Relationship between Foreign Exchange Trading and Financial Performance of Commercial Banks Listed on the Nairobi Securities Exchange

BY

JASPER MUGAMBI MBAKA

UNITED STATES INTERNATIONAL UNIVERSITY AFRICA

SUMMER 2016
RELATIONSHIP BETWEEN FOREIGN EXCHANGE TRADING AND
FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED ON
THE NAIROBI SECURITIES EXCHANGE

BY

JASPER MUGAMBI MBAKA

A Project Proposal Submitted to the Chandaria School of Business in Partial
Fulfillment of the Requirement for the Degree of Masters of Business
Administration (MBA) Administration

UNITED STATES INTERNATIONAL UNIVERSITY AFRICA

SUMMER 2016
DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit

Signed: ___________________________ Date: ___________________________

Jasper Mugambi Mbaka (ID NO. 613454)

This project report has been presented for examination with my approval as the appointed supervisor.

Signed: ___________________________ Date: ___________________________

Marion Mbogo

Signed: ___________________________ Date: ___________________________

Dean, Chandaria School of Business
COPYRIGHT

All rights reserved; no part of this work may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the express written authorization from the writer.

Jasper Mugambi Mbaka © 2016
ABSTRACT

Exchange rates play an increasingly significant role in any economy as they directly affect domestic price levels, profitability of traded goods and services, allocation of resources and investment decision. Commercial Banks, being the leading financiers of economies, are especially prone to the effects of exchange rate volatility. For these reasons various studies have been done on the impact of exchange rates in commercial banks and the economies at large in an attempt to understand the effects of the exchange rates. These studies, however, have been skewed towards the more industrialized economies and thus leaving a knowledge gap in the developing or less industrialized economies. Kenya, being a developing economy, is not exempted from the list of countries where this gap exists. Consequently commercial banks listed on the Nairobi Securities Exchange have not been studied in relation to foreign exchange trading.

The objective of this study was to investigate the relationship between foreign exchange trading and financial performance of commercial banks listed on the Nairobi Securities Exchange in Kenya. A descriptive form of research design was employed, with all the 11 commercial banks that were listed on the Nairobi Securities Exchange put in focus. The study made use of both primary and secondary data. For secondary data, the study made use of the 11 bank’s published financial statements, and journal articles written in peer reviewed journals for the period 2010-2015. For the primary data the study targeted a population of 44 employees working in the commercial banks. These 44 employees comprised of 4 employees selected from the managerial team of each of the 11 banks. Questionnaires were used for the collection of the primary data after which analysis was carried out using the SPSS software.

The study revealed that commercial banks listed on the Nairobi securities exchange was exposed to three types of foreign exchange risks namely: transaction risks, economic risks and translation risks. The study further revealed that there exists a significant relationship between forex trading and financial performance of banks with a beta value of .528, a t value of 1.295 and a p value of 0.02. Finally the study looked at the management of foreign exchange risk by the commercial banks listed on the NSE. To this end the primary data revealed that financial means was important with a mean score of 3.91 out of a possible 5.
In conclusion the study findings showed that indeed commercial banks in Kenya were exposed to transaction, economic as well as translation risks. The findings with regard to how foreign exchange rates affect performance of commercial banks in Kenya led to a conclusion that there exists a significant relationship between Forex trading and financial performance of banks. Finally the study established that the strategic options to manage foreign exchange risks as employed by the commercial banks in Kenya revolved around hedging, derivative instruments as well as consolidated strategies.

The study thus recommends that commercial banks listed on the NSE conceptualise both financial and operational means to manage the foreign exchange exposures. The study also recommends the firms to explore avenues to enhance capacities within firms for managing foreign currency risk exposure as it is overwhelmingly evident that Foreign exchange poses a great risk to the commercial banks listed on the NSE.
ACKNOWLEDGEMENT

First and foremost my thanks go to Almighty God who gave me the time, the patience and the wisdom to complete my study on Foreign Exchange trading.

My appreciation and deepest gratitude goes to Marion Mbogo, my supervisor for her support and guidance towards the completion of this study.

My thanks go to my colleagues and friends whom I consulted during the research which gave me different thoughts and perspectives in finishing this project.

I would like to thank the 44 employees, of the banks in study, who completed and sent the questionnaires which were instrumental to the completion of this project.

Thanks again to all who helped me and May God Bless You Abundantly.
DEDICATION

I dedicated this research work to my dear wife Sylvia Kaburu, my children Jazmine Karimi Mugambi, Kendra Kendi Mugambi, and Jayden Murimi Mugambi for supporting me emotionally and psychologically in my study. Without the support and encouragement of my wife, this study would not have been possible.
## LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARDL</td>
<td>Autoregressive-Distributed Lag</td>
</tr>
<tr>
<td>FOREX</td>
<td>Foreign Exchange</td>
</tr>
<tr>
<td>GARCH</td>
<td>Generalized AutoRegressive Conditional Heteroskedasticity</td>
</tr>
<tr>
<td>NSE</td>
<td>Nairobi Securities Exchange</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non Governmental Organizations</td>
</tr>
<tr>
<td>USA</td>
<td>United States of America</td>
</tr>
<tr>
<td>VAR</td>
<td>Vector Auto regression</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

DECLARATION ........................................................................................................ iii
COPYRIGHT ........................................................................................................ iv
ABSTRACT .......................................................................................................... v
ACKNOWLEDGEMENT ..................................................................................... vii
DEDICATION ....................................................................................................... viii
LIST OF ABBREVIATIONS ................................................................................ ix
LIST OF TABLES ............................................................................................... xii
LIST OF FIGURES .............................................................................................. xiii
CHAPTER ONE .................................................................................................. 1
  1.0 INTRODUCTION ....................................................................................... 1
  1.1 Background to the Study ........................................................................... 1
  1.2 Problem Statement .................................................................................... 4
  1.3 General Objective ..................................................................................... 5
  1.4 Specific Objectives ................................................................................... 5
  1.5 Significance of the Study ......................................................................... 6
  1.6 Scope of the Study ................................................................................... 6
  1.7 Definition of Terms .................................................................................. 7
  1.8 Chapter Summary .................................................................................... 9
CHAPTER TWO .................................................................................................. 10
  2.0 LITERATURE REVIEW ........................................................................... 10
  2.1 Introduction ............................................................................................... 10
  2.2 Foreign Exchange Risk Exposure ............................................................. 10
  2.3 Relationship between Foreign Exchange Trading and Financial Performance .... 16
  2.4 Strategic Options to Manage the Effect of Foreign Exchange Risk Exposure .... 20
  2.5 Chapter Summary ................................................................................... 24
CHAPTER THREE .............................................................................................. 25
  3.0 RESEARCH METHODOLOGY ................................................................. 25
  3.1 Introduction ............................................................................................... 25
  3.2 Research Design ........................................................................................ 25
  3.3 Population and Sampling Design ............................................................... 25
LIST OF TABLES

Table 4.1: Reliability Analysis .................................................................29
Table 4.2: Normality Test ........................................................................30
Table 4.3: Gender of the Respondents .......................................................30
Table 4.4: Level of Education of the Respondents .....................................31
Table 4.5: Number of Years of Respondents in the Banking Industry ........32
Table 4.6: Position of Respondents in the Company ................................32
Table 4.7: Years of Operation of the company in Kenya .........................34
Table 4.8: Mitigating Actions ..................................................................38
Table 4.9: Model Summary ....................................................................39
Table 4.10: ANOVA Table .....................................................................39
Table 4.11: Coefficients ..........................................................................40
Table 4.12: Strategic Options to Manage the Effect of Exchange Risk Exposure ....41
LIST OF FIGURES

Figure 4.1: Bank Having Branches all over Kenya ...........................................33

Figure 4.2: Company Ownership .......................................................................34

Figure 4.3: The Company is exposed to Foreign Exchange Risks .....................35

Figure 4.4: Economic Environment in Kenya is Risky ..................................35

Figure 4.5: Transaction Risk Exposure ..............................................................36

Figure 4.6: Economic Risk Exposure .................................................................36

Figure 4.7: Translation Risk Exposure ..............................................................37
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

The origin of forex trading dates back to the era of the Babylonians. The Babylonians were considered to be the first people to make use of paper notes and receipts (Schmidt, 2010). During this period there was not as much speculation as is happening in the current forex market (Kalsi, 2013). Over the years forex trading has undergone massive changes in that most Central banks put in place measures to support their currencies with convertibility to gold before the First World War to a series of changes after the Great Depression. Most of these changes occurred between the years of 1931 to 1973. The changes have affected global economies especially during the time of speculation in the Forex market which was not substantial (Schmidt, 2010).

Near the end of World War II, in July of 1944, the Bretton Woods agreement came into play, this happened when the allied nations reached an agreement in the USA (Huang, 2009). The conference held in Bretton Woods, New Hampshire, led to the rejection of John Maynard Keynes’ suggestion for a new world reserve currency in favor of a system built on the US Dollar. The new system required each country to value its currency in terms of gold or the United States dollar. The implication of this was the fixing of the exchange rate among all currencies. This meant that these countries needed to maintain the exchange rate to within 1% of the peg; however in special circumstances such countries were allowed an exchange rate to fluctuate by up to 10%. In the event that this was not adequate, the country in need of a larger fluctuation had to seek approval from the IMF board so as to be able to change the exchange rate by more than 10%. This therefore prevented countries from devaluing their currency for their own benefit (Kalsi, 2013). After the Bretton Woods agreement, fixed exchange rates became the norm, and this was the case from 1946 to the Early 1970’s.

In 1971 the United States opted not to uphold the dollar exchange at 1/35of an ounce of Gold. The implication was that the dollar was no longer fixed. Later on in the same year, December 1971, an agreement was reached known as The Smithsonian Agreement, where the member states adjusted the fixed exchange rates. This marked the abolition of the dollars convertibility into gold guaranteed by the U.S treasury. This effectively made
the US dollar a fiat currency. This in turn led to most currencies adopting a floating exchange rate, with some countries pegging their currencies to stronger currencies (Orneleas 2012). The floating exchange regime has left countries exposed to risk associated with the fluctuations of their exchange rates, thus the foreign exchange exposure.

Foreign exchange exposure is regarded to be the sensitivity of a firm’s cash flows, as well as the real domestic currency value of assets and liabilities, notwithstanding the operating incomes to unanticipated changes in exchange rates (Adler & Dumas, 2009). The adoption of a floating exchange rate regime, the rapid globalization of national economies as well as the attempts by multinationals to seek investment opportunities while adopting markets that are far beyond their immediate borders has accounted for the increasing exposure of firms to foreign exchange risk in recent times.

