

**THE EFFECT OF DIVERSIFICATION ON PORTFOLIO RETURNS  
OF MUTUAL FUNDS IN KENYA**

**BY**

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## DECLARATION

This research Project is my original work and has not been presented in any other University.

Signed..... Date .....

**Fernandes Juma Wafula**

**D61/79222/2012**

This research project has been submitted for presentation with my approval as University Supervisor.

Signed..... Date .....

**Supervisor: Mr. Cyrus Iraya**

## **DEDICATION**

I dedicate this paper to my loving wife Caroline Nyawira Fernandes for the encouragement and support accorded to me throughout the research process, to my mum Rosina Namalwa Wafula for reminding me of my potential, my late father who always encouraged me to aspire for greatness and finally to my little daughter Neriah Namalwa Fernandes for giving me the reason to push on.

## ACKNOWLEDGEMENT

Work on this project has been a challenging but valuable intellectual and personal experience and there are many people I would like to acknowledge for their contributions and support in the process. First and foremost, I would like to offer a sacrifice of thanks giving to God for his faithfulness and sufficient grace. This is testimony that he will always be found when we seek him and nothing is impossible if we always let him lead.

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My appreciation also extends to the many scholars whose writings have enriched the literature on the topics of diversification, risk and portfolio returns of mutual funds. They are listed in the bibliography section, and those with multiple citations deserve my special gratitude. I also benefited greatly from my fellow graduate business students at the University of Nairobi, School of Business whose writings and discussions greatly stimulated my thinking.

I would like to also register my appreciation for the moral support I got from my loving wife Caroline Nyawira-Fernandes, may God reward you greatly sweetheart. Special thanks to my Mother Rosina Namalwa Wafula for being a constant reminder on the need to have this project completed and my late father Raphael Wafula Matepe for giving me the hunger to always aspire for greatness. Finally, I owe special thanks to my Daughter Neriah Namalwa Fernandes for giving me the reason to push on and for the patience and understanding for the long hours I have spent on this research.

## **ABSTRACT**

The objective of this study was to determine the effect of diversification on portfolio return of mutual funds in Kenya.

The study took a descriptive research design approach. The study entailed a sample of 7 mutual funds that had balanced funds with complete records for the year 2013 for a period of 52 weeks. The study used secondary data sources available at the NSE or Capital Market Authority offices. The study used the multiple linear regression equation and the method of estimation was Ordinary Least Squares (OLS) so as to establish the effect of diversification on portfolio returns of mutual funds in Kenya.

The study revealed that diversification affects the portfolio returns of mutual funds in Kenya. The study found that diversification positively influences the portfolio returns. There is need for fund managers to actively craft their investment strategy and impress diversification so that they can be able to improve the portfolio returns of the fund holders.

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## **LIST OF ABBREVIATIONS**

ANOVA	Analysis of Variance
APT	Arbitrage Pricing Theory
CMA	Capital Markets Authority
CAPM	Capital Asset Pricing Model
GDP	Gross Domestic Product
IMF	International Monetary Fund
NSE	Nairobi Security Exchange
PIMS	Profit Impact of Market Strategies
SA	South Africa
SBU	Strategic Business Unit



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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Investors are generally risk averse and will do anything within their power to minimize risk without affecting the level of return that they can receive from their investment. One of the ways to achieve this is by diversifying the investment portfolio into many assets class such as stocks, bonds and real estate. Diversification is the holding of a combination of assets which are not positively correlated such that in the event of poor fortunes of one asset, the investor can be compensated by the good fortunes of the other assets. Markowitz (1952) observed that diversification helps in the reduction of portfolio risk and cushions the portfolio from potentially catastrophic events such that in the event of failure of one of the constituent investments the investor falls back to the good fortunes that the other constituent investments would record hence ensuring that the entire portfolio value and returns remains good.

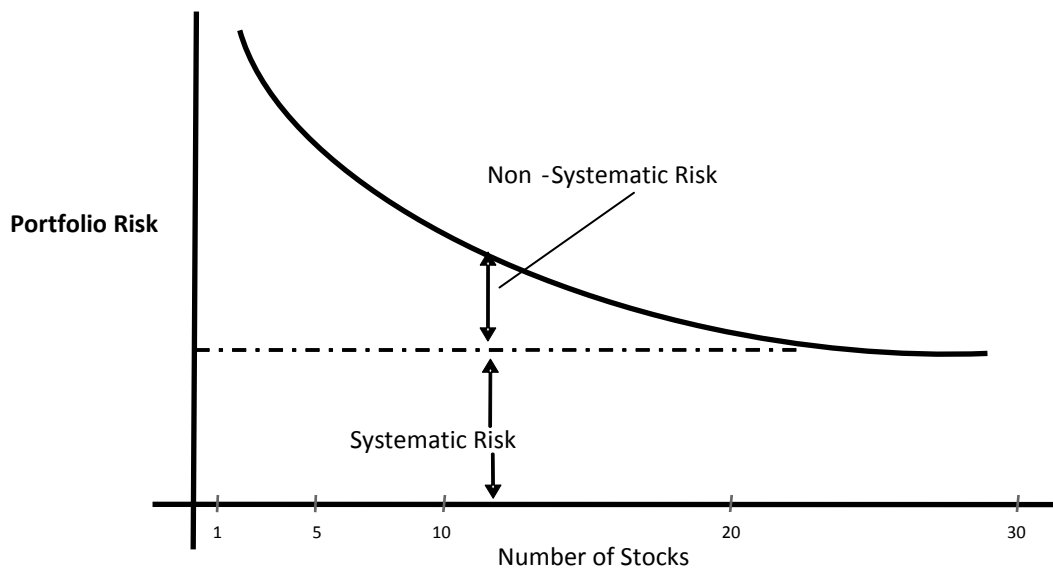
Portfolio return on the other hand is the combination of the expected returns, or averages of probability distributions of possible returns, of all the assets in an investment portfolio. These Overall return usual gives a better reward to an investor than when investments are held in isolation. Kamwaro (2013) contends that there is a strong relationship between financial performance and the size of investment one holds in a portfolio thereby contributing to the fact that diversification affects portfolio returns.

This thinking has led to the development of many collective investment schemes or mutual funds around the world. Mutual funds constitute a pool of funds that are managed on behalf of investors by professional money managers. In Kenya the term Unit trusts and collective investment schemes are interchangeably used to refer to mutual funds. The Fund management industry is a key sector that invests funds under their control for both the private and public sectors in Kenya. According to the CMA website ([www.cma.or.ke](http://www.cma.or.ke)), there are 17 registered and operating collective investment schemes in Kenya. The fund management industry in Kenya is relatively young having taken off with the passage of the Capital Markets Amendment ACT (2000), which promotes, regulates and facilitates the development of an of an orderly, fair and efficient Capital Markets.

### **1.1.1 Diversification**

Markowitz (1952) observes that diversification is a situation where investors invest in two or more different assets. This term is also used to interchangeably refer to a “portfolio”. Investors in financial securities will usually hold a portfolio of stocks, while a large divisionalized company might hold a portfolio of business assets. Diversification is an important investment technique that helps reduce risk by allocating investments among various financial instruments, industries and other categories. It aims to maximize return by investing in different areas that would each react differently to the same event.

Portfolio risk comprises of diversifiable (unsystematic) and non-diversifiable (systematic) risk as shown in the diagram below. The level of diversification in a portfolio is measured by determining the proportion of diversifiable risk in the total portfolio risk. For well diversified portfolios, unsystematic risk is very small and almost the whole of the portfolio risk is made of the systematic risk. Systematic risk is measured by calculating the beta coefficient prevalent in the portfolio. A beta of 1 implies the asset has the same systematic risk as the overall market, a beta  $< 1$  implies the asset has less systematic risk than the overall market and a beta  $> 1$  implies the asset has more systematic risk than the overall market.



**Figure 1.1 Relationship between Market Portfolio and Risk.**

Source: [www.cfainstitute.org/.../investments\\_chapter6.pptx](http://www.cfainstitute.org/.../investments_chapter6.pptx)

### **1.1.2 Portfolio Returns**

Portfolio return refers to the overall reward that an investor gets by investing in a certain pool of assets or securities within a given environment or market risk. Because a market portfolio is completely diversified, it is subject only to systematic risk and not to unsystematic risk. Investors attempt to maximize their expected portfolio returns with individually acceptable levels of portfolio risk (Modigliani and Pogue, 1974). An optimal portfolio is one that provides the highest possible return for any specified degree of risk or the lowest possible risk for a given return.

Jensen (1968) observes that the portfolio performance is measured by computing the Jensen alpha or ratio. The ratio measures how much of the portfolio's rate of return is attributable to the manager's ability to deliver above-average returns, adjusted for market risk. The higher the ratio, the better the risk-adjusted returns. A portfolio with a consistently positive excess return will have a positive alpha, while a portfolio with a consistently negative excess return will have a negative alpha.

### **1.1.3 Effect of Diversification on Portfolio Returns**

Markowitz (1952) observes that by investing in more than one stock, an investor can reap the benefits of diversification by reducing the riskiness of portfolio. The risk in a portfolio of diverse individual stocks will be less than the risk inherent in holding any one of the individual stocks (provided the risks of the various stocks are not directly

related). This will in the long run ensure that the level of return an investor will earn in a portfolio is more certain and higher than if they held their investments in isolation.

