their own sources. On the other hand, a high degree of leverage increases the risk of bankruptcy of companies. Total assets are considered to positively influence the company's financial performance, assets greater meaning less risk (Beaver, Ketller and Scholes, 2000). Large firms tend to be more diversified and fail less often, enabling the firms to use more debt, tolerating high debt ratios. The certainty of easier access to debt and better borrowing conditions reduces the transaction costs and tax rates making large firms more easily to attract a debt.

2.3.2 Interest Rate

Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institution or fee paid on borrowed assets (Crowley, 2007). Interest can be thought of as "rent of money". Interest rates are fundamental to a capitalist society and are normally expressed as a percentage rate over one year. Interest rate as a price of money indicates market information concerning probable change in the purchasing power of money or future inflation (Ngugi, 2001). Financial institutions facilitate mobilization of savings, diversification, pooling of risks and allocation of resources (Collins and Wanjau, 2011). However, since the receipts for deposits and loans are not harmonized, intermediaries like banks incur certain costs (Ngugi, 2001).

They charge a price for the intermediation services offered under uncertainty and set the interest rate levels for deposits and loans. Rhyne (2002) disparity between the gross costs of borrowing and the net return on lending defines the intermediary costs which include information costs, transaction costs, administration, default costs and operational costs

2.3.3 Customer Deposits

Customer deposits as provided by Rogers and Sinkey (1999) is the level of nontraditional activities at a bank might also be related to its liability structure. As a bank is able to mobilize more deposits, there is a higher propensity of it making more loans, hence a higher level of involvement in traditional activities. The contrary becomes the case where the bank's core deposits are limited hence its attraction to other revenue sources. They posit that, if a bank is constrained in the volume of core deposits it can attract, it may produce a larger quantity of nontraditional activities concurrently with finding other sources of funds.

Prevailing (low) interest rates and risk of Non-Performing Loans (NPLs) may also discourage banks from engaging in the lending business even with higher levels of customer deposits and rather concentrate on other sources of revenue such as acquisition of government securities, securitization of existing assets (loans) or engagement in derivatives. From the foregoing arguments, it is clear that non-interest income may be related to the level of customer deposits at a bank and this relationship could be either positive or negative depending on the peculiar situation of each of the banks in question. This variable is expressed as the ratio of deposits and current accounts to total assets.

2.3.4 Inflation

This is the rise in the general level of prices quoted in units of money. The magnitude of inflation or the inflation rate is usually reported as the annualized percentage growth of some broad index of money prices (White, 2008). Inflation is significantly negatively related with the performances of commercial banks. This is probably due to the fact that inflation could affect the value for money, purchasing power of people and the real interest rate that banks charge and receive.

According to Mishkin (2007), inflation is the continual increase in price levels which affects individual businesses; including banks. This may ultimately result in lower profits. According to Boyd et al. (2001), there is a significant and economically important negative relationship between inflation and banking sector development. This makes inflation a likely contributor to bank's financial performance and involvement in both interest and non-interest earning activities. As the general prices of commodities increase, banks' operation expenses also increase resulting in the need for banks to make upward adjustments to their margins as a means of making up for the increases in operation cost. In some cases, however, some banks may maintain their current transaction charges to retain customers and be ahead in the competition.

2.4 Empirical Studies

The increasing importance of non-interest income (NII), particularly in recent years, has stimulated research on the factors which have underpinned its performance. International evidence has shown that bank characteristics as well as environmental factors such as deregulation, globalization, and investment in technology and developments in the financial architecture have played a significant part in explaining

trends in NII. Caribbean, Craigwell and Maxwell (2005) showed that ATM technology and bank-specific characteristics in Barbados were the main factors influencing the performance in non-interest income at these banks over the period 1985 to 2001. More specifically, these bank-specific features included the composition of the loan portfolio as well as the degree of personal service offered by the banking institution.

The increasing reliance on non-interest income by commercial banks has also been shaped by the increased prominence of ATM and POS technology. Furthermore, an analysis of the data has revealed that strong acceleration in the pace of growth in non-interest income coincided with periods of heightened macroeconomic volatility. The fact that economic conditions is an important determinant of non-interest income, is supported by the De Young and Rice (2004) study of U.S. commercial bank data over the period 1989 to 2001. Non-interest income is the part of a bank's revenue that is not generated by its interest-bearing business. NII can generally be divided into commission and fee activities and trading activities. The components of non-interest income at Jamaica banks includes service charges, transaction fees and commissions, dividends and trading profits on securities, foreign exchange gains and losses and other income.

DeYoung and Roland (2001) suggested and explained three reasons why non-interest income may increase the volatility of bank earnings. First, loans that are held in a bank's portfolio especially loans to businesses are relationship based. Second, a bank that shifts its product mix from traditional asset-based interest-generating activities to nontraditional fee-based activities tends to increase its "degree of operating leverage".

