THE EFFECT OF RISK MANAGEMENT INSTRUMENTS ON FOREIGN EXCHANGE EXPOSURE BY UNIT TRUST COMPANIES IN KENYA

BY

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DECLARATION

This research project is my original work and has not been presented for an award of a Degree in this or any other University.

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DEDICATION

To my parents Francis and Mary; for their parental love, guidance and humble upbringing.

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CAPM	Capital Asset Pricing Model
CIS	Collective Investments Schemes
CMA	Capital markets Authority
FOREX	Foreign Exchange
MPT	Modern Portfolio Theory
NAV	Net asset value
OLS	Ordinary Least Squares
OTC	Over-the-Counter
UT	Unit Trust

ABSTRACT

The main objective of the study was to find out the effects of risk management instruments on foreign exchange exposure by unit trusts companies in Kenya. The research design was descriptive which involved the use of quantitative data. The sample size constituted of 47 firms that were registered with capital markets authority of Kenya and trading in unit trusts. Results of 43 firms were analysed after eliminating questionnaires that were not filled by the respondents, spoilt and inconsistent questionnaires. The research utilized questionnaires for data collection comprising of structured questions. In analyzing the responses, Statistical Package for Social Sciences (SPSS Version 20) was used. This generated descriptive statistics such as percentages, frequency distribution, measures of central tendency and graphical expressions.

The study found that firms use local currencies in doing their business and this exposes them to foreign exchange risks because all the major hard currencies of international transaction are sources of foreign exchange risk. This further increases the risk because developing countries like Kenya have less developed financial systems. The study also found out that firms invoice foreign currency as internal/ natural risk management technique and currency swaps as external technique to mitigate foreign exposure. The study concluded that as found out in this study, the exchange rate risk faced by firms formed a significant component of their risk profile. It is important that firms trading in unit trusts effectively manage their risk to minimize their exposure to exchange rate risk. These risks occur as a result of changes occurring in local and global financial cycles.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A Unit Trust Fund is an investment scheme that pools money together from many investors who share the same financial objective to be managed by a group of professional managers who invest the pooled money in a portfolio of securities such as shares, bonds and money market instruments or other authorized securities to achieve the objectives of the fund. In exchange of the money received from the investors, the fund issues units to investors who are known as unit holders. The fund earns income from the investment in the form of dividends, interest income and capital gains. The underlying value of the assets of a Unit trusts is always directly represented by the total number of units issued multiplied by the unit price less the transaction or management fee charged and any other associated costs (Capital Markets Authority, 2001).

According to Aryeetey, (2004), a trust is an agreement where a person gives his property to another to hold on trust for the benefit of a third party or an object called the beneficiary. Due to the versatility of the trust it found its way into direct trading and has also found its way into indirect investment. It is in the concept of indirect investment that the concept of unit trust (UT) emerged. In the contemporary market place, a UT is initiated by a professional fund management company commonly called 'manager'. It is constituted by a trust deed executed between a manager and a trustee, which provides that assets of investors, commonly called the unit holders, will be held as directed by the manager in accordance with the terms of the trust deed.

Aryeetey and Senbet (2004) assert that, all investments involve varying degrees of risk. In Unit trusts risk is minimized through diversification. Diversification is the spreading of risk over a wide variety of securities positions in different companies. The size of unit trust fund portfolios generally means that fund managers can more easily reduce risk through greater diversification. However, there are many possible outcomes associated with an investment and there are a multitude of factors, many beyond the control of investors that affect investment returns. Most investments are affected by ever changing market conditions, some of which impact positively

and some negatively. Therefore, no matter how experienced an investment manager may be, certain factors, which will affect the value of investments, may be beyond their control.

Unit Trusts can also reduce risk by implementing sophisticated risk-management techniques involving the use of derivatives. Derivatives have become an integral part of the financial markets because they can serve several economic functions. When used properly, derivative products can become effective tools in managing business risks. In the marketplace, derivatives can be used to expand product offerings to customers, manage capital and funding costs, and alter the risk-reward profile of a particular item or an entire balance sheet. Most importantly, derivative transactions offer the opportunity for financial institutions to reduce risks in the marketplace.

1.1.1 Risk Management Instruments

A derivative is a financial instrument which derives its value from the value of underlying entities such as an asset, index, or interest rate. It has no intrinsic value in itself. Derivative transactions include a variety of financial contracts, including structured debt obligations and deposits, swaps, futures, options, caps, floors, collars, forwards, and various combinations of these (Christopher, 2012).

It is common practice among firms to use a combination of production and marketing strategies across the firm‘s different operating units (operational hedges) to manage long term exposure, whereas foreign exchange derivatives (financial hedges) are more often used for managing short term exposure. Long-term operating policy adjustments are costly and difficult to reverse; hence they are most effective when the firm possesses a network of multiple operating units that span many business and geographic areas (Koutmos and Martin, 2003).

There are many new risk management 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. There has been much study concerned with the effectiveness of using these techniques, particularly forward contracts and currency futures, Herbst et al. (1989), Castelino (1992), and Herbst et al. (1992).

1.1.2 Forex Exposure

Forex exposure is the sensitivity of changes in the real domestic-currency value of assets, liabilities, or operating incomes to unanticipated changes in exchange rates. Exposure can be measured by the slope of a regression

A multinational firm with export sales and costs denominated in the home currency should exhibit exchange rate exposure. The determination of the effect of such exposures requires accurate measurement of foreign exchange exposure risks. Exchange rate exposure is divided into three different exposures: translation exposure, transaction exposure, and operating exposure (Eiteman, Stonehill, and Moffet 2001)

Transaction exposure refers to the possibility that a company will incur gains/losses as a result of settling at a future date, a transaction denominated in foreign currency that was previously entered into. A firms transaction exposure consists of its foreign currency accounts receivables/payables, its longer term foreign currency investments and debt, as well as those of its foreign currency cash positions which are to be exchanged into other currencies. Until these positions are settled, their home currency value may be impaired by unfavourable parity changes (Martin Glaum, 1990). Previous empirical studies by Belk and Glaum (1990), Belk and Edelshain (1997), Duangploy, Bakay and Belk (1997), Cezairli (1988) and Aobo (1999), have shown that the management of transaction exposure is the focus of foreign exchange exposure risk management.

Translation exposure refers to changes in the value of foreign assets and liabilities. It arises as a result of translating a company's reported financial results from the company's functional currencies to other currencies (parent company currency) for informational or comparative purposes. Translation exposure does not represent real movements of cash between different currency systems, but can clearly impact both the consolidated profit and loss account and the consolidated balance sheet. The balance sheet effects are often dismissed as illusory since they have no cash impact. However the level of assets and liabilities can affect financial ratios calculated using balance sheet figures, which causes practical problems where the company has restrictions on its level of borrowings placed by covenants.

1.1.3 The Effect of Risk management Instruments of Forex Exposure

The motives for the usage of risk management instruments have been widely studied by researchers, with the focus being on whether firms use derivatives for hedging purposes to maximize shareholder wealth or for speculation. Bartram et al (2003), Mallin et al (2000), Henttsche and Kothari (1995) and Bodnar et al (1995) find strong evidence that the use of derivatives is, in fact, risk management rather than simply speculation. For example, firms that use foreign exchange risk management instruments have higher proportions of foreign assets, sales, and income and firms that use interest rate derivatives have higher leverage, Bartram et al (2003). Finance theory indicates that hedging with derivatives can increase firm value by reducing expected taxes, expected costs of financial distress, under-investment costs associated with investment opportunities in the presence of financial constraints, and agency costs. Mian (1996) studies a sample of 2,799 U.S. non-financial firms after the FASB introduced new reporting requirements for derivatives, found weak evidence with respect to taxes and inconsistent with regard to hedging based on financial distress costs, while Bartram et al (2003) find in line with the financial distress hypothesis. Nance, Smith and Smithson (1993) study the use of derivatives by 159 large U.S. non-financial corporations based on their responses to a questionnaire. They find that firms using risk management instruments have more growth options, are larger, employ fewer hedging substitutes, have less coverage of fixed claims, and face more convex tax functions.

1.1.4 Unit Trusts in Kenya

Unit trusts are relatively new products in Kenya, covered under Collective Investments Schemes (CIS). The regulatory framework was enacted in 2001 by the CMA, with Africa Alliance Kenya Ltd. Registered as the first unit trust Investment Company in 2001- zimelle Multipurpose cooperative society has operated as a unit trust investment company through registration under the cooperative Act, in association with Zimele Asset Investment Asset management, a fund Manager registered by the CMA. Zimele also had to appoint trustees and custodian to comply with CMA rules (Legal notice No. 181). In Kenya, Unit Trusts are regulated by the Capital Markets Authority, a corporate body set up in 1989 through an Act of Parliament with the mandate of promoting, regulating and facilitating the development of orderly, fair and efficient capital markets in Kenya (CMA, 2001).

CMA, (2003), the launch of unit trusts also coincides with increasing pressure on the medium business management to diversity their asset portfolio in face of declining returns from real assets investment. The medium businesses management however lacks the expertise to compete effectively in a liberalized environment. Such expertise includes effective treasury management necessary to analyze, select, construct, monitor and modify diversified portfolio that would effectively meet their investment objectives. The unit trusts investment firms have the expertise to fill this void, and have developed products tailored that would provide competitive returns, diversified risk, and liquidity needs of medium businesses. It is not however known if medium business has found the unit trusts an attractive alternative investment to constructing their individual portfolio. This study investigated the effects of derivatives on foreign exchange exposure establishing the existing and planned allocation of corporate to savings to unit trusts in comparison with other fixed and current assets.