The ability to reduce firm-specific risk in a portfolio depends on the relative correlation of the assets held in the portfolio. The lower the Correlation between assets held in a portfolio by an investor, the higher the ability of an investor to reduce risk and increase the expected returns.

Several studies have however recorded diverse conclusions. One argument is that diversification has no significant impact on performance though it has an impact on risk adjusted performance (Chang and Elyasiani, 2008). Another view is that diversification has had significant effect on performance of financial institutions especially during economic crisis (Kuppuswamy and Villalonga, 2010). Among the effects on performance is that it increases efficiency (Rotich, 2011). With those of the argument that diversification is inefficient saying that additional product come with additional cost hence they do not increase on performance. The extent to which diversification increases or decreases shareholders value in profit oriented firms is still unclear. This clings on performance (Goddard et al., 2008).

#### **1.1.4 Mutual Funds in Kenya**

Few mutual funds existed by the 1950s around the world. In fact mainstream investment thinking at this time was: Analyze securities one-by-one and focus on picking winners. Concentrate holdings to maximize returns. Broad diversification was considered undesirable.

Loeb (1950) noted that once you attain competency, diversification is undesirable. One or two, or at most, three or four securities should be bought. Competent investors will never be satisfied beating the averages by a few small percentage points.”

Contrary to this assertion, mutual fund management has grown in leaps and bounds in the recent past around the world and in Kenya included. Fund managers have put the investors’ money in several investment vehicles also known as diversified portfolios and this has greatly aroused the thirst for the need to establish whether this investment strategy has had any benefits that accrues to the investor.

Mutual fund management are arrangements made or offered by any company under which the individual investor contributions or payments are pooled and utilized with a view to receive profits, income, produce or property and is managed on behalf of the investors. These funds offer investors a competitive return at a lower risk and in turn the fund managers charge a management fees for the service rendered on behalf of the investors managing these funds. Fund managers use the money to buy stocks, bonds or other securities according to specific investment objectives that have been established for the scheme.

Collective Investment Schemes or Unit Trusts have emerged as an important investment vehicle in Kenya in the recent past and have grown in popularity with even retail investors from the lower segment of the economy who were traditionally locked out of investment options now turning millionaires from the trusts. These schemes generate high returns and minimize investment risk through diversification of the

investment portfolio range. They are popular among investors because they offer simplicity, instant diversification and professional money management across a wide range of asset classes. There are currently 17 companies that have been licensed by the CMA in Kenya to offer unit trusts as a form of collective investment schemes.

In emerging markets like Kenya, funds management is a recent discipline and limited research has been carried out on their performance. The phenomenal growth in the fund management industry in emerging markets has resulted in a rapid increase in the number of investment firms offering diversified portfolio of funds. This has necessitated the need for prudent measurement models to determine portfolio risk and returns in this sector.

There is no legal requirement for the licensed mutual funds in Kenya to diversify their investments but almost all the firms have invested in either equity, money or balanced funds. These firms have recorded impressive portfolio returns as a result of diversifying their investments relative to the market. Buster (2012) in a study of the relationship between asset allocation and financial performance of mutual funds in Kenya contends that unit trusts performed well over the period of study and in most of the instances, the market trailed behind the performance of unit trusts.

In finance there is a hypothesis which some authors have dubbed “the first fundamental law in finance” (Ghysels et al., 2005), which states that the greater the risk the greater the return.



Essentially investors are expected only to accept higher risk in their portfolio if this risk is adequately matched by a commensurate return. It therefore follows that the pricing of an asset is primarily determined by the level of risk associated with that asset. It becomes imperative that the risk or volatility parameter in such an asset is accurately modelled in order to definitively determine if investors are adequately compensated for assuming greater risk.

This relationship between risk and return is of particular importance in asset management, specifically in the area of portfolio diversification. Prior to selecting any investment for a Portfolio, investors should decide upon the proportion of different assets to be held. Diversification requires that asset managers select assets that are negatively or lowly correlated. This selection of assets has no simple formula that can find the right asset allocation for an individual investor: such allocations are usually subject to the investor's unique characteristics pertaining to risk appetite, age and investment horizon (Nuttall et al, 2000). On account of this, it is imperative that the relationship between risk and return be accurately modelled in order to aid the investment decisions of investors and portfolio managers (Nuttall et al., 2000)

The past two decades have seen widespread deregulation and liberalization of financial markets in Africa through the IMF sponsored structural adjustment programme. This trend towards greater liberalization has been hailed as it assists investors to rapidly adjust their investment portfolios in response to shocks, leading to less impact on prices and thus volatility or risk (Montiel and Reinhart, 1999). However, there is a body of empirical literature that has examined the behavior of liberalized stock

markets and found that liberalization has led to increased market volatility (Borensztein and Gelos, 2000, Froot et al., 2001 and Kaminsky et al., 2000). Because of these differing conclusions there is a lack of consensus on the impact of liberalization on volatility which subsequently affects portfolio diversification. Apart from the risk which is specific to an individual market such as equity markets, it is prudent to fully understand risk that affects all markets (systemic risk), specifically in the areas of banking and insurance for the purposes of risk management. This is necessary for financial regulation as governments seek to impose risk-based capital adequacy requirements that are commensurate with the amount of risk taken by financial institutions (Christoffersen et al., 1998). These developments in literature have led to a growing interest in studying diversification for the purpose of assessing its impact on the volatility or risk and return in mutual funds. This study shall investigate the nature of diversification as well as its impact on portfolio return in mutual funds. The results of such a research can offer insights into asset and risk management practices as well as financial regulation.

## **1.2 Research Problem**

The investment environment within which the mutual funds operate are faced with a number of challenges chief among them is the risk. Risk basically is the variability of the portfolio return as a result of unforeseen circumstances. Diversification of the investment assets forms a critical component of a fund manager's strategy in their endeavour to improve the portfolio returns. Generally, there is a positive relationship between the number of assets held by a fund manager in an investment portfolio and

the portfolio return since as the number of assets increase, the portfolio risk reduces which in the long-run improve the fortunes of an investor.

Fund management in Kenya is a relatively new investment frontier and limited information has been published on their performance. Despite their late entry in the market, mutual funds have grown in leaps and bounds in the recent past. There are currently about seventeen companies registered by the CMA which further shows the level of importance the mutual funds play in the Kenyan economy. The recent increase in the number of players and type of funds that are available to individual investors make a lot of theoretical and practical significance.

A lot of studies have been written on the relationship between risk and returns from Scholars like Sharpe (1965) and Firth (1977). The main finding in most of these studies above is that there is a positive relationship between risk and return. The risk return trade off concept therefore means that investors get rewarded through a risk premium for taking additional risk. However exceptions have been noted in this conclusion .Bowman (1980) discovered that within most industries risk return was negatively correlated. Fiegenbaum and Thomas (1998) also observed a negative relationship between risk and return.

A number of studies have been done in Kenya on fund management firms. Muriithi (2005) carried out an evaluation of risk and returns of equity mutual funds in Kenya from the period 1st January to 30th June 2005 .He established that out of the mutual

funds studied the Old Mutual Equity Fund and the African Alliance Balanced Fund did not exhibit a positive risk return relationship which is an indication that unit holders are risk averse and expect to be compensated with high returns for any additional risk undertaken. Thuo (2011) tested the risk return relationship of mutual fund market in Kenya. He concluded that a negative beta which is statistically significant was obtained for the GDP growth rate. This implied that a decrease in the economic growth rate is an increase in the risk faced by investors hence they will demand a higher rate of return. Ngene (2002) carried out an investigation into the portfolio performance measures used by pension funds managers and the challenges they face in portfolio management in Kenya. He established that most investment managers are aware of the portfolio performance measures yet only one of the nine respondents use the measures in pension fund management. Maina (2003) researched on risk and return of investments held by insurance Companies in Kenya from January 1997 to December 2001. From his findings, he established that there is very little correlation between return and risk of investments held by Kenyan insurance companies. Only investments in secured loans had a positive relationship between return and risk.

However, very limited information has been published on the effect of diversification on portfolio return among registered mutual fund firms, what number of assets are ideal to ensure a fully diversified portfolio that can eliminate all the risks and why some mutual funds still make losses or record less returns despite being diversified and whether there are other factors that can influence the portfolio return apart from diversification.

Therefore, the research aims to determine the relationship between diversification and portfolio return of investments held by registered mutual funds in Kenya. The basic problem for this study is therefore an attempt to enquire into the existence or otherwise of a diversification portfolio return structural relationship among registered fund management firms in Kenya. Towards providing answers and filling any gaps to these issues, the research will evaluate how the level of diversification affects portfolio return held by registered fund Management firms in Kenya. This study will assist in answering the research question; what is the relationship between diversification and portfolio return among fund management firms in Kenya?

### **1.3 Objectives of the study**

To determine the effect of diversification on portfolio returns of mutual funds in Kenya.

### **1.4 Value of the study**

The study will be of importance to fund managers since they will understand the relationship between diversification and portfolio returns. This would probably help them know the extend to which they can diversify their portfolio across industries so as to reap maximum returns at any given level of risk and in the long-run achieve efficient portfolios in the mutual funds they are managing on behalf of investors.

