Fund Manager Overconfidence, Compensation Incentives and Performance of Mutual Funds in Kenya

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ABSTRACT
This proposal seeks to investigate the relationship between fund manager overconfidence and performance of mutual funds under the intervention of fund flows and moderation of compensation incentives. By adopting a positivistic philosophy with a correlational descriptive research design, a census survey will be targeted at mutual funds operating in Kenya from 2012 to 2017. Primary data will be captured through semi-structured questionnaires directed at asset managers and chief executive officers complemented by secondary data sourced from Capital Markets Authority, Central Bank of Kenya and Central Bureau of Statistics. Data envelopment analysis, multiple linear regression at 5 percent level of significance, multicollinearity tests, adjusted coefficient of determination, F-tests and t-tests will be part of data analysis. Actively managed mutual funds continue to co-exist with index funds despite cost differentials between them. A fundamental question has been whether these actively managed funds add value to their investors by producing superior returns commensurate with added managerial input or not. In a bid to post positive alphas and improve their compensation incentives, fund managers rely on past returns, intuition and gut feeling to build their confidence levels as they make their daily portfolio balancing acts. Overconfident fund managers who post positive alphas receive increased fund inflows leading to better compensation incentives and more visible fund families.
1. Introduction

1.1.0 Background of the Study

Actively managed mutual funds continue to co-exist side by side with index funds despite cost differentials between them. A fundamental question has been whether these actively managed funds add value to their investors by producing superior returns commensurate with added managerial input or not. Such abnormal returns could be attributable to managerial skill, luck or access to private material information. Perceived abnormal returns before costs have been a key feature of mutual fund evaluation conundrum. Fundamental questions persist in mutual fund research: could superior outperformance of actively managed mutual funds be measured statistically?, and what are the appropriate variables to use, whether the outperformance of mutual funds could be identified ex-ante or only ex-post, and does this outperformance persist in to the future? Do outperformance returns from active mutual funds accrue to investors or do they end up being absorbed by fund managers through management fees and other costs? Could such returns be attributable to fund manager skill, luck or environmental connotations?

1.1.1 Fund Manager Overconfidence

As financial agents, professional investors often operate in an environment that is significantly different from the assumptions of conventional finance which views financial agents in terms of “rational” actors in the marketplace. Conventional finance assumes that these actors use formal methods to identify mispriced assets in an efficient market. Even so, the world of real investment manager is overloaded with information asymmetry, relies on gut feeling for subjective judgment with the prospect of job loss upon unsatisfactory returns. These environmental factors could affect their confidence levels and thus impair decision making processes and ultimately investment performance.

Psychology literature explains overconfidence along two lines; motivationally, individuals hold unrealistically positive self-perceptions to boost their happiness in a utilitarian way. Cognitively, individuals expect to succeed and accept responsibility for expected outcomes, leading to self-serving attribution bias. Proxies are used in this research to measure overconfidence include over-optimism, excessive certainty and excessive self-reference. Diction software will be used to extract the first two variables. In Diction, optimism is defined as, language endorsing some person, group, concept or event or highlighting their positive entailments. Diction defines certainty as, language indicating resoluteness,
inflexibility, and completeness. The third proxy used in this paper for overconfidence is self-reference which is the normalized frequency of first-person singular and plural pronouns in each narrative (I, me, my, mine, we, us, our, ours).

1.1.2 Mutual Fund Performance

Performance of mutual funds continues to baffle academics and practitioners alike. Households hold a significant proportion of their investment in mutual funds thereby elevating these vehicles to the stature of commercial banks as systemically important financial institutions. The existence of several fund families targeting different markets and offering packaged and unpackaged products complicates their performance analysis. Potential investors are therefore at a loss on how to allocate their resources among the existing funds. Various organizations have sprung up to bridge this gap by analyzing performance of these mutual funds and disseminating such material information to investor at a fee. Fund attributes such as loads, fees, advertisement, visibility, size, and age affect performance.

1.1.3 Fund Flow Determinants

Fund flows are changes in total net asset value less asset appreciation which occur whenever existing shareholders redeem their positions or when new investors buy into the fund. Researchers have categorized these flows into two; aggregate flows and individual flows (Sirri & Tufano, 1998; Elton et al. 2003). Correlating performance and fund flows presents mixed results with some researchers documenting weak correlation (Smith, 1978; Woerheide, 1982) while others document strong correlation (Ippolito, 1992). In most cases such correlation is fund type dependent (Cashman et al. 2006). Even though performance persistence occurs in some funds, capital markets experience swings in the form of bulls and bears and investors prefer buying top performing funds to low performing funds (Goriaev et al. 2002; Barber et al. 2005).

