THE EFFECT OF FOREIGN EXCHANGE RATES ON THE FINANCIAL PERFORMANCE OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

By
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DECLARATION

Declaration by the Student

This research project is my original work and has never been presented to any other examination body. No part of this work should be reproduced without my consent or that of University of Nairobi.

Name:Mbubi Amos Mbithi Sign……Date……

D61/73069/2009

Declaration by the Supervisor

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

Name……Sign…….....Date……

Lecturer-Department of finance and accounting

DEDICATION

To my dear wife, Mrs.Jacky Shiyenze Mbithi for the much support she provided throughout my studies.

To my lovely children Gloria,Ahadi and Amirah for her greatest encouragement and motivation throughout the research period.

To my parents Danson and Florence; for their parental love, guidance and humble upbringing.

To my siblings, Alex and Aaron for their compassion and generosity.

To my lecturers, fellow students and true friends; for their social and academic backing

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Heartfelt thanks to all lecturers in the department of Accounting and Finance for their unlimited knowledge they impacted in me. Sincere thanks to my fellow students for the much assistance they accorded me.

Special thanks to all the people who aided in my data and materials collection, especially Mr. Maurice who assisted me with various parts of the software applications and for useful discussions and advice.

Finally, I would like to thank my family and friends who stood by my side throughout my studies.

God bless you all.

ABSTRACT

This research will find out the foreign exchange rates impact on profits, formulating the problem statement of the impact that variations in the exchange rate has in the financial performance of the listed companies in the Nairobi Security Exchange for the period covering years 2002 to 2012. The research sought to answer whether foreign exchange rate risk effects on the listed companies in the Nairobi securities exchange.

The research design was descriptive which involved the use of both qualitative and quantitative data. The sample size constituted of 46 firms except for financial and investment but the results of 41 firms were analysed after eliminating spoilt and inconsistent questionnaires. The research utilized questionnaires for data collection comprising of structured questions. Data was collected from primary and secondary sources. Primarysourcewas from senior managers in finance and internal audit through the use of questionnaires. The information was obtained for 10 years between the financial years (2002-2012) while the secondary data was obtained from financial statements.

This study employed multiple regressions to analyze the effect, and the Statistical Package for Social Sciences (SPSS) was also used. This generated descriptive statistics such as percentages, frequency distribution, measures of central tendency and graphical expressions. From the findings the study found that listed firms financial performance is affected by the foreign exchange rates movements. Use the income statement and the owner‘s equity account to record foreign exchange differences. The study further concluded that unrealized foreign

exchange gains/losses had an effect on the Net Income of listed companies as it was posted to either income statement or owners' equity.

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LIST OF ABBREVIATIONS

AIMS	-	Alternative Investment Markets Segment
CIRP	-	Covered interest rate parity
CPI	-	Consumer Price Index
FISMS	-	Fixed Income Securities Market Segment
FOREX	-	Foreign Exchange
IFE	-	International Fisher Effect
MIMS	-	Main Investments Market Segment
MM	-	Modigliani-Miller
NSE	-	Nairobi Stock Exchange
PPP	-	Purchasing Power Parity
SAP	-	Structural Adjustment Programme
SPSS	-	Statistical Package for Social Sciences
UCIRP	-	Uncovered interest rate parity

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Since the breakdown of the Bretton Woods fixed-parity system in the early 1970s, the volatility of exchange rates and its associated risks have become an increasingly important component of international financial management. Standard economic analysis implies that exchange rate movements affect both the cash flow of a firm's operations and the value of a firm. The wide currency fluctuations experienced during the last few decades heightened the interest in the potential vulnerability of multinational firms to foreign exchange rate risk, and this issue has spawned a considerable amount of research. From a theoretical perspective, it is a generally held view that exchange rate fluctuations are an important source of macroeconomic uncertainty. They should thus have a significant impact on firm value, regardless of whether the firm is domestically or internationally oriented (Shapiro, 1975; Hodder, 1982; Levi, 1994; Marston, 2001).

Kothari (1990) defined a case study as a very popular form of qualitative analysis and involves a careful and complete observation of a social unit, be that unit a person, a family an institution, cultural group or even the entire community. It is a method of study in-depth rather than breadth. The advantage of using a case study including an in-depth understanding of the behaviour pattern of the concerned unit, facilitating intensive study of the concerned unit which is not possible with different methods and possibility of obtaining the inside facts from the experienced employees. In addition the use of the case study method enriches generalized knowledge and makes it possible for the researcher to use more methods depending upon the prevalent circumstance e.g. in depth interviews and questionnaires.

Exchange rate movements have been a big concern for investors, analyst, managers and shareholders since the abolishment of the fixed exchange rate system of Bretton Woods in 1971. This system was replaced by a floating rates system in which the price of currencies is determined by supply and demand of money. Given the frequent changes of supply and demand influenced by numerous external factors, this new system is responsible for currency fluctuations (Abor, 2005). These fluctuations expose companies to foreign exchange risk. Moreover, economies are getting more and more open with international trading constantly increasing and as a result companies become more exposed to foreign exchange rate fluctuations. Foreign exchange exposures is the sensitivity of changes in the real domestic currency value of assets liabilities or operating incomes to unanticipated changes in exchange rate (Adler and Dumas, 1984). Generally, companies are exposed to three types of foreign exchange risk: accounting (translation) exposure, transaction (commitment) exposure and economic (operational, competitive or cash flow) exposure (Eiteman et al., 2006). In practice, economic exposure is computed as the net sensitivity of some aggregate measure of firm value to currency fluctuations. By focusing on the net sensitivity, economic exposure includes the direct and indirect effects of currency fluctuations. In practice, there is little consensus on the use of appropriate choice of aggregate measure. The focus of this paper is on the economic exposure of UK non-financial firms.

Overall, theory supports the existence of a relationship between the value of the firm and exchange rate movements. Economic theory suggests that changes in the exchange rate can produce a shift in stock prices, directly in the case of multinational firms, exporting and importing companies, firms which import part of their inputs and indirectly for other companies. Exchange rate movements affect both the prices of imported finished goods and the costs of imported inputs, thus influencing indirectly those companies that compete with

such firms (Grambovas and McLeay, 2006). Exchange rates may affect a firm through a variety of business operation models: a firm may produce at home for export sales as well as domestic sales, a firm may produce with imported as well as domestic components, a firm may produce the same product or a different product at plants abroad. The model of the firm must be broad enough to capture all of these channels. The firm described below is a multinational firm (producing and selling at home and abroad) that uses both foreign and domestic components.

Foreign currency exposures arise whenever a company has an income or expenditure or an asset or liability in a currency other than that of the balance-sheet currency. Indeed exposures can arise even for companies with no income, expenditure, asset or liability in a currency different from the balance-sheet currency. When there is a condition prevalent where the exchange rates become extremely volatile the exchange rate movements destabilize the cash flows of a business significantly. Such destabilization of cash flows that affects the profitability of the business is the risk from foreign currency exposures.

1.1.1 Foreign Exchange Rates

The rate or price of the currency of one country in terms of the currency of another. 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. The stability of the exchange rate is today formidable bedrock of all economic activities. Since the adoption of the Structural Adjustment Programme (SAP) in 1986. Floating exchange rate has been shown to be preferable to the fixed arrangement because of the responsiveness of the rates to the foreign exchange market.

The liberalisation of the exchange rate regime in 1986 has led to introduction of various techniques with the view of finding the most appropriate method for achieving acceptable exchange rate for Given the frequent changes of supply and demand influenced by numerous external factors, this new system is responsible for currency fluctuations (Abor, 2005). These fluctuations expose companies to foreign exchange risk. Moreover, economies are getting more and more open with international trading constantly increasing and as a result companies become more exposed to foreign exchange rate fluctuations. Foreign exchange rate risk refers to the sensitivity of a firms cash flows, real domestic currency value of assets, liabilities, or operating incomes to unanticipated changes in exchange rates.(Adler and Dumas, 1984). Generally, companies are exposed to three types of foreign exchange risk: accounting (translation) exposure, transaction (commitment) exposure and economic (operational, competitive or cash flow) exposure (Eiteman et al., 2006).

The high volatility of exchange rates is a fact of life faced by every company engaged in international business, bringing in uncertainties in their bottom line. In recent years, a variation in value of Kenya shilling has been very impulsive and unpredictable. Oxelheim (1984) defines foreign exchange risk as the risk of change (gain or loss) in the company`s future economic value due change of foreign exchange rates. It is manifested by exposure, the degree to which a company performance is affected by exchange rate changes. Thus, Shapiro (2006) suggests adherence to foreign exchange risk management, which involves currency assessment (identification and quantification) and designed counter-strategies against foreign exchange risk.

These fluctuations have had a profound impact on domestic and foreign sales, profit levels and profit margins of listed companies in Kenya. The adoption of a floating exchange rate regime, the rapid globalization of national economies and the attempts by listed companies to

seek investment opportunities and markets beyond their immediate borders account for the increasing exposure of firms to foreign exchange risk in recent times.

1.1.2 Financial Performance

Exchange rate fluctuations affect operating cash flows and firm value through translation, transaction, and economic effects of exchange rate risk exposure. (Choi and Prasad, 1995).Exchange rate movements have been a big concern for investors, analyst, managers and shareholders since the abolishment of the fixed exchange rate system of Bretton Woods in 1971. This system was replaced by a floating rates system in which the price of currencies is determined by supply and demand of money. Exchange rates may affect a firm through a variety of business operation models: a firm may produce at home for export sales as well as domestic sales, a firm may produce with imported as well as domestic components, a firm may produce the same product or a different product at plants abroad. The model of the firm must be broad enough to capture all of these channels. The firm described below is a multinational firm (producing and selling at home and abroad) that uses both foreign and domestic components.

1.1.3 Theoretical Effect of Foreign Exchange Rates on Financial Performance

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1.1.4 Nairobi Securities Exchange

Stock market is an important institution in a country and is of great concern to investors, stakeholders and the government. Stock market, especially in small economies, plays a vital role in mobilizing economic resources within and from outside the economy to achieve sustainable growth and development. It serves as an important channel through which funds flow from individuals and corporate bodies across the globe to investors residing in a particular economy. (Ogum, Beer and Nouyrigat, 2006). NSE was formed in 1954 as a voluntary organization of Stock brokers and later on registered under the companies act in 1991 phasing out the "call over " trading system in favour of the floor based open outcry system. NSE is a market place where shares and bonds are traded. It is now one of the most active capital markets and a model for the emerging markets in Africa in view of its high returns on investments and a well developed market structure. (www.nse.co.ke).

The Nairobi Securities Exchange comprises approximately 55 listed companies with a daily trading volume of over USD 5 million and a total market capitalization of approximately USD 15 billion. NSE has three market segments namely; the Main Investments Market Segment (MIMS), the Alternative Investment Markets Segment (AIMS) and the Fixed Income Securities Market Segment (FISMS). The MIMS is the main quotation market, the AIMS provide an alternative method of raising capital to small, medium sized and young companies that find it difficult to meet the strict listing requirements of the MIMS while the FISMS provides an independent market for fixed income securities such as treasury bonds, corporate bonds, preference shares and debenture stocks, as well as short term financial instruments such as treasury bills and commercial papers.