Third, most fee-based activities require banks to hold little or no fixed assets, so unlike interest-based activities like portfolio lending, fee-based activities like trust services, mutual fund sales, and cash management require little or no regulatory capital.

Lozano-Vivas and Pasiouras (2010) investigated the relevance of non-traditional activities in the estimation of bank efficiency levels and found that, on average, cost efficiency increased irrespective of whether income from non-interest sources were used, although the results for profit efficiency were mixed. This signifies the relevance of bank's non-interest earning activities in assessing their efficiency.

Mugendi (2002) analyzes the vital role Microfinance institutions play in the economic development of many developing countries through the provision of a wide range of financial products and services to the poor, low-income households and micro and small enterprises. This study investigated the factors that influence financial innovation in MFI's and its impact on financial performance in micro finance institutions in Kenya.

Tarazi et al. (2007) investigated the relationship between bank risk and product diversification in the changing structure of the European banking industry. Based on abroad set of European banks for the period 1996-2002, the study first shows that banks expanding into non-interest income activities present higher risk and higher insolvency risk than banks which mainly supply loans. However, considering size effects and splitting non-interest activities into both trading activities and commission and fee activities they showed that the positive link with risk is mostly accurate for small banks and essentially driven by commission and fee activities. A higher share of

trading activities is never associated with higher risk and for small banks it implies, in some cases, lower asset and default risks.

Macharia (2009) aimed at determining how commercial banks perceive the influence of mobile phones on growth of commercial banking business in Kenya. The study was modeled on a descriptive design. The population of interest in this study consisted of forty-five commercial banks. Based on the findings, it was concluded that majority of the commercial banks do offer services through the customers' mobile phones. It can also be concluded that commercial banks use mobile services for purposes of accounts request and the maintenance of high quality service is extremely important for the commercial banks in the Kenyan banking industry. Commercial banks management should change their perception on cost leadership, market share leadership and technology leadership in order to take advantage of the mobile banking technology in the growth of the banking industry.

Chen (2009) in his study used bank level data to study the efficiency of banks in Sub-Saharan African middle-income countries and provide possible explanations for the difference in the efficiency levels of banks. It was found that banks, on average, could save 20-30 percent of their total costs if they were operating efficiently, and that foreign banks are more efficient than public banks and domestic private banks. Among the factors that could affect the efficiency levels are macroeconomic stability, depth of financial development, the degree of market competition, strong legal rights and contract laws, and better governance, including political stability and government effectiveness. Our findings point to the importance of policies that aim to build stronger institutions, promote more competition, and improve governance.

Busch and Kick (2009) analyzed the determinants of non-interest income and its impact on financial performance and the risk profile of German banks between 1995 and 2007. They found out that empirical evidence for all German universal bans risk-adjusted returns on equity and total assets are positively affected by higher fee income activities. Additionally, for commercial banks they show that a strong engagement in fee-generating activities goes along with higher risk. In order to analyze possible cross-subsidization effects between interest and fee business they also examined how banks' expansion in fee-based services has affected their interest margin. For savings and commercial banks they found that institutions with a strong focus on fee business charge lower interest margins when credit risk is controlled.

Williams and Rajaguru (2010) studied the time series relationship between bank non-interest income and bank net interest margins in Australia using panel vector auto regressions. It is found that increases in bank non-interest income are being used to supplement decreases in net interest margins, but that the magnitude of the increase in non-interest income is smaller than the decrease in net interest margins. It is also found that increases in non-interest income pre-date declines in margin income, suggesting that Australian banks were pro-active in the process of disintermediation. The agency risks of increased bank non-interest income are explored from the perspectives of regulators, consumers, bank shareholders, borrowers and bank management.

Kaberia (2012) analyzed different sources of income of commercial banks that operated in Kenya during the period of 2007-2011. By using Regression Model, the

researcher identified the various sources of income which significantly influence the bank's financial performance to be interest income, fees and commissions on loans and advances, other fees and commissions, foreign exchange, trading income and other non-interest income. From the regression conducted specifically as revealed by the coefficient correlation (R), it was established that the independent variables have a positive strong impact on the dependent variable. On this basis of analysis, it can be concluded that increased diversification of income sources leads to increased profitability of commercial banks.

Kamau (2013) indicated that Banks have increasingly been generating income from off-balance sheet business and fee income. Technological advancements have greatly increased product base in banks leading to new revenue streams such as mobile banking, card usage, online banking and cashless transactions through bank agents and merchants. The study sought to establish the effect of cashless transactions and financial trading income on non-funded income in commercial banks in Kenya.

