

**EFFECTS OF MARKET MOMENTUM ON FUND MANAGER
RETURNS AT THE NAIROBI SECURITIES EXCHANGE**

**BY
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FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF
A DEGREE OF MASTER OF SCIENCE IN FINANCE, UNIVERSITY
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DECLARATION

I declare that this proposal is my original work and has not been presented in any other University.

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This research proposal has been submitted for examination with my approval as the University supervisor.

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DEDICATION

This project is dedicated to God Almighty and to my family: parents and siblings.

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ABBREVIATIONS AND ACRONYMS

AUM	Assets under Management
AMF	Alternative Mutual Fund
CRSP	Center for Research in Securities Prices
DAX	Deutscher Aktienindex
EMH	Efficient Market Hypothesis
MPT	Modern Portfolio Theory
NSE	Nairobi Securities Exchange
NYSE	New York Stock Exchange
NSSF	National Social Security Fund
RBA	Retirement Benefits Authority

ABSTRACT

The purpose of the study was to assess the effects of market momentum on fund manager returns at the Nairobi Securities Exchange. The target population involved eighteen fund managers registered by the RBA. The study investigated the effect of three control variables (age of the firm, size of the firm and agency costs) and independent variable (momentum) on fund manager returns, the dependent variable in the study. The study sampled literature across the globe on previous studies done on the topic and the research gap was identified, necessitating further studies on the topic. The research design is the cross sectional method and secondary data was obtained from financial statements and relevant financial publications for data collection. The descriptive study was conducted on the data collected regarding the age of the firm, size, and the agency costs as control variables. The control variables and the independent variable, momentum, were examined by computing the mean, standard deviations, kurtosis and skewness. The results were then tested to establish if there were significant relationships among and between the variables. Data was then presented in tables for various types of analysis such as correlation, regression and collinearity diagnostics. The study concluded that there was negative correlation between the various predictors (control variables) and fund managers' returns. A unit increase in the control variables results into decrease in the return on equity by varying extent based on the individual control and independent variable. According to the study findings, there was a significant relationship between the variables under study. The factors were found to be linearly related and a change in one variable impacted on the other variable although to a small extent under 5% significance level. The study recommended an introduction of a specific benchmark level of the index to help trace price momentums and also facilitate proper decision making. It also recommended a longitudinal study rather than cross section to establish the possibility of other factors such as political instability impacting on the fund manager return on equity. There are possibilities that other factors could impact returns on equity; this study found that a similar research be conducted under different political environment and structural factors in the securities market to establish variability in the two study findings and their impact on fund manager returns.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Price momentum is the sustained continuation of pricing movement in one direction for a period of time. The phenomenon has been observed in securities exchanges around the world. The first and most striking examples of return momentum can be observed from returns of individual stocks (Lishenga, 2012). Momentum effect is often viewed as the positive relation between stock return in a certain period and same stock return in a lagged period. The momentum effect according to Agathe (2012) is typically defined as a positive relation between the return of a stock in a certain period with its lagged return, both relative to the cross-sectional sample mean. A momentum strategy, therefore, involves buying past leaders and selling past failures. Jegadeesh and Titman's (1993) using a selection of NYSE/AMEX stocks from 1965 to 1989 illustrated that an acquirer of the past six-month' frontrunners and shorts the past six-month' failures earns a return of nearly one percentage point a month over the following six months.

In support of momentum studies, Chan, Jegadeesh, and Lakonishok (1996) theorize that prices respond to earnings news i.e. there is continuation after earnings announcements. The momentum relationships for this study is guided by Efficient Markets Hypothesis advanced by Fama (1970) which contend that all publicly available information is reflected in the stock prices. The Modern Portfolio theory postulated by Markowitz (1952) underscore that an investor can construct a portfolio that maximizes return given a certain level of risk. Agency relationships in investments are captured in the Agency theory of Jensen (1968).

At the Nairobi Securities Exchange, Lishenga et al. (2011) illustrate that past winners outperformed past losers in most of the periods thereby confirming existence of momentum strategies in trading in the market. Further, Lishenga (2011) shows that investments can possibly earn abnormal returns by implementing the momentum based trading strategies. This momentum is caused by investors under reacting, trading in herds, or the limitations of the arbitrage process.

1.1.1 Market Momentum

Market momentum can be defined as the perceived strength of a rise or decline in stock prices at a Securities Exchange. Agathee (2012) suggests that a momentum strategy is one where an investor buys past gainers and disposes past losers with the anticipation that the trend shall prevail in future. A sustained increase in stock prices is referred to as a Bull Run, on the contrary, a sustained decline in stock prices is referred to as a Bear Run (Dagnino, 2001). Dagnino (2001) adds that the bull and bear business cycles create abundant investment opportunities and that investors who know how to recognize, plan and predict accordingly reap greater returns. Bull markets and bear markets often coincide with the economic cycle, which consists of four phases: expansion, peak, contraction and trough. Bull markets are mainly characterized by positive investor sentiment and confidence and the expectation that listed companies will continue to do well while a bear market, on the other hand is characterized by downward trending prices and investor pessimism. A bear market usually sets in before economic contraction takes hold. The onset of a bull market is often a clear indicator of economic expansion. Since public sentiment about future economic conditions drives stock prices, the market frequently rises even before wider economic measures, such as GDP growth begin to tick up.

Dustin (2017) reckons that the use of technical analysis will enable an investor to make a call to buy or sell with certainty and teaches the interpretation of a company's financial statements, however, it has been proven that psychology and speculation play a larger role in price determination in the markets. According to Guidolin and Timmermann (2004), optimal asset allocations are found to be strongly affected by investors' beliefs about the underlying state.

1.1.2 Fund Manager Returns

To a great extent, fund managers' returns are determined by stock market performance as the market's performance is a key indicator of the health of the economy, with the financial sector being the most critical (Sandler, 2016). Stock market performance refers to how stocks fair under their respective markets given the risks and returns of the markets (Wasseja et al., 2015). Volatility in stock prices and indices predict stock trends of a sector or the whole economy in the foreseeable future. This enables institutional

investors to make informed decisions on investment. Fund Managers manage both Pension Funds money and also run Collective Investment Schemes. Examples of CIS include Money Market Fund, Unit Trusts, Balanced Fund and Equity Fund while Pension Funds include NSSF (Britam Asset Managers, 2017). Fund managers are regulated by the RBA, the statutory government agency established in 1997 under the Retirement Benefits Act. Heinz et al. (2010) reckons pension funds serve the role of providing income replacement whereas collective investments are concerned with profit maximization. This means pension funds exist to provide income during retirement which is in the long-term while collective investments are geared towards short term wealth maximization. Returns are one among many factors that explain the financial performance of fund managers - other factors include administration expenses, management and custody costs, magnitude of contributions as well as member behavior in selecting the retirement age.

In Kenya, we have two commonly used indexes - the NSE 20 and the NASI. The market indexes are a measure of performance of the stock market within a specified period of time. Aroni (2011) states that the NSE 20 Index is used to measure overall stock performance in Kenya. However, widespread criticism that its scope is too narrow as it only focuses on 20 listed blue chip companies ignoring the rest of the listed companies led to introduction of the NASI. Walker et al. (2010) summarizes that fund managers' performance should be focused on evaluating the value that is added by them in respect of benchmarks.