1.2 Research Problem

There has been a sharp increase in foreign investment in Kenya. Multi-national and transnational corporations are playing increasingly important roles in Kenyan business. Kenyan corporate units are also engaging in a much wider range of cross border transactions with different countries and products. The firms have also been more active in raising financial resources abroad. All these developments combine to give a boost to cross-currency cash flows, involving different currencies and different countries.

Exchange rate fluctuations in Kenya have been variable with periods of rapid depreciation of the domestic currency Kenya Shilling, which adversely affect the financial performance of Kenyan companies. Even though studies have been conducted on the exchange rate regimes and the implications for macroeconomic management as well as managing foreign exchange risk (Abor, 2005), very little has been done on the study of the foreign exchanges rates effects

on a firms financial performance in Kenya. It is in this context that this research is to evaluate the effect that variations in the exchange rate have in the financial performance of the selected listed companies in the Nairobi Stock Exchange.

When a company with transactional foreign exchange exposure suffers a business interruption loss during an extended period and when relevant exchange rates fluctuate, it is important to appreciate the impact that exchange rates can have on lost sales, cost of sales and gross profit. The potential for over- or under stating a profit or loss is not limited to the percentage movement in the exchange rates movements. Exchange rate fluctuations affect operating cash flows and firm value through translation, transaction, and economic effects of exchange rate risk (Choi and Prasad, 1995). Income based on fair values reflects income volatility more than historical cost-based income. It is also found that income is (not) more volatile with the recognition of unrealized fair value gains/losses on financial instruments.

Studies carried out include(Chepkairor, 1987) did a study on an assessment of the impact of foreign exchange fluctuations on projects partly funded through foreign currency denominated loans, (Kurgat, 1998) conducted an empirical study of spot market efficiency on Kenya‘s foreign exchange bureaus, (Cherutoi, 2006) did a study on extent of commercial banks exposure to foreign exchange risk and (Chiira, 2009) conducted a survey of foreign exchange risk management practices by oil companies in Kenya., there is no evidence of local study in Kenya conducted on the impact of foreign exchange rates on a firms financial performance.

The purpose of this study will assess the effect of exchange rate risk through a survey of listed companies in the Nairobi Securities Exchange to show course and showcase how listed companies are exposed by currency fluctuations.

This study intends to answer whether unrealized foreign exchange gain or loss influence net income of listed companies? or does foreign exchange on import costs have an influence on the net income of listed companies? and the effect of foreign exchange on export sales on the net income of listed companies?

1.3 Research Objective

The objective of the study is to determine the effect of foreign exchange rates on a firm's financial performance.

1.4 Value of the Study

The study will help corporate managers to reduce non-cash flows risk because of local currency devaluation, The study incorporates the effect of different currency exchange rates to the world hard currencies namely the United States Dollar, the Euro, the Sterling Pound, the Japanese Yen and others like the South African Rand. Foreign exchange risk for such firms affect not only the values of foreign operating cash flows, but also the foreign asset and liability values reported in consolidated financial statements.

Understanding of the effect of foreign exchange rates on firms financial performance is equally important for the financial investors for computing the amount of risk associated with such variation and consequently the risk involved in their investment decisions. The result of the study will therefore offer investors a foundation upon which to make strategic decisions and choose investment strategy.

The study will help shareholders understand and learn the effects of foreign exchange on the firm's profits. Since this study assesses the existing capacity in the country for foreign currency risk management, its findings generate more knowledge in this area.

The findings of the study are of great importance to help researchers, it adds to the body of empirical literature on the effect of exchange rate to firms financial performance; Among the areas of importance are: The study will enhance export and import terms to help businesses remain competitive.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

How exchange rate changes affect both national economies and the returns and cash flows of multinational corporations has been the subject of much theoretical and empirical research in economics and finance. Prior literature has mostly focused on the foreign exchange risk of multinational companies. The theoretical literature that investigates the nature of risk to exchange rates includes (Shapiro, 1975), (Heckman, 1985), (Flood and Lessard, 1986), and (levi, 1994)(Levi, 1994), (C Kent and A. C. Shapiro, 1984). These studies identify deviations from parity conditions, errors in forecasting future cash flows, the degree of competition, and substitutability of factors of production as the primary factors in a multinational corporation‘s foreign exchange risk. Recently, (Marston, 2001) shows that in theory, the industry competitive structure may also be a key determinant of foreign exchange risk. However, these theoretical studies leave many empirical issues unaddressed.

2.2 Theoretical Literature

2.2.1 Foreign Exchange Exposure Theory

Contemporary foreign exchange exposure theory (Buckley, 2000; Levi, 1996; Shapiro, 2003.) is of the opinion that exchange rate fluctuations should affect the value of a multinational company mainly via foreign sales and foreign (net) assets, which have to be denominated in the domestic currency of the parent company. Despite that, the earliest empirical studies on the topic (Levi, 1994; Amihud, 1994; Jorion, 1990.), although focusing on companies with

considerable operations abroad, fail to show a significant impact of fluctuations in exchange rates on the stock price of multinational companies.

More recent studies (Jongen et al., 2006; Gao, 2000; Bartov et al. 1996; Bodnar & Gentry, 1993.), however, are more consistent with financial theory and find that exchange rate movements, through their effect on sales and net assets values, are an important factor in determining firm value.

2.2.2 Purchasing Power Parity Theory

The Purchasing Power Parity (PPP) theorem explains the relationship between relative prices of goods and exchange rates. The PPP theorem propounds that under a floating exchange regime, a relative change in purchasing power parity for any pair of currency calculated as a price ratio of traded goods would tend to be approximated by a change in the equilibrium rate of exchange between these two currencies (Shapiro and Rutenberg, 1976). The relationship between relative interest rates and foreign exchange rates is explained within the interest rate theory of exchange rate expectations. Nominal interest rate differentials between two countries tend to reflect exchange rate fluctuations. Giddy (1977) called this the international Fisher effect, a close relationship to the Fisher effect, a phenomenon observed by Irving Fisher (1896).

If the international Fisher effect holds, interest rates in appreciating currencies tend to be low enough, and in depreciating currencies high enough, to offset expected currency gains and losses. If foreign exchange markets are efficient, then the two theorems must hold. Therefore, foreign exchange rates take into account all expected interest rate and purchasing power differentials. As such, critics of foreign currency risk management, argue, there is no

exchange risk to justify risk management activity. In further support of the argument of irrelevancy of foreign exchange risk management, critics also bring in the Capital Asset Pricing Model (CAPM).

The logic being, even if foreign exchange risk existed, it would be either systematic or unsystematic risk. Unsystematic risk can be diversified away by investors themselves in accordance with portfolio theory by adding low-risk, low- return securities to the portfolio. Systematic risk, on the other hand, is already discounted in asset pricing. Therefore, if foreign exchange pricing is in line with CAPM, then a firm cannot increase its value through hedging. Movement of its share price will be along the Security Market Line (SML) only, which takes account of the systematic risk (Adler, 1982; Logue & Oldfield, 1977). PPP is closely related to the so-called "Law of One Price," which states that a commodity will sell for the same price (adjusting for differences in transaction costs) regardless of where it is purchased.

The relationship between PPP and the Law of One Price is complex. One aspect of this relationship is that if one assumes that (1) the Law of One Price holds, (2) the services components of economies are negligible, and (3) transaction costs of importing goods are negligible, then PPP follows as a logical consequence.

2.2.3 Interest Rate Parity Theory

As early as the period of the gold standard, monetary policymakers found that exchange rates were influenced by changes in monetary policy. The rise of the home interest rate is usually followed by the appreciation of the home currency, and a fall in the home interest rate is

followed by a depreciation of the home currency. This indicates that the price of assets plays a role in exchange rate variations. The interest rate parity condition was developed by Keynes (1923), as what is called interest rate parity nowadays, to link the exchange rate, interest rate and inflation. The theory also has two forms: covered interest rate parity (CIRP) and uncovered interest rate parity (UCIRP). CIRP describes the relationship of the spot market and forward market exchange rates with interest rates on bonds in two economies.

UCIRP describes the relationship of the spot and expected exchange rate with nominal interest rates on bonds in two economies.

2.2.4 International Fisher Effect Theory

The International Fisher Effect (IFE) theory suggests that foreign currencies with relatively high interest rates tend to depreciate because the high nominal interest rates reflect expected rate of inflation (Madura, 2010).. In the long-run, a relationship between interest rate differentials and subsequent changes in spot exchange rate seems to exist but with considerable deviations in the short run (Hill, 2004). The international Fisher effect is known not to be a good predictor of short-run changes in spot exchange rates (Cumby and Obstfeld, 1981).

This inconstancy may be explained by the fact that there is a whole host of factors that could cause exchange rates fluctuations. These include foreign exchange supply and demand, balance of payments problems, rising inflation, interest rate, national income, monetary policy, expectations and speculations (Khalwaty, 2000). Thomas (1985) conducted a test of the IFE theory by examining results of purchasing future contracts of currencies with higher interest rate that contained discounts (relative to the spot rate) and selling futures on

currencies with low interest rate that contained premiums. Contrary to the IFE theory the study found that 57 percent of the transactions created by this strategy were profitable. The average gain was higher than the average loss. If the IFE theory holds, the high interest rate currencies should depreciate while the low interest rate currencies should appreciate, therefore yielding insignificant profits by the transactions.

Adler and Lehman (1983), Adler and Dumas (1983), Mishkin (1984), and Abuaf and Jorion (1990) all found evidence of significant variation in the relationship between inflation rate differential and exchange rate. Hakkio (1986) found however that even in the long-run, the relationship between inflation rates differentials and exchange rates was not perfect but recognized the use of inflation differentials in forecasting long-run movements in exchange rates.

The relationship between interest rates and inflation, first put forward by Fisher(1930), postulates that the nominal interest rate in any period is equal to the sum of the real interest rate and the expected rate of inflation. This is termed the Fisher Effect. Fisher (1930) hypothesized that the nominal interest rate could be decomposed into two components, a real rate plus an expected inflation rate. He claimed a one-to-one relationship between inflation and interest rates in a world of perfect foresight, with real interest rates being unrelated to the expected rate of inflation and determined entirely by the real factors in an economy, such as the productivity of capital and investor time preference. This is an important prediction of the Fisher Hypothesis for, if real interest rates are related to the expected rate of inflation, changes in the real rate will not lead to full adjustment in nominal rates in response to expected inflation.

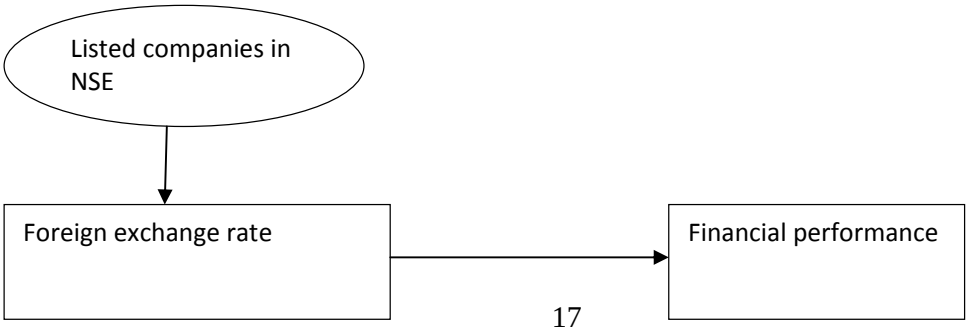
2.2.5 Foreign Exchange Risk Management

Foreign currency exchange risk is the additional riskiness or variance of a firm‘s cash flows that may be attributed to currency fluctuations (Giddy, 1977, Brigham and Ehrhardt, 2005). Normally, foreign currency risk exists in three forms; translation, transaction and economic exposures. Foreign currency risk management involves taking decisions which aim at minimizing or eliminating the negative effects of currency fluctuations on balance sheet and income statement values, a firm's receipts and payments arising out of current transactions, and on long term future cash flows of a firm.