Limo (2014) indicated that Foreign exchange risk management is complex and requires a thorough understanding of the banks business needs, its internal and external environment and exposures to the financial markets. Challenges abound as banking institutions commit themselves to improving risk management practices. Many of the standard tools used to hedge currency risk, such as futures, swaps and options contracts, are either not available in emerging markets or, where available, are traded in illiquid and inefficient markets, making the range of products available extremely limited. This has put an extra burden on corporate treasurers to be able to find adequate hedge to their exposures in exotic currencies.

2.5 Summary of Literature Review

The diversity of banking operations in recent times has become a subject of interest to the management of banking companies, regulators, bank customers and other stakeholders. Most studies reviewed established some factors common in banks with more engagement in non-interest earning activities. They found that interest income, exposure to risk and liquidity are the main driving factors of bank's engagement in non-interest earning activities in Kenya. Reviews of literature studies have identified several knowledge gaps in the effect of foreign exchange exposure on the financial performance of banks.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a discussion of the methodology that was used in the study. It outlines the overall methodology that was used to carry out the research. It encompasses the research design, the research population, data collection methods and analysis of data which aided in achieving the study objectives.

3.2 Research Design

A research design is the arrangement of conditions for data collection and analysis of data in a manner that aim to combine relevance to research purpose with economy in research procedure and decisions regarding a research study.

A research design is used to structure the research to show how all major parts of the research project work together and also tries to address the central research questions. Research design may also be viewed as the framework that indicates the type of information that is needed for the research, the source of such information and method of its collection. The descriptive research design will be used in the study.

3.3 Population

A population is defined as all elements (individuals, objects and events) that meet the sample criteria for inclusion in a study. The target population in statistics is the specific population about which information is desired. According to Ngechu (2004), a population is a well defined set of people, services, elements, and events, group of things or households that are being investigated. The target population for the proposed study is 43 commercial banks registered and operating in Kenya. The study

will carry out a census survey of all the 43 commercial banks. A schedule of these commercial banks Appendix I.

3.4 Data Collection

The data used in this study was quantitative in nature. The secondary data for five years (2010-2014) was obtained from annual publications by central bank as well as financial statements of commercial banks. This includes statement of financial position and directors reports. Secondary data from CBK was used to supplement data issued by Kenya National Bureau of Statistics (KNBS).

3.5 Data Validity and Reliability

Validity indicates the degree to which the instrument measures the constructs under investigation (Mugenda & Mugenda, 2003). There are three types of validity tests which include content, criterion and related construct validity. The study used content validity because it measures the degree to which the sample of the items represents the content that the test is designed to measure.

3.6 Data Analysis

The researcher used quantitative techniques in analyzing the data. After receiving questionnaires from the respondents, the responses were edited, classified, coded and tabulated to facilitate quantitative analysis using Statistical Package for Social Science (SPSS version 21). Tables and charts were used for presentation of the analysis output. The collected data was examined and checked for completeness and comprehensibility. The data was then summarized, coded and tabulated.

3.7 Analytical Model

Data was analyzed using Statistical Package for Social Sciences (SPSS Version 21.0) program. Being that the study was descriptive in nature, both quantitative analysis and inferential analysis was used as data analysis technique. The data collected was run through a regression model so as to clearly bring out the effects of foreign exchange exposure on the performance of non-funded income of commercial banks in Kenya. The results obtained from the models was presented in tables to aid in the analysis and ease with which the inferential statistics were drawn

The relationship equation was presented in the linear equation below.

$Y = \beta 0 + \beta 1X1 + \beta 2\ X\ 2 + \beta 3\ X\ 3 + ę$

Y= Non-funded Income (Non Interest Income/ Total Interest Income) of the dependent variable.

β0 - Constant/Y intercept

X1 –Forward Contracts

X2 – Currency Swaps

X3 - Options

ε - Error term

3.7.1 Test of Significance

T-tests can be used to determine whether there is a significant difference between two sets of means. Therefore t-tests using SPSS statistical program was employed in this study. Conducting the t-tests required that the normality of the data is not violated. The P-values of results of the multiple regression analysis was used to test for significance of the relationship between variables. The significance level used is 0.05

(5%) to test for significance where any P-value of less than 0.05 indicated a significant relationship

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents analysis and findings of the study asset out in the research objective and research methodology. The general objective of the study was to investigate the effect of foreign exchange risk management practices on the financial performance of commercial banks in Kenya among 43commercial banks in Kenya for a period of 5 years from the year 2010 to 2014.The data was gathered exclusively from the secondary source records at Central Bank of Kenya and commercial banks audited financial report.

4.2 Descriptive Statistics

In section 4.2 the study present the research finding on the descriptive statistic in the data collected.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Units
Non Funded Income	210	-0.136	0.104	0.0276	0.0292	%
Forward Contracts	210	629	4,887,887.00	581,037.00	893,459.00	Kshs
Currency Swaps	210	839	22,248,357.00	2,805,748.00	4,792,854.00	Kshs
Options	210	304	1,138,392.00	126,602.00	233,418.00	Kshs

Forward Contracts, Currency Swaps, Options and the financial performance measure Return on Assets (ROA) were used. Their mean, maximum, minimum and standard deviation was taken into account. From the findings, the study found that there was mean of 2.76% for non-funded income, Kshs 581,037 for the forward contracts, Kshs 2,805,748 for currency swaps and Kshs 126,602 for options.