Though African Alliance was the first licensed unit trust investment firm, similar products were launched by Zimile in 1998. The Zimele funds include money market, off shore portfolio and balanced portfolio. The Money Market Portfolio is invested in government of Kenya Treasury bills and bonds. The Off shore Portfolio is invested in international stocks covering over 80 companies in the USA, Europe and Asia; the Balanced Portfolio combines investment in stocks of companies listed at the Stock Exchange and Government of Kenya Treasury bills and bonds (Zimele Asset Management, 2000)

According to CMA, (2003), the Kenyan capital markets offer an array of investment products in the form of shares, bonds and unit trusts. The type of products chosen by the investor to commit his capital depends largely on his financial goals, time frame, and amount of capital available. Unit trusts have grown in acceptance and popularity in recent years. This is evidenced by the growth in the number of approved unit trust funds from virtually zero in 2001 to 11 in 2008. (Currently there are 30 unit trusts registered by the CMA). Unit trusts are the small investor's answer to achieving wide investment diversification without the need of prohibitive sums of money. As a market becomes sophisticated and more volatile, unit trusts become safe havens for less, sophisticated and less capitalized, conservative individuals in the market place.

1.2 Research Problem

While diversification has been a major risk-management technique in unit trust institutions; derivatives have expanded the portfolio of investment choices, and their use is growing. For example in the UK derivative use in unit trust is governed by regulators with intention of ensuring that the managers of these trusts use derivatives for the for the purpose of "efficient portfolio management" defined as controlling risk, generating additional income, or reducing costs but not for speculation. There has been a huge growth in risk management instruments use by companies and financial institutions.

Exchange rates represent one of the major sources of macroeconomic risk for a company. Exchange rate changes influence a company's volume of foreign trade, the costs of foreign purchases; alter its domestic and international competitive profile and the structure of foreign markets in which the company operates. These changes have a large impact on small and internationally oriented economies (Bodnar and Gentry 1993).

To reduce exposure to unexpected currency fluctuations, corporate risk management can resort to financial and operational approaches (Srinivasulu 1981, Lessard 1986, Aggarwal and Soenen 1989, Chowdhry and Howe 1999, Hommel 2003, Carter et al. 2003). Financial approach involves the usage of various financial instruments, such as forward or futures contracts, options, and swaps. The goal of financial hedging is to increase value by minimizing the variance of the net cash flows. Financial instruments are considered to be an appropriate tool for minimizing the risk from near-term exposures that have predetermined future cash flows and can be relatively easily quantified (Srinivasulu 1981, Lessard 1986, Bodnar et al. 1995). The main goal of the risk management is to minimize the real effects of the future changes in exchange rates and find correct response to exchange rate changes (Glaum, 1990). Furthermore, the involvement of the operational approaches to the foreign exchange risk management allows a company not only to reduce exposure to exchange rate changes but also to achieve extra profit in the presence of favorable exchange rate conditions (Kogut and Kulatialka 1994, Bartram et al. 2005).

Koski and Pontiff (1999) explored derivative use by US mutual funds between 1992 and 1994. They established that only a relatively small proportion of US mutual funds (approximately 21%) had used derivatives and that derivative use had little impact on either the cross-sectional

risk characteristics or performance of the funds that used derivatives compared to the funds which did not. Koski and Pontiff (1999) also explored the impact of derivatives on the inter-temporal relationship between changes in risk and past performance and found that changes in risk are less severe for funds that use derivatives, which they interpret as being more consistent with funds trying to minimize the impact of the cash inflows and outflows on the risk of the fund.

Grant and Marshall, 1997; Bodnar et al; 1998; and Whidbee & Wohar (1999) theoretically, derivative use provides a number of benefits, and it has been suggested that users will improve their performance and lower risk relative to non-derivative users . According to Smith and Stulz, 1985; Froot et al., 1993; Mian, (1996), despite the large body of empirical research in derivative use by companies, there is little prior research about the extent risk management instruments: derivatives, interest rate, caps and floors are applied in unit trust institutions in developing countries and especially in Kenya where the institutions have become more popular and grown from virtually zero in 2001 to 44 in 2011.

In Tanzania, Assad (2011) did a study on a survey of foreign currency risk awareness and management practices in Tanzania, a research study supported by a grant from the Investment Climate and Business Environment Research Fund, jointly funded by Trust Africa and IDRC.

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 effects of risk management instruments on foreign exchange exposure by unit trust companies in Kenya .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. This study therefore seeks to fill the existing gap by conducting a research on the effects of risk management instruments on foreign exchange exposure by unit trust companies in Kenya.

This study sought to answer the question ," what is the effect of risk management instruments on foreign exchange exposure by unit trust companies in Kenya"?

1.3 Objectives of the Study

The main objective of the study is to establish the effects of risk management instruments on foreign exchange exposure by Unit Trust companies in Kenya.

The following specific objectives guided the study:

i. To find out the foreign exchange exposure faced by unit trust companies in Kenya
ii. To investigate the risk management instruments used by Unit trust companies in Kenya
iii. To establish the relationship between risk management instruments and foreign exchange exposure

1.4 Value of the Study

The findings of this study arel be of great importance to the Capital Markets Authority. As the regulatory body of the capital markets in Kenya, the authority is charged with the development of new instruments and regulation of such instruments. This research should highlight issues in the regulatory and legislative framework of the Unit trusts, which may contradict existing legislative framework or may be inadequate.

The findings of this study are going to boost activity in the unit trusts institutions. This will be as a result of existence of instruments to mitigate foreign exchange exposure and hence increased trading and investment in unit trusts Companies.

The findings of this study will further help investors in capital markets make informed choices. Understanding volatility linkages and conditional correlation also has a role in risk management and valuation. Improving investor information on risks management enhances the ability to make well informed investor choices. Thus if more and more investors make better choices market will allocate funds to the best investment and thus enabling the primary purpose of investment advisors in the portfolio selection.

The pursuit of knowledge is a major human endeavor; information on effects of derivatives on foreign exchange exposure by unit trusts will improve the existing academic body of knowledge.

Exploration into an area of study helps scholars better understand the topic and answers questions related to that area of research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section of the study presented the theoretical and empirical review. In the theoretical review, the researcher discussed theories that were related and that guided the study while in the empirical, the study discussed works of other authors in relation to risk management instruments applied in unit trusts.

2.2 Theoretical review

This study was anchored on three theories; modern portfolio theory, prospect theory and economic theory.

2.2.1 Modern Portfolio Theory

Modern Portfolio Theory ("MPT") is also called "portfolio theory" or "portfolio management theory." MPT is a sophisticated investment approach first developed by Professor Harry Markowitz of the University of Chicago, in 1952. He developed what has become the frame upon which institutions and savvy investors construct their investment portfolios. Markowitz was among the first to quantify risk and demonstrate quantitatively why and how portfolio diversification can work to reduce risk, and increase returns for investors. Modern Portfolio Theory allows investors to estimate both the expected risks and returns, as measured statistically, for their investment portfolios.

Markowitz (1952) described how to combine assets into efficiently diversified portfolios. He demonstrated that investors failed to account correctly for the high correlation among security returns. It was his position that a portfolio's risk could be reduced and the expected rate of return increased, when assets with dissimilar price movements were combined. Holding securities that tend to move in concert with each other does not lower your risk. Diversification, he concluded "reduces risk only when assets are combined whose prices move inversely, or at different times, in relation to each other."

Markowitz formulated the portfolio problem as a choice of the mean and variance of a portfolio of assets. He proved the fundamental theorem of mean variance portfolio theory, namely holding

constant variance; maximize expected return, and holding constant expected return minimizes variance. These two principles led to the formulation of an efficient frontier from which the investor could choose his or her preferred portfolio, depending on individual risk return preferences. The important message of the theory was that assets could not be selected only on characteristics that were unique to the security. Rather, an investor had to consider how each security co-moved with all other securities. Furthermore taking these co-movements into account resulted in an ability to construct a portfolio that had the same expected return and less risk than a portfolio constructed by ignoring the interactions between securities.

Diversification reduces volatility more efficiently than most people understand: The volatility of a diversified portfolio is less than the average of the volatilities of its component parts. While the technical underpinnings of MPT are complex, and drawn from financial economics, probability and statistical theory, its conclusion is simple and easy to understand: a diversified portfolio, of uncorrelated asset classes, can provide the highest returns with the least amount of volatility. Many investors are under the delusion that their portfolios are diversified if they are in individual stocks, mutual funds, bonds, and international stocks. While these are all different investments, they are all still in the same asset class and generally move in concert with each other. Proper diversification according to MPT is in different asset classes that move independently from one another.

Lintner (1983) thoroughly researched on the value of professionally managed futures. He asserts that, one of the most uncorrelated and independent investments versus stocks are professionally managed futures. Lintner wrote that “the combined portfolios of stocks (or stocks and bonds) after including judicious investments... in leveraged managed futures accounts show substantially less risk at every possible level of expected return than portfolios of stocks (or stocks and bonds) alone.” Lintner specifically showed how managed futures can decrease portfolio risk, while simultaneously enhancing overall portfolio performance. It is worth noting that that trading futures and options involves substantial risk of loss no matter who is managing the money. Such an investment is not suitable for everyone.

2.2.2 Prospect Theory

According to Kahneman & Tversky, (1979), expected utility theory is widely used in looking at decision making under risk. This framework has generally been accepted as a normative model of rational choice, and is widely applied as a descriptive model of economic behavior.

Kahneman and Tversky (1979); Tversky et al (1991), describe several cases in which preferences systematically violate the axioms of expected utility theory, and argue that utility theory is not an adequate descriptive model. They argue that people treat expected gains and losses differently, in contrast to expected utility theory. In particular, people overweight prospective losses and underweight equivalent gains. The predictive power of prospect theory in explaining saving "puzzles" is now a significant area for empirical investigation (Attanasio & Banks, 2001).

Kahneman and Tversky (1979) demonstrate several phenomena which violate the basic tenets of expected utility theory using the responses of students and university faculty to hypothetical choice problems. The problems described are selected illustrations of a series of effects, each of which has been observed in several problems with different outcomes and probabilities. The reliance on hypothetical choices raises questions regarding the validity of the method and generalizability of the results. However, all other methods that have been used to test utility theory also suffer from critical disadvantages.

2.2.3 Economic Theory

Santomero, (1995). According to standard economic theory, firm managers ought to maximize expected profits without regard to the variability of reported earnings. However, there is now a growing literature on the reasons for managerial concern over the volatility of financial performance, dating back at least to 1984. Stulz was the first to offer a viable economic reason why firm managers might concern themselves with both expected profit and the variability around this value. Since that time a number of alternative theories and explanations have been offered to justify active risk management, with a recent review of the literature presenting four distinct rationales. These include: Managerial self-interest, Tax effects, the cost of financial distress, and capital market imperfections.