According to the Central Bank of Kenya (2011), authorized banks in Kenya are licensed to buy, sell, borrow or lend in foreign currency or transact any other business involving foreign currency. This presumably is to allow them hedge against the effects of foreign exchange risk. The effects of foreign exchange risk can be revealed by measuring the returns and noting their changes relative to the exchange rate fluctuations rates. Exchange rate fluctuations influence operating cash flows as well as the value of the firm via translation, transaction, and economic effects of exchange rate risk exposure (Choi & Prasad, 2005).

Chamberlain et al., (2009) argued that foreign exchange rate fluctuations influence banks both directly and indirectly. The direct effect emanates from banks that hold assets or liabilities via net payment streams which are denominated in a foreign currency. They further argued that foreign exchange rate fluctuations alter the domestic currency values of such assets. This therefore means that the explicit source of foreign exchange risk is the easiest to identify, and it is considered to be the most easily hedged.

Schmidt (2010) opines that a bank lacking in foreign assets or liabilities can be exposed to currency risk, thus the indirect effect of exchange rates. The argument is that exchange rate fluctuations are likely to affect the profitability of a bank’s domestic operations. This can be explained through an example; let us consider the value of a bank’s loan to a Kenyan importer. An appreciation of the dollar is likely to make it more difficult for the
importer to compete against foreign firms. In this scenario, all other things remaining constant, the appreciation would eventually diminish the profitability of the importer. This in turn would reduce the importers ability to repay the loan on time and correspondingly, the profitability of the bank. In this case, the bank is exposed to foreign exchange risk because a stronger dollar decreases its profitability. Any time the value of the exchange rate is linked to foreign competition, to the demand for loans, or to other aspects of banking conditions; it will affect even “domestic” banks. As a result there seems to be a positive relationship between forex trading and financial performance based on foreign exchange risk (Schmidt, 2010).

It may be argued that banks take part in the forex market trade with a bid to hedge against adverse effects of forex linked volatility. Allayannis & Ofek et al., (2011) indicate that firms making use of derivatives are likely to have a higher market value. Graham & Rogers (2012) on their part are of the opinion that firms that employ the use of derivatives are highly leveraged. This approach also means that hedging brings about lower volatility of cash flow and therefore lower volatility of firm value. The ultimate result of hedging, if it indeed is beneficial to the firm, needs to be higher value. It can therefore also be argued that forex trading as a portfolio risk diversification has no effect on financial performance. This argument would be in line with Miller & Modigliani (1958) who state that the market value of firms is independent of how it is financed.

Chamberlain et al., (2009) is of the opinion that the assessment of banks’ foreign exchange risks can be obtained from an analysis of the banks’ equity returns. Equity returns are a reflection of the changes in the value of the firm as a whole. So, if the value of a bank as a whole is sensitive to changes in the exchange rate, it follows therefore that the bank’s equity returns is simply a mirror of that sensitivity. Whether from direct or indirect sources, foreign exchange exposure will be reflected in the behavior of returns and or performance of the bank. It therefore means that the sensitivity of exchange rate and that of a bank’s equity returns provides a comprehensive measure of its foreign exchange exposure. In order to measure the exchange rate sensitivity of the banks’ equity returns, this study measures the banks’ equity performance.

Profitability measures are used to establish the extent to which the businesses generate a profit from the use of land, labor, management, and capital. Profitability is measured by
determining the net firms’ income from operations (NFIFO), rate of return on firms’ assets (ROA), rate of return on firms’ equity (ROE) and operating profit margin (OPM) (Miller, 2003). Net revenues available from normal operations after fixed and variable expenses are deducted, are calculated on an accrual basis. Operating profit margins are used to reflect the ability of the banks’ to generate revenues and control costs. Return on Assets measures are used to ascertain the profitability of the firm in relation to total assets employed. Net firm income from operations is the net income generated by all assets, after labor has been compensated but before interest payments. Foong (2008) indicated that the efficiency of banks can be measured using Return On Equity which illustrates to what extent banks use reinvested income to generate profits.

1.2 Problem Statement

Exchange rates are a representation of one of the major sources of macroeconomic risk for any company. The costs of foreign purchases alter the company’s domestic and international competitive profile. Such changes are considered to largely impact on small and internationally oriented economies (Hommel, 2008). According to Taiwo & Adesola (2013) exchange rates play an increasingly significant role in any economy as they directly affect domestic price levels, profitability of traded goods and services, allocation of resources and investment decision making. For these reasons studies have been done on the impact of exchange rates on the economies. However the studies seem to be skewed to the more industrialized economies and thus leaving somewhat of a gap in the developing or less industrialized economies. Gachua (2011) stated that there is a need for these kinds of empirical studies to be undertaken in developing countries such as Kenya with time-variant exchange rates in order to counter the prevalent ambiguity in the literature and fill the research vacuum in the less developed countries.

In Kenya studies on the relationship between foreign exchange trading and financial performance of commercial banks are limited. Irene (2011) conducted a study seeking to establish the relationship between foreign exchange risk and financial performance of Airlines in Kenya. Muriithi (2011) on his part examined the relationship between foreign exchange rate and market performance for manufacturing companies. Mongeri (2011) further conducted a study on the impact of foreign exchange rates and foreign exchange reserves on the performance of NSE share index. Onyancha (2011) did a study on the

This study investigates the relationship between foreign exchange trading and financial performance of banks listed on the Nairobi Securities Exchange. In so doing the study singles out the banking sector in the NSE as there is no study done that specifically targets commercial banks listed on this Exchange. The study further takes into consideration Singh (2013)’s suggestion that the qualitative aspects of the relationship between foreign exchange trading and performance of commercial banks need to be investigated. The study does this by exploring the same through primary data collected from the various banks listed on the NSE.

1.3 General Objective

The general objective of the study was to investigate the relationship between foreign exchange trading and financial performance of commercial banks listed on the NSE.

1.4 Specific Objectives

The study was guided by the following specific objectives

1.4.1 To evaluate the extent to which foreign exchange rate exposure influences the performance of listed commercial banks in Kenya.

1.4.2 To determine the relationship between foreign exchange trading and financial performance of listed commercial banks in Kenya.

1.4.3 To evaluate the strategic options to manage the effect of foreign exchange risk exposure on the performance of listed commercial banks in Kenya.
1.5 Significance of the Study

This study contributes to the betterment of the following areas of specialisation, people and organisations.

1.5.1 Commercial Banks

The findings of this study are of benefit to commercial banks because they may use this study to formulate strategies that maximize optimal foreign exchange risk management options. Additionally findings of this study highlights whether the commercial banks investments have actually paid off through enhanced financial performance. By so doing, commercial banks can make informed decisions on how to manage foreign exchange risk.

1.5.2 Related Organizations

This study is useful not only to firms involved in international trade, but also to financial institutions interested in providing hedging products to these firms. Smaller firms may also benefit from this study as some depend on the volatility of the main currencies as they may outsource their production to foreign countries.

1.5.3 Academicians and Researchers

This study is useful to future academicians and researchers as a point of reference and information to develop on the topic of forex trading. In addition, it will assist them appreciate the effects of exchange rates on commercial banks and economies at large.

1.6 Scope of the Study

The study population was all the commercial banks listed on the NSE. The target population for the study was the 11 commercial banks that are listed in the Nairobi Securities Exchange as of January 2015. The study used quoted banks because they are publicly owned and thus it is possible to gain access to their financial statements for preceding financial years. The study also sourced for data from employees who work at departments dealing with foreign exchange in the quoted commercial banks.
1.7 Definition of Terms

1.7.1 Risk Management

Redja (1998) defines risk management as a systematic process for the identification and evaluation of pure loss exposure faced by an organization or an individual, and for the selection and implementation of the most appropriate techniques for treating such exposure.

1.7.2 Hedging

Hedging can be defined as “all actions taken to change the exposed positions of a company in one currency or in multiple currencies” (Prindl, 1976).

1.7.3 Exchange Rate

Exchange rate can be defined as value of a foreign nation’s currency in terms of the home nation’s currency (Calvo, 2006).

1.7.4 Foreign Exchange Risk

Foreign exchange risk is the risk that an entity will be required to pay more (or less) than expected as a result of fluctuations in the exchange rate between its currency and the foreign currency in which payment must be made (Hommel, 2008).

1.7.5 Response Strategy

Porter (1998) defines response strategy as the initiative by a firm that takes offensive or defensive actions to create a defendable position in an industry.

1.7.6 Payments Netting

Netting systems are set up to reduce the costs associated with inter-affiliate cash transfers that result from business transactions (Shapiro, 2002).
1.7.7 Prepayment

This is a method of payment that requires the importer to pay the exporter in full before shipment is made (Hill, 2001).

1.7.8 Leading and Lagging

Leading involves attempting to collect foreign currency receivables early when a foreign currency is expected to depreciate and paying foreign currency payables before they are due when a currency is expected to appreciate. A lag strategy is delaying collection of foreign currency receivables if that currency is expected to appreciate and delaying payables if the currency is expected to depreciate (Hill, 2001).

1.7.9 VAR

The vector auto regression (VAR) is an econometric model used to capture the linear interdependencies among multiple time series. VAR models generalize the univariate autoregressive model (AR model) by allowing for more than one evolving variable (Hatemi, 2004).

1.7.10 ARDL

ARDL Stands for "Autoregressive-Distributed Lag". It is a regression model that is used for testing the presence of long-run relationships between economic time-series (Giles, 2014).

1.7.11 GARCH

GARCH means Generalized Auto Regressive Conditional Heteroskedasticity which is a statistical model used by financial institutions to estimate the volatility of stock returns (Bollerslev 1986).

1.7.12 Fiat Currency

This is a currency that a government has declared to be legal tender, but is not backed by a physical commodity (Foster, 2010).
1.8 Chapter Summary

This chapter was divided into seven sections. The first section presented the background information on foreign exchange trading and exposure as well as how the two relate to commercial banks. The background also gave a brief of how foreign exchange exposure will be measured using different financial tools. The second section covered the statement of the problem. Section three defined the purpose of the objectives. Section four stated the research questions that need to be addressed. The fifth section provided a justification of the study. The sixth section provides the scope and limitations of the study. Finally, the seventh section of this chapter provides definitions of key terms used in the study. In the following chapter, the study looks at the literature review of the concepts underlined in chapter one. Chapter three provides a description of the research methodology. The fourth chapter provides the results and findings while the fifth chapter provides a discussion, conclusion and the recommendations of the research.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter is focused on a discussion of the literary works of various scholars that are found to be related to the topic and are considered to be helpful in addressing the research questions. The first section looks at the foreign risk exposure followed by a section on how foreign risk exposure affects performance and finally a section based on the strategies used to manage such risks.