4.3 Correlation

Table 4.2: Correlation

	NII	Forwards	Currency Swaps	Options
NII	1			
Forwards	.624	1		
Currency Swaps	.453	.245	1	
Options	.489	.571	.139	1

** Correlation is significant at the 0.01 level (2-tailed).

On the correlation of the study variables, the researcher conducted a Pearson correlation. From the findings on the correlation analysis between non funded income and various derivatives, the study found that there was a strong positive correlation coefficient between non funded income and forward contracts as shown by correlation factor of 0.624. The study also found a positive correlation between NII and currency swaps as shown by correlation coefficient of 0.453. The study also found a positive correlation between NII and options as shown by correlation coefficient of 0.489. Hence all the derivatives had a position relationship with return on assets as a measure of financial performance.

4.4 Regression Analysis

In this section the study presents the research findings on the relationship between various independent variables on the regression model and financial performance.

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788[a]	0.686	0.569	2.603

a. Predictors: (Constant), Options, Currency Swaps, Forwards

From the table above, R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by R 0.788 at 5% significance level. The Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable, from the findings in the table above the value of adjusted R squared was 0.686 an indication that there was variation of 68.6% on return on assetsdue to changes in forward contracts, cross currency swaps and optionsat 95% confidence interval. This is an indication that 68% of the changes in non funded income could be accounted for by the independent variables while 32% cannot be explained by the independent variables.

Table 4.4: ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	361.69	3	89.23	14.72	.016[b]
	Residual	1457.26	207	7.36		
	Total	1818.95	210			

b. Predictors: (Constant), Options, Currency Swaps, Forwards

From the table above, the processed data, which is the population parameters, had a significance level of 1.6% which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5%. The F critical at 5% level of significance, 3 d.f, 248 d.f was 14.733, since F calculated is greater than the F critical (value = 0.016), this shows that the overall model was significant.

Table 4.5: Regression Model

Coefficients

	Unstandardized		Standardized	t	S
	B	Std. Error	Beta		
(Constant)	1.952	.214		2.123	.0
Forward Contracts	3.514	.349	4.254	1.367	.0
Currency swaps	5.828	.348	4.531	2.132	.0
Options	9.235	.562	8.672	2.971	.0

$Y = 1.952 + 3.514 X_1 + 5.828 X_2 + 9.235 X_3$

From the regression equation above it was found that holding forward contracts, cross currency swaps and options to a constant zero, return on assets would be 1.952. A unit increase in forward contracts would lead to improvement on non funded income by3.514 units. A unit increase in currency swaps would lead to improvement of non funded income 5.828 units and a unit increase in options would lead to improvement on non funded income by 9.25 units. Overall options had the greatest effect on return on assets, followed by cross currency swaps then forward contracts.

At 5% level of significance and 95% level of confidence, forward contracts had a 0.021 level of significance; currency swaps had a 0.017 level of significance while options had a 0.035 level of significance. All the variables were significant ($p<0.05$).

4.5 Discussions of Findings

The study found that unit increase in Forward Contracts, while holding other factors constant, will lead to an increase in non funded income by3.514($p = 0.021$).This is in line with Bodnar and Richard (1998) who indicated that the most frequently used method is forward exchange contract. With forwards, the firm can be fully hedged. However, some risks including settlement risk that exchange rate moves in the opposite direction as either forecast, and counter party risk which the other party is unable to perform on the contract, the high cost of forward contracts will sometimes prevent firms to exercise this tool to fully hedge their exposures.

A unit increase in Currency Swaps, while holding other factors constant, will lead to an increase in non funded income by5.828 ($p=.017$).This correlate Sun(1993)

currency swap where counter parties exchange equal initial principal of two different currencies by spot rate and comparative advantage. Though a costly third party offsets default risk. The usual aim to replace cash flows scheduled in an undesired currency with flows in a desired currency to raise capital in currencies of no significant revenues.

The study also found a unit increase in Options, while holding other factors constant, will lead to an increase in non funded income by 9.235($p<.0.035$). This concur with Bodnar and Richard (1998) who indicate that options on spot currencies are commonly available in the interbank over-the-counter markets, while those on currency futures are traded on exchanges. Currency option is a derivative instrument where the owner has the right but not the obligation to exchange money denominated in one currency into another currency at a pre-agreed exchange rate on a specified date. It thus avoids potential exposure as counterparties have free and open choice to trade currency amount at specified rate before expiry date.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. The researcher had intended to determine the effect of foreign exchange risk management practices on the non funded income of commercial banks in Kenya.