According to Smith et al. (1995), any one of these reasons is sufficient to motivate management to concern itself with risk and embark upon a careful assessment of the level of risk associated

with any financial product. In fact, the most well-known textbook in the field, devotes an entire chapter to motivating financial risk management as a value enhancing strategy using the arguments outlined above.

Stulz, (1984) asserted that the volatility of profit leads to a lower value to at least some of the firm's stakeholders. In the first case, it is noted that managers have limited ability to diversify their investment in their own firm, due to limited wealth and the concentration of human capital returns in the firm they manage. This fosters risk aversion and a preference for stability. In the second case, it is noted that, with progressive tax schedules, the expected tax burden is reduced by reduced volatility in reported taxable income. The third and fourth explanations focus on the fact that a decline in profitability has a more than proportional impact on the firm's fortunes. Financial distress is costly and the cost of external financing increases rapidly when firm viability is in question

2.3 Major Risks Faced by Unit Trusts:

The increased volatility of the financial markets, has given rise to increased financial price risks faced by companies. Unit trust Companies are now exposed to risks caused by unexpected movements in exchange rates and interest rates. With the growing global presence of the industry, the companies are exposed to a wide range of financial risks, in particular foreign exchange risks and interest rate risk.

2.3.1 Market Risk

Babbel and Santomero, (1997). Negative movements in the capital market caused by changes in the economic, political and social environment, and the broader investor sentiment affecting the stock market as a whole, affected the price of units in unit trust funds. Even a well-diversified fund could not avoid fluctuating market factors when they were such as to simultaneously affect the prices of all securities irrespective of their sectors and prospects.

2.3.2 Country Risk

According to Babbel and Santomero, (1997), the foreign exchange investments of the fund may be affected by risks specific to the country, which it invests in. Such risks include changes in a country economic fundamental, social and political stability, currency movements and foreign exchange policies etc. These may have an adverse effect on the investors.

2.3.3 Liquidity Risk

Rawnsley (1995) posited that the various securities that are purchased by a fund may encounter liquidity risk. Liquidity refers to the ability of a fund to honour requests for redemption or to pay back unit holders' investments. It is subject to the fund's holding of adequate liquid assets. Liquidity risk relates to the fund's ability to quickly and easily trade, at a reasonable price, in and out of positions.

2.3.4 Returns Not Guaranteed

Rawnsley, (1995) further asserted that as a result of market risks, the manager is unable to guarantee the distribution payout to unit holders or the investment returns of the fund.

2.3.5 Inflation Risk

Salomon Brothers, (1993), inflation is the potential loss of purchasing power of unit holders' investment due to a general increase of consumer prices. Inflation risk therefore, is the risk that unit holders' investment gains will be reduced by inflation. Thus, inflation erodes the real rate of return (that is, the return less the inflation rate) from an investment.

2.3.6 Management Risk

Salomon Brothers (1993), performance of the fund depends on the experience, expertise, knowledge and investment techniques of the investment manager. Poor management of the fund or the non-adherence to the investment mandate of the fund jeopardize the investment of unit holders and may result in the loss of their capital invested in the fund.

2.3.7 Interest Rate Risk

Salomon Brothers, (1993). Fixed income securities and bonds are particularly sensitive to movements in interest rates. When interest rates rise, the value of fixed income securities and bond prices fall and vice versa, thus affecting the NAV of the fund.

2.3.8 Currency Risk

Salomon Brothers, (1993). Currency risk is also known as foreign exchange risk. It is risk associated with investments that are denominated in foreign currencies. When the foreign currencies fluctuate in an unfavorable movement against the currency, the investments will face currency losses in addition to the capital gains/losses. This leads to a lower NAV of the fund.

2.4 Risk Management Instruments

A firm, exposed to foreign exchange risk, needs to formulate a strategy to manage it, choosing from multiple alternatives. This section explores various risk management instruments for hedging these risks.

2.4.1 Diversification

Froot et al; (2003) asserts that, a properly diversified portfolio should include investments in a variety of industries and asset classes such as small-company stocks, international government bonds, and fixed annuities.

According to Douglas (1998), diversification refers to the spreading of risk by putting assets in several categories of investments such as stocks, bonds, money market instruments, unit trusts and precious metals. It is a good investment strategy as losses from some investments are offset by gains in others. Investors can reduce risk, and improve the level of risk relative to return, by diversifying their portfolios.

Bodnar et al; (1998) asserts that the key to diversification is to choose investments whose prices are not strongly correlated. Although some financial institutions use sophisticated financial models to calculate and control risks, a private investor can achieve good diversification with little more than reasonable common sense. Douglas (1998) asserts that, one of the most effective ways to diversify an investment is with asset (stock) allocation, and it is a good way to help smooth out volatility in your portfolio. In asset allocation different asset classes (such as stocks and bonds) may respond differently to the same market conditions. This means if one part of a diversified portfolio does poorly it can be buffered by other investments that do relatively better. In other words, asset allocation helps spread the risk over several investments. The key to asset allocation is investing in assets with dissimilar performance.

According to Ferson and Warther (1996), in a globalised economy investors in shares will find it hard not to have geographically diverse exposure, as so many listed companies have substantial sales or operations around the world. Within an equity portfolio an investor does not need to buy lots of different shares to be well diversified: eight or ten is enough provided their returns are not too highly correlated. Because diversification affects risk, it means that it also affects value (because diversifying away risk reduces the risk premium an investor requires).

2.4.2 Application of Derivatives by Unit Trusts

McCarthy, (2000). Recently, credit derivatives have been used increasingly by financial institutions to mitigate potential financial difficulties experienced as a result of the failure of borrowers to perform under the terms of loan transactions. Some derivatives are traded on organized exchanges, whereas others are privately negotiated transactions. Derivatives have become an integral part of the financial markets because they can serve several economic functions.

Guay, (1999). In recent years, market deregulation, growth in global trade, and continuing technological developments led to a corresponding increase in demand for risk management products. This demand is reflected in the growth of financial derivatives from the standardized futures and options products of the 1970s to the wide spectrum of over-the-counter (OTC) products offered and sold today. Many products and instruments are often described as derivatives by the financial press and market participants. In this guidance, financial derivatives are broadly defined as instruments that primarily derive their value from the performance of an underlying asset or item, typically interest or foreign exchange rates, equity, or commodity prices. Examples of financial derivatives include futures, swaps and options.

The use of financial derivatives requires special expertise, experience and rigorous controls. An institution needs to ensure that the rewards associated with derivatives are commensurate with the risks being taken and that these risks are understood by the companies' board of directors and senior management (Allayannis and Weston, 1998).

2.4.3 Interest rate Caps and Floors

According to Hull (2003) an interest rate cap is actually a series of European interest call options (called caplets), with a particular interest rate, each of which expire on the date the floating loan rate is reset. At each interest payment date the holder decides whether to exercise or let that particular option expire. In an interest rate cap, the seller agrees to compensate the buyer for the amount by which an underlying short-term rate exceeds a specified rate on a series of dates during the life of the contract. Interest rate caps are used often by borrowers in order to hedge against floating rate risk. Floors are similar to caps in that they consist of a series of European interest put options (called caplets) with a particular interest rate, each of which expire on the

date the floating loan rate i reset. In an interest rate floor, the seller agrees to compensate the buyer for a rate falling below the specified rate during the contract period. A collar is a combination of a long (short) cap and short (long) floor, struck at different rates. The difference occurs in that on each date the writer pays the holder if the reference rate drops below the floor.

Hull (2003) asserts that Interest rate Caps and Floors are basic products in hedging floating rate risk. They set the minimum return levels on one side of interest rate movement and allow the profit on the other side.

2.5 Empirical Review

Collier and Davis (1985) in their study about the organization and practice of currency risk management by U.K. multi-national companies. The findings revealed that there is a degree of centralized control of group currency risk management and that formal exposure management policies existed. There was active management of currency transactions risk. The preference was for risk-averse policies, in that automatic policies of closeout were applied. Batten, Metlor and Wan (1992) focused on foreign exchange risk management practice and product usage of large Australia based firms. The results indicated that, of the 72 firms covered by the Study, 70% of the firms traded their foreign exchange exposures, acting as foreign exchange risk bearers, in an attempt to optimize company returns. Transaction exposure emerged as the most relevant exposure. Jesswein et al, (1993) in their study on use of derivatives by U.S. corporations, categorizes foreign exchange risk management products under three generations: Forward contracts belonging to the First Generation; Futures, Options, Futures- Options, Warranties and Swaps belonging to the Second Generation; and Range, Compound Options, Synthetic Products and Foreign Exchange Agreements belonging to the Third Generation.

The findings of the Study showed that the use of the third generation products was generally less than that of the second-generation products, which was, in turn, less than the use of the first generation products. The use of these risk management products was generally not significantly related to the size of the company, but was significantly related to the company's degree of international involvement.

Phillips (1995) in his study focused on derivative securities and derivative contracts found that organizations of all sizes faced financial risk exposures, indicating a valuable opportunity for

using risk management tools. The treasury professionals exhibited selectivity in their use of derivatives for risk management Howton and Perfect (1998) in their study examines the pattern of use of derivatives by a large number of U.S. firms and indicated that 60% of firms used some type of derivatives contract and only 36% of the randomly selected firms used derivatives. In both samples, over 90% of the interest rate contracts were swaps, while futures and forward contracts comprised over 80% of currency contracts.

Hentschel and Kothari (2000) identify firms that use derivatives. They compare the risk exposure of derivative users to that of nonusers. They find economically small differences in equity return volatility between derivative users and nonusers. They also find that currency hedging has little effect on the currency exposure of firms' equity, even though derivatives use ranges from 0.6% to 64.2% of the firm's assets.