1.1.3 Market Momentum and Fund Managers Return

The returns of momentum stratagems in Kenya, as a frontier market for the period between 1995 and 2007, were investigated and it was observed that the NSE exhibited medium term returns. Lishenga et al., (2011) examined the effects of transaction costs, risk amongst other factors on momentum returns. They employed weighted relative strength strategies results to differentiate between behavioral factors (time-series continuance in the firm-specific element of returns), and risk factors (cross-sectional discrepancy in expected yields and methodical risks of different securities). Their findings suggest that momentum is an irregularity- they suggest that momentum is caused by furtherance in the distinctive component of individual-security as opposed to variance between risk and return.

The bulls and bear markets have a tremendous effect on the portfolio returns of fund managers. The 2011 Chairman's Review on the NSE notes that inflation hit a high of 19.72% in November 2011 and real GDP growth slowed down to an estimated 3.6% against a projection of 5.3%. The Capital markets registered a decline in performance in 2011 in comparison to 2010 characterized by decreased activity in the secondary markets. Reduced economic growth resulted to lower turnovers in the equity market mainly caused by; the rising inflation in the second half of the year, higher and volatile interest rates, depreciation (and volatility) of the shilling against major currencies and Kenya's incursion in Somalia. This decline in the value of equities consequently shrunk the AUMs of fund managers thus negatively affecting portfolio returns.

1.1.4 Fund Managers at the Nairobi Securities Exchange

The Nairobi Securities Exchange was established in 1954 as the Nairobi Stock Exchange. The name change was occasioned by their increased product offering which now includes Equities, Debt and the yet to be launched Derivative Securities (NSE, 2017). The NSE underwent demutualization and self-listing in 2014. It plays vital roles in the growth of Kenya's economy by encouraging savings and investment, encouraging growth of related financial services sector such as pension schemes thus creating a savings culture, helping local and international companies access cost-effective capital, monitoring capital flight as a product of inflation and depreciation as well as aiding money owners in capital management where they may not have the relevant expertise. It operates under the jurisdiction of the CMA with the CDSC facilitating settlement.

The NSE provides an organized platform where buyers and sellers, in our case fund managers, of various securities meet to transact via an automated trading platform. Fund managers participate in both primary markets, such as IPOs where initial listings are issued, and the much more liquid secondary market where daily trading of securities takes place. Fund managers will usually use stock brokerage firms and investment banks licensed by the CMA to trade on their behalf at the NSE where priority is given on price and time basis.

1.2 Research Problem

Momentum is one of the sturdiest and most thought-provoking asset pricing anomalies. As previously observed, persistent momentum profits have attracted considerable attention from investment researchers and practitioners as they cast doubt on the efficient market premise and momentum influence is based on the notion that stocks with higher yields in the recent past will have higher future yields compared to stocks with lower past yields (Chui, Titman & Wei, 2010).

According to DeBondt and Thaler (1985) past losers over three- to five-year periods outperform past winners over the subsequent three to five years. Jegadeesh (1990) and Lehmann (1990) find that losers over the past one week to one month outperform winners over the next one week to one month. These studies of very long term and very short-term returns find profitable contrarian strategies and generally led to the conclusion that stock prices overreact to information. In contrast to these studies, Jegadeesh and Titman (1993) focus on the performance of trading strategies with formation and holding periods between three and twelve months. They found that when stocks are ranked on the basis of their past returns, then past winners outperform the past losers in the medium-term period. They suggested a zero-investment trading strategy termed momentum trading strategy, consisting of taking long position in the winner portfolio and short position in the loser portfolio, to generate abnormal profit.

Momentum strategies were also found to be profitable in most major markets throughout the world. Rouwenhorst (1998) replicates Jegadeesh and Titman (1993) for 12 European countries and finds profits that are very close to that in the U.S. Griffin, and Martin (2003) and Chui, Titman and Wei (2010) examine momentum profits around the world and find that the momentum strategy yields positive profits in most large markets, with notable exceptions in Asia like Japan. They hypothesize that cultural differences may be related to behavioral biases, and hence, cross-country cultural differences may explain cross-country differences in the profitability of momentum strategies. They measured cross-country differences in culture using the individualism index and argued that overconfidence and self-attribution biases, were positively correlated with momentum returns.

Lee and Swaminathan (2000) examined the relation between momentum profits and turnover, and find that momentum is higher for stocks with greater turnover. Stocks with higher turnover can be traded more easily, and generally, there is more public information generated for high turnover stocks than for low turnover stocks. One potential explanation for their findings may be that there are larger differences in opinion about higher turnover, and larger differences of opinion may arise from difficulties in evaluating the fundamental values of these stocks. Another explanation is that turnover is related to the amount of attention that a stock attracts. Hence, high turnover stocks may be more exposed to positive feedback trading strategies proposed by DeLong, Shleifer, Summers and Waldman (1990). Other findings by Avramov, Chordia, Jostova, Philipov (2009) find that momentum is profitable only amongst firms with low credit ratings. However, Fama and French (2008) find that “the relation between momentum and average returns is similar for small and big stocks.

Locally, Lishenga (2012) documented returns of momentum stratagems at the NSE between 1997 and 2007 to measure momentum gains of weighted comparative strength strategies. It turned out that the past frontrunners outperformed the past failures in most cases thereby casting doubts on market efficiencies. It was revealed that collective momentum gains over a 60-month post formation exhibited reversal of returns in the third into the fifth years. Cumulative momentum gains initially increase monotonically until they reach the peak of about 24.5% in the 21st month after formation. Thereafter the cumulative returns reverse slowly but steadily to reach a level of 5% in the 60th month after formation. These findings for the NSE, which are consistent with evidence documented for the US market (Jegadeesh and Titman (1993, 2000, 2001), support the behavioral hypotheses of under reaction, overreaction and reversal in returns.

The above studies did not focus on the specific investments of a particular sector but based their analysis on returns of all stocks in a particular period; the current study however seeks to establish the effects of market momentum on specific returns of fund managers' investments in Kenya thereby creating a gap that the study will address.

1.3 Study Objective

The objective is to establish the outcome of market momentum on fund managers' returns at the Nairobi Securities Exchange.

1.3.1 Specific Research Objectives

- i. To establish the influence of bull runs on fund managers' returns in the Nairobi Securities Exchange.
- ii. To investigate the influence of bear runs on fund managers' returns in the Nairobi Securities Exchange.
- iii. To establish characteristics of market momentum leading to bullish or bearish runs in the Nairobi Securities Exchange.
- iv. To investigate investment strategies based on momentum in returns at the Nairobi Securities Exchange.

1.4 Value of the Study

The study's discoveries will contribute to both academia and the financial practitioners. To begin with, the study will help fund managers observe how the general view of the market momentum affects the returns on their invested funds. Secondly, it will aid fund managers to review what to do with their portfolios during bulls and bears cycles.

Economic policy makers who seek out information which when implemented boosts investment will also find the study useful. It seeks to investigate the elements that determine funds' performance and thus information on how to boost the industry and consequently domestic investments.

The study will also be beneficial to the academic sector as it will contribute existing research and knowledge by providing empirical evidence on the local fund managers as they respond to the market momentum. It will also aid them in refining research on investment strategies that can be employed by investors in bulls and bears cycles. The study findings will also help to shed light on the extent to which market momentum in the NSE yields returns.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the concept of market momentum and its effects on the returns of the fund managers. In this chapter, the study reviews what different authors have put forward and the theories associated with the fund performance.