5.2 Summary

The objective of this study was to determine the effect of foreign exchange exposure on non funded income of commercial banks in Kenya. On the correlation of the study variables, the researcher conducted a Pearson correlation. From the findings on the correlation analysis between non funded income and various derivatives, the study found that there was a strong positive correlation coefficient between non funded and forward contracts as shown by correlation factor of 0.624. The study also found a positive correlation between non funded income and currency swaps as shown by correlation coefficient of 0.453. The study also found a positive correlation between non funded income and options as shown by correlation coefficient of 0.489. Hence all the derivatives had a strong position relationship with return on assets as a measure of financial performance of commercial banks as measured by non funded income.

There was a strong positive relationship between the study variables represented by R 0.788 at 5% significance level. The adjusted R squared was 0.759 an indication that there was variation of 68.6% on non funded incomedue to changes in forward contracts, currency swaps and optionsat 95% confidence interval. This is an indication

that 68% of the changes in return on assets could be accounted for by the independent variables. The F critical at 5% level of significance, 3 d.f, 207d.f was 14.72, since F calculated is greater than the F critical (value = 0.016), this shows that the overall model was significant. Hence forward contracts, currency swaps and option have an effect on non funded income of commercial banks.

From the regression equation above it was found that holding forward contracts, cross currency swaps and options to a constant zero, return on assets would be 1.952. A unit increase in forward contracts would lead to improvement on non funded income by 3.514 units. A unit increase in currency swaps would lead to improvement of non funded income by 5.828 units and a unit increase in options would lead to improvement on non funded income by 9.235 units. Overall options had the greatest effect on return on assets, followed by cross currency swaps then forward contracts.

5.3 Conclusions

The findings showed that the mean of Forward Contracts is relatively high as compared to other variables while Currency Swaps had the highest standard deviation. This shows that currency swaps shows had the highest variability or high volatility (Risk) in the financial performance as measured by non funded income. Options had the highest correlation and were positively correlated with non funded income. Currency Swaps and forward contracts are also highly and positively correlated with non funded income. This implies that the foreign trading variables currency options, Forward Contracts, and Options are very crucial in determining performance of commercial banks in Kenya. From the regression equation the study concludes that a unit increase in forward contracts, currency

swaps and options would lead to improvement on non funded income. Overall options had the greatest effect on non funded income, followed by cross currency swaps then forward contracts.

5.4 Policy Recommendations

The study sought to determine the relationship between foreign exchange exposure on the non funded income of commercial banks in Kenya. The study recommends that; foreign exchange risk management should always be taken in to account to improve the bank's net interest income and hence overall performance of the banks. Policy makers should undertake to understand risk affecting the foreign exchange markets among commercial banks to improve capital investments to maximize returns of the banks hence overall performance.

The study recommends that commercial banks should engage in Forex trading where the returns are highly maximized since investments in capital projects involve huge investment capital. The banks management should put structures in place so as to enhance returns on capital and assets and in turn maximize returns to the commercial banks.

5.5 Limitations of the Study

This study was not without limitations. In attaining its objective the study was limited to 5 years period starting from year 2010 to year 2014.

The study was limited to secondary data collected from the Banks Financial reports and Central banks of Kenya. While the data was verifiable since it came from the

CBK and Banks publications, it nonetheless could still be prone to shortcomings such as earnings management.

The study was limited tothe effect of foreign exchange exposure on the non funded income of commercial banks in Kenya.The study was based on a five year study period from the year 2010 to 2014. A longer duration of the study will have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problem.

5.6 Suggestions for Further Research

This study sought to determine the effect of foreign exchange exposure on the non funded income of commercial banks in Kenya. A study can be done on the implications of risk management practices on non funded income of financial institutions.

The current study targeted all the commercial banks in Kenya; a study can be done on the effect of foreign exchange risk management practices on the financial performance of commercial banks in Kenya, with specific reference to the listed companies in Kenya. This would help compare the results.

A study can also be done on the effect of other factors apart from forward contracts, currency swaps and options that affect financial performance of commercial banks in Kenya. A study should also be done on the effect of foreign exchange risk management practices on the financial performance of separate banks in each tier. This would help compare the results of the various banks.