There is also a vast pool of research that proves the efficacy of managing foreign exchange risks and a significant amount of evidence showing the reduction of exposure with the use of tools for managing these exposures. In one of the more recent studies, Allayanis and Ofek (2001) use a multivariate analysis on a sample of S&P 500 nonfinancial firms and calculate a firms exchange-rate exposure using the ratio of foreign sales to total sales as a proxy and isolate the impact of use of foreign currency derivatives (part of foreign exchange risk management) on a firm‘s foreign exchange exposures. They find a statistically significant association between the absolute value of the exposures and the (absolute value) of the percentage use of foreign currency derivatives and prove that the use of derivatives in fact reduce exposure.

Although there have been no studies in Kenya on risk management instruments ,Gachua (2011) in his study on the effects of foreign exchange exposure on a firm’s financial performance, asserts that all the major hard currencies of international transaction are sources of foreign exchange risk to listed firms on the Nairobi Stock Exchange. The US dollar turned out to be the most dominant source of exchange rate risk at both the firm and sector levels. Further, he posits that most listed firms on the Nairobi Stock 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. He found out 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. On the most effective natural hedging techniques that best suited 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 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%.

Gikonyo & Ngugi (2013) in their study on the factors influencing the performance of capital markets in Kenya established that on portfolio diversification ,the majority (63.3%) of the stock brokers are not registered with capital markets outside Kenya and also the listed firms deal in a limited number of products and services.

Ithai (2013) in his study on factors leading to slow adoption of derivatives use by Commercial Banks in Kenya found out that over 80% of financial institutions in Kenya use financial derivatives for hedging, speculation or both. The main factors hindering the use of derivatives include legal framework and trade liberation.

According to the study it emerged that though there has been major reforms in the financial sector, they have no relationship with the growth of derivative market and particularly by commercial bank in Kenya. Thus it was deemed insignificant towards the growth and use of market derivatives by commercial banks

2.6 Summary of Literature Review

The contribution of this thesis is to add to the existing literature by examining the effect of risk management instruments on foreign exchange exposure by unit trust companies. The existing literature primarily focuses on large countries such as US and Japan, and only limited focus has been directed to smaller countries like Kenya. The effect of risk management instruments on foreign exchange exposure by domestic unit trust companies is an important empirical question. This study therefore filled the existing gap in literature by analyzing more recent data from unit trust companies in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design and data collection methods that were used by the researcher in the study. It discusses the aspects such as research design, study population, data collection instruments, and data collection procedures and analysis.

3.2 Research Design

Chandran (2004), states that descriptive study describes the existing conditions and attitudes through observation and interpretation techniques. This writer claim the descriptive research design is one of the best methods for conducting research in human contexts because of portraying accurate current facts through data collection for testing hypothesis or answering questions to conclude the study. In this study descriptive survey was used.

Robson, (2002) on the other hand, revealed that descriptive research portrays an accurate profile of persons, events, or situations Surveys allow the collection of large amount of data from a sizable population in a highly economical way. It allows one to collect quantitative data, which can be analyzed quantitatively using descriptive and inferential statistics. Therefore, the descriptive survey was deemed the best strategy to fulfill the objectives of this study. It is pointed out that descriptive study portrays an accurate profile of persons, events or situation.

3.3 Study Population

Saunders (2003) “A population is an entire group of individuals, events or objects having common characteristics that conform to a given specification.” The population is the full set of cases from which a sample is taken. The population of the study consisted of all the Active 47 Unit Trust institutions registered with the Capital Markets Authority in Kenya as of June 2013 (Appendix 1).

According to Cooper & Schindler (2007) a census is feasible when the population is small and necessary when the elements are quite different from each other. When the population is small and variable, any sample we draw may not be representative of the population from which it is drawn. The study adopted a census study approach to interview the fund managers. Therefore

for the case of this study, it is appropriate to use census method because the population is small and the institutions are easily accessible.

3.4 Data Collection

According to Flick (1998) data collection is gathering empirical evidence in order to gain new insights about a situation and answer questions that prompt undertaking of the research. Owing to the nature of the study, that is an in depth inquiry, primary data was collected using a questionnaire from the managers of each unit trust institution. To further supplement the primary data, secondary data was gathered from documentary review of income statements of the unit trust companies for the period between January 2010 to June 2013 from the business review website http://investing.businessweek.com/research/stocks/financials/ financials.asp.

The questionnaire included both open ended and closed-end questions concerning the international involvement of the unit trust companies and their strategic foreign exchange risk management approaches. The questionnaire was designed in a way that it helped the researcher realize the objectives of the study .The questions were arranged logically so that each coming question contributed to a better understanding of the following questions.

3.4.1 Reliability and Validity

Shanghverzy (2003) defined reliability as the consistency of measurement and is frequently assessed using the test–retest reliability method. Reliability is increased by including many similar items on a measure, by testing a diverse sample of individuals and by using uniform testing procedures (ibid). The researcher carried out a pilot study to pretest and validates the questionnaire.

Berg and Gall (1989) defines validity as the degree by which the sample of test items represents the content the test is designed to measure. Content validity which is employed by this study is a measure of the degree to which data collected using a particular instrument represents a specific domain or content of a particular concept. Berg and Gall (1989) contend that the usual procedure in assessing the content validity of a measure is to use a professional or expert in a particular field. To establish the validity of the research instrument, the researcher sought opinions of experts in the field of study especially the supervisor. This facilitated the necessary revision and modification of the research instrument thereby enhancing validity.

The researcher selected a pilot group of 10 individuals from the target population of the Unit Trust institutions to test the reliability of the research instrument. The pilot data was not included in the actual study. The pilot study allowed for pre-testing of the research instrument. The clarity of the instrument items to the respondents was established so as to enhance the instrument's validity and reliability. The pilot study enabled the researcher to be familiar with research and its administration procedure as well as identifying items that require modification. The results helped the researcher correct inconsistencies arising from the instruments, which ensured that they measured what was intended.

Cronbach (1951). Cronbach alpha was used to test consistency and reliability of the data collection instrument. The higher the score, the more reliable the generated scale is. Researchers have indicated 0.7 to be an acceptable reliability coefficient but lower thresholds are sometimes used in the literature

3.5 Data Analysis

Cooper & Schindler, (2003). The whole process which starts immediately after data collection and ends at the point of interpretation and processing data is data analysis. Statistics is also defined as a discipline that provides the tools of analysis in research and one which refers to facts, information or data and to a system of data collection and analysis. Cooper & Schindler points out that, it is a process of bringing order, structure and meaning the mass information collected. Therefore, editing, coding, classifying and tabulating was used to process the collected data for a better and efficient analysis.

The questionnaire responses were grouped into various categories for analysis using descriptive statistics. SPSS version 20 was used to analyze the structured questions while the use of descriptive statistics determined frequencies and percentages. The results were presented in prose, tabular and graphical form.

3.5.1 Analytical model

The study employed the following regression model to test the effect of derivatives on foreign exchange exposure.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \ell_i$$

Equation 1: Regression model equation

Where,

Y is the dependent variable (foreign exchange exposure as measured by the gradients),

α is a constant,

$\beta_1, \beta_2, \beta_3, \beta_4$ are the regression coefficients

X_1, X_2, X_3 and X_4 are the independent variables (risk management instruments)

ℓ_i is the error term

Analysis of variance (ANOVA) was used to test the significance of the model at 95% confidence interval. The purpose of the regression analysis to examine relations between company specific characteristics and effect of financial and operational approaches towards the management of foreign exchange operating exposure by unit trust companies in Keny

3.5 .2 Variable measurement

The following is a summary of how each variable in the study was measured

Variables	Statistic technique
Dependent variable : Y **Effect of Foreign Exchange Exposure**	**The value of α**
Independent variables : **Risk Management Instruments : X_1 , X_2 X_3 ,X_4**	**Regressing against Y**
• **Futures**	**Regression of X_1 against Y**
• **Swaps**	**Regression of X_2 against Y**
• **Options**	**Regression of X_3 against Y**
• **Interest caps and floors**	**Regression of X_4 against Y**

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter focuses on data analysis, presentation and interpretation. It presents data analysis as per the study objectives, presentation of data by use of APA table format, pie charts and data interpretation. It presents the research findings on the effect of risk management instruments on foreign exchange exposure by unit trust companies in Kenya. Descriptive statistics were used to analyze the data. In the descriptive statistics, relative frequencies were used in some questions.

4.2 Respondents' Company Profile

Out of the 47 respondents, 43 filled and returned their questionnaires which make a 91% 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. The study sought to determine the respondent department and therefore requested the respondent to indicate their department.90% of the respondents were from the Fund management department with over 90%. This was deemed viable since employees from the fund management departments have the knowledge of the foreign exchange exposure. The study further revealed that industry areas of operation were capital markets and investments. On the total number of employee in the firms, the study revealed that these ranged between 10 employees to over 40 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 trading in unit trusts had been in operation between 2 to over 7 years as shown in the table on the next page.

Table 4.1: Duration of trading in unit trusts

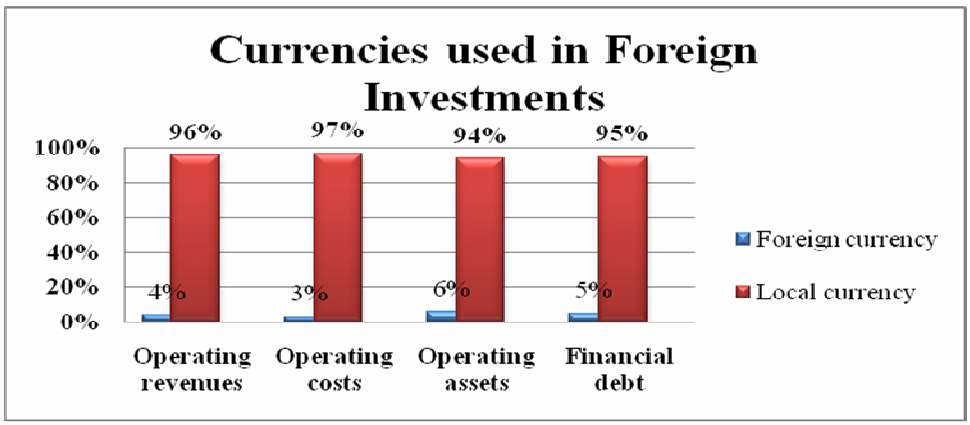
Duration	Frequency	Percentage
Less than 2 years	3	8
2-3 years	12	24
3-5 years	15	31
5-6 years	9	20
6-7 years	8	17
Total	47	100

Source: Research findings

4.3 Foreign Currency

The study sought to determine what percentage of company's consolidated operating costs, operating costs, operating assets and financial debt is in foreign currency. The study established that most of listed firms trading in unit trusts used local currencies in doing business in Kenya. 90% of the respondents said that consolidated operating revenues were not in foreign currencies, whereas less than 6% of the respondents said that operating revenues were in foreign currencies. The same case applied to operating costs, operating assets and financial debts that were found to be in local currency (Kenya shilling). This was thought to be because most of the firms dealing in unit trusts are faced by the challenge of a less developed financial system in Kenya. This is shown in the figure below.