Research and Development play a key role in any given economy .This study will be a source of reference material for future researchers and academicians who would study

on related topics hence it formulates a basis for further research. Financial analysts carry out a research on market performance and on issues affecting the financial market players. Findings from the study will help them give sound information that will enable them to give informed decisions and offer appropriate advice to investors to make sound investment decisions.

The study will also be of significant interest to the Capital Market Authority and the Nairobi Stock Exchange. They will use the findings from this study to offer informed advices to the relevant authorities and investors and come up with important policy and regulatory framework to guide the mutual fund markets and create a level playing ground to all the sector players.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter sets the theoretical framework as well as reviewing some of the relevant empirical literature on the diversification-portfolio return relationship. The first part of the chapter looks at the theoretical literature. Here we review the finance models that outline the theoretical link between diversification and portfolio return. The second part of the chapter focuses on the empirical literature on the diversification-portfolio return relationship

#### **2.2 Theoretical Review**

Investor looks forward to getting good return for their investment as a compensation or reward for taking a risk in an investment. The study will be guided by the modern portfolio theory, capital asset pricing theory and the arbitrage pricing to demonstrate the effect of diversification on portfolio return of mutual funds.

##### **2.2.1 Modern Portfolio Theory**

Markowitz (1952) developed the basic portfolio theory, he derived the expected rate of return for a portfolio of assets and an expected risk measure. It emphasizes how risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of risk, emphasizing that risk is an inherent part of higher reward. According to the theory, it's possible to construct an efficient frontier of

optimal portfolios offering the maximum expected return for a given level of risk. There are four basic steps involved in portfolio construction: security valuation, asset allocation, portfolio optimization and performance measurement.

Portfolio theory is a mathematical formulation of the concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual assets. That this is possible can be seen intuitively because different types of assets often change in value in opposite ways. For example, when prices in stock market fall, prices in the bond market often increase, and vice versa. A collection of both types of assets can therefore have lower overall risk than either individually. But diversification lowers risk even if assets returns are not negatively correlated indeed, even if they are positively correlated (Markowitz, 1952).

There are several assumptions underlying this theory in regard to investors behavior, investors consider each investment alternative as being represented by a probability distribution of expected returns over some holding period, they estimate the risk of the portfolio on the basis of variability of expected returns, they maximize one period expected utility, they base their decisions solely on expected return and risk and for a given level of risk, investors prefer higher to lower returns and similarly, for a given level of expected return, investors prefer less risk to more risk (Brown & Reily, 2009) . Many theoretical and practical criticisms have been leveled against this theory the more fundamental being its measurement of risk in terms of total risk whereas relevant



risk in investment appraisal is non-diversifiable risk and the fact that financial returns do not follow a Gaussian distribution or indeed any symmetric distribution, and the correlations between asset classes (Micheal, 1998).

The implication of MPT is that a rational investor will not invest in a portfolio if a second portfolio exists with a more favorable risk-expected return profile. The mutual fund managers will therefore assemble assets in their portfolio that are likely to record high portfolio return within any given level of risk.

### **2.2.2 Capital Asset Pricing Model**

CAPM was developed independently by three scholars Sharpe 1964, Lintner 1965, Treynor 1961. The model is based on portfolio theory and demonstrates how risk and return could be linked together and also specifies the nature of risk/ return relationship. In such a simple world, Tobin's (1958) super-efficient portfolio must be the market portfolio. All investors will hold the market portfolio, leveraging or de-leveraging it with positions in the risk free asset in order to achieve a desired level of risk. For any security or portfolio the CAPM decomposes and quantifies the total risk of a portfolio or individual assets into 2 components: diversifiable (specific risk) and non-diversifiable risk (systematic risk). Systematic risk is the risk of holding the market portfolio. As the market moves, each individual asset is more or less affected. To the extent that any asset participates in such general market moves, that asset entails

systematic risk. Specific risk is the risk which is unique to an individual asset. It represents the component of an asset's return which is uncorrelated with general market moves (Lintner, 1965).

Unsystematic risk is the risk to an asset's value caused by factors that are specific to an organization, such as changes in senior management or product lines. In general, unsystematic risk is present due to the fact that every company is endowed with a unique collection of assets, ideas and personnel whose aggregate productivity may vary. A fundamental principle of modern portfolio theory is that unsystematic risk can be mitigated through diversification. That is by holding many different assets; random fluctuations in the value of one will be offset by fluctuations in another (Markowitz, 1952). Systematic risk is risk that cannot be removed by diversification. This risk represents the variation in an asset's value caused by unpredictable economic movements. This type of risk represents the necessary risk that owners of a firm must accept when launching an enterprise. In the CAPM, the risk associated with an asset is measured in relationship to the risk of the market as a whole (Sharpe, 1964). No matter how we diversify our investment it's impossible to get rid of all the risk. As investors, we deserve a rate of return that compensates us for taking on risk. The CAPM helps us to calculate investment risk and what return on investment we should expect.

The dependent variable or outcome of the CAPM equation,  $R_j$  is the return on the  $j$ th portfolio. The independent variables consist of  $R_f$  which is the risk free rate,  $\beta_j$  which is the beta of the  $j$ th portfolio and  $R_m$  which is the return of the market portfolio. The

difference between the market portfolio and the risk free rate is then multiplied by the beta. Beta which measures risk is the systematic component of a security's volatility relative to that of the market portfolio. The security market line graphically illustrates the above formula and shows the relationship between risk and expected return is a straight line with a positive slope. It provides investors with a tool for judging whether securities are undervalued or overvalued given their level of systematic (beta) risk. This theory has been subject to various criticisms key among them being that the single market beta needs to be supplemented with additional dimensions of risk.

### **2.2.3 Arbitrage Pricing Theory**

In search of an alternative to asset pricing theory to the CAPM that was reasonably intuitive, required only limited assumptions and allowed for multiple dimensions of investment risk Ross, (1976) developed the Arbitrage Pricing Theory (APT).

It describes the price where a mispriced asset is expected to be. Whereas the CAPM formula requires the markets expected return, APT uses the risky asset's expected return and the risk premium of a number of macro-economic factors. Arbitrageurs use the APT model to profit by taking advantage of mispriced securities. A mispriced security will have a price that differs from the theoretical price predicted by the model. By going short an overpriced security, while concurrently going long the portfolio the APT calculations were based on, the arbitrageur is in a position to make a theoretically risk free profit (Ross, 1976). The basis of APT is the idea that the price of a security is driven by a number of factors. These can be divided into two groups: macro factors

and company specific factors. The APT is a substitute for the CAPM in that both assert a linear relation between assets' expected returns and their covariance with other random variables (Ross, 1976). The difference between CAPM and APT is that CAPM has a single non-company factor and a single beta, whereas APT separates out non-company factors into as many as proves necessary. Each of these requires a separate beta. The beta of each factor is the sensitivity of the price of the security to that factor.

The outcome of the APT equation,  $R_i$ , is the actual return on asset  $i$  during a specified time period. The dependent variables consist of a constant factor,  $E(R_i)$  which is the expected return for asset  $i$  if all the risk factors have zero changes.  $b_{ik}$  which is the reaction in asset  $i$ 's returns to movements in a common risk factor  $k$  and  $\delta_k$  which is a set of common factors or indexes with zero mean that influences the returns on all assets. The equation has an error term  $\epsilon_i$  which is assumed to be zero as it is completely diversified in large portfolios.

APT does not rely on measuring the performance of the market instead it directly relates the price of the security to the fundamental factors driving it. The problem with this is that the theory in itself provides no indication of what these factors are, so they need to be empirically determined. The potentially large number of factors means more beta's to be calculated and there is also no guarantee that all the relevant factors have been identified (Sharpe, 1992). As a result, the APT is difficult to put into practice in a theoretically rigorous fashion. Multifactor models attempt to bridge this gap and these factors will be discussed in details later.

## **2.3 Determinants of Portfolio Returns.**

Brinson, Hood and Beebower (1986) and Brinson, Singer and Beebower (1991) in a study of total return of investment portfolios composed of mutual funds analysed the contributions of strategic asset allocation (investment policy), tactical timing (the periodic over- or underweighting of asset classes relative to the strategic weightings) and security selection (the selection of individual mutual funds to represent asset classes).

They concluded that strategic asset allocation policy explains more than 90 per cent of the variation in total portfolio return, and that tactical timing decisions and security selection may also contribute significantly to the variation in total return.

### **2.3.1 Diversification**

Diversification or asset allocation is the process of creating a portfolio by selecting effective combinations of investments to meet the specific needs and goals of an individual investor. The right balance between risk and reward will of course vary by investor. The key is to find a portfolio that lies along the Efficient Frontier. The frontier represents a combination of asset classes that can in theory, provide the highest level of return for an individual investor's specific risk tolerance.

Asset allocation strategies take advantage of the correlation of these relationships by combining asset classes in a portfolio to help reduce risk and help maximize return.

### **2.3.2 Market Timing**

Market timing is an investing strategy in which the investor tries to identify the best times to be in the market and when to get out. Relying heavily on forecasts and market analysis, market timing is often utilized by brokers, financial analysts, and mutual fund portfolio managers to attempt to reap the greatest rewards for their clients.