2.2 Theoretical Literature Review

The theoretical review will provide some theories related to market momentum and its effects on the returns. Some of the theories explored include Efficient Market Hypothesis (EMH), Modern Portfolio Theory (MPT) and Agency Theory.

2.2.1 Efficient Market Hypothesis

Fama (1970) originated the Efficient Market Hypothesis (EMH) Theory which states that stock prices reflect information that is publicly available. Insider trading is illegal, and even though possible, too few investors would be in the know to make any substantial impact on the total returns of any stock. Numerous financial products assume the inviolability of this theory.

Capital markets are susceptible to swings thereby creating bull and bear conditions. The underlying factor is possession or lack of material information. Investors are advised not to panic during bear conditions and instead take contrarian stance by buying losing stock and sell winning stock. This theory postulates that markets adjust quickly to information that leaning against it becomes impossible such that an investor would rather buy into the market than try to beat it through charting or fundamental analysis (Fama, 1965). Rational investors populate the market and losses capture investors more than gains.

There are three assumptions under EMH: The chief one, that all investors perceive information in the same way. Next, given two investors with the same investment amount, both will earn the same return. Third, no investor can beat the market. This means that no individual can beat the average market return. This theory is incorporated to gauge the possibility of an investor to outclass the market because of the thought that all available information is already built into all stock prices.

2.2.2 Modern Portfolio Theory

Harry Markowitz (1952) put forward the Modern Portfolio Theory (MPT). He theorizes that risk-averse investors can build portfolios to maximize return given a specific level of risk. He adds that risk is an intrinsic part of reward. He proposes that it is insufficient to only study risk and return of a single stock. He theorizes that an investor will reap greater reward through diversification through a reduction in the riskiness of the portfolio.

One of the basic assumptions in this theory is that an investor seeks to maximize discounted expected returns and variance of returns is undesirable. Variance is a measure of dispersion from the expected. The choice of portfolio is separated from beliefs using the expected return-variance of returns rule. Hence, the evaluation of this relationship is the basis of the choice made by investors, thus eliminating decisions based on beliefs.

MPT proposes an investor can create an optimal portfolio that maximizes expected yields given a specific level of risk. This portfolio will have a combination of assets with maximum expected returns that is superior to any other combination and gives the highest level of returns at the lowest level of risk. The study thus seeks to establish whether fund managers can build portfolios to get the best out of expected return given certain risk.

2.2.3 Agency Theory

This theory originated by Jensen (1968), proposes that when an organization issues ordinary stock, it generates agency costs of equity that diminish asset value; the Free Cash Flow theory asserts that management is left unmonitored will pump money into ventures that do not maximize shareholder returns. According to Penrose (1959), an agency relationship arises when one party acts on behalf of another. Johnson and Scholes (2009) assert that stratagem is the path the firm intends to take in the long term and the consequent alignment of resources to meet the proposed objectives. Chaffee (1985) agrees that strategy involves aligning the firm's resources and activities to its operating environment. Strategy is the link between internal (management) and external relationships (such as shareholders, competitors, customers, suppliers and environment). Fund management firms have need of competent portfolio managers who are highly compensated and this may cause agency conflict between management and shareholders which is of use in the study.

2.3 Determinants of Fund Manager Returns

2.3.1 Momentum

Momentum effect represents perhaps the strongest evidence against the efficient markets hypothesis Jegadeesh et al. (2011). For this reason it has attracted substantial research, which documents more details about the anomaly, for instance, the extent that momentum profits are correlated with stock characteristics, as well as attempts to provide behavioral explanations for the phenomena. A study by Fama and French (2012) established common patterns in average returns in developed markets in four regions (North America, Europe, Japan, and Asia Pacific). There were strong momentum returns in all regions except Japan. Their evidence centered on how international value and momentum returns vary with firm size. Except for Japan, value premiums were larger for small stocks. The winner minus loser spreads in momentum returns also decrease from smaller to bigger.

Banz (1981) observes that stocks with lower market capitalization (small stocks) tend to have higher average returns. There is also evidence that value stocks, that is, stocks with high ratios of a fundamental like book value or cash flow to price, have higher average returns than growth stocks, which have low ratios of fundamentals to price (DeBondt & Thaler, 1985; Fama and French, 1992) . Jegadeesh and Titman (1993) show that U.S. stock returns also exhibit momentum: stocks that have done well over the past year tend to continue to do well. The value premium (higher average returns of value stocks relative to growth stocks) and momentum are also observed in international returns.

2.3.2 Firm Age

The amount of time a fund manager has been in existence provides a measure of fund longevity. On one hand, it may be argued that funds that have been in existence for a shorter period of time are more alert and aggressive in strategy, however, they suffer from higher costs and inexperience at start up. Gregory, Matatko, and Luther (1997) agree that younger funds face a steeper learning curve thus affecting fund performance. Bauer, Koedijk, and Otten (2002) find that younger funds are exposed to higher market risk as they put money in fewer securities thus undercutting returns. On the other hand, funds that have been in existence longer will usually have more market knowledge and

experience. Filbeck and Tompkins (2004) agree there is a positive correlation between fund longevity and performance. Fund managers with more experience outperform those with less tenure which boosts investor confidence as they have deeper market knowledge. However, Chevalier and Ellison (1999) discover no relation between the fund manager performance and managerial experience. Peterson et al. (2001) conclude that managers underperform about two years before their departure thus presenting a declining return premium. Firm age and fund size are positively correlated as younger funds are usually smaller in size compared to older ones. The study shall look into fund existence experience as a determinant of fund manager performance.

2.3.3 Fund Size

Funds need to get to a minimum or optimal size to obtain positive returns net of running costs. At first, a growing fund faces cost advantages as research expenses will increase less than proportionately to an increase in assets under management, however, once it exceeds the optimal size, it incurs extreme costs resulting in diminishing returns and may also depart from the initial objectives and invest in poor quality assets (Perold and Salomon (1991). On the other hand, a fund that is too small may be overburdened with administrative and management costs that erode into the gains made. Indro et al. (1999) asserts that funds need to attain a minimum size to realize net gains. Sawicki (2001) suggests that small funds are more likely to quickly abandon unsuccessful ideas in favour of more successful ones to retain investor funds. Sawicki and Finn (2000) discover that small funds were disproportionately represented amongst top performing funds and underrepresented under the worst performing funds the conclusion can be drawn that fund size does indeed affect performance.

2.3.4 Agency Cost

Agency cost arises when one individual or principal hires another (agent) to act on their behalf. Uninformed investors have to pay management fees to fund managers to manage their money- this is the cost of their ignorance (Ippolito, 1989). Chordia (1996) brings forth three advantages that mutual funds provide: diversifications of small investors' money thus enabling them access to a larger pool of assets, cost-saving on transaction costs, reduced liquidity risk. He discovers that open-end funds discourage investors from

withdrawing their holdings by levying redemption charges. Fund managers incur numerous in managing investors' fund such as administrative costs such as travel to meet pension fund trustees in various parts of the country, salaries to pay the highly skilled portfolio managers and research expenses such as cost of travel and accommodation in seeking corporate access, access to Bloomberg all which may erode into returns if not carefully managed. Additional fees include exchange fees for funds that offer offshore investment services. Gruber (1996) asserts that the expenses of top performing funds rise slower than those of bottom performers over time.