2.2 Foreign Exchange Risk Exposure

Studies done globally have established that foreign exchange developments affect all aspects of an open economy including its financial markets. Charles (2009) for instance established that floating exchange rate appreciation reduces the competitiveness of export markets, and has a negative effect on the domestic stock market of export-dominated economies. However, it has a positive effect on the stock market by lowering input costs, for an import-dominated country. In effect countries such as Kenya, which is import oriented, can experience price instability in the face of exchange rate volatility because its economy is heavily dependent on imports of raw materials, capital goods and consumer goods, hence, the need to manage the foreign exchange market.

According to Taiwo (2013) exchange rate plays an increasingly significant role in any economy as it directly affects domestic price levels, profitability of traded goods and services, allocation of resources and investment decision making. From various studies carried out on the subject of foreign exchange thus far, three types of foreign exchange risks have generally been found to affect companies. These are: transaction, economic and translation exposure.

2.2.1 Transaction Exposure

A firm has transaction exposure whenever it has contractual cash flows receivables and payables whose values are subject to unanticipated changes in exchange rates due to a contract being denominated in a foreign currency. To realize the domestic value of its foreign-denominated cash flows, the firm must exchange foreign currency for domestic
currency. As firms negotiate contracts with set prices and delivery dates in the face of a volatile foreign exchange market with exchange rates constantly fluctuating, the firms face a risk of changes in the exchange rate between the foreign and domestic currency. It refers to the risk associated with the change in the exchange rate between the time an enterprise initiates a transaction and settles it (Schmidt, 2010).

This type of exposure occurs in a case where a company trades, borrows, or lends in a foreign currency or sells fixed assets of its subsidiaries in a foreign country. This involves time delay between the commitment of the transaction and the receipt of the payment. During this period of time, exchange rates are expected to change and therefore expose the company to risk (Gachua, 2011).

Globally, operating exposure is characterized by a longer, undetermined time horizon compared to translation or transaction exposure. In the long run, nominal exchange rates adjust to offset cumulative differences in foreign countries’ rates of inflation (Lessard 2009) so the purchasing power of home or foreign currency in a given country on a certain date in the future will differ from its anticipated value (Adler and Dumas 2009). This means that operating exposure is the exposure to changes in real exchange rates. This is the main reason as to why the exposure is considered to have a wider scope, since unexpected changes in real exchange rates affect not only actual but also potential cash flows by the means of altering the structure of operational variables such as cost, volume, price, revenues and by changing the competitive position of the exposed company (Booth and Rotenberg 2008). In Addition, such an operational exposure can be enhanced through changes in the identities and policies of competitors, suppliers and customers brought about by the change in exchange rates. This is also notwithstanding the eminent risk of undesirable changes in the value of a firm that comes about as a result of unexpected changes emanating from the real exchange rates (Adler, 2009).

This risk is present for companies across both domestic and international markets. In Africa a study by Belk (1999) showed that both internationally involved companies and companies with only domestic operations are exposed to foreign exchange risk in the long run in South Africa. The present research, however, concerns only those companies that are at least to some degree involved in international operations (Belk, 1999).
2.2.2 Economic Exposure

A firm has economic exposure also known as forecast risk to the degree that its market value is influenced by unexpected exchange rate fluctuations. Such exchange rate adjustments can severely affect the firm’s market share position with regards to its competitors, the firm’s future cash flows, and ultimately the firm's value. Economic exposure can affect the present value of future cash flows. Any transaction that exposes the firm to foreign exchange risk also exposes the firm economically, but economic exposure can be caused by other business activities and investments which may not be mere international transactions, such as future cash flows from fixed assets. A shift in exchange rates that influence the demand for a good in some country would also be an economic exposure for a firm that sells that good. Economic Exposures cannot be hedged as well due to limited data, and it is costly and time consuming. Economic Exposures can be managed by, product differentiation, pricing, branding, outsourcing, etc (Gachua, 2011).

This type of exposure is mainly concerned with the measurement of changes that occur in the net present value of the firm due to changes in the future cash flows of the firm as a result of the unexpected change in the rates of exchange (Lessard, 2009). As such the future cash flows can be split into cash from contractual agreements as well as cash from anticipated future transaction. In a way economic exposure includes transaction exposure itself. Transaction exposure is the part of economic exposure comprising future cash flows resulting from contractual commitments and denominated in foreign currency. According to Chiira (2009) there should be a clear distinction between transaction exposure and economic exposure; in that the former arises from firm contractual commitments and the amounts to be paid or received are known. In the latter these amounts are uncertain and are therefore based on nothing more than estimates. Economic exposure refers to the future effects of forex changes on liquidity, operations, as well as financial structure and profit (Lessard, 2009).

Globally, economic risk arises, for example, when a firm incurs costs on one currency and thereafter generates sales in another. In such a scenario, changes in foreign exchange rates affect the firm’s competitive position. Profits are likely to go down in the event that the cost currency appreciates against the sales currency because it becomes more
expensive to buy materials and cheaper to sell finished goods (Srinivasulu, 2009). This therefore may affect the expected future cash flows as well as the value of the firm. This is known as the present value of the future cash flows. Another component of economic exposure is brought about by price changes, because they affect future cash flows. In such a case, economic exposure can arise because the competitive position of a company could be affected by a given exchange rate volatility (Gachua, 2011).

In the present era of increasing globalization and heightened currency volatility, changes in exchange rates have a substantial influence on companies’ operations and profitability. Exchange rate volatility affects not just multinationals and large corporations, but small and medium-sized enterprises as well, even those who only operate in their home country. While understanding and managing exchange rate risk is a subject of obvious importance to business owners, investors should be familiar with it as well because of the huge impact it can have on their investments (Bartram et al., 2013).

Lessard (2009) opines that different factors can affect the future cash flows of a firm and therefore also affect the economic exposure. For example, the investment policy of the firm as well as external factors such as a political crisis in a country can affect the sales levels of the firm’s product. It is not easy to identify, quantify and or mitigate such kinds of risks given they are likely to involve movements in currency in which the company has no physical dealings.

2.2.3 Translation Exposure

Translation exposure is a type of foreign exchange risk faced by multinational corporations that have subsidiaries operating in another country. It is the risk that foreign exchange rate fluctuations will adversely affect the translation of the subsidiary’s assets and liabilities denominated in foreign currency into the home currency of the parent company when consolidating financial statements. Translation exposure is also called accounting exposure, or translation risk (Hollensen, 2007).

Translation exposure can affect any company that has assets or liabilities that are denominated in a foreign currency or any company that operates in a foreign marketplace that uses a currency other than the parent company’s home currency. The more assets or
liabilities the company has that are denominated in a foreign currency, the greater the translation risk (Lessard 2009). 

Ultimately, for financial reporting, the parent company will report its assets and liabilities in its home currency. So when the parent company is preparing its financial statements, it must include the assets and liabilities it has in other currencies. When valuing the foreign assets and liabilities for the purpose of financial reporting, all of the values will be translated into the home currency. Therefore foreign exchange rate fluctuations actually change the value of the parent company’s assets and liabilities. This is essentially the definition of accounting exposure (Hollensen, 2007). 

The risk that a company's equities, assets, liabilities or income will change in value as a result of exchange rate changes. This occurs when a firm denominates a portion of its equities, assets, liabilities or income in a foreign currency. Type of exposure comes about as a result of converting financial statements which are expressed in foreign currencies into the home currency (Hollensen, 2007). When a firm consolidates the results of all its foreign subsidiaries, it has to present a final report to shareholders and the numbers in this document should be expressed in one currency (Lessard 2009). All foreign currency denominated assets and liabilities as well as revenues and costs have to be translated into one basic currency (Hollensen, 2007). 

Bartram et. al (2013) are of the opinion that indeed assets, liabilities as well as equity on a balance sheet are expressed in historical values and the foreign exchange rate at which the currencies trade at the end of the accounting period is most probably not the same foreign exchange rate when the accounts were booked. In this regard therefore when a company does the normal thing of carrying out the conversion at a new foreign exchange rate, there is a likelihood of exchange rate losses or profits. Thus the question that begs to be answered is at what exchange rate the accounts should be translated. It could be at the rate of exchange at the balance sheet date, at the rate of exchange at the time when the assets were acquired or the liability incurred, or at the rate of exchange mid-way through the trading year (Lessard, 2009).

A company with foreign operations can protect against translation exposure by hedging. The company can protect against the translation risk by purchasing foreign currency, by
using currency swaps, by using currency futures, or by using a combination of these
hedging techniques. Any one of these techniques can be used to fix the value of the
foreign subsidiary’s assets and liabilities to protect against potential exchange rate
fluctuations (Lessard, 2009).

Firms have income statements and balance sheets. The balance sheets reflect the
valuation of the assets and liabilities of the firm. Changes in those valuations can
represent capital gains or losses which may have to be reported in the income statements.
An exogenous factor such as a change in interest rates may change the value of assets and
liabilities and generate a capital gain or loss. But this capital gain or loss is not connected
with any decision about the operation of the company. Once the capital gain or loss
occurs there is nothing that can be done about it. The capital gain or loss may alter
expectations of future gains or losses and some action might be possibly be warranted,
but typically the exogenous changes are deviations from expected conditions and these
deviations are in their nature unpredictable. So the capital gains and losses are something
that occurs for the company but they are not something that it can or should do anything
about (Bartram, et.al. 2013).

These changes in the valuation of assets and liabilities are particularly a problem in
international operations because fluctuations in exchange rates can generate paper gains
and losses for the parent company. The valuation of assets and liabilities in foreign
operations must be translated into the home country currency. The fluctuations in
currency exchange rates could generate significant gains or losses and the entry of these
into the income statement could produce a distorted impression of what is happening to
the company (Lessard, 2009).

It should be noted at this point that there is a natural hedge against translation risk
exposure. It is essentially the same as the natural hedge against operating risk exposure;
i.e., reduce the net exposure by balancing the positive and negative factors. In the case of
translation risk exposure this means balancing the value of the assets and liabilities held
in the foreign country. If there are no net assets in the foreign country there is no
translation risk exposure. This can be achieved fairly easily if there are no restrictions on
capital movements. The foreign assets can be mortgaged and the proceeds of the loan
converted to the home country currency (Bartram, et.al. 2013).
2.3 Relationship between Foreign Exchange Trading and Financial Performance

2.3.1 Positive relationship between profitability and interest rate risk

Deshmukh et al., (1983) carried out a study and established that there exists a positive relationship between profitability and interest rate risk. They argue that an increase in interest rate uncertainty is likely to encourage depository institutions in a bid to decrease their lending activities, which in the end entail interest rate risk. Thus if interest rate risk can be controlled through the use of derivatives, then it means that banks that make use of such derivatives are likely to experience less interest rate uncertainty and can increase their lending activities, this in turn would result in greater returns relative to the return on fixed fees for service activities. Thus their overall profitability would be higher compared to those banks that do not use derivatives to control for interest rate uncertainty.