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APPENDIX I: LIST OF COMMERCIAL BANKS IN KENYA

1. African Banking Corporation Ltd.

2. Bank of Africa Kenya Ltd.

3. Bank of Baroda (K) Ltd.

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

10. Commercial Bank of Africa Ltd.

11. Consolidated Bank of Kenya Ltd.

12. Co-operative Bank of Kenya Ltd.

13. Credit Bank Ltd.

14. Development Bank of Kenya Ltd.

15. Diamond Trust Bank (K) Ltd.

16. Dubai Bank Kenya Ltd.

17. Ecobank Kenya Ltd

18. Equatorial Commercial Bank Ltd.

19. Equity Bank Ltd.

20. Family Bank Ltd

21. Fidelity Commercial Bank Ltd

22. Fina Bank Ltd

23. First community Bank Limited

24. Giro Commercial Bank Ltd.

25. Guardian Bank Ltd

26. Gulf African Bank Limited

27. Habib Bank A.G Zurich

28. Habib Bank Ltd.

29. Imperial Bank Ltd

30. I & M Bank Ltd

31. Jamii Bora Bank Ltd.

32. Kenya Commercial Bank Ltd

33. K-Rep Bank Ltd

34. Middle East Bank (K) Ltd

35. National Bank of Kenya Ltd

36. NIC Bank Ltd

37. Oriental Commercial Bank Ltd

38. Paramount Universal Bank Ltd

39. Prime Bank Ltd

40. Standard Chartered Bank (K) Ltd

41. Trans-National Bank Ltd

42. Victoria Commercial Bank Ltd

43. UBA Kenya Bank Ltd.

43. Housing Finance: Mortgage Finance Company

Source: Central Bank of Kenya Report, 2014.

Appendix II: Financial Statements of Commercial Banks

Non-funded Income (Non Interest Income/ Total Interest Income)

		2014	2013	2012	2011	2010
	Bank	**%**	**%**	**%**	**%**	**%**
1	Africa Banking Corporation Ltd	1.49	2.90	2.90	4.11	4.6
2	Bank Of Africa Ltd	0.33	2.00	1.30	1.29	1.59
3	Commercial Bank Of Africa Ltd	2.57	3.60	4.00	3.52	3.83
4	Kenya Commercial Bank Ltd	5.93	5.50	5.20	4.98	5.17
5	Equity Bank Ltd	7.26	7.70	7.40	6.75	6.26
6	Habib Bank Ltd	5.63	6.20	6.50	4.62	4.34
7	Habib A.G. Zurich	5.29	4.30	4.20	2.91	3.05
8	Dubai Bank Ltd	0.21	0.50	-1.20	0.9	0.02
9	Barclays Bank Ltd	5.44	5.80	7.00	7.18	6.25
10	Cooperative Bank	4.43	4.70	4.80	3.66	3.65
11	Standard Chartered Bank	6.42	6.00	5.90	5.03	5.38
12	Bank Of India	3.74	4.10	2.40	4.18	5.02
13	Chase Bank	3.08	2.90	2.70	2.33	2.45
14	Credit Bank	-1.02	1.00	1.30	-0.8	3.53
15	Fidelity Bank	1.80	2.50	0.90	2.79	6.26
16	Bank Of Baroda	4.35	4.80	3.60	4.57	5.65
17	CFC Stanbic Bank	4.31	4.10	3.50	2.23	1.96
18	NIC Bank	4.44	4.60	4.20	4.57	4.42
19	Citibank N.A	5.22	7.00	10.40	6.43	4.64
20	Charterhouse Bank	0.00	0.00	0.00	0.00	0.00
21	Consolidated Bank	-1.82	-0.80	1.00	1.61	2.46
22	Diamond Trust Bank	4.47	4.90	4.90	4.17	4.14

23	Development Bank Of Kenya Ltd	1.88	1.80	0.80	1.28	2.14
24	Ecobank Ltd	-1.09	-3.30	-4.80	0.45	0.7
25	Family Bank Ltd	4.24	4.00	2.70	2.01	2.48
26	Guaranty Trust Bank Ltd	2.08	1.60	2.00	2.12	1.74
27	First Community Bank Ltd	0.67	1.80	2.90	1.28	-2.5
28	Giro Commercial Bank Ltd	3.13	2.80	1.70	2.78	6.2
29	Guardian Bank	2.59	3.00	1.90	1.92	1.39
30	Gulf African Bank	3.11	2.70	2.80	1.2	-0.6
31	Imperial Bank	4.75	5.80	5.50	6.37	6.33
32	Jamii Bora Bank	0.73	1.30	1.50	-3.7	-4.8
33	K-Rep Bank	4.61	4.20	3.20	2.75	1.44
34	Middle East Bank	1.28	1.40	0.79	1.99	5.11
35	National Bank of Kenya	1.90	1.90	1.70	3.56	4.49
36	Oriental Commercial Bank	1.07	2.50	1.80	3.8	4.01
37	Paramount Universal Bank	1.32	1.20	1.20	2.38	7.34
38	Prime Bank	4.18	3.80	2.70	3.03	2.25
39	Trans-national Bank	1.86	2.30	3.70	4.02	3.24
40	UBA Kenya Bank Ltd	-6.97	-7.50	-13.60	-6.4	-4.6
41	Victoria Commercial Bank	3.68	4.30	4.80	4.31	5.03
42	Equatorial Commercial Bank Ltd	-2.78	1.00	-4.60	0.53	-0.3
43	I&M Bank Ltd	5.64	5.50	5.20	5.87	4.8
	TOTAL	**2.59**	**2.94**	**2.48**	**2.76**	**3.04**