Financial instruments have been made available to firms mitigating tools that can be followed in managing the impact of foreign currency rate fluctuations. These tools are commonly known as hedging techniques. A hedge is a means of prevention against a possible probable loss. Hedging is the process of reducing exposure and consists of a number of techniques intended to offset or minimize the exchange risk of loss on the assets or liabilities which are denominated in a foreign currency. Some hedging techniques can be implemented within the firm without involving any market-based financial instruments. These are known as internal hedging techniques.

2.3 Conceptual Framework

Figure 2.1 Conceptual Framework



Independent Variable **Dependent variable**

The project seeks to survey the effect of foreign exchange rates in the financial performance of listed companies in the NSE, foreign exchange rate will be included as independent variable and firm's financial return as the dependent variable

2.4 Empirical Literature

According to Clark et al (2004) robust findings in early works may be caused by several reasons ranging from, first, theoretical consideration, that is, the theoretical background do not provide a clear support for the conventional assumption that exchange rate volatility has a negative impact on the level of trade. Second, the sample period over which exchange rate should signify variation was relatively short. And finally, the specification of the estimating equation was typically rather crude, consisting of a few macro variables from standard trade equations in use at the time. As viewed by Tenreyro (2006), there are several estimation problems in previous studies of the effect of exchange rates on a firm's financial performance that cast doubt on previous answers.

In an early study, (Adler and Dumas, 1984) present a method of estimating the foreign exchange risk using a single-factor market model to estimate the elasticity of firm equity returns to exchange rate changes.(Jorion, 1991) estimates exposure using a two-factor model that thereafter became the norm for estimating foreign exchange exposure controlling for market risk. For a sample of firms drawn from the Fortune 500, he finds that the degree of risk varies directly with the degree of foreign involvement.

Other studies have re-confirmed these basic findings regarding the foreign exchange rate risks faced by internationally involved and multinational companies, and explored in greater detail various issues that arise in the procedures used for estimating such exposure - issues that are important considerations in this study. The focus of this research is not the validity or efficiency of the various asset pricing models, but instead, based on prior studies, the research focus on how foreign exchange exposure is estimated. Earlier studies used a monthly, contemporaneous horizon to measure exposure. Beginning with the seminal study by (Jorion,1990), initial research in this area focused on whether corporations are exposed to foreign exchange risk (see Bodnar and Gentry, 1993, Bartov and Bodnar, 1994, 1995, However, if the impacts of these exchange rate changes are longer lasting or more permanent in nature, then longer estimation time horizons may be more appropriate.

The issue of exchange rate levels and their relationship with other major economic variables such as growth, income, current account balances, consumption and trade have led to a great deal of discussion since the beginning of the mid-2000s, in particular when global imbalances started to widen. Even if the literature has not yet achieved a definitive consensus regarding the best definition of the long-term equilibrium real exchange rate, (Nassif et al,2011) recall that various empirical papers have studied the impact that exchange rate overvaluations or undervaluation's can have on growth. In particular, some studies have found that overvaluation hinders economic growth.

Bradley and Mole (2002) notes that foreign exchange risk management is a financial function and thus affects the firm`s financial position. Volatile exchange rates do reduce cash flows and profitability of any firm. (Belk, 2002) states the aim of foreign exchange risk management as limiting volatile forex exposure on the firm's financial performance whereas

(Shapiro, 2006) describes performance in terms of higher profit margin, sales growth and overall liquidity of firm. This relates how currency risk assessment stimulates financial objectives.

Apart from some measurement problems typical for empirical studies on exchange rate exposure (addressed and nicely summarized by Levi (1994)), in theory, there are three main speculative factors that might explain the general difficulty in detecting statistically significant relation between exchange rate movements and stock values. First, companies under investigation are usually large multinationals whose variety of operations exposes them to currency fluctuations of different intensity and direction; moreover, the exposure will vary with time periods.

Particularly when aggregate data is concerned (exposure is tested on portfolio level), estimating parameters for companies with offsetting exposure signs or with fluctuating exposures will result in insignificant coefficients even if exchange rate movements would greatly matter for the individual performance of each company within the portfolio. due to information constraints, analyzing the exposure of a company may be possible for investors only with a lag; this lag is usually difficult to determine on the aggregate level and, under current accounting regulations for release of public information, may be as long as a trimester; therefore, contemporaneous adjustments in company value due to exchange rate fluctuations is not a straightforward expectation. Last, most of the companies under investigation hedge their exposure, to a higher or lesser degree, by offsetting positions in derivatives, which is even more relevant for recent time periods; disclosure on this matter is not detailed enough (and did not exist at all until only recent years) to allow for the accurate estimation of pre-hedge exposure.

2.5 Summary

There is no simple answer to how exchange rate movements affect the financial performance of a firm. Exchange rates respond to many different types of shocks. These shocks may be fundamental shocks which have a persistent effect on the equilibrium exchange rate or non-fundamental disturbances which push the exchange rate away from its equilibrium level. Misalignments may be persistent or extremely transitory. In order to understand the relationship between the exchange rate and the financial performance of a firm it is necessary to understand what affects the exchange rate.

The impact of short-term exchange rate volatility on trade flows and economic welfare has also been studied extensively. However, despite this detailed theoretical literature and extensive empirical literature, there are few definitive conclusions or clear guidance for policymakers. Most other advanced economies are relatively closed or have large domestic markets, so the impact of foreign exchange rates on the real economy through the exchange rate is not a significant focus. So conclusions that can be drawn from the literature are: Sensitivity to exchange rate movements varies across Kenya's economic sectors and industries. The agricultural sector is relatively insensitive to exchange rate movements, while the manufacturing and service sectors are more vulnerable.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlighted the methods used by the researcher to undertake the research. These methods included research design, population, sampling, and data collection methods and data analysis procedures.

3.2 Research Design

This is an empirical study that analysed the impact of foreign exchange rates on a firm's financial performance. The study sought to answer the puzzle on the effect of foreign exchange on the firm's financial performance of listed companies in Kenya that has been of a concern. The research was a descriptive research design which generally described the characteristics of a particular situation, event or case. It involved both qualitative and quantitative data which this research used.

3.3 Population

The population comprised of 46 firms of the listed companies in the Nairobi Securities Exchange except for financial and investment companies in Kenya. The sample of firms belongs to eight broad economic sectors namely agriculture, automobile and accessories, commercial and services, construction and allied, energy and petroleum, manufacturing and allied, insurance, telecommunication and technology sectors after eliminating finance and investment sectors.

3.4 Sample

The sample composed of 46 firms listed in the Nairobi Securities Exchange excluding the financial and investment sectors. Financial and investment firms were excluded because the focus of the study was on end-users rather than producers of financial services. These companies are all public limited companies incorporated in Kenya.

The stratified sampling method was used whereby the population embraces a number of distinct categories, the frame re-organized by these categories into separate strata.

The technique of stratification was employed in the preparation of sample designs because it generally provides increased accuracy in sample estimates without leading to substantial increases in costs and for reasons other than obtaining sampling accuracy but also for industry analysis.

First it enables researchers to draw inferences about specific subgroups that may be lost in a more generalized form.

Secondly the method leads to more efficient statistical estimates provided that strata are selected based upon relevance to the criterion in question.

Thirdly, sometimes the case that data are more readily available for individual, pre-existing strata within a population than for the overall population, each stratum is treated as an independent population. Fourthly a different sampling approaches can be applied to different strata, potentially enabling researchers to use the approach best suited (or most cost-effective) for each identified subgroup within the population. In this study simple random sampling will be used.

3.5 Data Collection

The primary data was collected through structured and unstructured questionnaire that were administered to the finance departments and finance managers of the listed companies. Drop-and- pick-later method was used because it is appropriate in giving the respondents ample time to fill the questionnaire and also gives the researcher an opportunity to review the questionnaire for completeness before picking it. Secondary data was collected from financial statements from annual reports and supplements in newspapers covering listed companies were also used.

3.6 Data Analysis

The data was analyzed using linear regresssion model. The effects of foreign exchnage rates on financial performance of listed companies. Foreign exchange rate was included as independent variable and yearly financial performance as the dependent variable to the constant linear regression model.

$$r_t = c + \rho\pi_t + \varepsilon_t \quad \text{.....(1)}$$

Where: r_t is the financial performance in a year *t, c* is the constant term, π_t is the logarithmic difference of foreign exchange in a year *t* and ε_t is the errorterm in In this research the relationship between foreign exchange rates and financial performance of a firm was determined using a Regression analysis.

In analyzing the responses, the Microsoft Excel Spreadsheet tool was used to calculate descriptive statistics and the Statistical Package for Social Sciences (SPSS) was used. This generated descriptive statistics such as percentages, frequency distribution, measures of

central tendencies (mean, mode, & median), graphs and pie charts. The data is presented in tables and graphs. Descriptive statistics enabled to meaningfully describe a distribution of measurements

3.8 Testing for Non-linearity

Many models that appear, prima facie, to be non-linear, can be made linear by taking logarithms or some other suitable transformation. However, it is likely that many relationships in finance are intrinsically non-linear. A non-linear model should be used where financial theory suggests that the relationship between variables should be such as to require a non-linear model. But the linear versus nonlinear choice may also be made partly on statistical grounds-deciding whether a linear specification is sufficient to describe all of the most important features of the data at hand. 'Traditional' tools of time series analysis (such as estimates of the autocorrelation or partial autocorrelation function, or 'spectral analysis', which involves looking at the data in the frequency domain) are likely to be of little use. Such tools may find no evidence of linear structure in the data, but this would not necessarily imply that the same observations are independent of one another. BDS test for independence, as described in Brock, Dechert, Scheinkman and LeBaron (1996) was employed in this study to tests for non-linear patterns in time series.

3.9Normality Test

The Jarque-Bera (JB) test was be used to test whether financial performance of a firm and foreign exchange rates individually follow the normal probability distribution. The JB test of normality is an asymptotic, or large-sample, test. The test statistic was computed as follows:

$JB = n [S^2 /6 + (K-3)^2 /24]$

where n = sample size, S = skewness coefficient, and K = kurtosis coefficient. For a normally distributed variable, S = 0 and K = 3. Therefore, the JB test of normality is a test of the joint hypothesis that S and K are 0 and 3 respectively.

month *t*. The regression models wasl estimated using statistical package and hypothesis tested

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the research findings to investigate on the effect of foreign exchange rates on the financial performance of firms listed in the Nairobi securities exchange. The study was conducted on 46 firms listed at the NSE where one employee from the finance and/or Internal Audit department was served with a questionnaire shown in appendix (I). Out of the 46 respondents, 41 filled and returned their questionnaires which make a 90% response rate. The commendable response rate was achieved after the researcher administered the questionnaires personally and made personal visits and telephone follow-up calls to remind the respondents to fill-in and return the questionnaires. Descriptive statistics were used to analyze the data. In the descriptive statistics, relative frequencies were used in some questions.