The foreign exchange market is a global decentralized market for the trading of currencies. This includes all aspects of buying, selling and exchanging currencies at current or determined prices. In terms of volume of trading, it is by far the largest market in the world. The main participants in this market are the larger international banks. Financial centres around the world function as anchors of trading between a wide range of multiple types of buyers and sellers around the clock, with the exception of weekends. The foreign exchange market does not determine the relative values of different currencies, but sets the current market price of the value of one currency as demanded against another (Deshmukh et al., 1983).

The foreign exchange market works through financial institutions, and it operates on several levels. Behind the scenes banks turn to a smaller number of dealers, who are actively involved in large quantities of foreign exchange trading. Trades between foreign exchange dealers can be very large, involving hundreds of millions of dollars. Because of the sovereignty issue when involving two currencies, forex has little supervisory entity regulating its actions (Moffet and Karlsen, 1994).

Inflation is the rate at which prices increase in an economy, which is another factor that makes it risky to hold foreign currency. If inflation rises in one country it can make their currency value fall with respect to currencies in other countries that do not experience the
same increase in inflation. Inflation is difficult to predict and based largely upon expectations and the monetary policy of the government. For instance, if a certain country decided to print a large amount of new currency to pay off debts, it would likely lead to inflation which could cause the value of the currency to decline rapidly. Interest rates can also influence currency values. If interest rates are high in a certain country, it tends to increase the demand for their currency and increase the currency's value. If the foreign nation decides to reduce interest rates, it can cause demand for the currency to fall resulting in a declining currency value (Moffet and Karlsen, 1994).

2.3.2 Trading derivatives for profit

Mongiello and Harris (2010) carried out a study and established that indeed, trading derivatives for profit is considered to be very risky and can therefore expose organizations to large losses. This means that there is a negative relationship between forex trading and financial performance. Pearce and Robinson (2007) on their part were able to establish that indeed there exists a negative correlation between risk and derivative usage when it comes to the savings and loan institutions. They were able to establish further that most banks which used derivatives experienced relatively greater growth in their fixed rate mortgage portfolios. These results provide a clear indication that indeed, financial institutions make use of derivatives for hedging purposes, and that the use of derivatives help reduce foreign exchange risk. Another study conducted by Simmons (2009) established that banks having a weaker asset quality tend to use derivatives more intensely as compared to banks that have a better asset quality. However, the study provided no indication as to whether banks use derivatives to increase or reduce interest rate risk and whether use of derivatives increases profitability or not.

2.3.3 Volatility of foreign exchange rate

On a global level, the behavior of volatility of foreign exchange rate has been extensively studied. Adjasi and Biekpe (2005) investigated the relationship between stock prices and exchange rate movement in Ghana, South Africa, Egypt, Kenya, Mauritius and Nigeria. The study made use of a VAR model to examine the relationship between exchange rates and stock prices. Their study found no long-run stable relationship between the stock market prices and exchange rates for these countries.
2.3.4 Exchange rate variability

Another study was conducted by Todani and Munyama (2010) who employed the ARDL bounds testing procedure on quarterly data. This revealed that there was a significant relationship between exchange rate variability on aggregate South African exports to the rest of the world. Obadan (2009), while carrying out a study in Nigeria using the moving average standard deviation and GARCH (1, 1) as a measure of variability established that the exchange rate plays a role in connecting the price system in different countries thus enabling traders to compare prices directly. He concluded that changes in exchange rate have a powerful effect on imports and exports of the countries concerned through its effect on the relative prices of goods. He considered the exchange rate to be an important conditioning variable for counter- inflationary policy. This stems from the basic make-up model of pricing and the view that nominal wages tend to adjust to price changes. Exchange rate under this condition conveys information about the fundamentals in the economy and how a fast-depreciating local currency may fuel inflationary expectations.

Adebiyi (2009) in his study on the Nigeria stock exchange, while using the vector error correction modeling technique, argued that a lasting solution to the problem of achieving a realistic exchange rate will only be found if we get to the root cause of the upward sloping demand curve and the almost vertical supply curve of foreign exchange. Pilinkus and Boguslauskas (2009) studied the short-run relationship between stock market prices and macroeconomic variables. In this study they used the impulse response function. The subsequent conclusion of their study was that exchange rates, unemployment rate, and short-term interest rates negatively influence stock market prices.

2.3.5 Stock prices and exchange rates

In another study, Muhammad and Rasheed (2000) considered the relationship between stock prices and exchange rates in four South Asian countries; India, Pakistan, Sri-Lanka and Bangladesh. The study employed co-integration, vector error correction modeling technique and standard Granger causality tests to examine the long-run and short-run association between stock prices and exchange rates. Results of the study showed no short-run association between the variables for all four countries. However there was a long-run relationship between stock prices and exchange rates for Bangladesh and Sri-Lanka.
Sekmen (2011) examined the effects of exchange rate trading, using the squared residuals from the autoregressive moving average (ARMA) models, on stock returns for the U.S. for the period 1980 to 2008. The study found that exchange rate volatility negatively affected U.S. stock returns.

Olugbenga (2012) looked at the long-run and short-run effects of exchange rate on stock market development in Nigeria. In this study the Johansen cointegration tests were used. In statistics, the Johansen test, named after Soren Johansen, is a procedure for testing cointegration of several, say k, I (1) time series. This test permits more than one cointegrating relationship so is more generally applicable than the Engle–Granger test which is based on the Dickey–Fuller (or the augmented) test for unit roots in the residuals from a single (estimated) cointegrating relationship. Results of the study revealed a significant positive stock market performance to exchange rate in the short-run and a significant negative stock market performance to exchange rate in the long-run (Johansen, 1991).

Irene (2011) carried out a study to examine the relationship that exists between foreign exchange risk and financial performance of airlines. The findings of the study revealed that there is a negative relationship between foreign exchange risk and financial performance. Currency fluctuations were found to impact on prices hence negatively impact on revenues and expenses denominated in foreign currency. Another study was carried out by Muriithi (2011) who sought to examine the relationship between foreign exchange rate and market performance for manufacturing companies. The study made use of a descriptive research design and revealed that exchange rates had a positive influence on market performance.

Mongeri (2011) further carried out a study to examine the impact of foreign exchange rates and foreign exchange reserves on the performance of NSE share index. The study adopted a longitudinal study design. Results from this study revealed that there was a positive relationship between forex rates and stock market performance. Onyancha (2011) conducted a study on the impact of foreign exchange gains and losses on the financial performance of international non-governmental organizations. The study made use of a survey research design and revealed that exchange rate risk can reduce project quality.
The study further showed that indeed exchange rate movements have an impact on financial performance of NGOs.

2.4 Strategic Options to Manage the Effect of Foreign Exchange Risk Exposure

2.4.1 Hedging Practices

Hedging practices vary from company to company, with the decision to hedge being based on the risk attitude of the company’s management team. Attitude toward risk can range anywhere from being averse to being a risk-taker. Risk-averse companies, seek to cover every exposure as soon as it arises, while risk takers leave all exposures unhedged with the hope that gains or losses which arise from movements in foreign exchange or interest rates will be offset in the long term (Lessard, 2009).

In seeking to manage economic currency exposure risk, firms can adopt either operational or financial hedging approaches or a combination of both (Srinivasulu, 2009). However it also requires a strategic reorientation of operating policies regarding pricing, sourcing, location, production and financing.

2.4.2 Derivative Instruments

There are many new derivative instruments, which are being used by companies to manage their exposures to foreign exchange risks such as forward contract, futures contracts, swaps and options. Each of these techniques differs in the way they are applied in each company’s situation. According to Srinivasulu (2009), a forward contract is an agreement to buy or sell a specific quantity at a predetermined price on a specific date in the future. The predetermined price is called the forward exchange rate. The forward rate is set at a price that will factor in the expected increase or decrease in the current exchange rate for the duration of the contract.

A currency forward contract is particularly useful for exposures that are short to medium term and whose timing is known for certainty. Forward contracts can normally trade with maturities of up to 1, 3 or 6 months, however forward contracts can also be taken out for up to five years. Forward contracts also expose companies to more risks such as settlement risk and counterparty risk. Because of the obligation to fulfill them, forward contracts contain considerable risks (Moffet and Karlsen, 1994). The number of risks
attached to forward dealings makes it essential for treasurers to exercise caution. The forward rate is not purely a reflection of the strength or weakness of a currency, it also allows for interest rate differentials, and thus forward rates may move even more dramatically than spot rates.

According to Nance et al., (1993), another instrument, which a company might use to reduce the risk of foreign exchange volatility, is a futures contract. This contract is similar to forward contracts in that both involve the promise to buy or sell currency at a specific time in the future. The difference is that profits or losses from holding futures contracts are realized and paid out each day; in contrast, profits or losses from holding a forward contract are realized and transferred only when the contract expires. A futures market is one of the most important ways to hedge risky assets. If a company takes out a long hedge futures contract, the company will be protected against a rise in a foreign currency value.

Another instrument is options. According to Khoury and Chan (1988) options differ from forward contracts in that holding an option gives the holder the right to buy or sell a certain amount of a certain asset at a specified price until or on a specified date, but he is not obliged to do so. Currency options have become increasingly popular as a hedging devise, as it protects the company from adverse movements in exchange rates while protecting the companies’ ability to gain from favorable movements in exchange rates (Belk & Glaum 1990). Currency options are available in two forms, call options and put options. The call options give the buyer of the option, the option to buy while the put option gives the buyer the option to sell.

The fact that one is not obliged to exercise an option means that its payouts are not symmetric. The holder of a call option can profit if prices rise by exercising the option to buy. None the less, if the prices fall the holder of the call option has the option of not exercising the option. The only cost incurred to the holder of the option if he/she does not exercise it is the cost of buying the option. Options are available both standardized on exchanges and privately arranged over-the-counter. The over-the-counter market offers greater opportunities for customization. Caps and floors are option-based contracts. A cap is simply a package of call options while a floor is a package of put options (Khoury and Chan 1988).
Yet another instrument is currency swaps. According to Soenen & Madura (1991) currency swaps enable each contracting party to borrow in the market in which it possesses comparative advantage, and both parties would benefit from the swaps through reduction in borrowing costs. As such they allow corporations to adjust their liabilities according to the mix of their foreign operations and enables corporate treasurers to basically transform the currency profile of companies’ liabilities relatively quickly.