2.4 Empirical Review

Jegadeesh and Titman (2001) examine the long horizon performance of momentum strategies to study whether the returns reversals in the post-holding periods are suggested by the evidence. The results reveal a dramatic reversal of returns in the second through fifth years over the 1965 to 1998 sample period. Monotonically, cumulative momentum profit increases until it reaches 12.17% at the end of Month 12. The momentum profits are then on average negative from Month 13 to Month 60. The cumulative momentum profit declined to -.44% by the end of Month 60. Hong, Lim and Stein (1998) find that firms that are followed by fewer stock analysts exhibit greater momentum even after controlling for size. This result is consistent with the Hong and Stein (1999) prediction that momentum profits are increased by the slow dissemination of public information. Since there is less public information about stocks with low analyst coverage, information about the companies may be incorporated into their stock prices more slowly. In addition, given that there is less public information available about these stocks, one might expect relatively more private information to be produced, which Daniel, Hirshleifer and Subrahmanyam (1998) suggests will increase price momentum.

Daniel and Titman (1999) find that when the strategy is implemented on growth (low book-to-market) stocks rather than value (high book-to-market) stocks, momentum gains are significantly higher. They suggest this result may be due to the fact that it is easier to study value stocks as compared to growth stocks. Psychologists report that people are more overoptimistic about their capability to do more ambiguous tasks. So, the overconfidence hypothesis suggests that momentum is greater for growth stock. Zhang

(2006) further studies this issue and observes dispersion in analyst forecasts, higher information uncertainty, return volatility and cash flow volatility all predict higher momentum profits. Sagi and Seasholes (2007) document similar results: in lower cost of the goods sold, momentum is stronger in stocks with higher revenue volatility and shows that these results suggest that due to firms that have performed well in the recent past, we have new growth options to exploit momentum profits that arise.

A study by Awad and Al-Ewesat, (2017) focusing on Taiwan stock market from 2000 through 2014, distinguishing between spurious and intentional herding using the four-factor model, and constructing portfolios, namely, Large, Small, Growth and Value, based on the market condition in terms of bull markets, bear markets and financial crises. They examined discrepancy of stock returns in different extreme changes using quartile regression, finding that herding exists due to the intentions of investors, particularly in the stock market in a situation of falling risk. Also, it is more likely that spurious herding leads to asymmetric response to transactions, especially in bull market conditions. The findings of spillover effects suggest that the U.S. fundamentals have an impact on Taiwan stock market; this may be explained by intentional herding especially in bear markets. There is evidence of intentional herding in the periods of subprime crisis and European debt crisis, indicating that investors are more likely to act with irrational intentions. The research also focuses on China's stock markets, taking into account the rational expectations of investors on the market from 2008 through 2015. The results show that herding rarely exists even though it is in the period of market turmoil. In contrast with bull markets, herding becomes more obvious, implying that investors' herding behavior exists in the degrees of rational expectations in terms of market conditions. The evidence shows that herding behavior is more likely to exist in irrational expectations. Market fundamentals affect asymmetric information effects, and no evidence indicates the spillover effects from the U.S. stock market to China's stock markets.

A study by Blose and Gondhalekar, (2013) examined the weekend effect in gold returns during bull and bear markets over the period 1975 through 2011. It showed that gold returns from close on Friday to close on Monday are significantly lower than returns during the rest of the week. This outcome is as a result of gold returns during bear

markets. During gold bull markets, gold weekend returns are not importantly different from weekday returns. The study shows that the effect has substantial economic implications for gold investors. The effect is shown to be related to a significantly negative skewness in the weekend returns.

Laopodis (2016) examined simultaneously several fundamental variables for the United States from 1957 to 2013, the stock market and seventeen industry returns. The results pointed to significant explanatory industry return's power to many predictors of economic activity including the stock market. It was revealed that certain industries (Oil and Financials) provided consistent information leadership to other industries by the detailed analyses of the industries-stock market returns linkages. Finally, it was discovered that there are no consistent response patterns across and within each expansion/bull or contraction/bear market, when examining the industries' returns behavior during expansions/bull markets and contractions/bear markets.

Lai et al., (2013) examined the behavior of retail investors and institutional in Malaysia during the bears and bull. The results revealed that there was a very important difference in the behavior patterns between these two groups of investors. As for the retail investors, there was no obvious difference in investing behavior except in terms of self-control and liquidity preference. For the institutional investors, price anchoring between these two distinct market trends, obvious differences were found in the areas of overconfidence, liquidity preference and liquid preference. The overall results shows that both investors had overconfidence during both periods; nonetheless, they were concerned with liquidity when making investment decisions and somewhat rational by exercising self-control. As most important fundamental variable particularly during bearish market outlook, both investors ranked dividend yield. On the other hand, the most important variable closely watched technical indicator during bullish market outlook was trend analysis. Inconsistent with the results of both surveys, they provided evidence that dividend yield appeared to be an important risk factor as well.

Bishnoi and Bhargava (2017) investigated risk and returns performance of selected mutual fund schemes and market return during bear and bull market sentiments during the financial years 2008-09 to 2014-15. They attempted to compare public and private sector mutual fund performance during the study period. The average return values and risk for the selected schemes and for the stock market were calculated. The required data was taken from national stock exchange respectively and the daily net asset values given on Association of Mutual Funds in India's website. The study concluded that mutual fund schemes perform better than market in bull and bear market sentiments. Further, it was also found that both private and public sector mutual funds had performed similarly in terms of risk and return during 2008–09 to 2014–15. The study was useful for the investors of mutual funds as it was claimed by mutual fund industry that mutual funds were suitable investment option in different market conditions.

Kacperczyk, et al., (2014) recognized there must be some cognitive ability in picking stocks in bulls or market timing in bears. They observed that it was the very same fund managers who displayed these characteristics and they consistently outperform other funds. Kanuri, Ghysels and Jagannathan, (2014) studied the performance of trend-following investing across global markets since 1880, extending the existing evidence by more than 100 years using a novel data set. They found that in each decade since 1880, time series momentum had delivered positive average returns with low correlations to traditional asset classes. Further, time-series momentum has performed well in 8 out of 10 of the largest crisis periods over the century, defined as the largest drawdowns for a 60/40 stock/bond portfolio. Lastly, time series momentum had performed well across different macro environments, including recessions and booms, war and peacetime, high- and low-interest rate regimes, and high- and low-inflation periods.

2.5 Conceptual Framework

A conceptual framework is a prototype of the elements under study and their affiliations in diagrammatic form (Mugenda & Mugenda 2003). As indicated in the diagram below, the independent variable is momentum, whereas age of firm, size of fund and agency costs are the control variables while the dependent variable is returns.