Proponents of market timing say that successfully forecasting the ebbs and flows of the market can result in higher returns than other strategies. Their specific tactics for pursuing success can range from what some have termed "pure timers" to "dynamic asset allocators."

Pure timing requires the investor to determine when to move 100% in or 100% out of one of the three asset classes — stocks, bonds, and money markets.

### **2.3.3 Security Selection**

Security selection is the construction of a portfolio of individual securities that are perceived to have the potential to outperform the average security within an asset class. It is, however, extremely difficult to consistently pick the best or worst securities in an asset class. An investor may do so for one period, or even many periods, but doing so consistently over a long time would require both uncommon luck and skill.

## **2.4 Empirical Review**

Very few studies have been carried out on mutual funds but several studies have been carried out on diversification, risk and return of portfolio.

The early studies compared the profitability of diversified firms to that of undiversified firms. Rumelt (1974, 1982), Christensen and Montgomery (1981) and Palepu (1985) investigated the relationship between corporate diversification and performance. Their sample consisted of all firms reporting complete data on COMPUSTAT's Primary, Secondary, Tertiary, Full, and Line-of-Business Segment data tapes for the years 1988 and 1993. The hypotheses were tested using analysis of covariance (ANOCOVA) showed that firms diversified into related businesses were more profitable than other diversified firms.

Bettis and Mahajan (1985) selected a sample of 80 firms to examine the relationship of risk/return performance in two categories of related and unrelated diversified firms on the basis of accounting data. They found that, on an average, the related diversified firms perform better than the unrelated diversified firms. However, no significant difference in terms of risk measurement was explored. They emphasized the importance of considering the trade off between risk and return in assessing the effectiveness of diversification. Such a trade-off occurs when firms deliberately choose to diversify into unrelated businesses with lower profitability if the risk is thereby reduced.

Three studies (Bowman, 1980, 1982; Fiegenbaum and Thomas, 1986) in a study of the relationship between risk and return examined a large sample of firms from 85 industries, found a negative relationship between risk and return among firms that were performing well, as well as a negative return between risk and return for firms performing poorly. Bowman's (1980, 1982) interpretations of his findings were that managers may be risk seekers under certain circumstances. Well-managed firms, according to Bowman (1980, 1982), appeared to be able to increase their returns and reduce risk simultaneously (suggesting an apparent paradox on account of the negative relationship), and in contradiction with the positive risk-return relationship postulated by the formal theorists, although the third study showed that the correlation is unstable over time and hardly exists when market based measures of risk are employed.

Aaker and Jacobson (1987) empirically examined the role of both systematic or relative and unsystematic or firm specific, market risk in explaining differences in firm profitability. PIMS data base of SBU level containing time series information for a longer period than the Line of Business data base that covers reports of over 2,000 SBUs that are components of the more than 200 participating corporations were regressed. They found out that each component of risk have a substantial and significant impact on the rate of return on investment.

Kinyua (2005) evaluated the relationship between risk and returns of equity mutual funds in Kenya. In addition, the study also sought to compare the performance of Kenyan equity mutual funds with the stock market as a whole using the NSE20 share



index as the benchmark. In order to achieve these objectives, secondary data was used to generate each mutual fund's returns and risk. Regression analysis was used to derive the beta. The coefficient of variation, Sharpe model, Treynor model and the Jensen model were used to determine the relative performance of the sample mutual funds. The results of the study indicated that there exists a positive risk-return. The risk adjusted performance measures, showed that the Balanced Fund had the worst performance when compared to the Equity Fund and the market. However, both the coefficient of variation and the Sharpe Index indicated that the Equity Fund performed worse than the market portfolio. While the Treynor index and the Jensen alpha ranked the Equity Fund as having performed better than the market portfolio as represented by the NSE20 Index. The findings indicate that the investment manager of the Equity Fund, in an effort to select undervalued securities or to time the market, holds a portfolio that is less than fully diversified, and as such contains some diversifiable risk. Kagunga (2010) investigated whether unit trusts in Kenya have better performance compared to that of market portfolio, given their systematic risk. The population of study consisted of all the Unit Trusts in Kenya. The Nairobi 20 share index was used in estimating the performance of a market portfolio. Data on net asset value and dividend paid by unit trusts was collected from offices of respective unit trusts schemes. Data on estimate of dividend received on the market portfolio, and the 20 share index was collected from the Nairobi Stock Exchange. Data on market interest rates, interbank lending rates and free rates was collected from the Central Bank of Kenya. By carrying out regression tests, he confirmed that there was a strong relationship between unit trust return and that of the market.

Maina (2011) conducted a study to assess the relationship between Unit Trusts performance and the asset allocation in Kenya for a selected sample of the companies licensed by the Capital Markets Authority under the Collective Investment Schemes. The sample consisted of 12 companies with which a questionnaire was administered. The performance was regressed against asset allocation and empirically analyzed. He found out a positive correlation between performance and equity asset allocation in the management of Unit Trusts in Kenya where Fund managers employed diversification in the investment of the client money.

Mutuku (2011) conducted a study to determine the relationship between portfolio composition and risk and return among fund management firms in Kenya. The research was studied through the use of a descriptive survey. The population of the study was 18 registered fund managers operating in a Kenya at that time. Both secondary data and primary data was used to carry out this study. The secondary data was collected from the registered fund managers' financial statements, other published sources and annual returns to regulatory authorities like Capital Markets Authority and Retirement Benefits Authority. Primary data was collected by a drop and pick questionnaire. The study concludes that the fund management firms determine the percentage return of the investment portfolio. The method used by the firms in determining percentage rate of return was geometric or time weighted returns.

Buster (2012) studied the relationship between asset allocation and financial performance of mutual funds in Kenya. The population of study consisted of all approved Collective Investment Schemes in Kenya that deal with Mutual funds and invest in equities. There were seven in number during the time of study that deal with

equity fund. The NSE 20 share index was used in estimating the performance of a mutual fund's performance. The index was calculated using equities of 20 companies; this clearly indicated the need to restrict the study to mutual funds that invests only in shares. The study found out that there was a difference between the performance of unit trusts and the market. This was illustrated especially in the year 2011, where the stock market slumped in its performance while that of the unit trusts improved in its returns by 18% as compared to the previous years. However, in the year 2010 and 2011 both returns from the stock market and the unit trust recorded an upward trend while in 2010, both were affected by external factors namely the post-election violence to record a downward trend in performance.

The findings show that unit trusts performed well over the period of study. In most of the instances, the market trailed behind the performance of unit trusts. The fact that unit trust outperformed the market can be attributed to the fact that fund managers could be in a position to predict stock prices based on several fundamental variables such as initial dividend yields, market capitalization, price earnings ratios, and price to book value ratios. This implied that fund managers may have access to enough private information to offset their expenses. These results are consistent with the notion that mutual funds are efficient.

Kamwaro (2013) sought to determine the impact of investment portfolio choice on financial performance of investment companies. The study took a causal research design approach and study entailed a census of all the investment companies operating in Kenya and listed in the Nairobi Securities Exchange. There were four investment companies listed in Nairobi Securities Exchange during the period of study between

the years 2007 to year 2011. Secondary data sources available at the companies' books of account and the NSE or Capital Market Authority offices was used. The study used the multiple linear regression equation and the method of estimation was Ordinary Least Squares (OLS) so as to establish the impact of investment portfolio choice on profitability of investment companies.

The study revealed that investment portfolio choice affects the financial performance of investment companies listed in the Nairobi Securities Exchange. The study found that investment in bonds positively influences the financial performance of investment companies listed in the NSE. The study also found that investment in real estate and equity by investment companies positively impacted in the financial performance, it was found that size of the company positively impacted in the financial performance of investment companies. There is need for the management of investment companies to have solid organization structure, organization structure will influence their investment portfolio choice which impact on their financial performance.

Maina (2013) evaluated the effect of portfolio characteristics on financial performance of unit trusts in Kenya. The study applied the multi-factor model envisioned by Fama and French. The model provided a platform to investigate into the impact of certain characteristics of a fund to performance in this case focusing on size, value versus growth and momentum factors. The study utilized descriptive analysis and a multi-factor model. The target population was 14 unit trusts that consisted of equity-based funds in Kenya for the period 2008 to 2012 with complete set of data for 24 months. From the findings, the study established that there is a strong relationship between all the four factors under study and funds' return hence all the factors had a significant

effect on performance. The study also found out that the beta values of the model showed that the sampled funds were more exposed to small stocks, value rather than growth stocks and consistent positive future performing funds. The study further established that there was a strong positive relationship between portfolio characteristics and unit trusts financial performance further supporting the robustness of the multi-factor model.

## **2.5 Conclusion on Literature Review**

From the above literature review both the theoretical and the empirical, it's evident that there is need for further research to be done on diversification, risk and return in mutual fund management. This has been evident by the increased desire of both mutual fund holders and individual investors desire to grow their level of return at the same time managing the level of risk and hence a clear study needs to be conducted to give guidance on ways and means of improving their portfolio returns. One of this strategy is diversification.