2.4.3 Diversification Strategies

Diversification of international operations is an important aspect in managing economic exposure, as it allows companies to react competitively in light of currency movements. As exchange rate changes affect a firm’s cost of production at home relative to those of producing abroad, the firm may relocate production between countries. According to Moffet and Karlsen (1994) the firm can also make marginal shifts in sourcing inputs or lengthening production in a nation whose currency has devalued and decrease production and or sourcing of inputs from nations with appreciating currencies. The diversification of financing across currencies is another operational strategy that can be used to hedge economic currency exposure. This will involve structuring the firms liabilities in such a way that changes in foreign asset values due to economic exposure is offset by relative changes in the debt service expense in the same currency.

Companies should diversify the markets for both output and sources of supplies internationally, this will allow management to be well positioned to recognize disequilibrium when it occurs and react to it competitively. Mergers are a form of external diversification, they occur when two or more firms combine operations to form one corporation, perhaps with a new name (Pearce, and Robinson, 2007). In a merger two or more companies combine, generally by offering the stockholders of one company securities in the acquiring company in exchange for the surrender of their stock (Branson & Frankel 1983).

A merger is similar to an acquisition but refers more strictly to combining all of the interests of both companies into a stronger single company. The end result is to grow the business in a quicker and more profitable manner than normal organic growth would allow (Moffet & Karlsen, 1994).
The second form of external growth is an acquisition; an acquisition is the process of a company acquiring another so as to build on its strengths or weaknesses. In most cases the acquiring company is larger than the acquired. The principal benefits from mergers and acquisitions is to increase value generation, increase in cost efficiency and increase in market share. Benefits of Mergers and Acquisitions are the main reasons for which the companies enter into these deals. Mergers and Acquisitions may generate tax gains, can increase revenue and can reduce the cost of capital. Thus giving the companies concerned a competitive advantage (Moffet & Karlsen, 1994).

Vertical integration is yet another diversification strategy where a firm undertakes operations at different stages of its production. Involvement of the firm in its different stages of production can be developed inside the company or by acquiring another firm (Pearce, and Robinson, 2007). Horizontal integration or diversification involves the firm moving into operations at the same stage of production. Vertical integration is usually related to existing operations and would be considered concentric diversification. Horizontal integration can be either a concentric or a conglomerate form of diversification (Hungler and Wheelen, 2007). Backward integration allows the diversifying firm to exercise more control over the quality of the supplies being purchased. Backward integration also may be undertaken to provide a more dependable source of needed raw materials. Forward integration allows a manufacturing company to assure itself of an outlet for its products and also allows a firm more control over how its products are sold and serviced. Furthermore, a company may be better able to differentiate its products from those of its competitors by forward integration. By opening its own retail outlets, a firm is often better able to control and train the personnel selling and servicing its equipment (Hungler and Wheelen, 2007).

### 2.4.4 Market Restructuring Strategies

The market development strategy represents an effort to bring current products to new markets. Typically, management will employ this strategy when existing markets are stagnant, and when market share increases are difficult to achieve because market shares are already very high or because competitors are very powerful. This strategy can be implemented by identifying new uses or new users (Hungler and Wheelen, 2007).
According to Barney and Hesterly (2008) a market expansion strategy involves moving into a new geographic market area. Many firms originate as regional competitors today, however market expansion is more likely to be international in scope, and frequently through the growth strategy it is most likely to achieve rapid growth in sales volume. International market expansion strategy can be pursued at one of three levels: regional, multinational, or global level. A regional strategy implies that a company will totally concentrate its resources and efforts in one or two areas. A multinational strategy involves a commitment to a broad range of national market. A global strategy is employed when an organization operates in a broad set of markets but with a common set of strategic principles (Pearce, and Robinson, 2007).

Market consolidation can also be very essential in managing forex risks. The retrenchment strategy is essentially the opposite of market development. In this case a firm reduces its commitment to its existing products by withdrawing from weaker markets. Generally, this strategy is pursued where a firm has experienced uneven performance in different markets. Pruning occurs when a firm reduces number of products offered in a market. In effect, pruning is the opposite of product development and occurs when a firm decides that some market segments are too small or too costly to continue to serve. Divestment occurs when a firm sells off a part of its business to another organization. Because this usually means that a firm is taking itself out of a product line and out of a particular market, divestment is essentially the opposite of diversification (Barney & Hesterly, 2008).

2.5 Chapter Summary

This chapter presented a review of literature related to the purpose of the study. The section dealt with the background information. The chapter mainly focused on reviewing literature related to the three research questions of the study. The next chapter deals with the research methodology applied to this particular study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This research methodology section was divided into the following subsections: research design, population, sample and sampling technique, data collection, data analysis method, and ethical considerations of the study. It described the steps that the researchers adhered to during the data collection process.

3.2 Research Design

This research employed a descriptive form of research design. According to Creswell (2006) descriptive research design is used when one wants to determine the characteristics of a particular population which is under examination. Descriptive research is used to determine the effect of forex trading on the performance of commercial banks.

3.3 Population and Sampling Design

3.3.1 Population

A Population is the precise number of elements that is included in the research study. The study’s population consisted of all 11 commercial banks that were listed on the Nairobi Securities Exchange (NSE). The target population for this research study was the 11 commercial banks that are listed on the NSE. A list of these banks is given on appendix II. The study examined the 11 banks because; their information and data lies in the public domain and thus collecting data from the same would be relatively easier than collecting data from the commercial banks not listed. In addition the study investigated the market value of commercial banks relative to foreign exchange trading. Thus by using the commercial banks listed on the NSE, it was expected that stock price changes would give a more definite indication of the macro economic factors that existed at the time the study was done.
3.3.2 Sampling Design

A sample is a proportion of the population being examined through a research study. Thus the sampling design refers to the definite procedure that the researchers used in selecting the items from the population that will form the sample. For the purpose of this study no selection procedure was used as all the banks listed on the NSE were included in the sample.

3.3.2.1 Sampling Frame

The sample frame consisted of the 11 commercial banks that are listed at the NSE. This implies that a census was conducted on the target population. Kothari (2011) describes a census as a systematic process where all the members of a population being studied through a research process are involved in the data collection process.

3.2.2 Sampling Technique

This study used a census of the larger population and therefore did not employ any sampling technique but instead examined the study’s target population of all the 11 commercial banks that are listed at the NSE.

3.3.2.3 Sample Size

From the target population, the researchers selected 44 employees that is 4 employees working in the forex department of each of the 11 commercial banks being studied. The four employees were selected from the managerial team in charge of forex within the respective banks they worked for. The sampling in this case was purely random. The managerial employees were selected as they were expected to be conversant and well informed with reference to effects of forex trading on their bank’s performance.

3.4 Data Collection methods

This study made use of both primary and secondary data collection techniques. Primary data is data which is used for the original purpose it was collected for. For primary data, the researchers made use of questionnaires and interviews as the data collection instruments. The questionnaires were semi-structured and were made up of open-ended
and closed ended questions. The questionnaire that was used in the data collection process is shown on Appendix 1. The scale for the questionnaire was from 1 to 5 with 1 corresponding to the least agreeing response to the statement and 5 being the strongest agreeing response to the statement.

The sections of the questionnaires were divided in such a manner as to answer questions specific to the different objectives of the study. Section one gave background information on the correspondent and the banks they represented, section two addressed the issue of foreign exchange rate exposure to the banks in question, section three addressed the relationship between foreign exchange trading and financial performance of the banks and section four looked at the strategic options that the banks have used to manage the effects of foreign exchange risk exposure. Secondary data and information was sourced from the 11 banks published financial statements, referred journal articles (Creswell, 2006) and other relevant materials from the internet and library sources.

3.5 Research Procedures

The research instruments used in this study were developed based on the research objectives. In terms of data collection, the research enlisted the services of research assistants who were first trained on the various aspects of the research instruments. Thereafter, a pilot study was carried out on survey the instruments before they were fine tuned for the research. After fine turning, the survey instruments were distributed to the respondents and follow up visits were made to ensure the respondents filled up the instruments and returned them back.

For the interviews, the research assistants carried out interviews with some of the senior managers of the 11 selected banks. For secondary data and information, the researchers made use of the 11 bank’s published financial statements, and journal articles written in peer reviewed journals for the period 2010-2015.

3.6 Data Analysis methods

Data analysis is the process of inspecting, cleaning, transforming and modelling data with the goal of highlighting useful information, suggesting conclusions and supporting decision making (Ader & Mellenbergh, 2008).
The responses were analyzed by both qualitative and quantitative means. Quantitatively the responses were coded and fed into the Statistical Package for Social Science (SPSS) for statistical analysis. The data was analyzed using the SPSS to test the reliability of the data collected, the distribution of the data and the relationships. The data was further presented in tables and pie charts and analyzed qualitatively using the literature review as a point of reference.

3.7 Chapter Summary

This chapter highlights the steps in which the researchers adhered during the data collection process. This chapter is divided into the following sections: introduction, research design, population, sample and sampling technique, data collection, data analysis, and the ethical considerations of the study. The next chapter gives the findings of the study.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the results and findings of the study on the research questions with regards to the data collected from the respondents in the commercial banks listed in the Nairobi Securities Exchange in Kenya. The initial section covered the background information with respect to the respondent as well as the company background that relates to ownership and strategy. The background information enabled the researchers to know the nature and type of the bank. The second section was based on how foreign exchange trading affects financial performance of banks in Kenya. The third and final subsection looked at strategic options to manage foreign exchange risk exposure.

4.2 Findings

4.2.1 Reliability Analysis

According to Leard Statistics (2013) the Cronbach's alpha was used to test for reliability of the data collected. Cronbach’s alpha is a measure of internal consistency and is the most commonly used when there is multiple likert questions in a questionnaire that form a scale and you wish to determine if the scale is reliable.

A value of 0.7 indicates a high level of consistency. For this data, the Cronbach’s Alpha value was 0.821 as shown in Table 4.1 below. This means that the data was reliable.

Table 4.1: Reliability Analysis

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
</tr>
</thead>
</table>
| Cronbach's Alpha | .821  
| N of Items | 37  

29
4.2.2 Normality Test

Normality tests in statistics are used to test the distribution of data. Whatis.com (1999) defines a normal distribution as an arrangement of a data set in which most values cluster in the middle of the range and the rest taper off symmetrically towards either extreme.