4.2 Response Rate

The study sought to determine the respondent department and therefore requested the respondent to indicate their department, from the findings the study revealed that respondents were from the finance, accounts and auditing departments. This was deemed viable since employees from the finance departments are deemed to have the knowledge of the foreign exchange rate risk. The study further revealed that industry areas of operation were marketing, manufacturing, purchasing and supplies, manufacturing and selling, sales, media and supply. On the total number of employee in the firms listed in the Nairobi Securities Exchange the study revealed that these ranged between 200 employees to over 800

employees. The study also sought to determine the companies years of operation in Kenya and from the findings, the study found that majority of the firm listed in Nairobi Securities Exchange had been in operation between 10 to over 100 years.

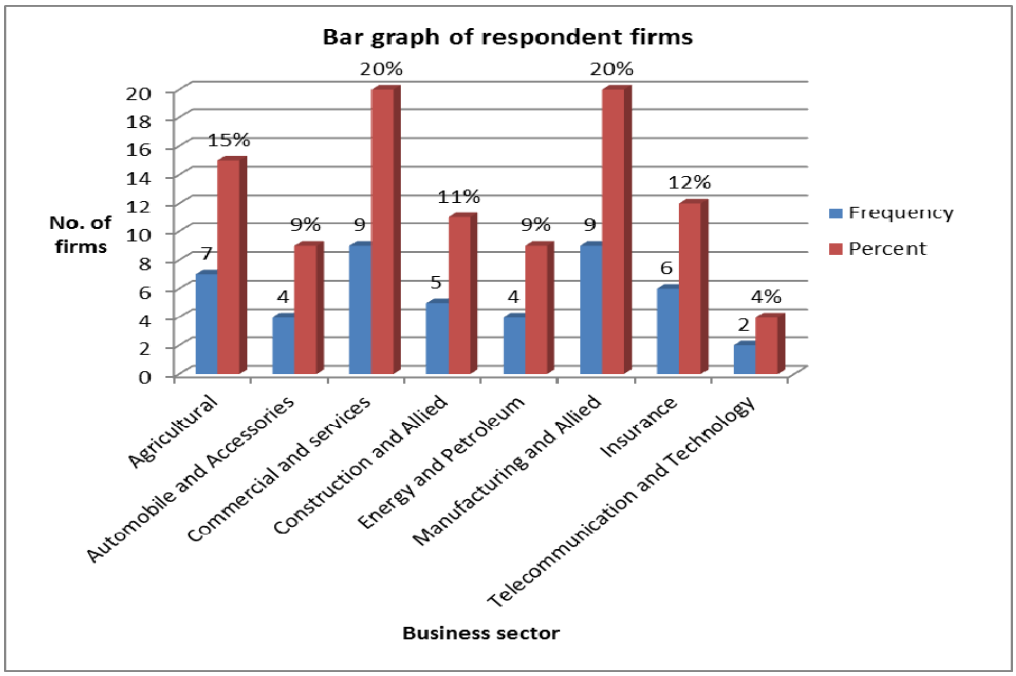
The range of businesses represented in the sample of respondents was wide and covered the key areas targeted for the study. Whether or not a firm was local or a subsidiary of an overseas holding company was considered important for this study in that foreign exchange risk management strategies would have been perhaps different between local firms and subsidiaries of foreign firms. The profile of respondent firms by line of industry covered a range of activities as summarized in table 4.1.

Table 4.1: Major business sector of respondent firms

Business sector	**Frequency**	**Percent**
Agricultural	7	15%
Automobile and Accessories	4	9%
Commercial and services	9	20%
Construction and Allied	5	11%
Energy and Petroleum	4	9%
Manufacturing and Allied	9	20%
Insurance	6	12%
Telecommunication and Technology	2	4%
Total	**46**	**100%**

Source: Researcher (2013)

Figure 4.1: Respondent's business sector graph



Source: Researcher (2013)

Figure 4.1 shows a graphical expression of each business sector. The graph shows commercial and services had the highest at 20% while the least was communication and technology at 4 %.

4.3 Unrealized Foreign Exchange Gain or Loss

The study sought to determine the department(s) dealing with foreign exchange risk management, whether they had written foreign exchange policy and if they did not have whether they still hedged against foreign exchange risk. The study also investigated on the hedging policy availability, its effectiveness and the most effective hedging techniques which

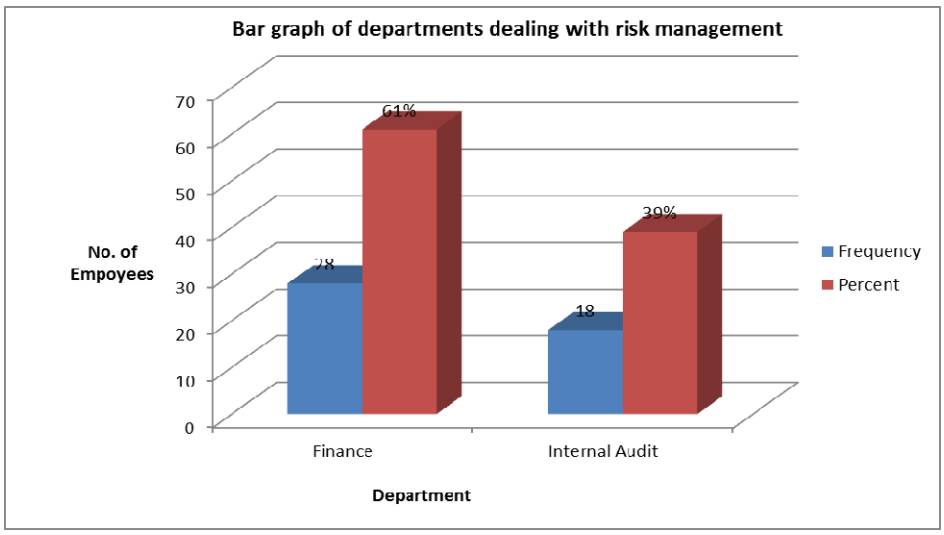
best suited their organizations. The findings are as summarized in tables 4.2 to 4.9 and figures 4.2 to 4.6.

Table 4.2: Department dealing with risk management

Department	**Frequency**	**Percent**
Finance	28	61%
Internal Audit	18	39%
Total	**46**	**100%**

Source: Researcher (2013)

Figure 4.2: Department dealing with risk management graph



Source: Researcher (2013)

From the findings shown in table 4.2 and figure 4.2 above on the department which deals with risk management in the firm listed in the NSE, the study found that majority of the respondent as shown by 61% indicated that finance department was responsible for dealing with risk management in their organization, whereas 39% indicated that internal audit

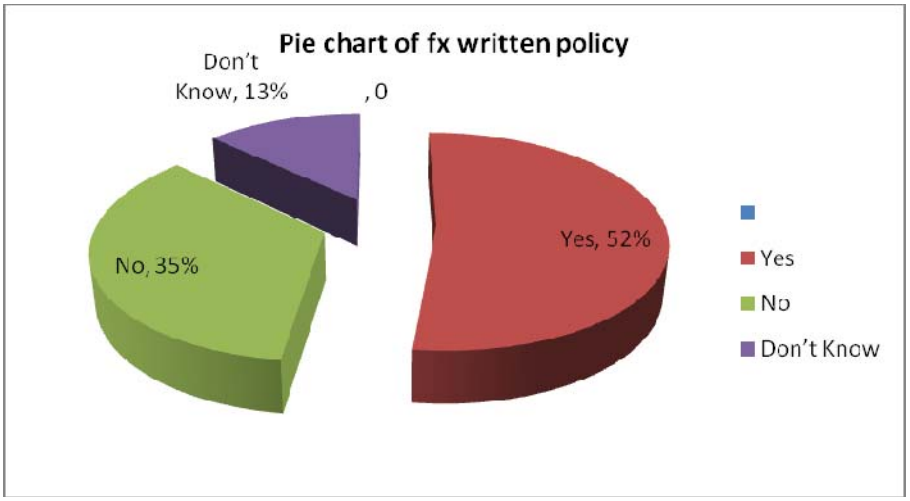
department was responsible for dealing with risk in their organizations. This shows that both internal audit and finance department were the main departments that dealt with risk for firms listed in the Nairobi Security Exchange.

Table 4.3: Presence of written policy on foreign exchange

Presence of written policy	**Frequency**	**Percent**
Yes	24	52%
No	16	35%
Don't Know	6	13%
Total	**46**	**100%**

Source: Researcher (2013)

Figure 4.3: Foreign exchange written policy chart



Source: Researcher (2013)

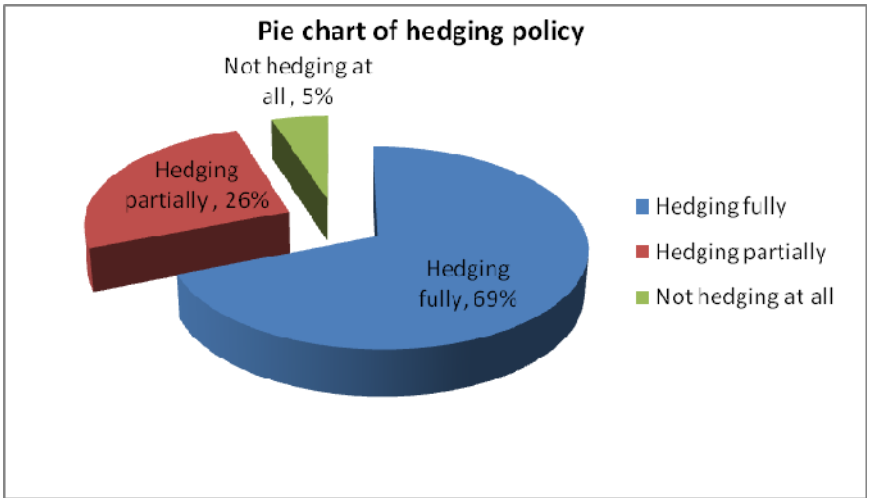
On whether listed firm had a written foreign exchange policy, from the findings shown in table 4.3 and figure 4.3 above the study found that 52% of the respondent indicated that their firms had written foreign exchange policy, 35% of the respondent indicated that their firms didn‘t have any written foreign exchange policy whereas 13% of the respondents were not aware of any written policy on foreign exchange. This shows that majority of the firms listed in the NSE had written policy on foreign exchange.

Table 4.4: Hedging policy in the organization

Hedging policy	Frequency	Percent
Hedging fully	13	69%
Hedging partially	5	26%
Not hedging at all	1	5%
Total	**19**	**100%**

Source: Researcher (2013)

Figure 4.4: Hedging policy chart



Source: Researcher (2013)

To those firms that had written foreign exchange policy, the study as depicted by table 4.4 and figure 4.4 revealed that majority of the respondents as shown by 69% indicated that their firms were managing foreign exchange rate risk by hedging fully, 26% of the respondents indicated that their firms were using hedging partially whereas 5% of the respondent indicated that their firms didn‘t have hedging at all, this information shows that the firms listed in the Nairobi Securities Exchange that have written policy on foreign exchange rate risk were using hedging fully while others were partially hedging.

Table 4.5: Hedging by firms with no written policy

Hedging with no written policy	**Frequency**	**Percent**
Yes	12	100%
Total	**12**	**100%**

Source: Researcher (2013)

To those 12 firms that didn‘t have written policy on foreign exchange the study revealed that they were hedging against foreign exchange risk as shown by 100% of the respondent who indicated yes. This shows that all the firms listed in the NSE were hedging against foreign exchange risk as shown in table 4.5.