There has been no study carried out on the effect of diversification on portfolio returns of mutual funds in Kenya. Therefore a research gap exists that need to be filled by doing a thorough study on this topic. Both in developed and developing economies investors are faced with the dilemma of how to strike a balance between risk and return and on choosing the most efficient investment vehicle they can put in place in order to realize their financial freedom. There has not been a conclusive study that has been carried out that advices investors on the ideal number of assets they need to hold in a portfolio so as to reduce risk and earn the highest return and at the same time

guiding them on the requisite level of risk they should assume for a given investment they venture into. This research will help address some of this pertinent concerns that have faced investors at the market place.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Research methodology is a system of explicit rules and procedures upon which research is based and against which claims for knowledge are evaluated (Nachmias, 1996).

This chapter was devoted to the methods, tools and sources of research data, target population used for the study, the sampling techniques used and the sample size utilized, the nature of data that was collected and finally the tools that were used for purposes of data analysis.

#### **3.2 Research design**

This study took a descriptive research design approach. Descriptive research study is typically concerned with determining the relationship between two variables. Descriptive research portrays an accurate profile of persons, events, or situations (Robson, 2002). Being that the study sought to find out the effect of diversification on portfolio return, a descriptive research design was deemed appropriate. This study took into consideration all mutual funds registered by the Capital Markets Authority, in order to determine the effect of diversification on portfolio returns.

### **3.3 Population of Study**

The population for the study was 62 unit trusts as per the CMA listing in July 2014 that have complete set of data for the year 2013 (see Appendix).

### **3.4 Sample and Sampling Design**

In this time and resource limited research, the study of all mutual funds in Kenya i.e. population is neither feasible nor appropriate. Therefore, a sample of the population (7 diversified Balanced Funds) was selected which is believed that it represents the population in true sense. The objective of sampling is to estimate population values from the information contained by the elements of a sample (Ngau & Kumssa, 2004). Simple random sample was used. Ngau and Kumssa (2004) define a simple random sample as one in which every member of the population has an equal and independent chance of being selected. A simple random sample is free from sampling bias.

### **3.5 Data Collection Technique**

The study used secondary data sources available and filed at the Capital Market Authority and the Nairobi Securities Exchange (NSE) offices. The Secondary data was chosen owing to the fact that they are cheaper and more readily available than primary data. Secondary data was collected from the mutual funds' annual reports as they required to report the extent of their performance to the regulatory authority because such information is a public good.



### 3.6 Data Analysis Technique

The study used the multiple linear regression equation to establish the effect of diversification on portfolio returns of mutual funds. The regression equation estimated the model with portfolio return as the dependent variable and unsystematic risk, size of the fund and age of the fund as independent variables.

The economic model that was used in the study is given as:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Where

**Y** is Portfolio Return-Measured by Jensen ratio.

Jensen's Measure is calculated as:

$$\alpha_p = \bar{r}_p - [ r_f + \beta_p( \bar{r}_m - r_f ) ]$$

Where:

$\bar{r}_p$  = Expected total portfolio return

$r_f$  = Risk free rate

$\beta_p$  = Beta of the portfolio

$\bar{r}_m$  = Expected market return

a is the Constant or intercept

$b_1$  is the Slope (Beta coefficient) for  $X_1$

**$X_1$**  is the Unsystematic Risk-Measured by Fama Net Selectivity Measure

$$NS_{p,t} = \left[ E_t(R_{p,t}) - R_f \right] - \left\{ \left[ \frac{E_t(R_{m,t}) - R_f}{\hat{\sigma}_{R_m}} \right] \times \hat{\sigma}_{R_p} \right\},$$

$b_2$  is the Slope (Beta coefficient) for  $X_2$

$X_2$  is the size of the Mutual Fund (control variable) measured by LOG (Fund Assets)

$b_3$  is the Slope (Beta coefficient) for  $X_3$

$X_3$  is the Age of the Mutual Fund-Measured by number of years of the Fund

$e$  is the Error term

## CHAPTER FOUR

### DATA ANALYSIS AND RESULTS DISCUSSION

#### 4.1 Introduction

This chapter presents the data findings to determine the effect of diversification on portfolio returns of mutual funds in Kenya. These data was collected from the Nairobi Security Exchange and Capital Market Authority offices. Multiple linear regressions was established through Ordinary Least Squares (OLS) so as to determine the effect of diversification on portfolio returns of mutual funds. The study covered a period of 52 weeks for the year 2013.

#### 4.2 Descriptive Statistics

<b>Variables</b>	<b>Mean</b>	<b>Std Deviation</b>
<b>Dependent Variable</b>		
Portfolio Returns	5.26181	0.00864
<b>Independent Variables</b>		
Unsystematic Risk-X1	3.52344	5.03154
Size of Fund-X2	8.40400	0.00000
Age of Fund-X3	6.53000	0.30310

For the dependent variable, portfolio returns has a mean of 5.26181 and a standard deviation of 0.00864. For the independent variables in table 4.2 above, Unsystematic risk has a mean of 3.52344 and a standard deviation of 5.03154, Size of fund has a mean of 8.40400 and a standard deviation of 0.000, Age of fund has a mean of 6.53000 and a standard deviation of 0.30310. The size of fund remains constant with zero deviation from the means since it's a control variable of the study. The

unsystematic risk and age of fund shows some deviation from the mean with unsystematic risk showing the greatest deviation since it has the highest effect on the portfolio return.

### 4.3 Regression Analysis

In addition to descriptive analysis, the study conducted a cross-sectional OLS multiple regression on several Mutual Funds' characteristics for the year 2013. The analysis was done on weekly basis.

#### 4.3.1 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.653 <sup>a</sup>	.426	.422	1.36132

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in the above table, the value of adjusted R squared was 0.422, an indication that there was variation of 42.2% on the portfolio return due to changes in unsystematic risk, age of fund and the fund size at 95% confidence interval. This shows that 42.2% changes in portfolio return of mutual fund could be accounted for by unsystematic risk, age of fund and the size of fund. R is the correlation coefficient which shows the relationship between the study variables. The findings show that there was a strong positive relationship between the study variables as shown by the R of 0.653.

### 4.3.2 Analysis of Variance

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	495.993	3	165.331	89.214	.000 <sup>b</sup>
Residual	667.150	360	1.853		
Total	1163.144	363			

From the ANOVA statistics in table above, the sum of squares due to regression is 495.993 while the mean sum of squares is 165.331 with 3 degrees of freedom. The sum of squares due to residual is 667.150 while the mean sum of squares due to residual is 1.853 with 360 degrees of freedom. The value of F calculated is 89.214 and the significance value is 0.000. The value of critical F(2.6297<89.214) an indication that unsystematic risk, age of fund and size of fund were significantly influencing portfolio return of mutual funds in Kenya .The significance value was less than 0.05 an indication that the model was statistically significant.

### 4.3.3 Model Coefficients

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.150	.825		-1.395	.164
Unsystematic Risk	.069	.014	.204	4.971	.000
Size of Fund	.899	.103	.358	8.738	.000
Age of Fund	-.413	.033	-.526	-12.644	.000

From the data in the above table the established weekly regression equation was

$$Y = -1.150 + 0.069 X_1 + 0.899 X_2 - 0.413 X_3$$

From the above regression equation, it was revealed that holding unsystematic risk, age of fund and size of fund to a constant zero, portfolio return would stand at -1.150, a unit increase in unsystematic risk would lead to increase in portfolio return by a factor of 0.069, unit increase in the size of fund will increase the portfolio returns by a factor of 0.899 whereas unit increase in age of fund would lead to -0.413 increase in portfolio returns of mutual fund.

### 4.4 Discussion of Findings

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings on the adjusted R square the study revealed that major variation on the portfolio return of

mutual funds could be accounted to changes in unsystematic risk, age of fund and size of fund. The study revealed that there was strong positive relationship between portfolio return of mutual funds and unsystematic risk as there was high value of correlation coefficient.

From the findings on the ANOVA, the study revealed that unsystematic risk, age of fund and size of fund were significantly influencing the portfolio returns of mutual funds in Kenya. The significance value was less than 0.05, an indication that the model was statistically significant.

From the data in the above table the established regression equation was

$$Y = -1.150 + 0.069 X_1 + 0.899 X_2 - 0.413 X_3$$

From the above regression equation, it was revealed that holding unsystematic risk, age of fund and size of fund to a constant zero, portfolio return would stand at -1.150, a unit increase in unsystematic risk would lead to increase in portfolio return by a factor of 0.069, a unit increase in size of fund by 0.899 whereas unit increase in age of fund would lead to -0.413 increase in portfolio return of mutual fund.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. The researcher had intended to determine the effect of diversification on portfolio returns of mutual funds in Kenya.

#### **5.2 Summary of findings**

The objective of the study was to determine the effect of diversification on portfolio returns of mutual funds in Kenya.

The study took a descriptive research design approach. The study entailed a sample of 7 mutual funds that had balanced funds with complete records for the year 2013 for a period of 52 weeks. The study used secondary data sources available at the NSE and Capital Market Authority offices. The study used the multiple linear regression equation and the method of estimation was Ordinary Least Squares (OLS) so as to establish the effect of diversification on portfolio returns of mutual funds in Kenya.