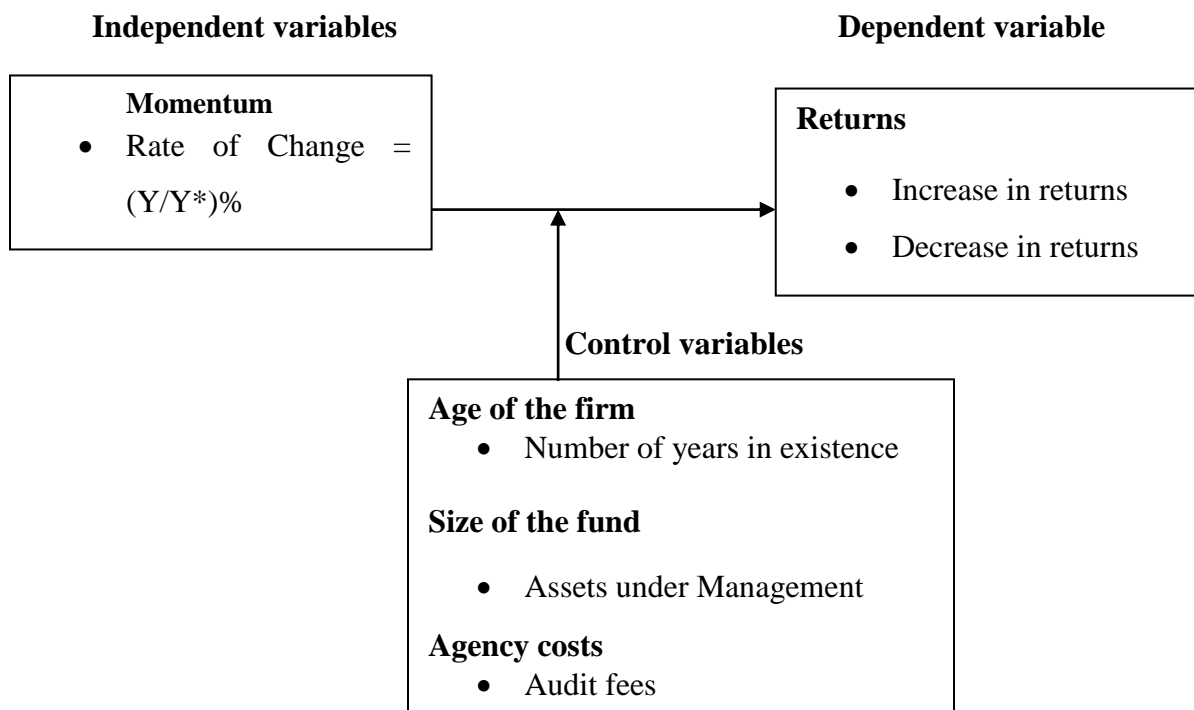


Figure 2.1: Conceptual Framework

Source: Author, 2017

2.6 Summary of Literature Review

This section reviews theoretical and empirical literature in the study. Fama (1970) argues that all investors perceive material information in the same way, investors with the same investment amount earn a similar return and no investor can outclass the market. However, Awad and Al-Ewesat, (2017) find that in the Taiwan stock market, spurious herding leads to asymmetric response to transactions, especially in bull market conditions, therefore casting doubt on Fama's EMH Theory assumption that all investors react to information in the same way. Laopodis (2016) observed that it was discovered that there are no consistent response patterns across and within each expansion/bull or contraction/bear market, when examining the industries' returns behavior during expansions/bull markets and contractions/bear markets. Kacperczyk, et al. (2014) suggests that most fund managers must possess some cognitive ability in stock picking in a bull and market timing in a bear. However, Kanuri & McLeod (2014) who studied AMFs returns from 1998 to 2011 differ as they discovered that these funds did not create

wealth for their clients in this period and recorder further declines in the financial crisis. They clearly did possess the cognitive ability that Kacperczyk, et al., (2014) talks about. Fama (1970) also asserts that no investor can beat the average market return. Kacperczyk, et al., (2014) differs and asserts that those fund managers who possess the cognitive abilities of market timing, stock timing and intrinsic market knowledge will always outperform their peers. Markowitz (1952) concurs that an investor can construct a portfolio that maximizes return given certain risk, therefore suggesting that an investor can beat the market return. It's therefore clear from our literature that there are varying and inconclusive findings on the study of market momentum. Lack of consensus therefore necessitates the study of market momentum effects on fund managers' returns at the NSE. The above knowledge gaps are the drivers for further examination of market momentum on fund manager returns at the NSE.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this section, research methodology is discussed. In addition to that, it shall outline the research design, target population, data collection method and finally data analysis technique to be used. Kothari (2014) explains research methodology as a methodical and hypothetical examination of techniques applied in a study.

3.2 Research Design

The cross-sectional survey method shall be utilized since it allows the researcher to compare the different variables amongst the various fund managers under study. It's used to approximate the dominance of an outcome from a populace (Creswell, 2009).

3.3 Target Population

Due to the small size of the population, no sampling will be conducted. Target population is defined as the totality of elements sharing one or more characteristics in common (Kothari, 2009). This study will focus on the 18 fund managers regulated by the RBA.

3.4 Data Collection

Secondary data will be collected for the study and will be obtained from annual financial publications and reports filed by the fund managers. The data to be collected from the financial statements includes total assets, net income, costs (managerial, advisory and administrative) and total equity. Companies' annual reports will be obtained from the listed companies' websites for the years 2012 to 2017. The number of years the firm has been in existence will also be available on the website. Share prices and market index data for the study will be obtained from Bloomberg data.

3.5 Diagnostic Statistics

The study shall discuss multicollinearity of the variables which shall be calculated by the Variance Inflation Factor (VIF). Auto correlation will be measured by the Durbin Watson statistic.

3.6 Data Analysis

Regression analysis will be used to determine the effect of the dependent variables on fund manager returns. Fund managers returns will be computed by calculating the Return on Equity (ROE) using the following formula:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}}$$

Market Momentum will be measured by Rate of Change (ROC) in NSE All Share Index as $(\text{NSE}_t / \text{NSE}_{t-1}) * 100$

The regression equation will be as below:

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

Where:

Y = Dependent Variable (Fund managers returns measured by ROE)

$\beta_1 \dots \beta_4$ = Coefficient for independent variables

X_1 = Momentum {ROC = $(Y/Y^*) * 100$ }

X_2 = Age of the firm {Number of years the firm has been in existence}

X_3 = Size of the fund {Assets under Management}

X_4 = Agency cost

α = Constant

ε = Error term

3.7 Test of Significance

The t-test will be used and will test at 95% confidence level the significance of our constant α and β . additionally, the F-test statistic is of use in testing the significance of the model at 95% confidence level. Lastly, R-square and Adjusted R-square will test how much of the deviation in the dependent variable are affected by the deviations in the autonomous variables.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter focuses on the analysis of the results and findings of data from the annual publications and reports filed by fund managers as well as the data from the financial statements such as total assets, net income, costs and equity from the listed companies' websites. This analysis is aimed at establishing the effect of momentum of fund manager returns on Nairobi Securities Exchange.

Descriptive statistics, correlation and regression analysis have been used and the results presented in tables and figures shown the subsequent sections.