1.1.4 Compensation Incentives

Traders and money managers are paid to play with other people’s money. They take risks and maximize returns within some broad guidelines regarding trading/investment objectives and risk tolerance. As their customers’ agents, fund managers are compensated with incentive contracts that reward superior results and weed out underperformers. Agency theory presents theoretical foundations for understanding impacts of compensation contracts on agent’s decisions in many settings, including money management. Furthermore, implied links between compensation and risk taking are important for trading and money management.
Specifically, risk taking is driven more by the specific nature of incentive contracts and less by the broad guidelines under which a trader or money manager is supposed to operate (Orphanides 1996).

1.2.0 Research Problem

Capital markets are avenues through which most retail investors secure their financial health. Regular market swings and black swan events call into question market efficiency forcing investors to diversify their portfolios. Mutual funds come in handy with tailor made products for such investors. In fairness, irrespective of their popularity, mutual fund performance evaluation continues to trail passively managed index funds and exchange traded funds net of costs (Sharpe, 1966; Treynor & Mazuy, 1966; Jensen, 1968; McDonald, 1974; Elton et al. 1993; Gruber, 1996; Daniel et al. 1997). Consequently, a look on fund managers’ portfolio management functions as they subsist with index funds is worth studying.

Fund managers operate in complex environments where contracts and success is determined by positive alphas. Alpha managers are compensated for risk adjusted performance while poor performers are weeded out. Manager overconfidence is therefore rewarded (Grinblatt and Titman 1989; Golec 1992; Roll 1992; Das and Sundaram 1998a, b and 2002; and Palomino and Prat 2003) in terms of asset based fees and performance based fees. Admittedly, this line of thought assumes that risk adjusted performance will always be positive but increased risks carries a likelihood of increased risk exposure. This research seeks to correlate increased risk exposure levels through fund manager overconfidence and fund performance under the fund flows and moderation of compensation incentives. This research assumes that compensation incentives have a bearing on fund manager optimism/pessimism in their portfolio functions. A strand of literature exists on overconfidence of corporate managers and corporate investment decisions (Malmendier and Tate, 2005; 2008; Malmendier, Tate and Yan, 2011; and Gervais, Heaton and Odean, 2011). Similar studies on mutual funds would be timely and the current paper comes in to bridge the gap in Kenya.

Studies on mutual funds in Kenya are far and between, Iraya (2014) concentrates on ethical investment specifically how socially responsible investment relates with performance under the intervention of portfolio management and moderation of institutional characteristics. A gap exists on conventional investment. This research seeks to correlate fund manager
overconfidence with mutual fund performance under the intervention of fund flows and moderation of compensation incentives in Kenya.

1.3.0 Research Questions

A guiding research question of this research is: what is the relationship among fund manager overconfidence, fund flows, compensation incentives and performance of mutual funds in Kenya. The study is therefore premised on the following specific research questions:

I. What is the relationship between fund manager overconfidence and performance?
II. What is the relationship between fund manager overconfidence and fund flows?
III. What is the relationship between fund flows and performance?
IV. What is the effect of compensation incentives on the relationship between fund manager overconfidence and performance?
V. What is the effect of fund flows on the relationship between fund manager overconfidence and performance?
VI. What is the joint effect of fund manager overconfidence, fund flows and compensation incentives on performance?

1.4.0 Research Objectives

In essence, this research seeks to determine the relationship among fund manager overconfidence, fund flows, compensation incentives and performance of mutual funds in Kenya? Specific areas of focus are to determine:

I. the relationship between fund manager overconfidence and performance
II. the relationship between fund manager overconfidence and fund flows
III. the relationship between fund flows and performance
IV. the effect of compensation incentives on the relationship between fund manager overconfidence and performance
V. the effect of fund flows on the relationship between fund manager overconfidence and performance
VI. the joint effect of fund manager overconfidence, fund flows and compensation incentives on performance
1.5.0 Value of the Study

Firstly, in terms of practical implications, this research informs potential retail investors’ choice of fund managers. Investment in capital markets is subject to market swings resulting in bear and bull conditions. This creates uncertainty to which material information comes handy. Investors are advised to expect overconfident fund managers to post optimistic annual reports with positive alphas and increased risk levels. This paper therefore adds to available literature on behavioral finance by analyzing professional fund managers and their susceptibility to behavioral heuristics and their risk affinity as they play with other peoples’ money.

Secondly, this research studies the possibility of momentum strategies of actively managed mutual funds and whether such persistence is attributable to fund manager skill or luck. Fund managers are therefore examined from a behavioral point of view and a distinction or similarity with their retail clients revealed. Whether such momentum strategies have implications on fund flows or not is examined.