Table 4.6: Hedging partially by firms with policy

Percentage of hedging partially	**Frequency**	**Percentage**
10%	1	20%
25%	1	20%
30%	2	40%
35%	1	20%
Total	**5**	**100%**

Source: Researcher (2013)

On those firms that were partially hedging against foreign exchange, the study revealed that they had a policy and their percentage of hedging ranged between 10% to 35%. 40% of the respondents who indicated that their firms were hedging partially indicated that their firms hedged 30%, those who indicated that their firm hedged 10%, 25% and 35% were shown by 20% of the respondent in each case as depicted in table 4.6.

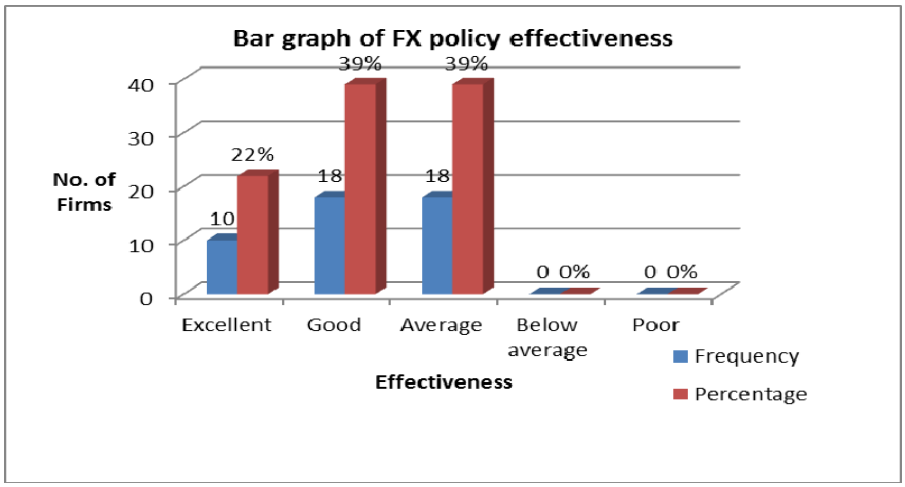
Table 4.7: Effectiveness of the foreign exchange policy

Effectiveness	**Frequency**	**Percentage**
Excellent	10	22%
Good	18	39%
Average	18	39%
Below average	0	0
Poor	0	0

Total	**46**	**100%**

Source: Researcher (2013)

Figure 4.5: Foreign exchange policy effectiveness graph



Source: Researcher (2013)

The study sought to determine the effectiveness of the foreign exchange policy for the firms listed in the Nairobi Securities Exchange. From the findings shown in table 4.7 and figure 4.5, the study found that 52% of the respondents indicated that the foreign exchange policy was good, 35% of the respondents indicated that it was average whereas 13% of the respondents indicated that the foreign exchange policy was excellent. This shows that foreign exchange policy used by firms listed in the Nairobi Securities Exchange is above average by 100% effectiveness with no below average.

Table 4.8: Internal /natural hedging techniques

Foreign Trade	Lead	Lags	Netting	Invoicing in foreign currency	Negotiating local prices on imports	Money market E.g. loan	None

Export	5-10%	5-15%	10-20%	50-70%	0	5-40%	0
Import	5-15%	10-15%	5-20%	0	50-60%	10-20%	0

Source: Researcher (2013)

Table 4.8 demonstrates how on the most effective internal/natural hedging techniques that best suit the respondent firms, the study found that in terms of exports lead was effective in companies between 5 to 10%, lag 5 to 15%, netting 10 to 20%, invoicing in foreign currency 50 to 70% and money market between 5 to 40%. In terms of imports leads were effective between 5 to 15%, lags were between 10 to 15 % netting were effective between 5 to 20% negotiating local price on imports between 50 to 60 % and money market were between 10 to 20%.

Table 4.9: External hedging techniques

Foreign Trade	**Spot**	**Forwards**	**Currency Swap**	**Currency Option**	**Futures**	**None**
Export	10-80%	5-20%	40-50%	20-30%	15-20%	0
Import	15-80%	10-20%	20-40%	20-30%	10-15%	0

Source: Researcher (2013)

On the most effective external hedging techniques, from the findings in the above table 4.9, the study found that in terms of exports spot were effective between 10 to 80%, forwards were effective between 5 to 20%, currency swap were effective between 40 to 50%, currency option were effective between 20 to 30% whereas futures were effective between 15 to 20%. In terms of imports the study found that spot were effective between 15 to 80%, forwards were effective between 10 to 20%, currency swap were effective between 20 to 40%,

currency option were effective between 20 to 30% whereas futures were effective between 10 to 15%.

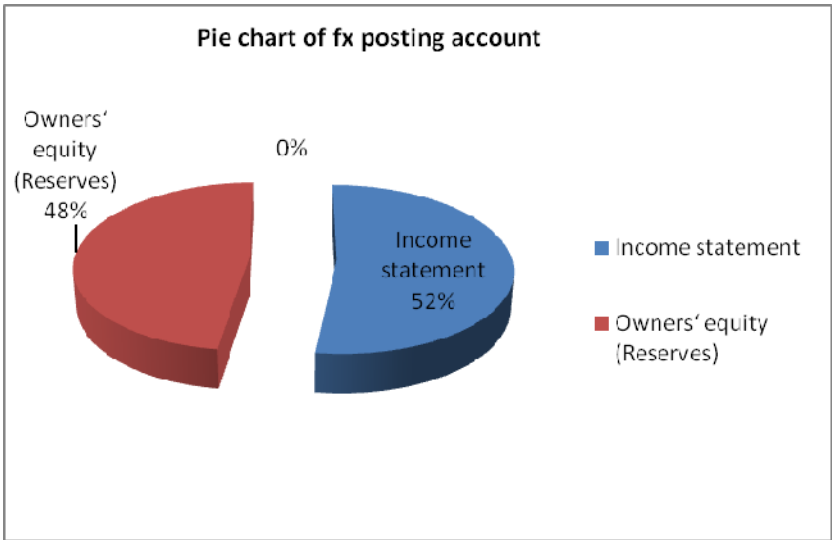
As elaborated in the literature review there are two main groups of foreign currency risk management techniques; internal hedging techniques and external hedging techniques. Internal hedging techniques are able to be executed within a firm by managerial operational arrangements. External hedging techniques on the other hand involve an instrument that can only be bought or sold through market intermediaries. External hedging techniques therefore require higher competencies to execute successfully when contrasted to internal hedging techniques. This study sought to measure the degree of knowledge or general information as well as competencies on the part of respondent firms on the use of specific hedging techniques. A summary of responses from firms on knowledge, and competencies of employing internal and external hedging techniques is as summarized in tables 4.8 and 4.9.

Table 4.10: Accounts posted with foreign exchange differences (gains /losses)

Account	**Frequency**	**Percent**
Income statement	24	52%
Owners‘ equity (Reserves)	22	48%
Total	**46**	**100%**

Source: Researcher (2013)

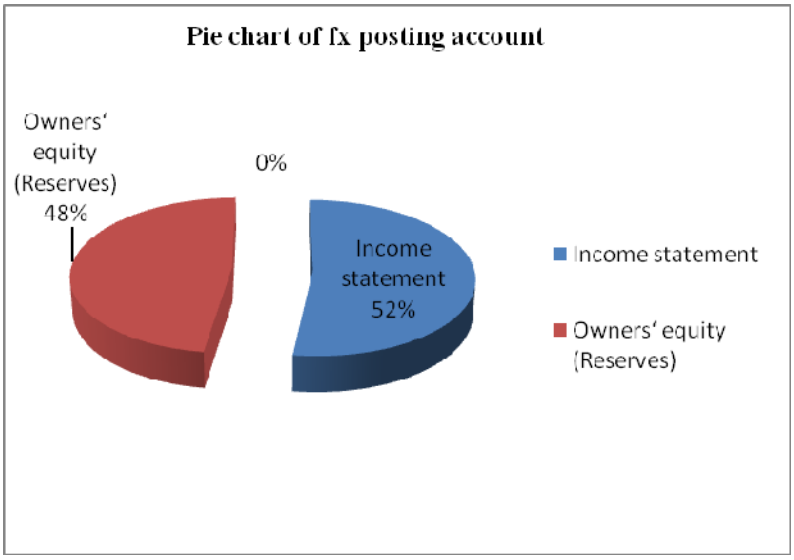
Figure 4.6: Foreign exchange difference posting account chart



Source: Researcher (2013)

On the account posted with foreign exchange gains/losses as shown in table 4.10 and figure 4.6, the study revealed that majority of the respondents as shown by 52% indicated that their firms used income statement whereas 48% of the respondents indicated that their firms used owners' equity through reserves account to post foreign exchange gains /losses. Secondary data extracted from income statements on the businesreviewwebsite,http://investing.businessweek.com/research/stocks/financials/financials.asp? revealed that currency fluctuation is a real accounting problem facing Nairobi Security Exchange listed companies.

Figure 4.7: Foreign exchange difference posting account chart



Source: Researcher (2013)

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4.4 Effects of foreign exchange imports on the net income of the Company

The study sought to determine the annual total purchases to arrive to import purchases for the last 10 years from 2002 to 2012.

Table 4.11: Total and Import Purchases

	Total Purchases "Kshs"		**Import Purchases "Kshs"**		**Import to Annual Purchases %**		**Average % growth of Imports**	
Description	Min	Max	Min	Max	Min	Max	Min	Max
Purchases	700M	29B	140M	10.15B	15%	75%	10%	50%

Source: Researcher (2013)

From the findings shown by table 4.11, the total purchases of the firm ranged between Kenya shillings 700 million to 29 billion with an import range of 140 million to 10.15 billion Kenya Shillings. On the percentage of the annual import purchases compared to total purchases, the study found that the percentage of import purchases ranged between 15% to 75% with a range of growth of 10% to 50% an indication that the firms listed in the Nairobi Security Exchange are prone to foreign exchange risk by the reason of the paying foreign currency.

Table 4.12: T-Statistics for annual growth in imports

						95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Std. Deviati	Lower	Upper

					on		
% change in annual imports	9.221	30	.000	16.77419	10.12821	13.0591	20.4893

Source: Researcher (2013)

Where t is the t-value and Df is the degree of freedom showing the number of annual import growth values in the final calculation of a statistic that are free to vary.

The study sought to determine the annual total purchases to derive annual import purchases for the last 10 years. From the findings the study revealed that there was 10% to 50% growth in the annual import purchases in the last decade from 2001 to 2010. The mean growth rate in imports for firms listed in the NSE was found to be 16.77419. The standard deviation was high at 10.12821 an indication that there was high variance in the growth of imports between the listed firms. The t-value was found to be statistically significant at 9.221 as their significance value was less than 0.05 meaning the probability that the means of the two populations are not the same as illustrated in table 4.12. T-tests are statistical tests that are used to determine whether there are significant differences between two groups. According to Welch's *t*-test, these tests are often referred to as "unpaired" or "independent samples" t-tests, as they are typically applied when the data underlying the two samples being compared are non-overlapping.