Transactions in Forward Contracts Kshs

	2014	**2013**	**2012**	**2011**	**2010**
ABC Bank	124,567	238,714	113,243	90,487	99,497

Bank of Africa	357,422	538,117	324,929	438,750	324,978
Bank of Baroda	374,678	333,753	340,616	270,788	360,629
Bank of India	243,964	120,287	221,785	134,741	124,421
Barclays Bank	4,887,883	4,376,308	4,443,530	2,335,124	1,313,287
CBA	738,247	878,432	671,134	416,219	648,789
CFC Stanbic	1,287,129	1,306,862	1,170,117	957,488	768,354
Chase Bank	134,608	561,349	122,371	241,800	130,767
Citibank N.A	3,214,087	2,211,723	2,921,897	1,477,433	1,054,212
City Finance	81,180	10,130	73,800	93,894	16,400
Consolidated Bank	620,511	455,000	564,101	307,934	207,815
Cooperative Bank	2,336,693	1,085,308	2,124,266	2,262,491	1,122,455
Credit Bank	10,277	148,260	9,343	11,865	12,807
Development Bank	244,649	215,785	222,408	122,172	101,154
Diamond Trust	1,040,373	1,207,378	945,794	621,355	838,228
Dubai bank	20,375	19,162	18,523	36,066	44,535
Ecobank	225,707	102,759	205,188	323,259	417,545
Equatorial bank	62,126	32,467	56,478	99,597	82,030
Equity Bank	3,673,498	3,406,601	2,844,213	2,193,951	2,090,349
Family Bank	124,717	108,980	113,379	45,822	62,994
Fidelity Bank	84,215	92,887	76,559	94,681	52,076
Guaranty Trust Bank	234,070	319,432	212,791	157,449	44,795
First Community	59,667	91,079	33,333	118,765	202,799
Giro Bank	326,571	290,309	296,883	102,591	20,723
Guardian Bank	54,974	81,777	49,976	61,937	44,484
Gulf African Bank	5,679	4,160	5,163	5,897	1,440
Habib bank	106,302	83,124	96,638	95,127	82,063
Habib AG Zurich	87,478	47,738	79,525	92,613	82,685
I & M Bank	624,824	737,517	568,022	645,383	159,755
Imperial Bank Ltd	383,865	410,700	348,968	300,178	202,658
Kenya Commercial Bank	3,576,834	3,336,068	3,251,667	1,955,722	1,091,736
K-Rep	10,266	6,071	9,333	1,566	629
Middle East	149,091	142,163	135,537	11,925	102,868
National Bank	880,020	678,879	800,018	709,358	616,536
NIC Bank	728,441	1,055,530	662,219	1,288,743	723,698
Oriental Bank	17,878	34,058	16,253	22,771	5,415
Paramount Bank	60,785	49,518	55,259	6,079	11,677
Prime Bank	457,467	352,817	415,879	213,391	410,513
Southern Credit	7,461	5,646	6,783	5,423	3,045
Stan-Chart	2,616,221	3,305,842	2,378,383	1,183,173	1,750,400
Trans National	233,098	184,383	211,907	108,015	205,200
Victoria Bank	167,689	144,957	5,332	5,648	2,483