Thirdly, this research informs fund managers themselves as they go about their portfolio management functions. It opens up how complex their work environment is and the ramifications of their heuristics on risk taking behavior. Higher risk affinity translates to possibility of either higher returns or higher losses.

Fourthly, the government through regulatory agencies such as Capital Markets Authority will better understand complex work environment of fund managers and design appropriate rules and regulations to better protect investors from market swings and fund manager heuristics.

2. Literature Review

2.1 Introduction

This section examines both conceptual and empirical literature on fund manager overconfidence, fund flow determinants, compensation incentives and performance of mutual funds in Kenya. It covers theoretical foundation focusing on the modern portfolio theory, the stakeholder theory, efficient market hypothesis and prospect theory. The section also covers review of empirical literature, research gaps and conceptual framework.
2.1.0 Theoretical Foundation

This proposal is premised on four classical finance theories; modern portfolio theory (Markowitz 1952) on which the paper is founded on, stakeholder theory (Freeman 1984), efficient market hypothesis (Fama 1965) and prospect theory (Kahneman and Tversky 1979). A discussion of their relevance to this study is undertaken below.

2.1.1 Modern Portfolio Theory

This theory proposes that investors expect to be compensated for taking additional risk, and that an infinite number of "efficient" portfolios exist along a curve defined by three variables: standard deviation, correlation coefficient, and return. The efficient-frontier curve consists of portfolios with the maximum return for a given level of risk or the minimum risk for a given level of return. The algorithm used to generate the curve is known as mean variance optimization (Markowitz, 1952). MPT postulates that an investment bears two types of risk: systematic and unsystematic (Markowitz, 1952; Sharpe, 1964). Systematic risk is the risk inherent in the volatility of the entire capital market, while specific (unsystematic) risk is associated with the volatility of an individual security. Investors may assemble portfolios in such a way that the specific risk carried by any individual security within the portfolio is offset by the specific risk carried by another. In this regard, Sharpe (1964) holds that efficient capital markets reward investors for bearing systematic risk, but because diversification is possible, investors are not rewarded for bearing specific risk. That is, when a fund carries specific risk, it fails to reach the efficient frontier, wherein the risk/return trade-off is optimized. This theory is the foundation of this study as it shows whether fund managers are able to outperform the market or not and the importance of active management at the expense of passive management of funds.

2.1.2 Stakeholder Theory

Stakeholder theory assumes that firms possess both explicit and implicit contractual obligations the satisfaction of which shapes their terms of trade (Freeman, 1984). In this regard, Telser (1980) observes that implicit contracts lack legal recourse and only become self-enforcing when the present value of a firm improves on its goodwill and likewise deteriorates with erosion of goodwill. Similarly, Jones (1995) agrees that firms that honour contractual obligations enjoy synergistic advantages such as transaction costs. When mostly retail investors are rewarded with positive alpha performance, fund managers are
rewarded with increased flows thereby earning high returns. This theory helps explain why retail investors stick to their fund managers despite underperformance less of costs.

2.1.3 Efficient markets Hypothesis (EMH)

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. It would be interesting comparing positive alpha fund managers against their negative alpha counterparts given that momentum strategies are rare and far between in Kenya.

2.1.4 Prospect Theory

This is a descriptive model of decision making under uncertainty put forward by Kahneman and Tversky (1979). It assumes that market agents weigh wealth gains and losses from a specific asset and not absolute; it caters for shortcomings of expected utility as postulated by Von Neumann and Morgenstern (1944). Investors care about changes in financial wealth (instead of levels) and are loss averse over these changes. It could be argued that front-end loads are mentally coded as immediate losses while ongoing management fees are coded as small detractions from the larger gain of fund return. The current study relies on prospect theory to examine the relationship between fund managers’ overconfidence and risk adjusted performance under the intervention of fund flows and moderation of compensation incentives. Retail investors in mutual funds rely on compensation incentives to tame moral hazards and drive better performance from fund managers. Similarly, performance depends on portfolio balancing under uncertainty.

2.2.0 Review of Empirical Literature

2.2.1 Stock Selection and Timing ability of Mutual Fund Managers

Stakeholders in financial asset investment are concerned about performance metrics both for portfolio management purposes and as a yardstick for risk profiling. Momentum tendencies endear fund managers to stakeholders with respect to stock selection and market timing.
Market timing refers to the dynamic allocation of capital among broad classes of investments, often restricted to equities and short-term government debt. The successful market timer increases the portfolio weight on equities prior to a rise in the market, and decreases the weight on equities prior to a fall in the market. A manager constrained to holding equities might then time the market by adjusting the correlation between a portfolio’s return and the market return as the market rises and falls. In addition, market timing activity may be hindered by restrictions on the use of leverage and derivatives placed on mutual funds by the Securities and Exchange Commission’s Investment Company Act of 1940. Hedge fund managers are not constrained by these sorts of limits; hence we may expect more evidence of market timing and other dynamic strategies among hedge fund managers than mutual fund managers, as indicated by the results of Fung and Hsieh (1997).