4.2 Descriptive Analysis

This section addresses the presentations of the various statistical elements such as the average, minimum, maximum, standard deviation and the skewness and lastly kurtosis with respect to the study variables. These analyses are presented in the table below:

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Momentum	39	.99	1.03	1.0133	.01556	-.058	.378	-1.680	.741
ROE	39	-.92	.88	.1590	.32115	-1.534	.378	4.458	.741
Age	39	.00	3.40	2.3339	.75299	-1.121	.378	1.456	.741
Size	39	13.59	23.94	17.8496	2.75104	.924	.378	.483	.741
Agency costs	39	12.04	14.26	12.9083	.64090	.821	.378	.112	.741
Valid N (listwise)	39								

From the data above, the size of the fund has the highest mean of 17.8496 followed by Agency costs with 12.9083. The size of the fund and the agency cost has standard deviation of 2.75104 and 0.64090 respectively. This means implies considerable variability of data around the mean as the size of the fund changes as well as the agency costs. The Return on Equity (ROE) has mean of 0.1590 and a standard deviation of 0.32115 implying that there is low data variability from the mean position. The age

variable has a statistical mean of 2.3339 and a standard deviation of 0.75299. This implies that the data significantly fluctuates beyond the mean statistic. Momentum, age and return on equity (ROE) are negatively skewed as opposed to the size of the fund and agency costs with positive skewness statistic.

4.3 Correlation Analysis

This section employs the use of statistical tools to study and describe the relationships among or between two or more variables. Put differently, correlation analysis is a statistical tool used to describe the degree to which one variable is related to another (Mugenda & Mugenda, 2003). Essentially, variables are said to be related when movement in one causes the movement in another in either same or different direction. Variables which tend to move in the same direction are said to be positively correlated while those moving in opposite directions are negatively correlated. The nature of the movement is generally assumed to be linear. To this end therefore, variables with negative correlation coefficients are said to be negatively correlated while those with positive coefficients depict variables moving in the same direction. The results from this study is presented in the table below

Table 4.2 Correlations

	Momentum	ROE	Age	Size	Agency costs
Momentum	1				
ROE	-.037	1			
Age	-.169	.067	1		
Size	-.061	.354*	.304	1	
Agency costs	-.134	.198	.244	.395*	1

*. Correlation is significant at the 0.05 level (2-tailed).

From the results presented in the table above, it is apparent that ROE has a weak negative correlation with the independent variable, momentum. Clearly, all the control variables; age, size of the fund, and agency costs have negative correlation with the independent variable, momentum. Age and agency cost have weak positive correlation with ROE, however, size has a weak positive correlation with ROE which is statistically significant. It is also apparent that agency cost is statistically significant to size.

4.4 Regression Analysis

4.4.1 Fund Momentum Regression Results

ROE was regressed against four variables; age, momentum, size, agency costs and a constant. The analysis was undertaken at 5% significance level rather 0.05 and the study results presented in the table below

Table 4.3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.363 ^a	.132	.030	.31631

a. Predictors: (Constant), Agency costs, Momentum, Age, Size

The coefficient of determination is 0.132 and is depicted by R square. It indicates that only 13.2% of the variations in the Return on Equity are explained by age of the fund, size of the fund, the momentum and the agency costs. And as such, 86.8% of the variations in ROE cannot be explained by the predictor variables.

Table 4.4 ROE ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.518	4	.129	1.293	.292 ^b
	Residual	3.402	34	.100		
	Total	3.919	38			

a. Dependent Variable: ROE

b. Predictors: (Constant), Agency costs, Momentum, Age, Size

The ANOVA analysis is used to indicate whether there is statistically significant difference among the variables in the study. The significance level is 0.292 i.e. ($p=0.292$) which is above 0.05($p=0.05$). This implies that the model is not statistically significant. The ANOVA $F = 1.293$.

Regression model results are shown in the table below:

Table 4.5 Model Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.649	3.687		-.176	.861
Momentum	-.328	3.363	-.016	-.097	.923
Age	-.025	.073	-.058	-.338	.738
Size	.040	.021	.340	1.903	.066
Agency costs	.038	.088	.076	.428	.672

a. Dependent Variable: ROE

The model represents both standardized and unstandardized coefficients as well as the significance levels for each predictor variable. From the table above, for every unit increase in momentum, ROE decreases by 0.328. Every unit increase in the age of funds results into a decrease in the Return on Equity by 0.025. Given the age variable, a unit increase results into 0.040 increases in the ROE and lastly a unit increase in agency cost consequently causes a 0.038 increase in the Return on Equity (ROE). The variables are however not statistically significant. The regression equation can be represented as below:

$$\text{ROE} = -0.649 - 0.328\text{Momentum} - 0.25\text{Age} + 0.40\text{Size} + 0.38\text{Agency Cost}$$

4.5 Collinearity Diagnostics

Essentially, collinearity implies that two or more variables are close to perfect linear relationship. The table shows VIF which measures the inflation in the variances of the predictor variables due to collinearity which exist among the predictor variables. If the value of VIF is more than four, further investigation should be carried out.

Table 4.6 Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	Momentum	.962	1.040
	Age	.871	1.148
	Size	.798	1.254
	Agency costs	.819	1.221

a. Dependent Variable: ROE

From the above table, the VIF is less than the threshold of 4 thus there is no collinearity amongst the variables. 96.2% of the variance in momentum cannot be explained by other variables. The levels of tolerance for the rest of the independent variables reveal the percentage of the variances that cannot be explained by the rest of the predictor variables.

4.6 Discussion of the Research Findings

The research study sought to establish the effect of momentum on fund manager returns at the Nairobi Securities Exchange as measured by momentum, age, size and the agency costs using the financial information extracted from company annual reports and published financial statements. The dependent variable for the study is the Return on Equity (ROE) while predictor variables used are the momentum, age, size and agency costs.

The multivariate linear regression was done using the Statistical Package for Social Sciences version 21 computer package. It has been established that the predictor variables have weak positive correlation with the dependent variable. There is however a negative correlation among the predictor variables to the independent variable, momentum. 13.2% variation in ROE is explained by momentum, age, size, and agency costs.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter is a summary of the findings from the previous chapters. It covers the conclusion and the limitations of the study encountered during the research. It also gives policy recommendations which policy makers in the stock exchange markets and investors may implement to increase the return on equity. It elucidates suggestions for further research based on the limitations and deficiencies of the study findings. These suggestions are important for scholars and future researchers as they form the basis for future research and knowledge quest.

5.2 Summary of Findings

This research study sought to determine the effect of price momentum on the fund manager returns at the Nairobi Securities Exchange as measured by the age of the fund, agency costs and the size of the funds from the financial statements and annual reports. Descriptive statistics have been used to analyze the secondary data from the reports using the Statistical Package for Social Sciences (SPSS). From correlation analysis done in chapter four, there is a weak positive relationship between the predictor variables and the ROE with the relationship between size and ROE being statistically significant. There is also a weak negative relationship between ROE and predictor variables (age, size and agency costs) on momentum, the independent variable. It was observed that there are statistically significant relationships between size and ROE as well as agency cost and size of the firm. The results from the coefficients model shows that a greater percentage of the variations of the predictor variables could not be explained by the other variables for example, 96.2% of variations in momentum cannot be explained age, size and agency costs. 87.1% of variation in age cannot be explained by momentum, size and agency costs. 79.8% of variation in size cannot be explained by momentum, age and agency costs. 81.9% variation in the agency costs cannot be explained by the momentum, age and size of the fund.