Table 4.2 below shows that the tests for normality reveal a normal distribution given that there is significance in both the Kolmogorov-Smirnov and Shapiro-Wilk tests.

Table 4.2 Normality Test

<table>
<thead>
<tr>
<th>Tests of Normalitya</th>
<th>Kolmogorov-Smirnovb</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>S10</td>
<td>.473</td>
<td>5</td>
</tr>
<tr>
<td>S9</td>
<td>.473</td>
<td>5</td>
</tr>
</tbody>
</table>

a. S11 is constant. It has been omitted.
b. Lilliefors Significance Correction

4.3: Background Information

This section offers the background information with regards to the respondents’ gender, level of education as well as the experience in the banking industry.

4.3.1 Gender of the Respondents

Table 4.3 provides a summary of the gender of the respondents as a result of the responses given by the respondents. The female respondents were 39 percent of the total number whereas the male respondents were 61 percent of the total number.

Table 4.3 Gender of the Respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
</tr>
</tbody>
</table>
4.3.2 Level of Education of the Respondents

The study sought to establish the level of education of the respective respondents in the organizations of study. Table 4.4 provides a summary of the level of education of the respondents. According to the study most of the respondents had a high level of education qualification. Specifically 45 percent had bachelor’s degree qualification, while 39 percent had Master’s degree qualifications respectively. Only 7 percent of the respondents were diploma holders while 5 percent of the respondents had doctoral degrees. The remaining 5 percent of the respondents had other qualifications. This broad category of respondents included certificate holders including computer studies, industrial training, accountancy holders, among others. The high level of education among the respondents is an indication that most of the respondents would be able to understand the economic dynamics and furthermore be able to reasonably articulate the performance of the banks in Kenya.

Table 4.4 Level of Education of the Respondents

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>Bachelors</td>
<td>20</td>
<td>45%</td>
</tr>
<tr>
<td>Master’s</td>
<td>17</td>
<td>38%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

4.3.3 Number of Years in the Banking Industry

In order to establish the experience of the respondents in the banking industry, the respondents were asked to state how long they have been working in the industry. Table 4.5 provides a summary of the findings in this regard. Whereas 5 percent of the respondents have been in the banking industry for less than 2 years, the majority of the respondents have been in the banking industry more than 3 years. Specifically, 27 percent of the respondents have 3-5 years experience, while 45 percent of the respondents have 6-9 years of experience. Also 23 percent of the respondents have 10 years and above in
terms of experience in the banking industry. Given the many years of respondents’ experience in the banking industry, they were equipped with the knowledge of the forex market in Kenya. Since the respondents were at the epitome of decision making in their respective organizations, this could have an impact on the performance of the banks.

Table 4.5 Number of Years of Respondents in the Banking Industry

<table>
<thead>
<tr>
<th>No. of Years in the Banking Industry</th>
<th>Distribution</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2</td>
<td></td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>3-5</td>
<td></td>
<td>12</td>
<td>27%</td>
</tr>
<tr>
<td>6-9</td>
<td></td>
<td>21</td>
<td>45%</td>
</tr>
<tr>
<td>10 years and Above</td>
<td></td>
<td>10</td>
<td>23%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>44</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.3.4 Position in the Company

In order to establish the effect of forex trading on financial performance of banks in Kenya, the study sought responses from top managers in these organizations. Table 4.6 provides a summary of the study findings with regards to the respondents’ position in their respective organizations. It was revealed that none of the respondents were board of directors, 57 percent were in top management as 34 percent of the respondents were either line or section managers in their respective organizations but who had delegated authority. None of the respondents were from the remaining categories.

Table 4.6 Position of Respondents in the Company

<table>
<thead>
<tr>
<th>Position in the Company</th>
<th>Distribution</th>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td></td>
</tr>
<tr>
<td>Board of Directors</td>
<td>0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Top Management</td>
<td>25</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>Line/Section Manager</td>
<td>15</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
4.3.5 Bank Having Branches all over Kenya

Figure 4.1 provides the respondents view with regards to their knowledge on whether their respective companies had branches all over Kenya. Eight seven percent of the respondents said that their bank had branches all over Kenya. The results indeed indicate that most banks in Kenya have a wide branch network in the country. This has an impact on performance by these companies.

![Pie chart showing 87% Yes and 13% No for banks having branches all over Kenya.]

Figure 4.1 Banks Having Branches all over Kenya

4.3.6 Company Ownership

The ownership of the company is likely to have an impact on the operations of the banks. This is because companies will apply different strategies based on management structure and ownership. Companies with foreign ownership for instance are likely to apply different strategies as compared to locally owned company due to the global nature of their decision making. This is also the case with government owned banks. Figure 4.2 presents a summary of the study findings on the company ownership as given by the respondents. Thirty-nine percent of the banks are owned by foreigners the remaining 59 percent of the banks are locally owned, with the government accounting for 2 percent of the total ownership.
4.2.7 Years of Operation of the company in Kenya

Table 4.7 reveals that 34 percent of the respondents banks have been in operation in the country for between 6-10 years whereas 50 percent of the banks have been in the country 11 years and above. Consequently 11 percent of the banks have been operating in Kenya between 1-5 years. Over 70 percent of the banks have entered the Kenyan Market in the last decade.

Table 4.7: Years of Operation of the Company in Kenya

<table>
<thead>
<tr>
<th>Years of Operation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 years</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>6-10 years</td>
<td>15</td>
<td>39%</td>
</tr>
<tr>
<td>11 years and above</td>
<td>22</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.4 Foreign Exchange Rate Exposure by Commercial Banks in Kenya

The first objective of the study was to establish the foreign exchange rate exposure by commercial banks in Kenya. The following subsection presents a summary of findings with regards to how the respondents perceive the foreign exchange rate exposures in their respective banks. Figure 4.3 presents a summary of the study findings with regards to how respondents viewed their company as being exposed to foreign exchange risks. 52 percent of the respondents strongly agree, 24 percent agree, 8 percent strongly disagree, 4
percent disagree, while 12 percent are uncertain if the company is exposed to foreign exchange risks or not.

**Figure 4.3: The Company is exposed to Foreign Exchange Risks**

**4.4.1 Economic Environment in Kenya is Risky**

Figure 4.4 presents a summary of the study findings with regards to how respondents viewed the riskiness of the economic environment. 36 percent of the respondents strongly agree, 20 percent of the respondents agree, 6 percent of the respondents strongly disagree, and 10 percent of the respondents disagree while 28 percent of the respondents are uncertain if the economic environment in Kenya is risky or not.

**Figure 4.4: Economic Environment in Kenya is Risky**
4.4.2 Transaction Risk Exposure

Figure 4.5 presents a summary of the study findings with regards to how the respondents regard the exposure of the company to transaction risk exposure. 24 percent of the respondents strongly agree, 28 percent of the respondents agree, 12 percent of the respondents strongly disagree, and 16 percent of the respondents disagree while 20 percent of the respondents are uncertain if their companies are exposed to transaction risk.

Figure 4.5: Transaction Risk Exposure

4.4.3 Economic Risk Exposure

Figure 4.6 presents a summary of the study findings with regards to the respondents view on how the company is exposed to the economic risk. 35 percent of the respondents strongly agree, 20 percent of the respondents agree, 14 percent of the respondents strongly disagree and 10 percent of the respondents disagree while 13 percent of the respondents are uncertain whether the bank is exposed to economic risk or not.

Figure 4.6: Economic Risk Exposure
4.3.4 Translation Risk Exposure

Figure 4.7 presents a summary of the study findings with regards to how respondents viewed translation risk exposure of the bank. The results of the study shows that 28 percent of the respondents strongly agree 18 percent of the respondents agree, 12 percent of the respondents strongly disagree and 20 percent of the respondents disagree while 22 percent of the respondents are uncertain on whether the bank is exposed to translation risk exposure or not.

![Figure 4.7: Translation Risk Exposure]

Table 4.8 present findings with regards to the respondents’ banks having undertaken actions due to positive or negative developments in exchange rates. The findings show 76 percent of the respondents agree and strongly agree to the action “enter a new foreign market where your company did not have any sales or operations before”, 87 percent for the action “shift facilities to foreign locations where it became cheaper to operate due to exchange rate changes”, 90 percent for the action “delay entry into a foreign market”, 91 percent for the action “abandon a foreign market completely”, 74 percent for the action “temporarily close or reduce operations in a foreign market”, and 80 percent for the action “change the composition of products sold in foreign or local markets”.

37
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Uncertain</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter a new foreign market where your company did not have any sales or operations before</td>
<td>12%</td>
<td>9%</td>
<td>3%</td>
<td>55%</td>
<td>21%</td>
</tr>
<tr>
<td>Shift facilities to foreign locations where it became cheaper to operate due to exchange rate changes</td>
<td>5%</td>
<td>3%</td>
<td>5%</td>
<td>58%</td>
<td>29%</td>
</tr>
<tr>
<td>Delay entry into a foreign market</td>
<td>2%</td>
<td>6%</td>
<td>2%</td>
<td>57%</td>
<td>33%</td>
</tr>
<tr>
<td>Abandon a foreign market completely</td>
<td>3%</td>
<td>2%</td>
<td>4%</td>
<td>62%</td>
<td>29%</td>
</tr>
<tr>
<td>Temporally close or reduce operations in a foreign market</td>
<td>12%</td>
<td>9%</td>
<td>5%</td>
<td>49%</td>
<td>25%</td>
</tr>
<tr>
<td>Change the composition of products sold in foreign or local markets (change of product mix)</td>
<td>3%</td>
<td>0</td>
<td>12%</td>
<td>47%</td>
<td>33%</td>
</tr>
</tbody>
</table>
4.5 Relationship between Foreign Exchange Trading and Financial Performance of Listed Commercial Banks in Kenya

The second objective of the study was to determine the relationship between foreign exchange trading and financial performance of listed commercial banks in Kenya. The following subsection presents results of various tests conducted to show if there is an existing relationship between these two variables.

The model summary on the relationship between foreign exchange trading and financial performance is presented in table 4.9. The R squared value in Table 4.9 is 0.552 and thus shows that only 55.2% of financial performance is explained by forex trading. The remaining 38.9% is explained by other factors, the standard error term is 3.10913

**Table 4.9: Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.513</td>
<td>.552</td>
<td>.453</td>
<td>3.10913</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Financial Performance

The ANOVA results on the relationship between foreign exchange trading and financial performance is presented in Table 4.10. The study findings in Table 4.10, reveals that the model was significant because the F value was significant at 1.8321. The mean square value was also at 32.200.