Figure 4.1: Currencies used in foreign investments

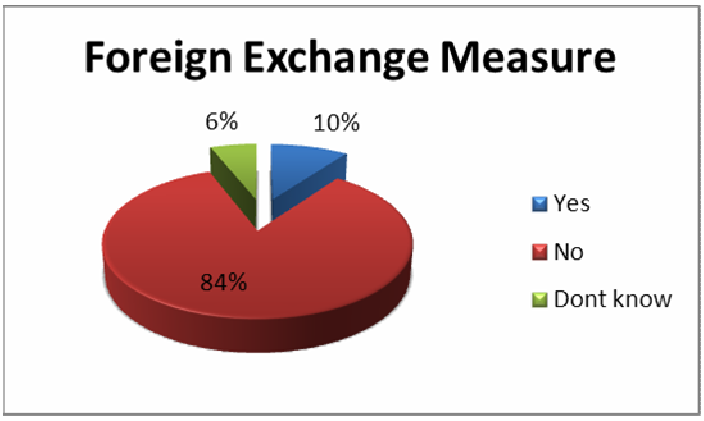


Source: Research Findings

4.4 Foreign Subsidiaries

In regard to foreign subsidiaries, the researcher found out that listed firms trading in unit trusts in Kenya did not have foreign subsidiaries. All the respondents interviewed confirmed that they had not established foreign subsidiaries outside Kenya and this could be attributed to the fact that unit trusts were introduced in Kenya not long ago and there has been slow growth in this industry. It was also found that most of the firms did not measure exchange rate exposure. 84% of the respondents said that their firms did not measure the exchange rate exposure, 10% of the respondents confirmed that their firms did measure the exchange rate exposure whereas 6% did not respond to this question as shown in the pie chart below.

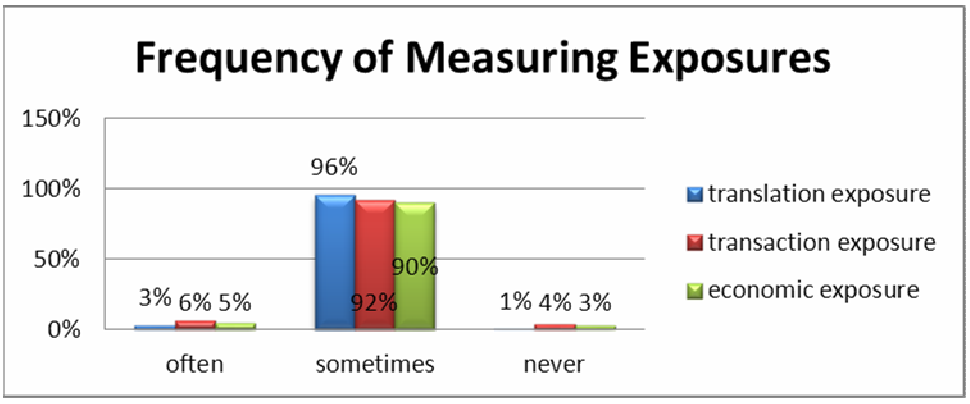
Figure 4.2: Measuring of foreign exchange rate



Source: Research Findings

For those who measured the exchange rate exposure, they did it on the following kinds of exposures; translation exposures (accounting translation into base currency), transaction exposures (foreign receivable currency), economic exposures (future expected cash flow and competitive position). Figure 4.3 shows the frequencies of measuring exchange rate exposure by those firms that were found to be undertaking this exercise.

Figure 4.3: Frequency of measuring exposures



Source: Research Findings

4.5 Importance of Financial Means

In order to manage the impact of exchange rate fluctuations on the firms' operating cash flows or competitive positions, it was found out that shortsighted currency derivatives were very important to some firms as shown in the table below

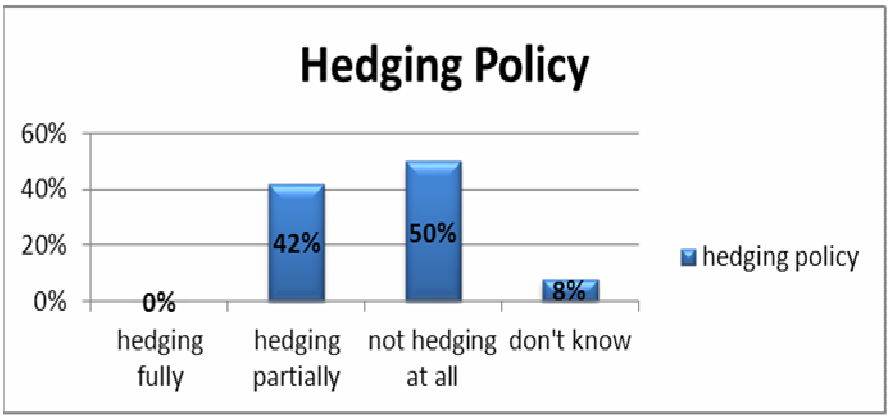
Table 4. 2: Importance of financial means

Importance	**Important**		**Unimportant**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Shortsighted currency derivatives	39	84	8	16
Longsighted currency derivatives	37	79	10	21

Source: Research Findings

It was established that most of the respondents did not know whether their firms had a hedging policy. 74% of the respondents confirmed that they had no knowledge of a hedging policy in their firms. 20% of the respondents confirmed that their firms hedged partially. The study found out that for those firms that hedged partially, 95% of the firms hedged at a rate of less than 5%. It was also found out that 77% of the firms did not hedge against foreign exchange risk whereas 23% of the respondents felt that their firms hedged against foreign exchange risks as shown in the figure 4.4.

Figure 4. 4: Hedging policy



Source: Research Findings

4.6 Forecast of Exchange Rate

The researcher set out to establish how often the firms' forecast of exchange rates made the firms undertake either of the following financial actions; altering of the timing of hedges, altering the sizes of hedge and actively taking the positions in currency derivatives or issuing debts in foreign currencies. It was found out that all the firms did not take any of the mentioned financial actions as a result of forecasting on exchange rates.

Positive or negative developments in exchange rates are very common in exchange rates, the study sought to establish whether in the last three years the following actions were fully or partially undertaken by the firms due to positive or negative changes. These actions includes; entering a new foreign market where the fund did not have any investment before, temporally closing or reducing operations in foreign markets, delaying in entering a foreign market and abandoning a foreign market completely. Table 4.3 shows actions that have been undertaken by various firms in respect to developments in exchange rates in the last three years

Table 4. 3: Actions taken because of positive or negative changes in exchange rates

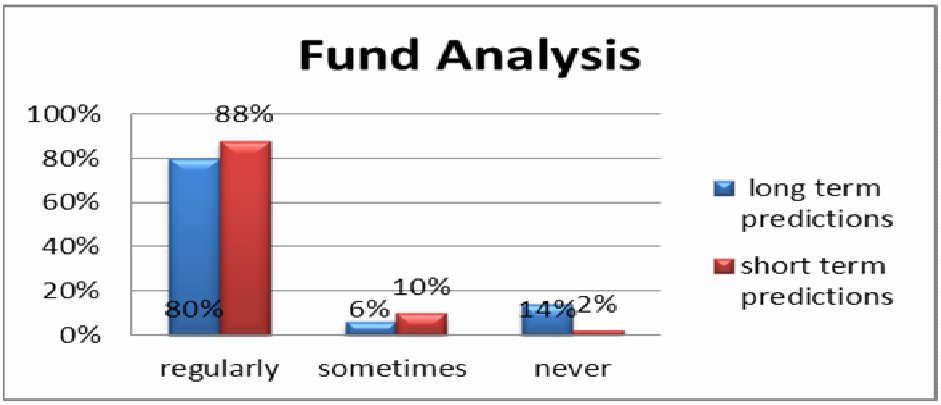
Action	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Enter a new foreign market where your fund did not have any investment before	6	14	41	86
Temporally close or reduce operations in a foreign market	4	8	43	92
Delay entry into a foreign market	0	0	47	100
Abandon a foreign market completely	0	0	47	100

Source: Research Findings

4.7 Analysis Done by Various Funds

Different analyses are done on funds by firms, the researcher set out to find which analyses were done by firms. The figure below shows the various analysis done and the frequencies of undertaking these analyses.

Figure 4. 5: Fund analysis



Source: Research Findings

Hedging horizons are best described by exposures; the study established that most of the exposures identified best described transaction as the typical hedging horizon. Table 4.4 shows exposures and the typical hedging horizon they described.