From the research findings, the collinearity coefficients are less than the 4. This implies that the age, size, agency costs are not collinear and does not need further investigations since there are a few inconsistencies. The study findings shows that 13.2% variations in the Return on Equity can be explained by the predictor variables; age, size, momentum and agency costs. The results on the age, agency costs, size and momentum were significant across the regression equations and hence analysis.

5.3 Conclusion

The study reveals that the Return on Equity is affected by the selected variables (age, size, agency costs and momentum) and as such the research concludes that a unit increase or decrease in the any of the predictor variables consequently results into a change in the return on equity (ROE) at the Nairobi Securities Exchange.

The study further concludes that the predictor variables(age, size and agency costs) and ROE have a negative relationship with momentum, the independent variable. On the other hand, the predictor variables in this study and momentum all influence fund managers return at the Nairobi Securities Exchange.

This study is in agreement with Kacperczyk, et al (2014) which posits that there must be some cognitive ability in picking in the bulls market and timing in the bears and that the managers who have this ability are able to choose stocks in the stock exchange market which consequently drive up the fund manager returns. These cognitive abilities have focus on the age and size of the fund as well as the movement in prices and lastly the agency costs. To this end therefore, remarkable changes in the predictor variables have the impact of influencing the various strategies used by fund manager in improving the performance of their investment stocks. Good strategies employ the use of cognitive abilities to select stocks in the bull and timing in the bear market for listed companies. The ANOVA results show that the model is not statistically significant since VIF is less than 4.

5.4 Recommendations

Based on the study results, the following recommendations have been made: There should be an optimal mix of the size of the fund, the age and the agency costs by investors and fund managers in order to strike a proper balance so as to positively influence the returns on the stocks for companies listed in NSE in Kenya. Other than these factors, fund managers should consider market fundamentals in stock picking in the bulls market as well as market timing in the bear market when determining the investment funds to manage. These factors should be looked at in isolation.

Advanced technology and decision support system in analyzing the volatility of stock prices in bulls and bear markets would assist fund managers to track the returns of various funds and thus be able to predict the impact the changes on the independent variables under this study might have on the ROE. This can be through the setting of a benchmark level for the index; if the market moves up, it can be concluded that the market is in a bear run. Similarly, This is essential for optimizing fund manager returns.

There is need to create an enabling environment by the Capital Market Authority to reduce the agency costs and other costs associated with fund management for effective maximization of the returns. This involves effective legislation, incentives to attract investors and motivate fund managers and also subsidiary regulatory framework.

5.5 Limitations of the Study

Since the scope of the study was for a period of five years (2012 through 2017), it cannot be established if the results would hold for different study periods say 2017 through 2022. Moreover, the certainty of obtaining similar findings in subsequent studies cannot be established. Failure to focus on a longer study period might have omitted the impact other market factors such as recession and booms may have on the fund manager returns.

The study applied linear regression model thus changes in the predictor variables does not allow generalization of the research findings with certainty. On addition of more data to the functional model, the relationship between or among the variables may not hold.

5.6 Suggestions for Further Research

The study only focused on four aspects of fund manager returns namely: the price momentum, age of the fund, size of the fund and the agency costs. Suggestions are hereby made to establish the impact other determinants of fund returns such as earnings per share of stock prices, dividend payout ratio and the dividend per share. The study was done over five years. Further studies could be done for periods more than five years e.g. 10 years and the results compared for consistencies.

The study did not exhaust all predictor variables impacting on the fund manager return on equity at NSE. It is therefore recommended that further studies be carried out so as to include other variables affecting stock returns such as political stability as well as exchange rates

The shortcomings of the regression model can be overcome by the other models such as the Vector Error Correction Model (VECM). A similar study can be conducted and data analyzed using VECM so as to mitigate the shortcomings of the regression model and the results compared.

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APPENDICES

APPENDIX I: Data Completion Form

Name of Fund Manager.....

Year of Establishment.....

	2012	2013	2014	2015	2016
Net Income					
Total Equity					
Return on Equity					
Assets under Management					
Agency Costs(Audit fees)					

APPENDIX II: Data Collection Form for NSE All Share Index

NASI	2011	2012	2013	2014	2015	2016
Jan						
Feb						
Mar						
Apr						
May						
June						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						

<u>Monthly Momentum(NASI t/NASI t-1)</u>		2012	2013	2014	2015	2016
Jan						
Feb						
Mar						
Apr						
May						
June						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
	-	-	-	-	-	

Average Momentum(Monthly/12)					
Computed by dividing Monthly Momentum obtained above divided by 12					
	2012	2013	2014	2015	2016

APPENDIX III: List of Registered Fund Managers by RBA

1. Amana Capital Limited
2. Apollo Asset Management Company Limited
3. African Alliance Kenya
4. British American Asset Managers Limited
5. Cannon Asset Managers Limited
6. CBA Capital
7. CIC Asset Managers
8. CO-OP Trust Investment Services
9. Funguo Investment Limited
10. GenAfrica Investment Management Limited
11. ICEA Lion Asset Management Limited
12. Kenindia Asset Managers Limited
13. Madison Asset Managers
14. Nabo Capital
15. Old Mutual Investments Group
16. Sanlam Investments Kenya
17. Sanlam Investments East Africa(formerly Pinebridge Investments)
18. Stanlib Investments

Appendix Iv: Data collection results

		(Share Capital +Retained Earnings+ Proposed div)					(Audit fees)						
Name of fund	Year	Net Income	Total Equity Shs' 000	ROE(Net Income/Tot al Equity)	Age	Size Shs' 000	Agency costs	Momentum	ROE	LNAGE	LNSIZE	LNAGENCY COSTS	
1	BAAM	2012	79,322,000.00	169,624,000.00	0.4676	9	28,000,000.00	524,000.00	1.028163814	0.4676	2.197225	17.14772	13.16924696
		2013	170,827,000.00	340,531,000.00	0.5016	10	36,300,000.00	576,000.00	1.032287626	0.5016	2.302585	17.40733	13.26386294
		2014	92,597,000.00	433,048,000.00	0.2138	11	54,500,000.00	692,000.00	1.01503442	0.2138	2.397895	17.81371	13.44734123
		2015	116,492,000.00	549,540,000.00	0.2120	12	90,400,000.00	417,000.00	0.99972371	0.2120	2.484907	18.31975	12.9408415
		2016	196,871,000.00	696,411,000.00	0.2827	13	108,900,000.00	659,000.00	0.993092252	0.2827	2.564949	18.50594	13.39847881
2	ICEA	2012	16,388,552.00	120,764,829.00	0.1357	26	5,900,000.00	287,019.00	1.028163814	0.1357	3.258097	15.59046	12.56730369
		2013	31,362,179.00	152,127,008.00	0.2062	27	71,000,000.00	305,080.00	1.032287626	0.2062	3.295837	18.07819	12.62832932
		2014	47,454,222.00	199,581,230.00	0.2378	28	89,000,000.00	334,469.00	1.01503442	0.2378	3.332205	18.30415	12.72029948
		2015	58,290,138.00	257,871,368.00	0.2260	29	97,000,000.00	345,973.00	0.99972371	0.2260	3.367296	18.39022	12.75411602
		2016	51,795,360.00	309,666,728.00	0.1673	30	110,000,000.00	363,272.00	0.993092252	0.1673	3.401197	18.51599	12.80290714
3	SANLAM INVESTMENTS												
		2012	26,234,000.00	70,830,000.00	0.3704	7	15,000,000,000.00	287,019.00	1.028163814	0.3704	1.94591	23.43132	12.56730369
		2013	4,110,000.00	79,940,000.00	0.0514	8	16,500,000,000.00	305,080.00	1.032287626	0.0514	2.079442	23.52663	12.62832932
		2014	13,050,000.00	87,991,000.00	0.1483	9	18,200,000,000.00	334,469.00	1.01503442	0.1483	2.197225	23.62469	12.72029948
		2015	19,053,000.00	107,044,000.00	0.1780	10	19,500,000,000.00	540,000.00	0.99972371	0.1780	2.302585	23.69368	13.19932442
		2016	31,097,000.00	90,640,000.00	0.3431	11	25,000,000,000.00	1,561,000.00	0.993092252	0.3431	2.397895	23.94214	14.2608372