The study found out that there was a strong relationship between portfolio returns and diversification. Portfolio returns had a mean of 5.26181 and a standard deviation of 0.00864. For the independent variables, Unsystematic risk had a mean of 3.52344 and a standard deviation of 5.03154, Size of fund had a mean of 8.40400 and a standard deviation of 0.000, Age of fund had a mean of 6.53000 and a standard deviation of



0.30310. The size of fund remained constant with zero deviation from the means since it's a control variable of the study. The unsystematic risk and age of fund showed deviation from the mean with unsystematic risk showing the greatest deviation since it has the highest effect on the portfolio return.

From the findings on the adjusted R square the study revealed that major variation on the portfolio returns could be accounted to changes in unsystematic risk, age of fund and size of fund. The study revealed that there was strong positive relationship between portfolio returns of mutual funds and unsystematic risk, as there was high value of correlation coefficient.

From findings of the regression equation, it was revealed that holding unsystematic risk, age of fund and size of fund to a constant zero, portfolio return would stand at -1.150, a unit increase in unsystematic risk would lead to increase in portfolio return by a factor of 0.069, a unit increase in size of fund by 0.899 whereas unit increase in age of fund would lead to -0.413 increase in portfolio return of mutual fund.

From the findings on the ANOVA, the study revealed that unsystematic risk, age of fund and size of fund were significantly influencing the portfolio returns of mutual funds in Kenya. The significance value was less than 0.05, an indication that the model was statistically significant.

### **5.3 Conclusion**

From the findings the study revealed that diversification affect the portfolio returns of mutual funds.

The study revealed that diversification represented by the level of unsystematic risk positively influences the portfolio returns of mutual funds.

### **5.4 Policy Recommendations**

There is need for the fund managers to diversify their investment portfolio so that they can be able to manage risk especially industry specific risks inherent in the avenues they invest the fund holders money. This will in the long run create good fortunes to the overall portfolio returns hence increasing the investor's wealth.

### **5.5 Suggestions for Further Research**

The current research focused on the mutual funds in Kenya. This excludes other industries hence future studies should consider diversification and returns in other industries such as media, insurance and even personal investment clubs (Chamas).

The research also investigated the effect of diversification on portfolio returns of balanced mutual funds, excluding other mutual funds such as money, equity markets among others. A research should be done on these other funds.

One may also be interested to know the kind of strategies used by fund managers to select the efficient portfolio that will make them experience superior portfolio returns compared to the market.

## **5.6 Limitations of the Study**

In attaining its objective the study was limited to 7 mutual funds that managed balanced funds and that had their financials filed at the Capital Market Authority during the period of study.

Secondary data was collected from the firm financial reports. The study was also limited to the degree of precision of the data obtained from the secondary source. While the data was verifiable since it came from the Capital Market Authority and Nairobi Securities Exchange publications, it nonetheless could still be prone to accuracy shortcomings.

The study was based on a 52 week study period for the year 2013. A longer duration of the study will have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problem.

The research was rather broad and tedious given the time constraint of collecting the data and developing the final report. The Fund management sector is also a relatively new industry in Kenya, hence the availability of information was limited in scope.

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# APPENDICES

## APPENDIX 1: List of licensed unit trust companies in Kenya

1. African Alliance Kenya Unit Trust Scheme, comprising:
  - African Alliance Kenya Shilling Fund.
  - African Alliance Kenya Fixed Income Fund.
  - African Alliance Kenya Managed Fund.
  - African Alliance Kenya Equity Fund.
2. British-American Unit Trust Scheme, comprising:
  - British-American Money Market Fund.
  - British-American Income Fund.
  - British-American Balanced Fund.
  - British-American Managed Retirement Fund.
  - British-American Equity Fund.
3. Stanbic Unit Trust Scheme, comprising:
  - Stanbic Money Market Fund.
  - Stanbic Fixed Income Fund.
  - Stanbic Managed Prudential Fund.
  - Stanbic Equity Fund
  - Stanbic Balanced Fund
4. Commercial Bank of Africa Unit Trust Scheme, comprising:
  - Commercial Bank of Africa Money Market Fund.
  - ii. Commercial Bank of Africa Equity Fund.
5. Zimele Unit Trust Scheme, comprising:
  - Zimele Balanced Fund
  - Zimele Money Market Fund
6. Suntra Unit Trust Scheme, comprising:
  - Suntra Money Market Fund
  - Suntra Equity Fund
  - Suntra Balanced Fund
7. ICEA Unit Trust Scheme, comprising:
  - ICEA Money Market Fund
  - ICEA Equity Fund
  - ICEA Growth Fund
  - ICEA Bond Fund
8. Standard Investment Trust Funds, comprising:
  - Standard Investment Equity Growth Fund
  - Standard Investment Fixed Income Fund
  - Standard Investment Balanced Fund
9. CIC Unit Trust Scheme, comprising:
  - CIC Money Market Fund
  - CIC Balanced Fund



- CIC Fixed Income Fund
- CIC Equity Fund
- 10. Madison Asset Unit Trust Funds, comprising:
  - Madison Asset Equity Fund
  - Madison Asset Balanced Fund
  - Madison Asset Money Market Fund
  - Madison Asset Treasury Bill Fund
  - Madison Asset Bond Fund.
- 11. Dyer and Blair Unit Trust Scheme, comprising:
  - Dyer and Blair Diversified Fund
  - Dyer and Blair Bond Fund
  - Dyer and Blair Money Market Fund
  - Dyer and Blair Equity Fund
- 12. Amana Unit Trust Funds Scheme, comprising:
  - Amana Money Market Fund
  - Amana Balanced Fund
  - Amana Growth Fund
- 13. Diaspora Unit Trust Scheme, comprising:
  - Diaspora Money Market Fund
  - Diaspora Bond Fund
  - Diaspora Equity Fund
- 14. First Ethical Opportunities Fund
- 15. Genghis Unit Trust Funds, comprising:
  - GenCapHazina Fund
  - GenCapEneza Fund
  - GenCapHela Fund
  - GenCapIman Fund
  - GencapHisa Fund
- 16. UAP Investments Collective Investment Scheme
  - UAP Money Market Fund
  - UAP High Yield Bond Fund
  - UAP Enhanced Income Fund
  - UAP Dividend Maximizer Fund
- 17. Old Mutual Unit Trust Scheme, comprising:
  - Old Mutual Equity Fund.
  - Old Mutual Money Market Fund.
  - Old Mutual Balanced Fund.
  - Old Mutual East Africa Fund.
  - Old Mutual Bond Fund.

## APPENDIX 2: Summary Weekly Data

Week 1					Week 27				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.27	4.05	8.40	6.02	Icea Growth	5.27	5.70	8.40	6.54
Amana	4.17	2.95	7.11	7.94	Amana	-	0.44	7.11	8.46
British-American	2.92	1.71	9.26	7.52	British-American	2.92	3.36	9.26	8.04
CIC Old	4.65	3.43	8.25	1.85	CIC Old	4.72	5.15	8.25	2.37
Mutual/Toboa	5.54	4.32	8.71	4.52	Mutual/Toboa	5.54	5.98	8.71	5.04
Madison Asset	5.27	4.05	7.24	2.10	Madison Asset	4.71	5.15	7.24	2.62
Zimele	4.72	3.50	8.27	6.10	Zimele	2.95	3.40	8.27	6.62
Week 2					Week 28				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	4.10	8.40	6.04	Icea Growth	5.26	3.17	8.40	6.56
Amana	4.16	3.00	7.11	7.96	Amana	-	(2.09)	7.11	8.48
British-American	2.92	1.76	9.26	7.54	British-American	2.92	0.83	9.26	8.06
CIC Old	4.65	3.48	8.25	1.87	CIC Old	4.71	2.64	8.25	2.39
Mutual/Toboa	5.54	4.37	8.71	4.54	Mutual/Toboa	5.54	3.46	8.71	5.06
Madison Asset	5.26	4.10	7.24	2.12	Madison Asset	4.71	2.62	7.24	2.64
Zimele	4.72	3.55	8.27	6.12	Zimele	2.95	0.87	8.27	6.64

Week 3					Week 29				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	3.86	8.40	6.06	Icea Growth	5.26	2.72	8.40	6.58
Amana	4.17	2.76	7.11	7.98	Amana	-	(2.55)	7.11	8.50
British-American	2.92	1.51	9.26	7.56	British-American	2.92	0.38	9.26	8.08
CIC Old Mutual/Toboa	4.70	3.29	8.25	1.89	CIC Old Mutual/Toboa	4.72	2.17	8.25	2.41
Madison Asset	5.54	4.13	8.71	4.56	Madison Asset	5.54	2.99	8.71	5.08
Zimele	5.27	3.86	7.24	2.14	Zimele	4.71	2.16	7.24	2.66
	4.71	3.30	8.27	6.14		2.95	0.41	8.27	6.66
Week 4					Week 30				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	5.89	8.40	6.08	Icea Growth	5.26	6.13	8.40	6.60
Amana	4.17	4.80	7.11	8.00	Amana	-	0.87	7.11	8.52
British-American	2.92	3.55	9.26	7.58	British-American	2.92	3.79	9.26	8.10
CIC Old Mutual/Toboa	4.75	5.38	8.25	1.91	CIC Old Mutual/Toboa	4.71	5.53	8.25	2.43
Madison Asset	5.54	6.17	8.71	4.58	Madison Asset	5.54	6.41	8.71	5.10
Zimele	5.26	5.89	7.24	2.16	Zimele	4.71	5.58	7.24	2.68
	4.72	5.35	8.27	6.16		2.95	3.82	8.27	6.68