**Table 4.10: ANOVA Table**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>16.200</td>
<td>41</td>
<td>32.200</td>
<td>1.8321</td>
<td>.003b</td>
</tr>
<tr>
<td>Residual</td>
<td>29.000</td>
<td>3</td>
<td>119.667</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45.200</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Forex exposure
The coefficient results on the relationship between foreign exchange trading and financial performance is presented in Table 4.11. As depicted in Table 4.11 there exists a significant relationship between forex trading and financial performance of banks with a beta value of .528, a t value of 1.295 and p value of 0.02. In terms of the significance of the predictor variables, the individual variables whose t-values are significant (p= <0.05) are considered.

**Table 4.11: Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>28.740</td>
<td>8.115</td>
<td>4.467</td>
</tr>
<tr>
<td></td>
<td>Financial Performance</td>
<td>1.356</td>
<td>1.738</td>
<td>.528</td>
</tr>
</tbody>
</table>

*a. Dependent Variable: Forex_exposure*

**4.6 Strategic Options to Manage the Effect of Foreign Exchange Risk Exposure**

The third objective of the study sought to establish findings with regards to how to manage foreign risk exposure. These findings are presented in Table 4.12 below. In most of the responses to the coefficients statements, the mean is between four and five. Although the majority of respondents regard financial means as important in managing risks as either important or very important, the overall rating was that it is important (the mean being 3.91, in other words close to four). Respondents rated providing short term derivatives as neutral, therefore neither important nor unimportant.
### Table 4.12: Strategic Options to Manage the Effect of Foreign Exchange Risk Exposure

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency fluctuations and operating cash flows</td>
<td>65</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3.22</td>
</tr>
<tr>
<td>Operating exposure and hedging</td>
<td>62</td>
<td>12</td>
<td>20</td>
<td>3</td>
<td>3</td>
<td>4.02</td>
</tr>
<tr>
<td>Shortsighted currency derivatives are used to manage risks</td>
<td>61</td>
<td>22</td>
<td>5.0</td>
<td>4</td>
<td>4</td>
<td>3.88</td>
</tr>
<tr>
<td>The cost of hedging by financial means are too high</td>
<td>72.0</td>
<td>15.0</td>
<td>3.0</td>
<td>8</td>
<td>2</td>
<td>3.55</td>
</tr>
<tr>
<td>The management of the company believes that in the long run positive and negative exchange rate changes cancel each other out</td>
<td>64</td>
<td>20</td>
<td>10</td>
<td>3</td>
<td>3</td>
<td>3.05</td>
</tr>
<tr>
<td>Operational means are more important in managing risks</td>
<td>63</td>
<td>20</td>
<td>10</td>
<td>3</td>
<td>4</td>
<td>3.62</td>
</tr>
<tr>
<td>Financial means are more important in managing risks</td>
<td>71</td>
<td>15</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>3.87</td>
</tr>
</tbody>
</table>

#### 4.7 Chapter summary

This chapter has presented the results and findings of the study on the research questions with regards to the data collected from the respondents in the commercial banks listed in the Nairobi Securities Exchange in Kenya.
CHAPTER FIVE

5.0 DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The following chapter presents a summary of the findings of the study followed by a detailed discussion with respect to the three research objectives and then the conclusions as well as the recommendations for improvement and recommendations for further studies.

The general objective of the study was to investigate the relationship between foreign exchange trading and financial performance of commercial banks listed at the NSE. The study was guided by the following research objectives: to establish the foreign exchange rate exposure by commercial banks in Kenya, to determine the relationship between foreign exchange trading and financial performance of listed commercial banks in Kenya and to evaluate the strategic options to manage the effect of foreign exchange risk exposure.

The study’s population consisted of all 11 commercial banks that are listed in the Nairobi Securities Exchange. From the target population 4 employees working in the forex department in each of the 11 selected commercial banks were selected. The four employees were selected from the managerial team which is in charge of forex within the respective banks they work for. Questionnaires were used for primary data collection, thereafter the collected data was coded and analyzed using SPSS software and then presented in form of tables and figures.

The study revealed that commercial banks listed at the Nairobi stock exchange were exposed to three types of foreign exchange risks namely: transaction risks, economic risks and translation risks. The study further revealed that majority of the respondents agreed that their banks: have entered a new foreign market where they did not have any sales or operations before (76 percent), shift facilities to foreign locations where it became cheaper to operate due to exchange rate changes (87 percent), delay entry into a foreign market (90 percent), abandon a foreign market completely (91 percent), temporary close or reduce operations in a foreign market (74 percent), change the composition of products
sold in foreign or local markets (80 percent). The study further revealed that there exists a significant relationship between forex trading and financial performance of banks with a beta value of .528 and a t value of 1.295 and p value of 0.02.

Finally the study sought to establish the study findings with regards to how to manage foreign risk exposure. In most of the responses to the above statements, the mean is between four and five. Although the majority of respondents regard financial means as important in managing risks as either important or very important, the overall rating was that it is important (the mean being 3.91, in other words close to four). Respondents rated providing short term derivatives as neutral, therefore neither important nor unimportant.

5.2 Discussion

5.2.1 Foreign Exchange Risk Exposure

The study findings revealed that the majority of the respondents believe that commercial banks in Kenya are exposed to transaction risks. These findings are in line with Charles (2009) who established that floating exchange rate appreciation reduces the competitiveness of export markets; and has a negative effect on the domestic stock market of export dominated economies. However, it has a positive effect on the stock market by lowering input costs, for an import dominated country. In effect countries such as Kenya which is import oriented can experience price instability in the face of exchange rate volatility because its economy is heavily dependent on imports of raw materials, capital goods and consumer goods, hence, the need to manage the foreign exchange market.

The findings also agree with studies done in Africa by African Development Bank Group (2015) that have established that exchange rate plays an increasingly significant role in any economy as it directly affects domestic price level, profitability of traded goods and services, allocation of resources and investment decision. However the impact of exchange rate trading has been studied more in industrialized countries than in less developed economies. Accordingly a study by Athanasoglou et al., (2005) in Nigeria revealed that this lack of attention in developing countries is caused by insufficient time series data.
The study findings also reveal that the majority of the respondents believe that commercial banks in Kenya are exposed to economic risks. Economic risk arises, for example when a multinational firm incurs costs on one currency and thereafter generates sales in another (African Development Bank Group, 2015). In such a scenario, changes in foreign exchange rates affect the firms and competitive position. Profits may decrease if the cost currency appreciates against the sales currency: it therefore becomes more expensive to buy materials and cheaper to sell finished goods (Srinivasulu, 2009). This is bound to affect the expected future cash flows and thus the value of the firm, which is known as the present value of the future cash flows. Another component of economic exposure is brought about by price changes, because they affect future cash flows. In such, economic exposure can rise because the competitive position of a company could be affected by a given exchange rate volatility (Loderer and Pichler, 2000). Different factors can affect the future cash flows of a firm and therefore also affect the economic exposure: the investment policy of the firm, or external factors such as political crisis in a country that would affect the levels of sales, for example it is difficult to identify and quantify this kind of risks as they may involve movements in currency in which the company has no physical dealings (Lessard, 2009).

The study findings affirm that indeed the type of exposure comes about as a result of converting financial statements which are expressed in foreign currencies into the home currency. When a firm consolidates the results of all its foreign subsidiaries, it has to present a final report to shareholders with the numbers being expressed in one currency (Lessard, 2009). All foreign currency denominated assets and liabilities as well as revenues and costs have to be translated into one basic currency. Choi and Prasa, (2005) are of the opinion that indeed assets, liabilities as well as equity on a balance sheet are expressed in historical values and the foreign exchange rate at which the currencies trade at the end of the accounting period is most probably not the same foreign exchange rate when the accounts were booked. In this regard therefore when a company does the normal thing of carrying out the conversion at a new foreign exchange rate, there is a likelihood of exchange rate losses or profits. Thus the question that begs to be answered is at what exchange rate the accounts should be translated. It could be at the rate of exchange at the balance sheet date, at the rate of exchange at the time when the assets were acquired or the liability incurred, or at the rate of exchange mid-way through the trading year (Lessard, 2009).
5.2.2 Relationship between Foreign Exchange Trading and Financial Performance

The study further revealed that there exists a significant relationship between forex trading and financial performance of banks with a beta value of 0.528 a t-value of 1.295 and p value of 0.02. The findings are in agreement with Deshmukh et al., (1983) who carried out a study and established that there exists a positive relationship between profitability and interest rate risk. They therefore made an argument that indeed an increase in interest rate uncertainty is likely to encourage depository institutions in a bid to decrease their lending activities, which in the end entail interest rate risk. Thus if interest rate risk can be controlled though the use of derivatives, then it means that banks that make use of such derivatives are likely to experience less interest rate uncertainty and can increase their lending activities which result in greater returns relative to the return on fixed fee for service activities. Thus their overall profitability would be higher compared to those banks that do not use derivatives to control for interest rate uncertainty.

Brewer, Minton and Moser (2000), on their part were able to establish that indeed there exists a negative correlation between risk and derivative usage when it comes to the savings and loan institutions. They were able to establish further that most banks which used derivatives experienced relatively greater growth in their fixed rate mortgage portfolios. These results provide a clear indication that indeed financial institutions make use of derivatives for hedging purposes, which would therefore provide an explanation as to why the reduction in the volatility risk comes about with an increase in derivative use.

Another study conducted by Simmons (2009) established that banks having weaker asset quality tend to use derivatives more intensely as compared to banks that have better asset quality although her study provided no indication as to whether banks use derivatives to increase or reduce interest rate risk and whether use of derivatives increases profitability or not.

The study however disagreed with Muriithi (2011) who sought to examine the relationship between foreign exchange rate and market performance for manufacturing companies. The study made use of a descriptive research design. In this study it was revealed that exchange rates had a positive influence on market performance. However in this study where we studied banks it was revealed that the effect may be negative and thus foreign exchange risk poses a challenge.
5.2.3 Strategies to Manage Foreign Exchange Exposures

The study further sought to establish the study findings with regards to how to manage foreign risk exposure. In most of the responses to the above statements, the mean is between four and five. Although the majority of respondents regard financial means as important in managing risks as either important or very important, the overall rating was that it is important (the mean being 3.91, in other words close to four). Respondents rated providing short term derivatives as neutral, therefore neither important nor unimportant.