The larger the t-value the smaller the probability that the means of the two populations are the same. It does not matter if the t-value is negative or positive. The absolute value is used regardless of the sign when interpreting the t-value. The t-value is an indication of the probability that both populations from which the samples are selected have the same mean

and that differences in our sample means are due to random fluctuation. As the t-value gets smaller (approaches zero) the probability that the population means are the same gets larger. As the t-value gets larger (in either the positive or negative direction) the probability that the population means are the same gets smaller. Equation (iv) by Fisher and Yates explains how to calculate the t-value.

$$t = \frac{\overline{Y_2} - \overline{Y_1}}{S_{\overline{Y_1} - \overline{Y_1}}}$$

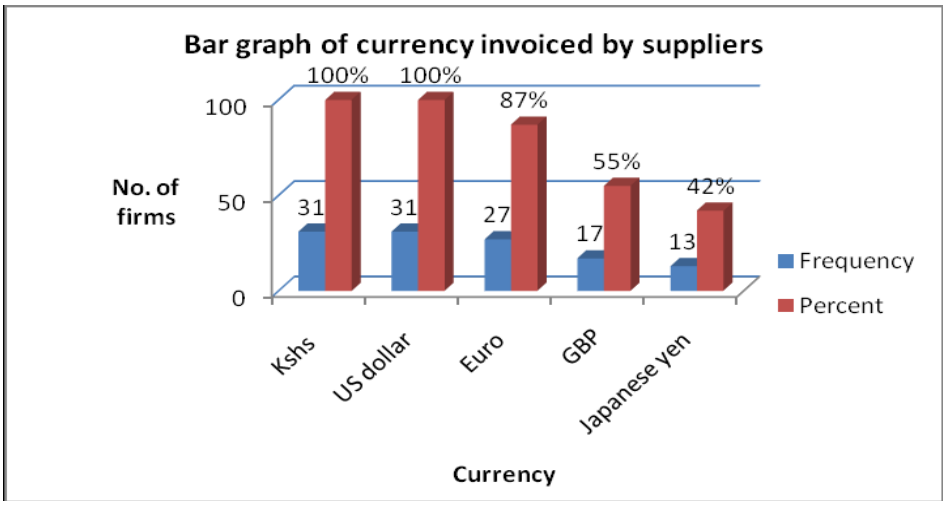
Wheret is the t-value, Y1 and Y2 are the mean of the two samples, SY1 and Y2 are the standard deviation of the difference between the means of the two samples.

Table 4.13: Currency invoiced by suppliers

Currency	**Frequency**	**Percent**
Kshs	31	100%
US dollar	31	100%
Euro	27	87%
GBP	17	55%
Japanese yen	13	42%

Source: Researcher (2013)

Figure 4.7: Currency invoiced by suppliers graph



Source: Researcher (2013)

On the currency used by the suppliers to invoice the firm listed in the Nairobi Stock Exchange, the study found by virtue of table 4.13 and figure 4.7 that majority of the firms are invoiced using Kenyan shilling as shown by 100%, US dollar as shown by 100%, Euro as shown by 87%, Sterling pound as shown by 55% and Japanese yen as shown by 42%. This shows that Kenya shilling, US dollar, Euro, Sterling pound and Japanese yen were the most currency used to invoice firms listed in the Nairobi Securities Exchange by their suppliers. The study sought to determine the extent of usage of foreign exchange currencies on import purchases and accounts payables and the impacts they have on the future payments to the foreign suppliers invoiced in foreign currency.

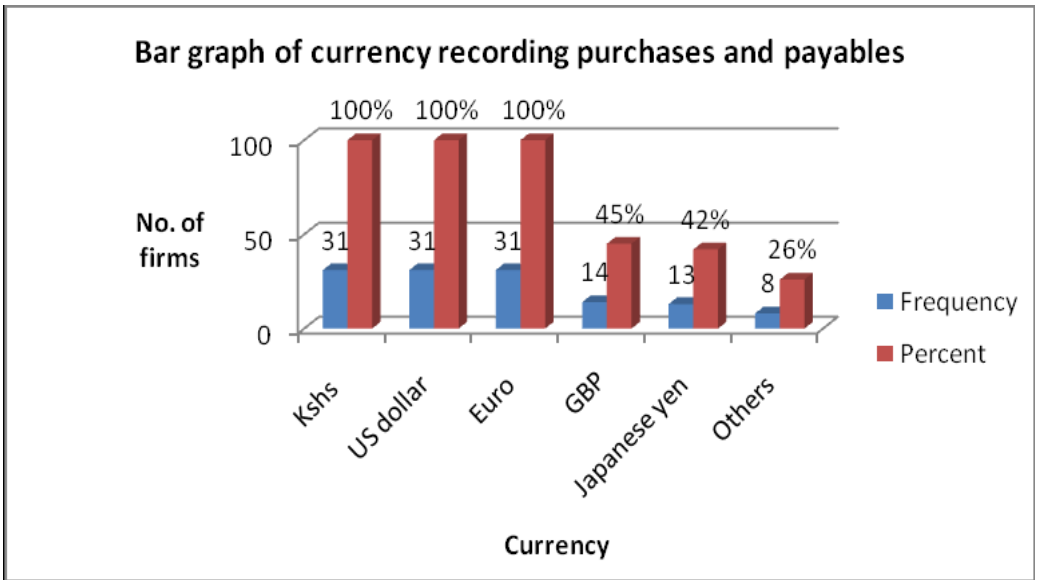
Table 4.14: Currency used in recording purchases and accounts payable

Currency	Frequency	Percent
Kshs	31	100%
US dollar	31	100%

Euro	31	100%
GBP	14	45%
Japanese yen	13	42%
Others	8	26%

Source: Researcher (2013)

Figure 4.8: Currency recording purchases and payables graph



Source: Researcher (2013)

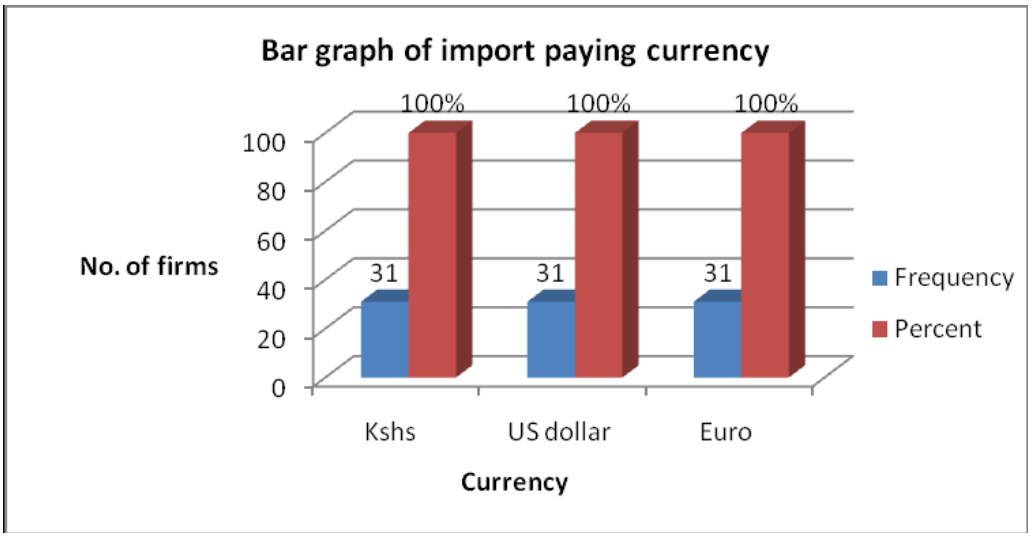
From the findings used in recording of purchases and accounts payable as depicted by table 4.14 and figure 4.8, the study revealed that the firms listed in the Nairobi Securities Exchange used the following currencies to record purchases and accounts payable. They include Kenya shilling, US dollar and Euro as shown by 100% in each case, GBP as shown by 45%, Japanese yen as shown by 42% and others like South African rand as shown by 26%.

Table 4.15: Currency used to pay foreign accounts payable

Currency	Frequency	Percent
Kshs	31	100%
US dollar	31	100%
Euro	31	100%

Source: Researcher (2013)

Figure 4.9: Imports paying currency graph



Source: Researcher (2013)

The study sought to determine the currency used to pay foreign accounts payable. From the findings shown in table 4.15 and figure 4.9, the study found that majority of the firms listed in the Nairobi Securities Exchange used Kenyan shillings, US dollars and Euros to pay foreign accounts payable as shown by 100% in each case.

4.5 Effects of foreign exchange export sales on net income of the company

The study sought to determine the annual total sales to arrive to export revenue for the last 10 years from 2002 to 2012.

Table 4.16: Total Revenue and Export Sales

	Total Sales "Kshs"		**Export Sales "Kshs"**		**Export to Annual Sales %**		**Average % growth of Exports**	
Description	Min	Max	Min	Max	Min	Max	Min	Max
Revenue	900M	78.9B	315M	35B	15%	50%	10%	35%

Source: Researcher (2013)

From the findings on table 4.16, the study established that total sales ranged between 900 million to 78.9 billion with an export revenue range of 315 million to 35 billion Kenya Shillings. On the percentage of the annual export sales compared to the total sales, the study found that percentage of annual export sales as compared to total sales ranged between 15% to 50%. This shows that firms listed in the Nairobi Securities Exchange also sell to foreign countries. The study sought to determine the percentage growth in the annual total sales in the last 10 years, from the findings the study revealed that this ranged between 10% to 35% of the annual total sales. This shows that there has been a significant growth in the annual total and export sales for firms listed in the Nairobi Securities Exchange.

Table 4.17: Descriptive Statistics for annual growth in exports

						95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean	Std. Deviation	Lower	Upper
% change in annual exports	13.794	31	.000	15.2188	6.24104	12.9686	17.4689

Source: Researcher (2013)

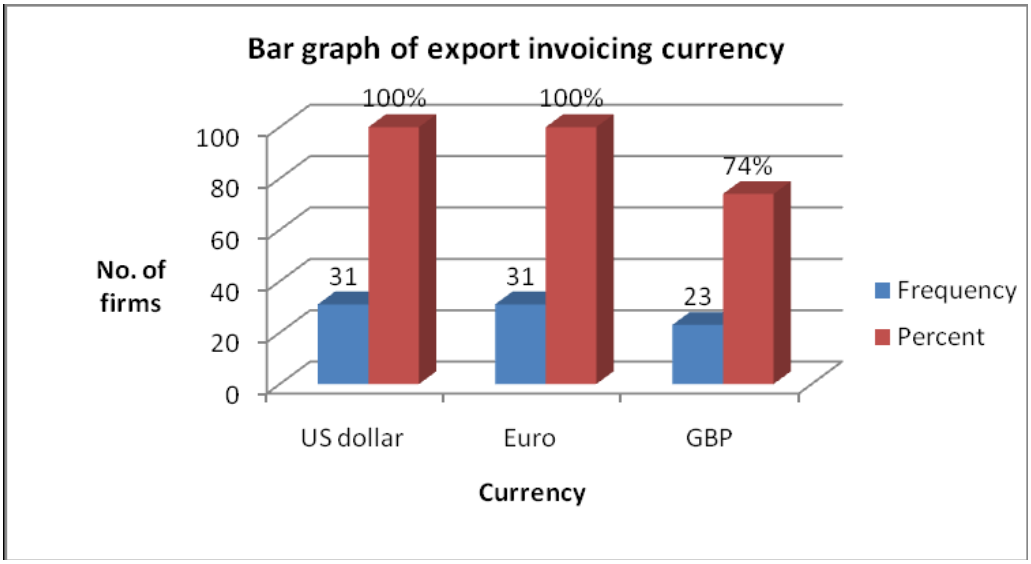
Where t is the t-value and Df is degree of freedom showing the number of annual export growth values in the final calculation of a statistic that is free to vary. T-tests have been used to determine whether there are significant differences between the two groups with respect to a given annual export growth endpoint. The mean growth in annual exports for firms listed in the Nairobi Securities Exchange was found to be 15.2188, the standard deviation was high at 6.24104 an indication that there was a high variance in the growth of export sales between the listed companies. The t-value was found to be statistically significant at 13.794 as their significance value was less than 0.05 meaning the probability that the means of the two populations are not the same as described in table 4.17.