Week 5					Week 31				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	3.75	8.40	6.10	Icea Growth	5.26	6.08	8.40	6.62
Amana	4.17	2.66	7.11	8.02	Amana	-	0.83	7.11	8.54
British-American	2.93	1.41	9.26	7.60	British-American	2.93	3.75	9.26	8.12
CIC Old	4.73	3.21	8.25	1.93	CIC Old	4.66	5.55	8.25	2.45
Mutual/Toboa	5.54	4.03	8.71	4.60	Mutual/Toboa	5.54	6.37	8.71	5.12
Madison Asset	5.27	3.75	7.24	2.18	Madison Asset	4.71	5.53	7.24	2.70
Zimele	4.71	3.20	8.27	6.18	Zimele	2.95	3.78	8.27	6.70
Week 6					Week 32				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	4.05	8.40	6.12	Icea Growth	5.26	0.73	8.40	6.64
Amana	4.17	2.96	7.11	8.04	Amana	-	(4.53)	7.11	8.56
British-American	2.92	1.72	9.26	7.62	British-American	2.92	(1.60)	9.26	8.14
CIC Old	4.79	3.58	8.25	1.95	CIC Old	4.73	0.13	8.25	2.47
Mutual/Toboa	5.54	4.33	8.71	4.62	Mutual/Toboa	5.54	1.01	8.71	5.14
Madison Asset	5.26	4.06	7.24	2.20	Madison Asset	4.71	0.18	7.24	2.72
Zimele	4.71	3.51	8.27	6.20	Zimele	2.95	(1.57)	8.27	6.72
Week 7					Week 33				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	5.82	8.40	6.14	Icea Growth	5.26	2.46	8.40	6.66
Amana	4.17	4.72	7.11	8.06	Amana	-	(2.80)	7.11	8.58
British-American	2.92	3.47	9.26	7.64	British-American	2.92	0.13	9.26	8.16
CIC Old Mutual/Toboa	4.66	5.21	8.25	1.97	CIC Old Mutual/Toboa	4.66	1.88	8.25	2.49
	5.54	6.09	8.71	4.64		5.54	2.74	8.71	5.16
Madison Asset	5.26	5.81	7.24	2.22	Madison Asset	4.71	1.91	7.24	2.74
Zimele	4.72	5.27	8.27	6.22	Zimele	2.95	0.15	8.27	6.74
<b>Week 8</b>					<b>Week 34</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.27	5.96	8.40	6.16	Icea Growth	5.26	6.52	8.40	6.68
Amana	4.16	4.86	7.11	8.08	Amana	-	1.26	7.11	8.60
British-American	2.92	3.62	9.26	7.66	British-American	2.93	4.19	9.26	8.18
CIC Old Mutual/Toboa	4.66	5.36	8.25	1.99	CIC Old Mutual/Toboa	4.68	6.04	8.25	2.51
	5.54	6.23	8.71	4.66		5.55	6.81	8.71	5.18
Madison Asset	5.26	5.96	7.24	2.24	Madison Asset	4.71	5.97	7.24	2.76
Zimele	4.73	5.42	8.27	6.24	Zimele	2.95	4.22	8.27	6.76
<b>Week 9</b>					<b>Week 35</b>				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	3.95	8.40	6.18	Icea Growth	5.26	6.73	8.40	6.70
Amana	4.17	2.87	7.11	8.10	Amana	-	1.46	7.11	8.62
British-American	2.92	1.62	9.26	7.68	British-American	2.92	4.38	9.26	8.20
CIC Old Mutual/Toboa	4.68	3.38	8.25	2.01	CIC Old Mutual/Toboa	4.77	6.12	8.25	2.53
Madison Asset	5.54	4.24	8.71	4.68	Madison Asset	5.54	7.00	8.71	5.20
Zimele	5.26	3.96	7.24	2.26	Zimele	4.71	6.17	7.24	2.78
	4.72	3.42	8.27	6.26		2.95	4.41	8.27	6.78
<b>Week 10</b>					<b>Week 36</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	4.11	8.40	6.20	Icea Growth	5.27	2.64	8.40	6.72
Amana	4.17	3.02	7.11	8.12	Amana	-	(2.62)	7.11	8.64
British-American	2.92	1.78	9.26	7.70	British-American	2.92	0.30	9.26	8.22
CIC Old Mutual/Toboa	4.79	3.64	8.25	2.03	CIC Old Mutual/Toboa	4.66	2.10	8.25	2.55
Madison Asset	5.54	4.40	8.71	4.70	Madison Asset	5.54	2.92	8.71	5.22
Zimele	5.26	4.12	7.24	2.28	Zimele	4.71	2.08	7.24	2.80
	4.73	3.58	8.27	6.28		2.95	0.33	8.27	6.80
<b>Week 11</b>					<b>Week 37</b>				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	5.84	8.40	6.22	Icea Growth	5.26	6.91	8.40	6.74
Amana	4.17	4.76	7.11	8.14	Amana	-	1.65	7.11	8.66
British-American	2.92	3.51	9.26	7.72	British-American	2.92	4.56	9.26	8.24
CIC Old Mutual/Toboa	4.78	5.36	8.25	2.05	CIC Old Mutual/Toboa	4.72	(1.49)	8.25	2.57
Madison Asset	5.55	6.13	8.71	4.72	Madison Asset	5.54	8.13	8.71	5.24
Zimele	5.27	5.85	7.24	2.30	Zimele	4.70	6.36	7.24	2.82
	4.71	5.30	8.27	6.30		2.95	4.60	8.27	6.82
<b>Week 12</b>					<b>Week 38</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.27	5.13	8.40	6.24	Icea Growth	5.27	0.76	8.40	6.76
Amana	4.17	4.03	7.11	8.16	Amana	-	(4.51)	7.11	8.68
British-American	2.92	2.79	9.26	7.74	British-American	2.92	(1.58)	9.26	8.26
CIC Old Mutual/Toboa	4.69	4.55	8.25	2.07	CIC Old Mutual/Toboa	(3.14)	0.18	8.25	2.59
Madison Asset	5.54	5.41	8.71	4.74	Madison Asset	6.49	1.97	8.71	5.26
Zimele	5.26	5.13	7.24	2.32	Zimele	4.71	0.20	7.24	2.84
	4.71	4.58	8.27	6.32		2.95	(1.52)	8.27	6.84
<b>Week 13</b>					<b>Week 39</b>				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.27	4.12	8.40	6.26	Icea Growth	5.27	2.41	8.40	6.78
Amana	4.17	3.02	7.11	8.18	Amana	-	(2.85)	7.11	8.70
British-American	2.92	1.78	9.26	7.76	British-American	2.93	0.08	9.26	8.28
CIC Old Mutual/Toboa	4.68	3.53	8.25	2.09	CIC Old Mutual/Toboa	4.69	1.86	8.25	2.61
	5.54	4.39	8.71	4.76		6.48	3.63	8.71	5.28
Madison Asset	5.26	4.12	7.24	2.34	Madison Asset	4.71	1.86	7.24	2.86
Zimele	4.72	3.57	8.27	6.34	Zimele	2.99	0.14	8.27	6.86
<b>Week 14</b>					<b>Week 40</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	5.84	8.40	6.28	Icea Growth	5.26	2.70	8.40	6.80
Amana	4.16	4.74	7.11	8.20	Amana	-	(2.56)	7.11	8.72
British-American	2.92	3.49	9.26	7.78	British-American	2.92	0.35	9.26	8.30
CIC Old Mutual/Toboa	4.68	5.25	8.25	2.11	CIC Old Mutual/Toboa	4.71	2.10	8.25	2.63
	5.54	6.12	8.71	4.78		6.48	3.92	8.71	5.30
Madison Asset	5.26	5.84	7.24	2.36	Madison Asset	4.71	2.94	7.24	2.88
Zimele	4.72	5.29	8.27	6.36	Zimele	2.99	0.66	8.27	6.88
<b>Week 15</b>					<b>Week 41</b>				