Table 4. 4: Hedging horizons

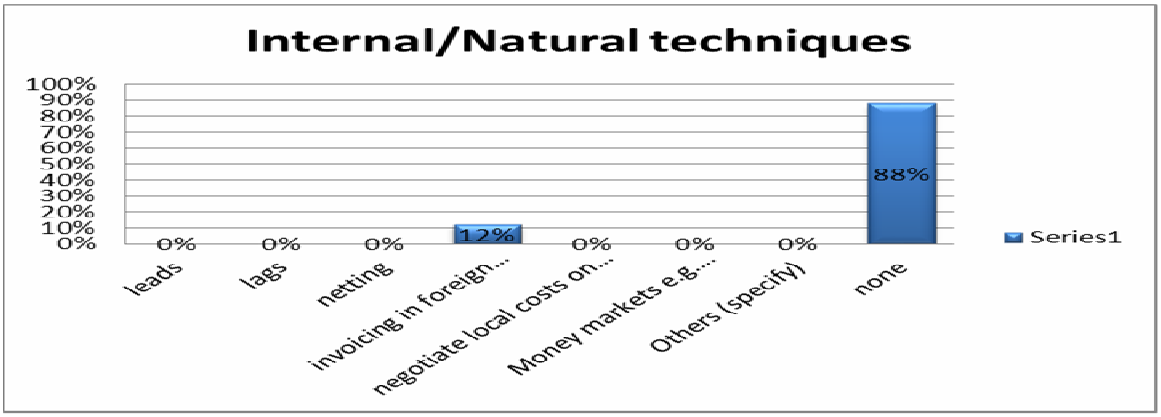
	Transaction		Translation		Economic	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Hedge shorter than the maturity exposure	39	84	4	8	4	8
Hedge the maturity of the exposure	44	94	1	2	2	4
Hedge longer than the maturity of the exposure	40	86	3	5	4	9

Source: Research Findings

4.8 Risk Management Techniques

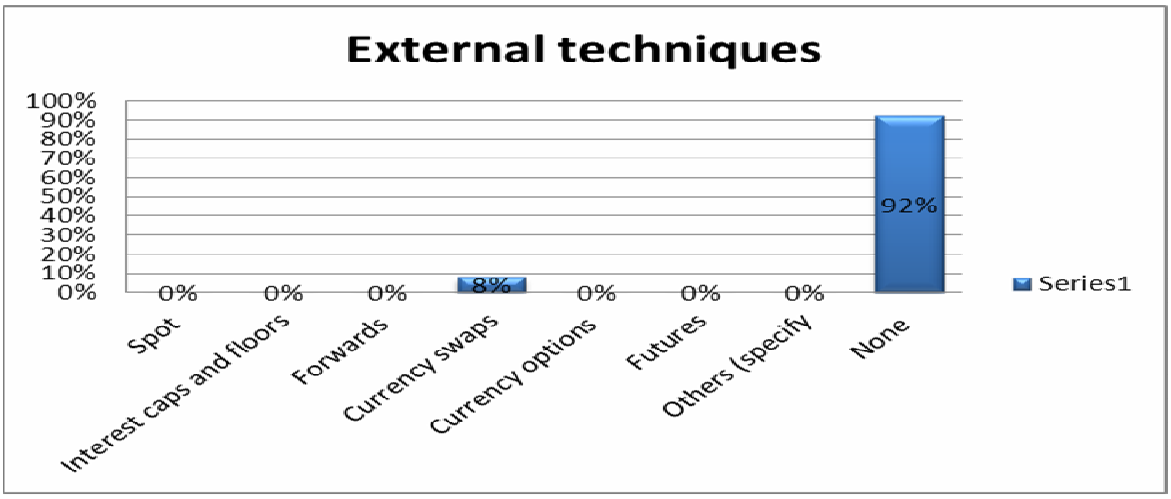
The researcher established that most of the firms did not apply any internal risk management techniques in mitigating foreign exposure. Only a few firms at 12% used internal risk management technique. This was the same case with application of external risk management technique to mitigate foreign exposure with 8% of respondents applying external techniques to mitigate foreign exposure as shown in the figures 4.6 and 4.7.

Figure 4. 6: Internal/ natural techniques



Source: Research Findings

Figure 4. 7: External techniques



Source: Research Findings

4.9 Effect of Risk Management Instruments

From the study, it was found out that invoicing on foreign currency was used by the firms to mitigate foreign exposure internally and currency swaps to mitigate foreign exchange exposure externally. By holding the factors that the study considered to be having effect on foreign exchange exposure i.e invoicing in foreign currency (X_1) and currency swaps (X_2), constant then, effect of risk management instruments (Y) will be at $\beta_0 = 2.744330$. However it is correct to note that left on its own, invoicing in foreign currency can not occur without the influence of other variables.

4.9.1 Invoicing in Foreign Currencies

Invoicing in foreign currency $\beta 1 = 0.018777$ implies that, holding other independent variable constant i.e. X2, invoicing in foreign currency to mitigate foreign exchange risk would increase the effect of risk management instruments by 0.018777..

Regression of Y and X1

Dependent Variable: Y

Method: Pooled Least Squares

Date: 08/10/13

Sample (adjusted): 1 47

Included observations: 43 after adjusting endpoints

Total panel (balanced) observations 43

Table 4.5: ANOVA 1

variable	**coefficient**	**Std. error**	**t-statistic**	**Prob.**
C	3.839398	0.214131	17.93010	0.0000
1-- X_1	0.217877	0.085100	2.560235	0.0141
R-Squared	0.134998	Mean dependent var		4.384091
Adjusted |R-squared	0.114403	S.D. dependent var		1.0889200
S.E of Regression	0.161018	Sum squared resid		.1711026.
Log Likelihood	18.94479	F-statistic		554804
Durbin -Watson Test	1.610494	Prob (F-statistic)		0.014146

Source: Research Findings

4.9.2 Currency Swaps

Regression of X1 and X2

Dependent Variable: Y

Method: Pooled Least Squares

Date: 08/10/13

Sample (adjusted): 1 47

Included observations: 43 after adjusting endpoints

Total panel (balanced) observations 43

Table 4.6: ANOVA 2

variable	**Coefficient**	**Std. error**	**t-statistic**	**Prob.**
C	4.002146	0.257377	15.54974	0.0000
1--X1	0.215812	0.084838	2.543819	0.0148
1--X2	-0.036960	0.032670	-1.131334	0.2645
R-Squared	0.161184	Mean dependent var		4.384091
Adjusted |R-squared	0.120266	S.D. dependent var		0.171102
S.E of Regression	0.160484	Sum squared resid		1.055955
Log Likelihood	19.62107	F-statistic		3.939203
Durbin -Watson Test	1.553928	Prob (F-statistic)		0.027238

Source: Research Findings

Swaps $\beta 2 = -0.010866$ implies that, holding the other independent variables constant i.e. X_1, Invoicing in foreign currency had a negative effect on foreign exchange exposure by 0.009766.This implies that the application of swaps without changing the other variable ,there would be no significance on effect of risk management instruments on foreign exchange exposure .

4.9.3 The Goodness Fit of the Model

The coefficient of multiple determinants denoted by R_2, is a measure of proportion of the variations of the regress and explained by the corresponding explanatory variables. In the case of this model, the coefficient would be defined as follows:

R^2 $Y.X_1X_2$ = Explained Variations

Total Variations

The values of R^2 lie between zero and unity.

$0 \leq R_2 \geq 1$

A value of unity implies that 100 per cent of the variations of Y have been explained by the

explanatory variables. On the other hand, a value of zero implies that no variations have been explained at all.

From the study, a value of 0.799505 is attained for the coefficient. This means that:

i) 80 per cent of the variations of the dependent variable have been explained by the explanatory variations.

(ii) Only 20 per cent of the variations are unexplained and are taken care of by the error term.

(iii)The conclusion is that the regression model at issue has a good fit.

4.10 Average Time Horizon for Covering Foreign Exchange Exposure

The study went ahead and sought to establish the average time horizon that the firms covered their foreign exposure by using financial means. These financial means includes but not limited to the following; forward contracts, options, swaps, caps and floors. It was realized from the study that the average time taken to cover foreign exchange exposure is one to six months. The table below shows the time horizon that firms covered foreign exchange exposure.

Table 4. 7: Average time horizon for covering foreign exchange exposure

	Transaction	
Average time	**Frequency**	**Percentage**
0-1 months	20	41
1-3 months	11	24
3-6 months	16	35
6-12 months	0	0
1-2 years	0	0
2-5 years	0	0
5 years	0	0
Total	47	100

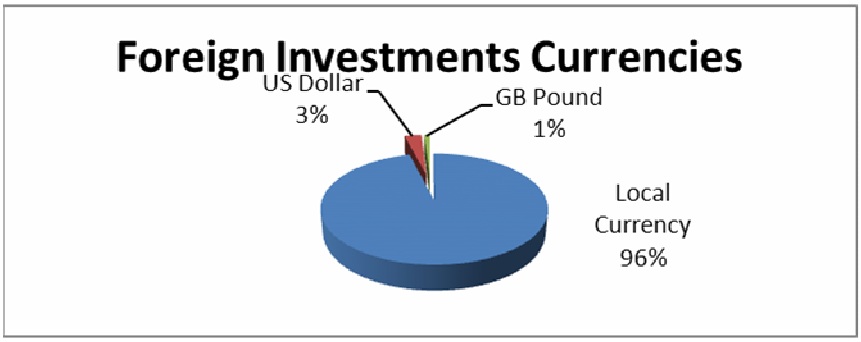
Source: Research Findings

4.10 Hedging Policy

It was established that most of the firms had no hedging policy for the period between January 2010 and June 2013. Over 90% of the firms had no hedging policy during this period. It was also found out that all the firms had no income statements on foreign exchange for the period between 2010 and 2012. Some fund managers however confirmed that their firms would be providing income statements on foreign exchange at the end of the current trading period (2013). The researcher found out that majority of the firms preferred local currency for their foreign

investment, 96% of the respondents confirmed this while 3% used US dollar and 1% used Great Britain Pound as shown in the figure below. In regard to foreign investment gains, it was found out that firms received their foreign investment gains in local currency. 98% of the firms received their gains in local currency (Kenya shilling).