4	SANLAM INVESTMENTS EA												
	2012	53,728,000.00	187,816,000.00	0.2861	15	144,700,000.00	1,475,000.00	1.028163814	0.2861	2.70805	18.79017	14.20416855	
	(PINEB RIDGE INVESTMENTS)												
	2013	142,017,000.00	329,833,000.00	0.4306	16	1,561,000,000.00	1,391,000.00	1.032287626	0.4306	2.772589	21.16859	14.14553347	
	2014	152,850,000.00	362,683,000.00	0.4214	17	171,800,000.00	1,550,000.00	1.01503442	0.4214	2.833213	18.96184	14.25376549	
	2015	138,293,000.00	394,482,000.00	0.3506	18	162,000,000.00	540,000.00	0.99972371	0.3506	2.890372	18.90311	13.19932442	
	2016	113,506,000.00	380,976,000.00	0.2979	19	200,000,000.00	1,561,000.00	0.993092252	0.2979	2.944439	19.11383	14.2608372	
5	NABO CAPITAL												
	2012												
	2013	134,431,000.00	152,632,000.00	0.880752398	1	8,773,534.00	198,000.00	1.032287626	0.8808	0	15.98725	12.19602231	
	2014	129,096,000.00	281,728,000.00	0.458229214	2	4,770,452.00	451,000.00	1.01503442	0.4582	0.693147	15.37795	13.01922262	
	2015	157,412,000.00	439,140,000.00	0.358455162	3	9,437,328.00	220,000.00	0.99972371	0.3585	1.098612	16.06018	12.30138283	
	2016	28,184,000.00	410,956,000.00	-0.068581551	4	12,112,822.00	289,666.67	0.993092252	-0.0686	1.386294	16.30978	12.57648612	
6	AMANA CAPITAL												
	2012	9,388,701.00	10,164,235.00	-0.923699718	3	800,000.00	300,000.00	1.028163814	-0.9237	1.098612	13.59237	12.61153775	
	2013	8,951,708.00	11,026,947.00	-0.811802941	4	1,012,000.00	300,000.00	1.032287626	-0.8118	1.386294	13.82744	12.61153775	
	2014	5,215,185.00	17,347,058.00	-0.30063801	5	1,461,910.00	350,000.00	1.01503442	-0.3006	1.609438	14.19525	12.76568843	
	2015	7,439,744.00	24,396,136.00	0.304955834	6	1,451,260.00	360,820.00	0.99972371	0.3050	1.791759	14.18794	12.7961345	
	2016	2,408,786.00	20,984,332.00	0.114789739	7	2,524,054.00	244,711.00	0.993092252	0.1148	1.94591	14.74138	12.4078332	
7	AFRICAN ALLIA												
	2012	80,837,000.00	494,270,000.00	0.163548263	12	14,000,000.00	403,500.00	1.028163814	0.1635	2.484907	16.45457	12.90793177	

	NCE												
		2013	22,362,000.00	465,357,000.00	0.04805343	13	18,000,000.00	193,700.00	1.032287626	0.0481	2.564949	16.70588	12.17406585
		2014	- 4,945,000.00	395,573,000.00	-0.012500853	14	26,000,000.00	542,900.00	1.01503442	-0.0125	2.639057	17.07361	13.20468042
		2015	- 66,355,000.00	320,332,000.00	-0.207144463	15	29,000,000.00	511,800.00	0.99972371	-0.2071	2.70805	17.18281	13.1456892
		2016	- 46,731,000.00	273,590,000.00	-0.170806682	16	21,750,000.00	499,200.00	0.993092252	-0.1708	2.772589	16.89512	13.1207621
8	APOLL O	2012	1,272,043.00	19,067,166.00	0.066713795	12	14,000,000.00	189,484.00	1.028163814	0.0667	2.484907	16.45457	12.15205987
		2013	2,274,585.00	20,442,718.00	0.111266271	13	18,000,000.00	185,418.00	1.032287626	0.1113	2.564949	16.70588	12.13036801
		2014	8,334,119.00	28,776,837.00	0.289612058	14	26,000,000.00	169,000.00	1.01503442	0.2896	2.639057	17.07361	12.03765399
		2015	5,623,008.00	26,399,845.00	0.212993978	15	29,000,000.00	169,000.00	0.99972371	0.2130	2.70805	17.18281	12.03765399
		2016	4,012,639.00	25,182,145.00	0.159344607	16	21,750,000.00	179,140.00	0.993092252	0.1593	2.772589	16.89512	12.0959229

NASI	2011	2012	2013	2014	2015	2016
Jan		68.94	103.50	134.66	165.80	136.81
Feb		72.07	106.91	141.05	175.70	142.03
Mar		73.48	117.91	143.89	175.11	147.44
Apr		76.91	118.07	151.13	173.20	146.93
May		78.48	126.72	150.20	162.13	143.61
June		80.75	116.31	150.37	164.41	140.60
Jul		83.26	122.86	151.69	148.39	142.39
Aug		84.66	119.96	157.94	142.80	134.94
Sep		87.38	127.35	163.45	146.92	136.75
Oct		91.67	133.24	159.23	137.28	137.04
Nov		92.2	141.17	163.27	143.47	136.61
Dec	68.04	94.86	136.65	162.89	145.70	133.34

<u>Monthly Momentum(NASI t/NASI t-1)</u>	2012	2013	2014	2015	2016	
Jan	1.01	1.09	0.99	1.02	0.94	
Feb	1.05	1.03	1.05	1.06	1.04	
Mar	1.02	1.10	1.02	1.00	1.04	
Apr	1.05	1.00	1.05	0.99	1.00	
May	1.02	1.07	0.99	0.94	0.98	
June	1.03	0.92	1.00	1.01	0.98	
Jul	1.03	1.06	1.01	0.90	1.01	
Aug	1.02	0.98	1.04	0.96	0.95	
Sep	1.03	1.06	1.03	1.03	1.01	
Oct	1.05	1.05	0.97	1.03	1.00	
Nov	1.01	1.06	1.03	1.05	1.00	
Dec	1.03	0.97	1.00	1.02	0.98	
	<u>12.34</u>	<u>12.39</u>	<u>12.18</u>	<u>12.00</u>	<u>11.92</u>	
Average Momentum(Monthly/12)						
Computed by dividing Monthly Momentum obtained above divided by 12						
	2012	2013	2014	2015	2016	
	1.028164	1.032288	1.015034	0.999724	0.993092	