Transactions in Currency Swaps Kshs

	2014	2013	2012	2011	2010
ABC Bank	456,489	311,619	414,990	211,982	112,662
Bank of Africa	1,356,563	3,150,823	1,233,239	1,547,501	1,451,970
Bank of Baroda	2,476,906	2,311,838	2,213,358	1,907,810	1,113,714
Bank of India	261,813	305,056	238,012	614,434	589,432
Barclays Bank	22,650,510	30,501,743	20,591,373	25,446,832	20,417,715
CBA	9,930,997	8,904,576	9,028,179	4,321,329	2,311,719
CFC Stanbic	14,732,838	12,142,483	13,393,489	10,476,651	6,391,138
Chase Bank	2,181,139	2,222,179	1,982,854	377,344	223,565
Citibank N.A	4,725,449	7,815,631	4,295,863	12,309,910	5,020,561
City Finance	1,082	174	984	5,192	218
Consolidated Bank	827,445	341,140	752,223	410,587	642,098
Cooperative Bank	15,582,257	13,113,744	14,165,688	10,181,988	8,103,274
Credit Bank	137,033	601,976	124,575	333,000	197,615
Development Bank	133,185	200,476	121,077	289,644	153,844
Diamond Trust	7,217,165	4,276,503	6,561,059	5,253,807	4,213,637
Dubai bank	125,013	154,943	113,648	108,797	204,667
Ecobank	513,609	367,927	466,917	143,465	150,606
Equatorial bank	950,117	328,912	863,743	127,966	370,700
Equity Bank	9,414,845	9,542,135	8,558,950	10,218,602	9,573,799
Family Bank	202,230	130,678	183,845	909,621	499,289
Fidelity Bank	962,158	384,954	874,689	610,834	276,823
Guaranty Trust Bank	1,448,759	2,125,909	1,317,054	1,437,932	1,129,727
First Community	-		-	-	1,438
Giro Bank	1,009,544	441,256	917,767	345,445	363,009
Guardian Bank	234,631	929,037	213,301	613,583	789,978
GulfAfrican Bank	610,584	546,086	555,076	436,654	114,684
Habib Bank	973,537	416,576	885,034	683,621	275,198
Habib AG Zurich	110,369	631,789	100,335	348,432	291,345
I & M Bank	7,249,766	8,050,022	6,590,696	4,565,717	3,469,673
Imperial Bank Ltd	1,611,819	2,114,267	1,465,290	2,113,570	1,093,543
KCB Bank	15,769,112	22,248,357	14,335,556	11,774,296	5,542,314
K-Rep	8,555	8,095	7,777	2,089	839
Middle East	812,106	288,445	738,278	256,743	382,456
National Bank	2,259,571	2,205,003	2,054,155	1,275,397	1,090,505
NIC Bank	6,910,961	9,074,040	6,282,692	4,148,324	5,101,598
Oriental Bank	238,388	541,123	216,716	220,034	188,745
Paramount Bank	771,334	655,756	701,213	810,656	223,500
Prime Bank	232,893	704,233	211,721	338,559	290,174
Stan-Chart	17,054,962	20,409,789	15,504,511	12,708,982	12,633,866
Trans National	174,643	584,490	158,766	520,154	693,321
Victoria Bank	117,820	906,609	107,109	412,197	446,645

Transactions in Options Kshs

Bank	2014	2013	2012	2011	2010
ABC Bank	29,516	20,334	26,833	23,469	22,159
Bank of Africa	63,985	88,939	58,168	43,750	29,948
Bank of Baroda	25,714	20,717	23,376	14,168	15,250
Bank of India	4,580	5,337	4,164	10,751	10,315
Barclays Bank	1,138,392	878,051	1,034,902	781,956	731,002
CBA	439,245	483,008	399,314	384,511	255,084
CFC Stanbic	179,966	249,345	163,605	334,139	159,492
Chase Bank	57,418	3,148	52,198	48,634	39,123
Citibank N.A	569,536	27,554	517,760	517,343	359,827
City Finance Bank	1,893	304	1,721	9,086	382
Consolidated Bank	14,479	1,996	13,163	7,184	4,235
Cooperative Bank	318,951	399,053	289,955	144,480	155,729
Credit Bank	23,979	345,941	21,799	3,046	4,988
Development Bank	6,180	36,832	5,618	5,068	2,692
Diamond Trust Bank	117,538	483,881	106,853	211,162	197,865
Dubai bank	21,875	2,710	19,886	11,154	10,581
Ecobank	13,316	6,438	12,105	25,605	17,605
Equatorial bank	16,627	5,756	15,115	22,393	6,737
Equity Bank	113,479	948,735	103,163	452,553	154,148
Family Bank	3,539	2,286	3,217	8,918	5,986
Fidelity Bank	16,836	6,735	15,305	10,689	4,844
Guaranty Trust Bank Ltd	32,830	35,341	29,845	47,382	34,522
First Community	2,769	1,931	2,517	4,946	6,532
Giro Bank	17,665	7,722	16,059	6,045	6,353
Guardian Bank	25,604	50,814	23,276	18,520	17,462
GulfAfrican Bank	10,684	14,312	9,713	29,092	14,140
Habib bank	18,137	7,289	16,488	11,964	4,814
Habib AG Zurich	19,313	13,055	17,557	6,097	8,598
I & M Bank	174,590	87,539	158,718	72,560	79,428
Imperial Bank Ltd	125,684	24,967	114,258	23,748	6,201
Kenya Commercial Bank	645,945	584,624	587,223	949,018	774,050
K-Rep	18,821	14,166	17,110	3,655	1,468
Middle East Bank	14,211	5,047	12,919	4,492	6,692
National Bank	104,249	8,756	94,772	136,993	146,195
NIC Bank	155,883	129,571	141,712	207,067	175,296
Oriental Bank	41,718	9,469	37,925	2,001	3,302
Paramount Bank	13,499	12,475	12,272	14,185	3,912
Prime Bank	40,755	123,240	37,050	24,246	22,530
Southern Credit	18,255	13,173	16,595	12,653	7,105
Stan-Chart	971,185	713,631	882,895	740,718	884,266
Trans National	30,562	10,227	27,784	16,034	24,133
Victoria Bank	13,685	36,156	12,441	9,084	9,912