Figure 4. 8: Currencies used in foreign investments

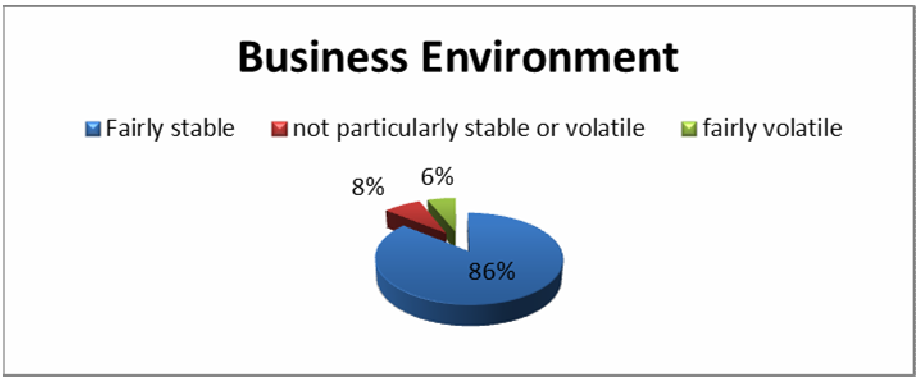


Source: Research Findings

4.11 Business Environment

Business environment plays a significant role in determining success of any business undertaking. It was established that unit trusts trading in Kenya is done in a fairly stable environment. 86% of the respondents attested to this while 8% felt that the business environment was not particularly stable or volatile as shown in the figure below.

Figure 4. 9: Business environment



Source: Research Findings

4.12 Interpretation of Findings

From the findings it was realized that most of the firms did not employ a lot of staff to handle unit trusts and this is attributable to the fact that unit trusts have not been widely recognized by investors in Kenya and thus a small clientele base. Firms trading in unit trusts in Kenya have been in operation for less than seven years and others have been in this business for two years. This is because unit trusts were introduced in Kenya not long ago and investors have been reluctant in investing in unit trusts.

It was realized that firms preferred using local currency for foreign investments because Kenya lacks a well developed financial system and as such these firms find it safe to use local currency to cushion them from risks brought about by use of foreign currencies in making foreign investments. This has also made these firms not to give importance to measuring foreign exchange exposure. Since trading in unit trusts has not been well established in Kenya which is considered the gateway to East and Central Africa economically, it has been difficult for firms trading in unit trusts in Kenya to establish foreign subsidiaries.

Hedging policy was found lacking in most firms, this was attributable to the fact that most of these firms were not trading in foreign currencies. This also contributed to the firms not to forecast on exchange rate. Analysis on short term predictions was done by majority of the firms because unit trust trade is not well established in Kenya and as such analysis for long term predictions was not necessary. Hedging against transaction exposure was found to be common in Kenya by this study. This is because firms in Kenya do not deal with foreign assets or liabilities which define translation exposures.

Invoicing in foreign currency was found to be applied by most firms to mitigate foreign exchange exposure internally as this was found to be safest in Kenya's financial system which is not well developed and prone to exposures. The same case was with application of currency swaps that was used to mitigate foreign exposure externally. Average time horizon for covering foreign exposure was found to be less than six months with majority of the firms hedging for three months; this was attributed to business environment that was found to be fairly stable and the fact that unit trust trading is not well established in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter looks at the summary of findings, makes conclusion and offers recommendations. This study had identified firms that offered unit trusts as the study subjects. Questionnaires were administered to the fund managers of the identified firms. From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study.

5.2 Summary

The objective of the study was to look investigate the effect of risk management instruments on foreign exchange exposure by unit trust companies in Kenya. From the findings on the department which deals with risk management in the firms trading in unit trusts, the study found that fund management department was responsible for dealing with risk management. The study also found out that unit trusts were under capital markets industry and that majority of the firms had a few employees ranging from ten employees to over forty employees. In regard to the period that the selected firms had been operational in unit trusts trading, the study found out that majority of the firms had operated for a period not more than seven years. This was attributable to the fact that unit trusts growth in Kenya has been slow and many firms had been reluctant to actively trade in unit trusts even though they are registered for this business.

The study found out that foreign currencies are not widely used. It was realized from the study that over 90% of the firms had their operating revenues, operating costs, operating assets and financial debt in local currency (Kenya shilling). Less than 5% of the selected firms used foreign currencies for their consolidated accounts. The study also sought to determine the number of foreign subsidiaries the selected firms operated. It was established that all the firms had not established foreign subsidiaries. In regard to measuring the exchange rate exposure, the researcher established that majority of the firms at 84% did not measure exchange rate exposure. 10% of the firms however found it necessary to measure exchange rate exposure. 6% of the respondents were not aware whether their firms measured or did not measure the rate of exposure.

For those who measured the exchange rate exposure, the following exposures were measured even though the frequency of undertaking this was not well defined. It was realized that

translation exposure was done at 6% often, sometimes at 91%, it was never done and this stood at 3%. Transaction exposure was done at 6% often, sometimes at 92%, and never done at 2%. Finally economic exposure was also done at the following frequencies, oftenly at 5%, sometimes at 90% and that this was never done at 5%.

In order to manage the impact of exchange rate fluctuations on operating cash flows or competitive position of a firm, the importance of financial means was established for both shortsighted currency derivatives and longsighted currency derivatives. It was found out that different fund managers found shortsighted and longsighted currency derivatives important and unimportant in equal measures. Some firms found both of them unimportant whereas other firms found them important.

It was established that most of the respondents did not know whether their firms had a hedging policy. 74% of the respondents confirmed that their firms did not know what the hedging policy of their firms was. 20% of the respondents confirmed that their firms hedged partially. The study found out that for those firms that hedged partially, 95% of the firms hedged at a rate of less than 5%. It was also found out that 77% of the firms did not hedge against foreign exchange risk whereas 23% of the respondents felt that their firms hedged against foreign exchange risks.

In respect to forecasting of what caused the firms to undertake the various financial options as a result of changes in exchange rates, it was realized that the following actions were never undertaken by the selected firms; altering the timing of hedges, altering the size of hedges and neither was actively taking positions in currency derivatives done. Positive or negative developments in exchange rates are very common in exchange rates, the researcher established that the following action were partly or fully undertaken. It was realized that 86% of the firms did not enter a new foreign market where their fund had no other investment before, 14% of the firms however, confirmed that they had entered a new foreign market where they had not before. 92% of the firms were found to have not temporally closed or reduced their operations in a foreign market whereas none of the firms had not delayed entering into a foreign market or abandoning a foreign market completely.

The study established that various analyses were done by the firms with regard to risk exposures. It was realized that analysis were done regularly in majority of the firms. 80% of the firms made

long term predictions of exchange rates. Long term predictions were for periods more than one year. Short term predictions (one year or less) were done regularly by most of the firms and this stood at 88%. Less than 2% of the firms never made short term predictions of exchange rates. Analyzing the likely behavior of customers to possible changes in future exchange rates were done and it was realized that 85% of the firms did this regularly with just 4% of the firms never undertaking this kind of analysis.

Hedging horizons are best described by exposures; the study established that most of the exposures identified best described transaction as the typical hedging horizon. The study established that hedging shorter than the maturity exposure best described transaction hedging horizon at 84%. Translation and economic hedging horizons were described to a lesser extent at 8% each by hedging shorter than the maturity exposure. Hedging the maturity of the exposure was also found to be greatly describing transaction hedging horizon at 94%, transaction and economic hedging horizons were described at a rate of 2% and 4% respectively by this exposure. Hedging longer than the maturity of the exposure too favoured transaction hedging horizon at 85%, this kind of exposure described translation and economic hedging horizon at 11% and 4% respectively.

The researcher established that most of the firms did not apply any internal risk management techniques in mitigating foreign exposure. Only a few firms at 12% used internal risk management technique. This was the same case with application of external risk management technique to mitigate foreign exposure with 8% of respondents applying external techniques to mitigate foreign exposure.

The study went ahead and sought to establish the average time horizon that the firms covered their foreign exposure by using financial means. These financial means includes but not limited to the following; forward contracts, options, swaps, caps and floors. It was realized from the study that the average time taken to cover foreign exchange exposure is one to six months. It was realized that 41% of the firms covered their foreign exposure using financial means at an average time horizon of one month. 24% of the firms did the same for a period ranging from one month to three months and finally 35% of the firms covered their foreign exchange exposures using financial means for a period ranging between three to six months.

It was established that most of the firms had no hedging policy for the period between January 2010 and June 2013. Over 90% of the firms had no hedging policy during this period. It was also found out that all the firms had no income statements on foreign exchange for the period between 2010 and 2012. The researcher found out that 94% of the firms preferred local currency for their foreign investment while 3% used US dollar and 1% used Great Britain Pound. In regard to foreign investment gains, it was found out that firms received their foreign investment gains in local currency. 98% of the firms received their gains in local currency (Kenya shilling). It was established that unit trusts trading in Kenya is done in a fairly stable environment. The study found out that 86% of the firms attested to this while 8% felt that the business environment was not particularly stable or volatile.

5.3 Conclusion

From the findings the study found that firms sampled use local currencies in doing their business and this exposes them to foreign exchange risks because all the major hard currencies of international transaction are sources of foreign exchange risk. This further increases the risk because developing countries like Kenya have less developed financial systems as was found out by Gachagua, 2011.

Firms actively trading in unit trusts in Kenya do not have foreign subsidiaries.

As found out in this study, the exchange rate risk faced by firms formed a significant component of their risk profile. It is important that firms trading in unit trusts effectively manage their risk to minimize their exposure to exchange rate risk. These risks occur as a result of changes occurring in local and global financial cycles.

It was also found that most of the firms did not measure exchange rate exposure.

Relevance of the research findings in foreign exchange risks management that came out clearly in this study is shown by the fact that despite application of number of techniques such as derivatives, balance sheet hedging, 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 exposure revealed in this study, unit trust managers and investors in Kenya should work towards application of combined 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 exposure to exchange risk. It was realized that despite the inefficiencies and challenges brought by less developed financial system in Kenya, there are other tools available to help manage risk exposure. Summarily a foreign exchange risk affects gains made by firms trading in unit trusts.

5.4 Recommendations for Policy

Having concluded that indeed foreign exchange risks affect gains made by the firms sampled in this study, the study recommends that firms trading in unit trusts should expand their capacities within firms for managing foreign currency risk exposure.