Table 4.18: Currency used to invoice exports

Currency	Frequency	Percent
US dollar	31	100%
Euro	31	100%
GBP	23	74%

Source: Researcher (2013)

Figure 4.10: Export invoicing currency graph



Source: Researcher (2013)

The study sought to determine the currency used to invoice the export sales by firms listed in the Nairobi Securities Exchange as illustrated in table 4.18 and figure 4.10. From the findings, the study found that most of the firms use US dollar and Euro as shown by 100% and GBP as shown by 74%, this shows that US dollar, Euro and GBP are the most currencies used by the firms listed in the Nairobi Securities Exchange to invoice their export sales. The

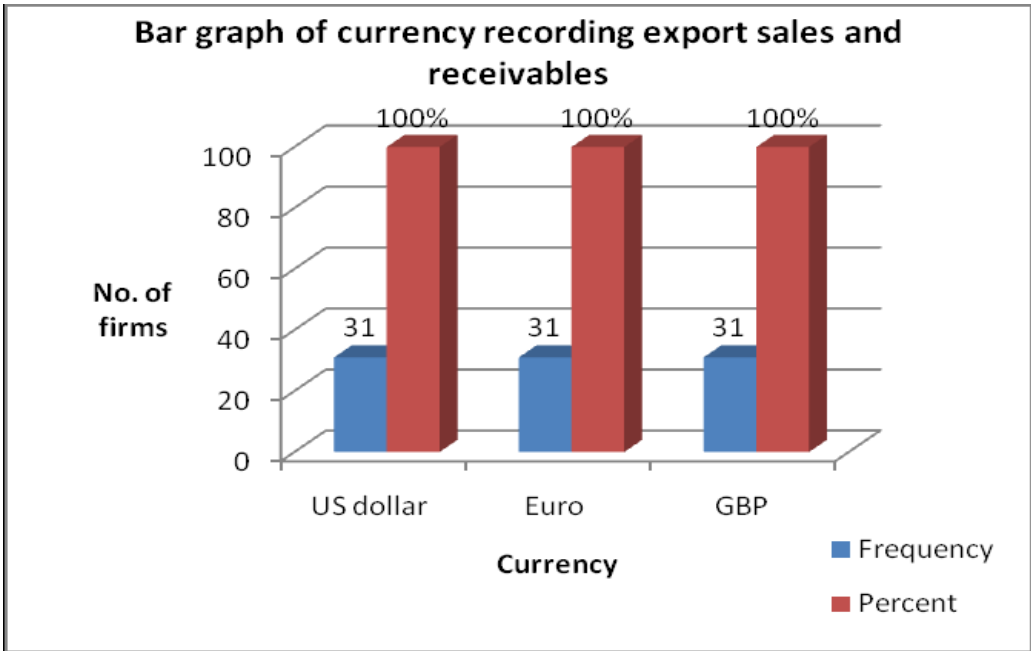
study further revealed those firms listed in the Nairobi Securities Exchange do not record all their sales and receivable in Kenyan shilling as shown by 100% of the respondent who indicated no to the question.

Table 4.19: Currency for recording export sales and account receivables

Currency	Frequency	Percent
US dollar	31	100%
Euro	31	100%
GBP	31	100%

Source: Researcher (2013)

Figure 4.11: Currency recording export sales and receivables graph



Source: Researcher (2013)

The study sought to determine the currency used to record sales and account receivable for firms listed in the Nairobi Securities Exchange. From the findings, the study found that most of the firms listed in the Nairobi Securities Exchange use US dollar, Euro and GBP to record their sales and account receivables as shown by 100% in each case in table 4.19 and figure 4.11. This sought to confirm if the usage of foreign currencies in export sales and account receivables has any impact on the future receipt of the foreign debts invoiced in foreign currency

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study had identified the listed companies in the Nairobi Securities Exchange as the study subjects. In August 2013 46 questionnaires were administered to listed firms in the Nairobi Securities Exchange. Respondents were informed that responses to the questionnaires were to be confidential and identities of respondents and their firms would not be revealed. From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. The researcher had intended to establish the effect of unrealized foreign exchange gain or loss on Net Income of listed companies, to evaluate the effect of foreign exchange rates on listed companies in the NSE and import costs on the Net Income of listed companies and to determine the effects of foreign exchange on export sales towards the Net Income of listed companies.

5.2 Summary of Findings

From the findings on the department which deals with risk management in the firms listed in the Nairobi Securities Exchange, the study found that finance department and Internal audit department were responsible for dealing with risk management in the firms listed in the Nairobi Securities Exchange. On whether listed firms had a written foreign exchange policy, the study found that majority of the firms listed in the Nairobi Securities Exchange had written foreign exchange policy as indicated by majority of the respondent who indicated yes.

Those firms that had written foreign exchange policy the study revealed that majority of them were hedging fully, some were hedging partially whereas other firms didn‘t hedge at all, this information shows that the firms listed in the Nairobi Securities Exchange that have written policy on foreign exchange rate risk are hedging fully while others are hedging partially. To those firms that didn‘t have a written policy on foreign exchange the study revealed that they were hedging against foreign exchange risk. This shows that all the firms listed in the Nairobi Securities Exchange were hedging against foreign exchange risk. On those firms that were partially hedging against foreign exchange, the study revealed that their percentage of hedging ranged between 10% to 35%. The study also sought to determine the effectiveness of the foreign exchange policy for the firms listed in the Nairobi Securities Exchange; the study found that majority of the respondent firms indicated that the foreign exchange policy was good; this shows that foreign exchange policy used by the firms listed in the Nairobi Securities Exchange was above average.

On the most effective internal/natural hedging techniques that best suit the respondent firm, the study found that in terms of exports lead was effective in companies between 5% to 10%, lag 5% to 15%, netting 10% to 20%, invoicing in foreign currency 50% to 70% and money market between 5% to 40%. In terms of imports leads were effective between 5% to 15%, lags were between 10% to 15% netting were effective between 5% to 20% negotiating local price on imports between 50% to 60% and money market were between 10% to 20%. On the most effective external hedging techniques from the findings in the above table, the study found that in terms of exports spot were effective between 10% to 80%, forwards between 5% to 20%, currency swap between 40% to 50%, currency option between 20% to 30% whereas futures were effective between 15% to 20%. In terms of imports the study found that spot were effective between 15% to 80%, forwards between 10% to 20%, currency swap

between 20% to 40%, currency option between 20% to 30% whereas futures were effective between 10% to 15%. On the account posted with foreign exchange gains or losses, the study revealed that majority of firms used income statement whereas others firm used owners‘ equity through reserves or retained earnings to post foreign exchange gains or losses.

These findings strongly reveal there is an effect in the company‘s financial performance as a result of dealing with foreign exchange in the normal business operations. From the findings on the total purchases of the firms, the study found that total purchases of the firms listed in the Nairobi Securities Exchange ranged between 700 million to 29 billion Kenyan shillings with an import range of 140 million to 10.15 billion Kenya Shillings. On the percentage of the annual import purchases compared to total purchases, the study found that percentage of import purchases ranged between 15% to 75% of the total purchases an indication that firms listed in the Nairobi Security Exchange were prone to foreign exchange risk in their import purchases. The study sought to determine the percentage growth in annual import purchases in the last 10 years. From the findings, the study revealed that there was 10% to 50% growth in the annual import purchases in the last 10 years. On the currency used by the suppliers to invoice the firms listed in the Nairobi Securities Exchange, the study found that majority of the firms are invoiced using Kenyan shillings, US dollars, Euros, Sterling pound and Japanese yen.

This shows that Kenya shilling, US dollar, Euro, GBP and Japanese yen were the currencies mostly used to invoice the firms listed in the Nairobi Securities Exchange by their suppliers. From the findings on the currency used in recording of purchases and accounts payable, the study revealed that the firms listed in the Nairobi Security Exchange used the following currencies to record the purchases and account payable; Kenyan shillings, US dollars, Euros,

GBPs, Japanese Yens and South African rands. The study sought to determine the currency used to pay foreign accounts payable. From the findings, the study found that majority of the firms listed in the Nairobi Securities Exchange used Kenyan shilling, US dollar and Euro to pay foreign accounts payable.

The study established that the total sales ranged between 900 million to 78.9 billion Kenyan Shillings with an export revenue range of 315 million to 35 billion Kenya Shillings. From the findings the study revealed that this ranged between 15% to 50%. This shows that there has been significant change in the annual total sales for firms listed in the Nairobi Securities Exchange.

The study further revealed that there had been 10% to 35% growth in the annual export sales in the last 10 years. From the findings on the currency used to invoice the export sales by the firms listed in the Nairobi Securities Exchange, the study found that most of the firms use US dollar, Euro and sterling pound, this shows that US dollar, Euro and sterling pound are the currencies mostly used by firms listed in the Nairobi Securities Exchange to invoice their export sales. The study further revealed those firms listed in the Nairobi Securities Exchange do not record all their sales and accounts receivables in Kenya shillings. The study sought to determine the currencies used to record sales and accounts receivables for firms listed in the Nairobi Securities Exchange. From the findings, the study found that most of the firms listed in the Nairobi Securities Exchange use US dollar, Euro and GBP to record their sales and accounts receivable as shown by 100% in each case in table 18 and figure 16.

5.3 Conclusion

The main purpose of this research is to study the effect of foreign exchange rate on the financial performance of listed companies in the NSE From the findings the study found that firms listed in the Nairobi Securities Exchange use income statement and owners equity account to record foreign exchange differences. The study thus conclude that unrealized foreign exchange gains/losses had an effect on the Net Income of multinational companies as it was posted to either income statement or owners‘ equity reserves. The study also found that there had been significant percentage change in imports for firms listed in the Nairobi Securities Exchange; the study thus concludes that use of foreign exchange has an effect on import costs and accounts payables with the net effect on the Net Income of multinational companies. The study also found that there were significant changes in the annual exports by firms listed in the Nairobi Securities Exchange for the last decade.

The study examined the interest rate risk of listed firms on the Nairobi Securities Exchange to exchange rate risk for the period January 2002 to December 2012. The findings of the study are that, all the major hard currencies of international transaction are sources of foreign exchange risk to listed firms on the Nairobi Securities Exchange. The US dollar turned out to be the most dominant source of exchange rate risk at both the firm and sector levels. In general, most listed firms on the Nairobi Securities Exchange are significantly exposed to foreign exchange risk emanating from all the major hard currencies of international trade, namely, the US dollar, the Sterling pound, the Euro and the Japanese Yen.