The study findings revealed that commercial banks employ hedging as a strategy to manage foreign risk exposure. In seeking to manage economic currency exposure risk, firms can adopt either operational or financial hedging approaches or a combination of both (Srinivasulu, 2009). However financially it requires a strategic reorientation of operating policies regarding pricing, sourcing, location of production and financing. Moffet and Karlsen (1994) describe the use of production, financial and marketing policies to manage economic currency exposures as ‘natural hedging’.

The study findings also revealed that commercial banks employ derivative instruments in managing foreign risk exposure. The forward rate is not purely a reflection of the strength or weakness of a currency, it also allows for interest rate differentials, and thus forward rates may move even more dramatically than spot rates. Forward contracts also expose companies to more risks such as settlement risk and counter party risk. Because of the obligation to fulfill, forward contracts contain considerable risks (Moffet and Karlsen, 1994). According to Nance et al., (1993), another instrument, which a company might use to reduce the risk of foreign exchange volatility, is to enter a futures contract. A futures market is one of the most important ways to hedge risky assets. If a company takes out a long hedge futures contract, the company will be protected against a rise in a foreign currency value and vice versa if the company takes out a short hedge futures contract. Currency options have become increasingly popular as a hedging devise, as it protects the company from adverse movements in exchange rates while protecting the companies’ ability to gain from favorable movements in exchange rates. Mudida &
Ngene (2010) call options protect hedgers against increases in the price of the currency, put options protect hedgers against price decreases.

The study findings also revealed that the commercial banks in Kenya employ consolidated strategies in managing foreign risk exposures. According to Barney and Hesterly (2008) a firm reduces its commitment to its existing products by withdrawing from weaker markets. Generally, this strategy is pursued when a firm has experienced uneven performance in different markets. Pruning Occurs when a firm reduces number of products offered in a market. In effect, pruning is the opposite of product development and occurs when a firm decides that some market segments are too small or too costly to continue to serve. Divestment occurs when a firm sells off a part of its business to another organization. Because this usually means that a firm is taking itself out of a product line and out of a particular market, divestment is essentially the opposite of diversification (Barney and Hesterly 2008).

5.3 Conclusions

5.3.1 Foreign Exchange Risk Exposure

The study findings lead to a conclusion that indeed commercial banks in Kenya were exposed to transaction, economic as well as translation risks. The present study complements the existing risk management literature by providing evidence on the strategic foreign exchange risk management practice by Kenyan commercial banks. The study findings supports the fact that the actual risk management practice of companies and the operational and financial strategies are seen as being complements to each other.

5.3.2 Relationship between Foreign Exchange Trading and Financial Performance

The findings with regard to how foreign exchange rates affect performance of commercial banks in Kenya lead to a conclusion that there exists a significant relationship between forex trading and financial performance of banks. This therefore means that foreign exchange trading influences financial performance of commercial banks in Kenya.
5.3.3 Strategies to Manage Foreign Exchange Exposures

The study has established that the strategic options to manage foreign exchange risks as employed by the commercial banks in Kenya revolved around hedging, derivative instruments as well as consolidated strategies. On the aggregate level, the risk management objective of the companies and the involvement of both the operational and financial departments in the risk management were significant factors in explaining the importance and application of the operational hedging strategies. The size of the company exhibited significance in explaining the importance and application of the financial hedging means.

5.4 Recommendations

5.4.1 Recommendations for Improvement

5.4.1.1 Foreign Exchange Risk Exposure

The various organization have experienced foreign exchange risk exposure, however it is important for the Kenyan banking industry to acknowledge that indeed these risk exposures are real and therefore there is need for such companies to conceptualize operational and financial means which are equally important in the management of foreign exchange operating exposure.

5.4.1.2 Relationship between Foreign Exchange Trading and Financial Performance

From the findings of this research, the study recommends that firms listed in the Nairobi Stock Exchange should explore avenues to enhance capacities within firms for managing foreign currency risk exposure. They should explore the route of continued education for those in workplaces through short term training that should be very practical oriented, this could involve professional organizations for finance specialists, bankers, accountants and consultants. Such training should ideally be out of site because of the need to meet participants from diverse businesses and orientations for training and assessment to avoid internal interruptions. These trainings should not only cover foreign currency risk alone but rather could be preceded by introductory contents on the import-export trade and the practical market challenges facing the industries.
5.4.2 Recommendations for Further Studies

The study recommends that besides the strategies used by commercial banks, risk management objective and involvement of both financial and operational departments should be conceptualized as they are important factors in explaining the actual real options strategies adopted by the companies as a response to exchange rate changes.

The research carried out was on commercial banks which have at least some foreign operations. A research study on commercial banks that strictly have domestic operations is therefore required to form a basis for comparison. The researcher also recommends that since the sector is still experiencing growth it becomes important for banks to put into consideration the risk exposures and thus research into new and innovative risk management techniques is required. In this regard therefore the researcher recommends that additional studies should be conducted on this area of study.
REFERENCES


Vong, A, Hoi, S. (2009). *Determinants of Bank Profitability in Macao.* Faculty of Business Administration, University of Macau

APPENDICES

APPENDIX I: QUESTIONNAIRE

QUESTIONNAIRE ON THE RELATIONSHIP BETWEEN FOREIGN EXCHANGE TRADING AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED ON THE NAIROBI SECURITIES EXCHANGE

The purpose of this questionnaire is to collect information on the relationship between foreign exchange trading and financial performance of commercial banks listed on the Nairobi Securities Exchange. All the information collected will be treated as private and confidential and will only be used for research purposes. Your assistance in completion of this questionnaire is highly appreciated.

Section 1: General Information

Tick the appropriate response from the alternatives provided.

1.1. Indicate your Gender:

   Male ( )
   Female ( )

1.2. Indicate your level of education

   a. Diploma ( )
   b. Bachelor ( )
   c. Masters ( )
   d. Doctorate ( )
   e. Other (Please specify) ________________________________

1.3. How long have you been working in the banking industry?

   a. Less than 2 year ( )
   b. 3 – 5 years ( )
   c. 6 – 9 years ( )
   d. 10 years and above ( )
1.4. What is your position in the company?
   a. Board of Directors (   )
   b. Senior Management (   )
   c. Other (Please specify) _______________________________________

1.5. Does your bank have branches all over Kenya?
   a. Yes (   )
   b. No (   )
   c. Don’t Know (   )

1.6. Who is the majority shareholder of the bank you work for
   a. Local (over 51%) (   )
   b. Foreign (Over 51%) (   )
   c. Government (over 51%) (   )
   d. Other Specify……………………………………

1.7. How many years has your bank operated in Kenya
   a. Less than a year (   )
   b. 1 – 5 (   )
   c. 6 – 10 (   )
   d. 11 – and above (   )
Section 2: Foreign Exchange Rate Exposure

2.1. Please tick (√) the appropriate answer for the alternatives provided..........................

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My company is exposed to foreign exchange risks</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>The economic environment in Kenya is risky</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>My company is exposed to transaction risk exposure</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>My company is exposed to economic risk exposure</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>My company is exposed to translational risk exposure</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

2.2. In the past 5 years has your company undertaken any of the following actions due to positive or negative developments in exchange rates?

Please tick (√) the appropriate answer for the actions posed below

<table>
<thead>
<tr>
<th>Action</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter a new foreign market where your company did not have any sales or operations before</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Shift facilities to foreign locations where it became cheaper to operate due to exchange rate changes</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Delay entry into a foreign market</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Abandon a foreign market completely</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Temporarily close or reduce operations in a foreign market</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Change the composition of products sold in foreign or local markets (change of product mix)</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>
Section 3: Relationship Between Foreign Exchange Trading And Financial Performance

3.1. For the statements below, tick (√) where appropriate

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign exchange volatility affects the performance of my company</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Foreign exchange volatility affects the profitability of my company</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Foreign exchange volatility affects the competitiveness of my company</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Foreign exchange volatility affects our customers ability to repay their loans</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>My company has clear policies regarding foreign exchange volatility</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>My bank has adequate internal regulations for foreign exchange volatility</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

Section 4: Strategic options to manage the effect of foreign exchange risk exposure

4.1. Tick (√) the appropriate answer from the alternatives,

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency fluctuations have an impact on the company’s operating cash flows and competitive position</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Operating exposure can be hedged by financial means</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Shortsighted Currency derivatives are used to manage risk in my company</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>The cost of hedging by financial means is too high</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>The management of my company believes that the negative and positive change in the exchange rate cancels itself out.</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Operational means are most important in managing risk</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Financial means are the most important in managing risk</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>
4.2. How important are the following operational means to your company in managing the impact of exchange rate fluctuations on its operating cash flows and or competitive position?

Tick (√) where appropriate

<table>
<thead>
<tr>
<th>Operational means</th>
<th>Very Important</th>
<th>Important</th>
<th>Neither Important or unimportant</th>
<th>Unimportant</th>
<th>Not important at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of the appropriate product mix</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Choice of the appropriate market and market segments</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Choice of the service locations</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Choice of the pricing strategy</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>
4.3. How important are the following financial means/tools to your company in managing the impact of exchange rate fluctuations on its performance?

<table>
<thead>
<tr>
<th>Financial tools</th>
<th>Very Important</th>
<th>Important</th>
<th>Neither Important or unimportant</th>
<th>Unimportant</th>
<th>Not important at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency forward contracts</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Futures Contracts</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>Currency options</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

4.4. If there is any other information you would like to add please feel free to add it here.

THANK YOU FOR TAKING YOUR TIME TO FILL THIS QUESTIONNAIRE
## APPENDIX II: LIST OF BANKS STUDIED FROM THE NSE

<table>
<thead>
<tr>
<th>NO.</th>
<th>BANK NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BARCLAYS BANK LTD</td>
</tr>
<tr>
<td>2</td>
<td>CFC STANDBIC HOLDINGS LTD</td>
</tr>
<tr>
<td>3</td>
<td>I &amp; M HOLDINGS LTD</td>
</tr>
<tr>
<td>4</td>
<td>TRUST BANK KENYA LTD</td>
</tr>
<tr>
<td>5</td>
<td>HOUSING FINANCE CO. LTD</td>
</tr>
<tr>
<td>6</td>
<td>KENYA COMMERCIAL BANK LTD</td>
</tr>
<tr>
<td>7</td>
<td>NATIONAL BANK OF KENYA LTD</td>
</tr>
<tr>
<td>8</td>
<td>NIC BANK LTD</td>
</tr>
<tr>
<td>9</td>
<td>STANDARD CHARTERED BANK LTD</td>
</tr>
<tr>
<td>10</td>
<td>EQUITY BANK LTD</td>
</tr>
<tr>
<td>11</td>
<td>THE COOPERATIVE BANK OF KENYA LTD</td>
</tr>
</tbody>
</table>