Fund mangers should strive to educate their staff continuously. These trainings should focus on the practicability of unit trusts trading in Kenya; this could involve professional organizations for finance specialists, bankers, accountants and consultants. These trainings should be done in an environment that will enable exposure of the trainees to participants from diverse businesses and orientations for training and assessment. These trainings should not only cover foreign currency risk alone but rather could be preceded by real market challenges experienced by firms trading in unit trusts. As found out in this study, the exchange rate risk faced by firms forms a significant component of their risk profile. Therefore it is important that firms trading in unit trusts effectively manage their risk to minimize their exposure to exchange rate risk. The following areas needs further research in Kenya and other developing countries to help manage foreign exchange exposures; in-depth research on foreign exchange risk exposure of domestic companies.

5.5 Limitations of the Study

The researcher faced a few challenges in the course of this study. The following are some of the challenges; the study found out that most of the firms were not dealing in foreign investment and this limited the scope of the researcher in terms of data available for the study. Another challenge was that most of the firms were hesitant in releasing data on foreign investments because they felt it would give an advantage to their competitors in future and finally the research encountered challenges in securing appointments with fund managers to conduct interviews. Fund managers were very busy most of the times and as such conducting an in-depth interview was a challenge.

5.6 Areas for Further Research

The research recommends further research on the following areas; the foreign exchange risk exposure of domestic companies has not been fully investigated in prior literature and this is an area that needs further research. It will also be important for further studies to be done on how to improve the financial systems in Kenya and finally further research should be done on how best to educate fund managers and other staffs handling unit trusts for them to be efficient in forecasting and mitigating foreign exchange exposure.

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APPENDICES
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

7) What percentage of your company’s consolidated operating revenues, operating costs, operating assets and financial debt is in foreign currency? (Please check the option in each row that is closest to your estimate)

	0%	**1-20%**	**21-40%**	**41-60%**	**61-80%**	**81-99%**	**100%**
Operating revenues							
Operating costs							
Operating assets							
Financial debt							

8) How many foreign subsidiaries does your fund have?

Number	0	1-5	6-10	11-20	21-30	31-40	41-50	Above 50

9 a) Is the firm measuring the exchange rate exposure?

Yes ☐ No ☐

b) If yes, what kind of exposures and how often is your firm measuring them?

Exposure	**Often**	**Sometimes**	**Never**
Translation exposure(accounting translation into base currency)			
Transaction exposure (Foreign receivable currency)			
Economic exposure (Future expected cash flow and competitive position)			

10) In order to manage the impact of exchange rate fluctuations on your fund's operating cash flows or competitive position, how important are the following financial means for your fund? 1 = important to 5= Unimportant.

Importance	**1**	**2**	**3**	**4**	**5**
Shortsighted currency derivatives					
Longsighted currency derivatives					

11) What is your hedging policy in your organization?

Hedging fully ☐ hedging partially ☐

Not hedging at all ☐ Don't Know ☐

12) Do you hedge against foreign exchange risk?

Yes ☐ No ☐ Don't Know ☐

13) If your policy is hedging partially in number 8 above, what is the percentage? .....%

14) How often does your company's view/forecast of exchange rates cause your company? to take the following financial actions? (Please check one option in each row)

Action	**Never**	**Sometimes**	**Often**
Alter the timing of hedges			
Alter the size of hedges			
Actively take positions in currency derivatives (forward contracts , options, swaps) or issue debt in foreign currency			

15) In the past 3 years, have you undertaken any of the following actions partly or fully due to positive or negative developments in exchange rates?

Action	**Yes**	**No**
Enter a new foreign market where your fund did not have any investment before		
Temporally close or reduce operations in a foreign market		
Delay entry into a foreign market		
Abandon a foreign market completely		

16) Does your fund perform the following types of analysis?

Analysis	**Regularly 1**	**Sometimes 2**	**Never 3**
Makes long term(more than one year) predictions of exchange rates			
Makes short term(1 year or less) predictions of exchange rates			
Analyzes the likely behavior of customers to possible changes in future exchange rates			

17) For each of the following exposures, which best describes typical hedging horizon?

	Transaction	Translation	Economic
Hedge shorter than the maturity exposure			
Hedge the maturity of the exposure			
Hedge longer than the maturity of the exposure			

18) Which of the following internal risk management techniques do you apply in mitigating foreign exposure?

a) Internal/natural techniques

Leads	**Lags**	**Netting**	**Invoicing in foreign currency**	**Negotiage local cost on inputs**	**Money markets e.g. forex loan**	**Others (specify)**	**None**	**Total**
								100%

b) Which of the following external risk management techniques do you apply in mitigating foreign exposure?

External techniques

Spot	**Interest caps and floors**	**Forwards**	**Currency swaps**	**Currency options**	**Futures**	**Others (specify)**	**None**	**Total**

19) At the present time, what is the average time horizon that your company has covered its foreign exchange exposure by using financial means (i.e. forward contracts, options, swaps, caps and floors)? (Please check one option)

0-1 months ☐ 1-3 months ☐ 3-6 months ☐ 6-12 months

1-2 years ☐ 2-5 years ☐ > 5 years ☐

20) Between the period January 2010 and June 2013, is there a time when you had no hedging policy in your institution?

Yes ☐ No ☐

21) Income statements on foreign Exchange

	2010	2011	2012
Foreign Exchange Profit			
Foreign Exchange Loss			

22) In which foreign currencies are your foreign investments

Kshs ☐ US$ ☐ Euro (€) ☐ GBP (£) ☐

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

23) Which currencies do you use to receive your foreign investment gains? **(Multiple answers)**

Kshs US$ ☐ Euro (€) ☐ GBP (£) ☐ Japanese Yen (¥) ☐

Others ..…… (Specify)

24) How would you characterize the general business environment in which your company primarily operates? (Please choose one appropriate option)

Business environment

Very stable ☐

Fairly stable ☐

Not particularly stable or volatile ☐

Fairly volatile ☐

Very volatile ☐

Thank you very much for your time and contribution.

COLLECTIVE INVESTMENT SCHEMES OPERATIONAL IN KENYA

FUND NAME	*Initial Fees (one off)*	*Annual Management Fee*	*Initial Minimum Investment Amount*
1. AFRICA ALLIANCE	0%	2.00%	100,000
a. Africa alliance Shilling Fund			
b. Africa Alliance Fixed Income	3.50%	2.00%	100,000
c. Africa Alliance Managed Fund	5.00%	2.00%	100,000
d. Africa Alliance Equity Fund	2.00%	5.00%	100,000
2. OLD MUTUAL			
a. OM Money Market Fund	0%	2%	1000
b. OM Equity Fund	5%	2%	50,000
c. OM Bond Fund	5%	2%	50,000
d. OM Balanced Fund	5%	2%	50,000
e. OM East Africa Fund	5%	2%	50,000
3. BRITISH AMERICAN ASSET MANAGERS			
a. BAAM Money Market Fund	0%	2%	25,000
b. BAAM Income Fund	5%	2%	25,000
c. BAAM Balanced Fund	5%	2%	25,000
d. BAAM Equity Fund	5%	2%	25,000
4. CFC STANBIC			
a. Stanbic Money Market Fund	0%	1.75%	100,000
b. CFC Simba Fund	4.50%-5%	2.00%	100,000
5. COMMERCIAL BANK OF AFRICA			
a. CBA Money Market Fund	0%	2.00%	100,000
b. CBA Equity Fund	4%-5%	2.00%	100,000
6. ZIMELE ASSET MANAGERS			
a. Zimele Money Market Fund	0%	2.00%	250
b. Zimele Balanced Fund	3%	2.50%	250
7. SUNTRA INVESTMENT BANK			
a. Suntra Money Market Fund	1000	5% upon redemption	50,000
b. Suntra Balanced Fund	1000	5% upon redemption	50,000
c. Suntra Equity Fund	1000	5% upon redemption	50,000
8. ICEA			
a. ICEA Money Market Fund	0%	2%	50,000
b. ICEA Equity Fund	5%	2%	50,000
c. ICEA Growth Fund	5%	2%	50,000
9. STANDARD INVESTMENT BANK			
a. Standard Investment Fixed Income Fund	4%	1.50%	20,000
b. Standard Balanced Fund	4%	1.50%	20,000
c. Standard Equity Growth Fund	4%	1.50%	5,000
10. CIC INSURANCE			

a. CIC Money Market Fund	4.50%	2.00%	10,000
b. CIC Balanced Fund	4.50%	2.00%	10,000
c. CIC Fixed Income Fund	4.50%	2.00%	10,000
d. CIC Equity Fund	4.50%	2.00%	10,000
11. MADISON ASSET MANAGERS			
a. Madison Asset Money Market Fund	1%	2%	50,000
b. Madison Asset Balanced Fund	3%	2%	50,000
c. Madison Asset Equity Fund	5%	2%	50,000
12. DYER & BLAIR			
a. Dyer & Blair Diversified Fund	4%	2%	50,500
b. Dyer & Blair Money Market Fund	0%	2%	50,500
c. Dyer & Blair Equity Fund	5%	2%	10,500
d. Dyer & Blair Bond Fund	2%	2%	50,500
13. AMANA CAPITAL			
a. Amana Shilling Fund	0%	2%	10,000
b. Amana Balance Fund	4%	2.25%	10,000
c. Amana Growth Fund	5%	2.50%	10,000
14. GENGHIS CAPITAL			
a. GenCap Hela Fund	0%	2%	500
b. GenCap Eneza Fund	3.5%	2%	500
c. GenCap Iman Fund	5.0%	2%	500
d. GenCap Hazina Fund	3.5%	2%	500
e. GenCap Hisa Fund	3.5%	2%	500

Source; CMA 2013

Money Markets Funds

Money Markets Funds	Daily Yield (%)	Effective Annual Rate (%)
African Alliance Kenya Shilling Fund	5.6	5.76
Old Mutual Money Market Funds	5.97	6.13
British American Money Market Fund	8.89	9.31
Stanlib Money Market Fund	7	7.23
CBA Market Fund	5.44	5.6
CIC Money Market Fund	9.03	9.41
Amana Money Market Fund	9.15	9.32
Zimele Money Market Fund	9	9.31
ICEA Money Market Fund	8.07	8.41
Madison Asset Money Market Fund	8.03	8.33

Source: NSE 2013