The practical relevance of the research findings in foreign exchange management lies in the fact that, even though there are a number of techniques such as balance sheet hedging, use of derivatives, leading and lagging amongst others available to manage foreign exchange risk in

most developed countries, these measures tend to be rather too sophisticated and difficult to implement in developing countries like Kenya with less developed financial systems. Nonetheless, given the degree of foreign exchange risk revealed in this study, corporate managers and investors in Kenya should endeavour to apply a combination of simple tools such as the use of forward contracts and swaps to supplement price adjustments and investment in foreign currency in order to minimize their exchange rate risk. Despite the short-comings of the financial system in terms of availability of tools for managing foreign exchange rate risk instruments are still available to manage the risk. The study therefore concludes that foreign exchange affect the companies financial performance through, imports and accounts payables and export sales and accounts receivables thus with the net effect on the Net Income of multinational companies through the income statement or the owners equity reserves.

5.4 Limitations

The study carries over some of the weaknesses inherent in using questionnaires for data collection purpose. Apart from the possibility of misinterpretation of questions by respondents, answers to the questions may reflect an ideal situation rather than what exactly happens in the companies.

Out of the 46 eligible respondents, the researcher managed to get 41 responses which translated into 90% of the total eligible respondents. Despite repeated requests, the other 5 companies declined to fill the questionnaire citing information confidentiality. And no doubt their responses would have enriched the study.

Correlational methods commonly suggest that variables are linearly related to one another. Since the data is non linear as informed by nonlinearity test, the correrational method reduce the strength of the relationship. The outliers, observations that are quite a bit different from the remaining observations also reduce the strength of the relationship.

The extent to which the findings can be generalized beyond the sample period studied is unclear. The number of observations is too limited for broad generalization. Further empirical evaluations, however, are needed to replicate the findings in larger sample including perfomance since the findings from the sample may not reflect the behavior of the entire population.

5.5 Recommendations

From the findings of this research, the study recommends that firms listed in the Nairobi Securities Exchange should explore avenues to enhance capacities within firms for managing foreign currency risk. 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.

As found out in this study, the exchange rate risk faced by firms forms a significant component of their risk profile. It is therefore imperative that listed firms and generally all

firms in Kenya with and without international operations effectively manage their risk to minimize their foreign exchange rate risk. In an increasingly globalizing economy, domestic corporations, their suppliers, and their customers are not insulated from the effects of international economic cycles, currency movements, and global competition. However, the foreign exchange rate risk of domestic companies has not been fully investigated in prior literature a good suggestion worth of future research

5.5.1 Policy Recommendations

Basing on the results of the study, the following recommendations could be of help to the listed companies in the NSE. The companies should develop a robust foreign exchange risk management framework which clearly shows its currency risk assessment procedure and implementation of foreign exchange risk management strategies. This should be regularly monitored and adjustments made where necessary. The company should emphasize the use of currency risk transfer strategies through hedging, insuring and diversification of foreign exchange risk. These are the most commonly recognized foreign exchange risk management strategies. With currency risk transfer strategies, the risk is completely transferred. However, the danger is to outlook other FERM strategies.

Although there was a significant and positive correlation between foreign exchange risk retention and financial performance of company, it would be a suitable technique to adopt when the potential costs or gains are small relative to the size of the company's business and profits. But if the losses and gains from exchange rates movements are high, the company should be less inclined to take a risk retention attitude and ought to consider risk transfer, reduction and control currency risk management strategies.

Based on the findings of the study, the study presents recommendations pertinent to the policy makers, investors, financial market regulators and future researchers. The study recommends that the government through its policy makers should come up with measures and policies that will help control and stabilize foreign exchange rate fluctuation thus creating investor confidence in the securities market.

5.5.2 Suggestions for further Research

This study sought to investigate the effect of foreign exchange rates on the financial performance of listed companies in the NSE. Foreign exchange rates can be a major stumbling block for the financial performance and investment in small and developing economies. The NSE being an important institution in any economy and for a country to experience growth, the forex market should be efficient. Future researcher may conduct further studies and identify other macro-economic factors that significantly affect a firm's financial performance. Therefore further study should focus on macro-economic factors such as: interest rate, money supply, monetary policy, fiscal policy and industrial production.

Further studies on persistence of news on foreign exchange rates will be useful to companies in making rational foreign exchange decisions and aid the regulator in policy formulation.

This study opens up a wide range of areas in foreign exchange rates risks and risk management which can be studied. One of the question which is unanswered in this study is whether there is a relationship between the companies' value and the strength of its forex policies. Such a study would need a more detailed analysis on the strengths of the chosen companies' forex

As found out in this study, the exchange rate risk faced by firms forms a significant component of their risk profile. It is therefore imperative that listed firms and generally all firms in Kenya with and without international operations effectively manage their risk to minimize their foreign exchange rate risk. In an increasingly globalizing economy, domestic corporations, their suppliers, and their customers are not insulated from the effects of international economic cycles, currency movements, and global competition. However, the foreign rates exchange risk of domestic companies has not been fully investigated in prior literature a good suggestion worth of future research.

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APPENDIX I: LETTER OF INTRODUCTION

Dear Sir/Madam,

RE: request for research information

I am a student at the University of Nairobi pursuing a Master degree in Business Administration (MBA). I am undertaking a research project on **The effect of foreign exchange rates on the financial performance of firms listed at the Nairobi securities exchange** as part of the academic requirements for the award of the stated degree.

I would be grateful if you could spare a moment of your time and allow me to interview you using the attached interview guide, to help me gather the necessary information. The information you give shall be treated with utmost confidentiality and shall be used solely for this research problem. A copy of the same shall be availed to you on request.

Any additional information you might consider necessary for this study will be highly appreciated.

Thank you in advance.

Yours sincerely,

MBUBI AMOS MBITHI

APPENDIX II: RESEARCH QUESTIONNAIRE

PART I – COMPANY PROFILE

1) Company name……

2) Respondent‘s name…….…….

3) Respondent‘s department……...

4) Industry of operation……..

5) No. of employees……...

6) Years of operation in Kenya……..

PART II - UNREALIZED FOREIGN EXCHANGE GAIN OR LOSS ON NET INCOME OF A COMPANY

7) Which department or section deals with risk management in your organization?

Finance ☐

Internal Audit ☐

8) Does your company have a written foreign exchange policy?

Yes ☐ No ☐ Don‘t ☐ Know ☐

9) If number 8 is (Yes) what is your hedging policy in your organization?

Hedging fully ☐ Hedging partially ☐

Not hedging at all ☐ Don‘t Know ☐

10) If number 8 is (No) do you still hedge against foreign exchange risk?

Yes ☐ No ☐ Don‘t Know ☐

11) If your policy is hedging partially in number 9 above, what is the percentage? .

.....%

12) How effective is the foreign exchange policy? Please tick one.

Excellent ☐ Good ☐ Average ☐

Below average ☐ Poor ☐

13) In your opinion which are the most effective hedging technique which best suits your organization?

a) Internal/natural techniques

Trade	Leads	Lags	Netting	Negotiating local price on imports	Money market e.g. FX loan	Invoicing in FX currency	None	**Total**
Exports								**100%**
Imports								**100%**

b) External techniques

Trade	Spot	Forwards	Currency Swaps	Currency Options	Futures	None	**Total**
Exports							**100%**
Imports							**100%**

14) Which account do you post your foreign exchange gain or losses?

Income statement ☐ Owners equity ☐

PART III – EFFECTS OF FOREIGN EXCHANGE IMPORT COSTS ON NET INCOME OF A COMPANY

15) What is your annual total purchases (Kshs. Millions)……

16) What is the percentage of the annual import purchases as compared to no.15 above?.....%

17) What has been the percentage change in the annual import purchases in the last 10 years …… %

18) Which foreign currencies are you invoiced in by your suppliers?

Kshs ☐ US$ ☐ Euro (€) ☐ GBP (£) ☐

Japanese Yen (¥) ☐ Others ☐ ...……. .(Specify)

19) Which currencies do you book all your purchases and account payables? (tick if more than one).

Kshs ☐ US$ ☐ Euro (€) ☐ GBP (£) ☐

Japanese Yen (¥) ☐ Others. ☐ ……. .(Specify)

20) Which currencies do you use to pay your foreign account payables? (tick if more than one).

Kshs ☐ US$ ☐ Euro (€) ☐ GBP (£) ☐

Japanese Yen (¥) ☐ Others ☐ ...…….(Specify)

PART IV–EFFECTS OF FOREIGN EXCHANGE EXPORT SALES ON NET INCOME OF A COMPANY

21) What is your annual total sales (Kshs. Millions)……

22) What is the percentage of the annual export sales as compared to no.21 above?.....%

23) What has been the percentage change in your annual total sales in the last 10 years ……..%

24) What has been the percentage in annual export sales in the last 10 years ……%

25) Which currencies do you invoice your exports?

Kshs ☐ US$ Euro (€) ☐ GBP (£) ☐

Japanese Yen (¥) ☐ Others ☐ ...……. .(Specify)

26) a) Do you book all your sales and receivables in Kshs?

Yes ☐ No ☐

b) If (Yes) in 26a above, which currencies do you receive your foreign account receivables? (tick if more than one).

Kshs ☐ US$ ☐ Euro (€) ☐ GBP (£) ☐

Japanese Yen (¥) ☐ Others ☐ ...……. .(Specify)

c) If (No) in 26a, which currencies do you book your sales and account receivables? (tick if more than one).

US$ ☐ Euro (€) ☐ GBP (£) ☐

Japanese Yen (¥) ☐ Others ☐ ...……. .(Specify)

APPENDIX III: COMPANIES LISTED IN NSE

Agricultural

Eaagads Ltd Ord 1.25 AIM

Kakuzi Ord.5.00

Kapchorua Tea Co. Ltd Ord 5.00 AIM

Limuru Tea Co. Ltd Ord 20.00 AIM

Rea Vipingo Plantations Ltd Ord 5.00

Sasini Ltd Ord 1.00

Williamson Tea K. Ltd Ord 5.00 AIM

Automobiles & Accessories

Car & General (K) Ltd Ord 5.00

CMC Holdings Ltd Ord 0.50

Marshalls (E.A.) Ltd Ord 5.00

Sameer Africa Ltd Ord 5.00

Commercial & Services

Express Ltd Ord 5.00 AIM

Hutchings Biemer Ltd Ord 5.00

Kenya Airways Ltd Ord 5.00

Longhorn Kenya Ltd Ord 1.00

Nation Media Group Ord. 2.50

Scangroup Ltd Ord 1.00

Standard Group Ltd Ord 5.00

TPS Eastern Africa (Serena) Ltd Ord 1.00

Uchumi Supermarket Ltd Ord 5.00

Insurance

British-American Investments Co (Kenya) Ltd Ord 0.10

CFC Insurance Holdings Ltd ord.1.00

Jubilee Holdings Ltd Ord 5.00

Kenya Re-Insurance Corp. Ord 2.50

Pan Africa Insurance Holdings Ord 5.00

Construction & Allied

ARM Cement Ord 1.00

Bamburi Cement Ltd Ord 5.00

Crown Berger Ltd Ord 5.00

E.A.Cables Ltd Ord 0.50

E.A.Portland Cement Ltd Ord 5.00

Energy & Petroleum

KenGen Ltd Ord. 2.50

KenolKobil Ltd Ord 0.05

Kenya Power Co Ltd Ord 2.50

Total Kenya Ltd Ord 5.00

Investment

Centum Investment Co Ltd Ord 0.50

City Trust Ltd Ord 5.00 AIM

Olympia Capital Holdings ltd Ord 5.00

Trans-Century Ltd Ord 0.50 AIM