	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund -X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund -X2	Age of Fund-X3
Icea Growth	5.27	(0.44)	8.40	6.30	Icea Growth	5.26	2.05	8.40	6.82
Amana	4.16	(1.54)	7.11	8.22	Amana	-	(3.21)	7.11	8.74
British-American	2.92	(2.78)	9.26	7.80	British-American	2.91	(0.29)	9.26	8.32
CIC Old Mutual/Toboa	4.69	(1.01)	8.25	2.13	CIC Old Mutual/Toboa	4.66	1.54	8.25	2.65
Madison Asset	5.54	(0.17)	8.71	4.80	Madison Asset	6.48	3.27	8.71	5.32
Zimele	5.27	(0.44)	7.24	2.38	Zimele	5.50	2.30	7.24	2.90
	4.71	(0.99)	8.27	6.38	Zimele	3.22	1.86	8.27	6.90
<b>Week 16</b>					<b>Week 42</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund -X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund -X2	Age of Fund-X3
Icea Growth	5.21	5.92	8.40	6.32	Icea Growth	5.26	(10.31)	8.40	6.84
Amana	4.17	4.88	7.11	8.24	Amana	-	(15.57)	7.11	8.76
British-American	2.92	3.63	9.26	7.82	British-American	2.92	(12.65)	9.26	8.34
CIC Old Mutual/Toboa	4.72	5.43	8.25	2.15	CIC Old Mutual/Toboa	4.75	(10.83)	8.25	2.67
Madison Asset	5.53	6.25	8.71	4.82	Madison Asset	6.48	(9.09)	8.71	5.34
Zimele	5.27	5.98	7.24	2.40	Zimele	5.51	(10.06)	7.24	2.92
	4.71	5.42	8.27	6.40	Zimele	5.07	(12.68)	8.27	6.92
<b>Week 17</b>					<b>Week 43</b>				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	5.94	8.40	6.34	Icea Growth	5.27	6.02	8.40	6.86
Amana	4.17	4.84	7.11	8.26	Amana	-	0.75	7.11	8.78
British-American	2.92	3.60	9.26	7.84	British-American	2.92	3.68	9.26	8.36
CIC Old Mutual/Toboa	4.70	5.38	8.25	2.17	CIC Old Mutual/Toboa	4.74	5.49	8.25	2.69
Madison Asset	-	5.39	7.24	2.42	Madison Asset	5.51	6.27	7.24	2.94
Zimele	4.72	3.48	8.27	6.42	Zimele	2.90	3.66	8.27	6.94
<b>Week 18</b>					<b>Week 44</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.27	2.98	8.40	6.36	Icea Growth	5.27	0.64	8.40	6.88
Amana	-	(2.29)	7.11	8.28	Amana	-	(4.62)	7.11	8.80
British-American	2.92	0.63	9.26	7.86	British-American	2.93	(1.70)	9.26	8.38
CIC Old Mutual/Toboa	4.75	2.46	8.25	2.19	CIC Old Mutual/Toboa	4.74	0.11	8.25	2.71
Madison Asset	-	2.60	7.24	2.44	Madison Asset	5.51	0.89	7.24	2.96
Zimele	4.89	0.52	8.27	6.44	Zimele	2.90	(1.72)	8.27	6.96
<b>Week 19</b>					<b>Week 45</b>				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	(25.82)	8.40	6.38	Icea Growth	5.26	2.42	8.40	6.90
Amana	-	(31.08)	7.11	8.30	Amana	-	(2.84)	7.11	8.82
British-American	2.93	(28.16)	9.26	7.88	British-American	2.92	0.09	9.26	8.40
CIC Old Mutual/Toboa	4.73	(26.36)	8.25	2.21	CIC Old Mutual/Toboa	4.73	1.90	8.25	2.73
Madison Asset	5.54	(25.54)	8.71	4.88	Madison Asset	6.48	3.65	8.71	5.40
Zimele	-	(26.36)	7.24	2.46	Zimele	5.51	2.67	7.24	2.98
	4.72	(28.27)	8.27	6.46		2.90	(0.01)	8.27	6.98
<b>Week 20</b>					<b>Week 46</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	2.96	8.40	6.40	Icea Growth	5.26	0.63	8.40	6.92
Amana	-	(2.30)	7.11	8.32	Amana	-	(4.63)	7.11	8.84
British-American	2.92	0.62	9.26	7.90	British-American	2.92	(1.71)	9.26	8.42
CIC Old Mutual/Toboa	4.67	2.37	8.25	2.23	CIC Old Mutual/Toboa	4.74	0.07	8.25	2.75
Madison Asset	5.54	3.24	8.71	4.90	Madison Asset	6.48	1.85	8.71	5.42
Zimele	-	2.42	7.24	2.48	Zimele	5.51	0.87	7.24	3.00
	4.72	0.51	8.27	6.48		2.83	(1.81)	8.27	7.00
<b>Week 21</b>					<b>Week 47</b>				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	5.96	8.40	6.42	Icea Growth	5.26	4.42	8.40	6.94
Amana	-	0.70	7.11	8.34	Amana	-	(0.85)	7.11	8.86
British-American	2.92	3.62	9.26	7.92	British-American	2.92	2.08	9.26	8.44
CIC Old Mutual/Toboa	4.64	5.34	8.25	2.25	CIC Old Mutual/Toboa	4.71	3.89	8.25	2.77
Madison Asset	-	5.41	7.24	2.50	Madison Asset	5.50	4.66	7.24	3.02
Zimele	4.71	3.79	8.27	6.50	Zimele	2.83	1.98	8.27	7.02
<b>Week 22</b>					<b>Week 48</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.26	1.52	8.40	6.44	Icea Growth	5.26	5.33	8.40	6.96
Amana	-	(3.74)	7.11	8.36	Amana	-	0.07	7.11	8.88
British-American	2.92	(0.82)	9.26	7.94	British-American	2.92	2.99	9.26	8.46
CIC Old Mutual/Toboa	4.72	0.97	8.25	2.27	CIC Old Mutual/Toboa	4.74	4.76	8.25	2.79
Madison Asset	-	0.96	7.24	2.52	Madison Asset	5.50	5.57	7.24	3.04
Zimele	4.73	(0.69)	8.27	6.52	Zimele	2.83	2.89	8.27	7.04
<b>Week 23</b>					<b>Week 49</b>				

	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.27	6.36	8.40	6.46	Icea Growth	5.26	6.89	8.40	6.98
Amana	-	1.09	7.11	8.38	Amana	-	1.63	7.11	8.90
British-American	2.92	4.02	9.26	7.96	British-American	2.93	4.56	9.26	8.48
CIC Old Mutual/Toboa	4.71	5.82	8.25	2.29	CIC Old Mutual/Toboa	4.69	6.32	8.25	2.81
Madison Asset	5.54	6.37	8.71	4.96	Madison Asset	6.49	8.12	8.71	5.48
Zimele	4.71	5.80	7.24	2.54	Zimele	5.50	7.14	7.24	3.06
	3.06	4.21	8.27	6.54		2.83	4.46	8.27	7.06
<b>Week 24</b>					<b>Week 50</b>				
	Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3		Portfolio Return-Y	Unsystematic Risk-X1	Size of Fund-X2	Age of Fund-X3
Icea Growth	5.27	6.83	8.40	6.48	Icea Growth	5.26	6.89	8.40	7.00
Amana	-	1.56	7.11	8.40	Amana	-	1.62	7.11	8.92
British-American	2.92	4.48	9.26	7.98	British-American	2.93	4.55	9.26	8.50
CIC Old Mutual/Toboa	4.73	6.27	8.25	2.31	CIC Old Mutual/Toboa	4.69	6.34	8.25	2.83
Madison Asset	5.28	7.10	8.71	4.98	Madison Asset	6.49	8.11	8.71	5.50
Zimele	4.71	6.27	7.24	2.56	Zimele	5.50	7.13	7.24	3.08
	3.12	4.68	8.27	6.56		2.83	4.45	8.27	7.08
<b>Week 25</b>					<b>Week 51</b>				

	<b>Portfolio Return-Y</b>	<b>Unsystematic Risk-X1</b>	<b>Size of Fund -X2</b>	<b>Age of Fund-X3</b>		<b>Portfolio Return-Y</b>	<b>Unsystematic Risk-X1</b>	<b>Size of Fund -X2</b>	<b>Age of Fund-X3</b>
Icea Growth	5.27	6.69	8.40	6.50	Icea Growth	5.26	6.79	8.40	7.02
Amana	-	1.43	7.11	8.42	Amana	-	1.53	7.11	8.94
British-American	2.92	4.35	9.26	8.00	British-American	2.92	4.45	9.26	8.52
CIC Old Mutual/Toboa	4.72	6.18	8.25	2.33	CIC Old Mutual/Toboa	4.72	6.24	8.25	2.85
Madison Asset	5.54	6.97	8.71	5.00	Madison Asset	6.49	8.02	8.71	5.52
Zimele	4.71	6.13	7.24	2.58	Zimele	5.51	7.04	7.24	3.10
	3.12	4.38	8.27	6.58		2.83	4.35	8.27	7.10
<b>Week 26</b>					<b>Week 52</b>				
	<b>Portfolio Return-Y</b>	<b>Unsystematic Risk-X1</b>	<b>Size of Fund -X2</b>	<b>Age of Fund-X3</b>		<b>Portfolio Return-Y</b>	<b>Unsystematic Risk-X1</b>	<b>Size of Fund -X2</b>	<b>Age of Fund-X3</b>
Icea Growth	5.26	6.13	8.40	6.52	Icea Growth	5.26	4.27	8.40	7.04
Amana	-	0.87	7.11	8.44	Amana	-	(0.99)	7.11	8.96
British-American	2.92	3.79	9.26	8.02	British-American	2.92	1.94	9.26	8.54
CIC Old Mutual/Toboa	4.75	5.53	8.25	2.35	CIC Old Mutual/Toboa	4.72	3.75	8.25	2.87
Madison Asset	5.54	6.41	8.71	5.02	Madison Asset	6.49	5.50	8.71	5.54
Zimele	4.70	5.58	7.24	2.60	Zimele	5.51	4.51	7.24	3.12
	2.95	3.82	8.27	6.60		2.83	1.84	8.27	7.12