Stock selection on the other hand deals with asset allocation criterion premised on market price of individual financial assets. Fund managers could employ value oriented strategies or growth oriented strategies in their stock selection undertakings. It all depends on monitoring market sentiments; price volatility and arbitraging positions adequately through portfolio rebalancing. Researchers have been keen on fund managers’ market timing and stock selection ability and have come up with two categories of models for assessing their presence. Conditional models regard material information as futuristic and positively rewarding in terms of superior returns. Researchers such as Treynor & Mazuy, (1966); Henriksson & Merton (1981) belong to this group. Unconditional models on the other hand rely on public information determining asset prices. Researchers Ferson & Schadt, (1996) exemplify this group.

Fund management literature on market timing and stock selection ability is rich and diverse. Some studies show neutrality in terms of fund manager ability (example Treynor & Mazuy, 1966; Kon 1983; Henriksson; 1984; Chang & Lewellen, 1984). Still other studies detect only a slight influence of fund manager ability in both market timing and stock selection, (Veit & Cheney, 1982; Chen et al. 1992; Kao et al. 1998). Contrasting results are achieved by using different variable within the same context. This appears to be the case when Chen & Jang, (1994); Bello & Janjigian (1997) in testing for positive market timing, used daily data as opposed to an earlier study by Bollen & Busse, (2001), which used monthly data. In modeling fund manager ability, Becker et al. (1999) conclude that even though conditional models on market timing ability eradicate negative sign associated with unconditional models, they do not significantly reveal conditional timing ability.
Stock selection ability reveals contrasting results with some researchers such as Lee & Rahman, (1990); Cuthberston et al, (2008); Baker et al. (2007) reporting positive linkages while others such as Chang & Lewllen, (1985) report negative linkages. Moreover, Volkman (1999) finds a negative correlation between market timing and stock selection ability of fund managers. It could be argued that in as much as past performance could be futuristic; investors increase their fund inflows to best performers. In addition, Campenhout (2007) and Capon et al. (1996) suggest that fund flow determinants are positivistic without a standard theoretical foundation. This tends to suggest that classical finance could rely on modern portfolio theory of mean variance analysis and beta factor, but behavioral aspects of heuristics and market anomalies are at the center of funds flow determinants. Consequently, Sirri and Tufano (1998) assert that in a world without search cost, if consumers were prescient, they would select funds that would subsequently generate the highest risk adjusted returns. It could be argued that maximization of expected risk adjusted returns becomes a fund selection criterion with emphasis on search costs.

2.2.2 Fund Flow Determinants

Mutual fund new flows are usually defined as change in total net asset value minus asset appreciation. Most empirical studies make use of normalized flows to correct for fund size effect. Indeed, researchers consider aggregate flows (category flows) as different from individual flows (Sirri & Tufano, 1998; Elton et al. 2003) despite the high correlation between the two. Given, earlier research indicates a weak relationship between performance and flows (Smith, 1978; Woerheide, 1982), subsequent research present a robust relationship. In addition, research suggests that performance-flow relationship is significantly positive (Ippolito, 1992) and different for different types of funds (Cashman et al. 2006). While recognizing the existence of momentum literature, this paper supports the view that investors direct their inflows to top performing funds (Goriaev et al. 2002; Barber et al. 2005).

More importantly, studies (Spitz, 1970; Chevalier & Ellison, 1997; Sirri & Tufano, 1998) have documented that abnormal positive returns generate disproportionately more inflows than abnormal negative returns would generate outflows. Specifically, due to spillover effects in mutual fund families (Nanda et al. 2003), performance flow relationship is convex in nature. This tends to suggest that it is sufficient for the mutual fund family to only have some well performing funds in order to experience large inflow in its assets under management. While testing for this attribute, Harless and Peterson (1998) conduct a study on the existence of poor performing funds on 100 funds from 1977 to1992 and conclude that investors give
prominence to recent gross returns at the expense of Jensen’s alpha in determining fund flows, a fact supported by Berkowitz and Ketowitz (2000) and Cashman et al. (2006).

Similarly, Edwards and Zhang (1998) examine the relationship between aggregate mutual fund flows into stock and bond mutual funds and returns from 1961 to 1996 (30 year period in equity funds) and from 1976 to 1996 (20 year period in bond funds). By using granger causality and instrumental variables method, they conclude that higher returns cause large equity and bond fund flows. In addition, Warther (1995) observe that flows into stock and bond funds are strongly correlated; however, a negative correlation between stock funds and money market funds exists. Consequently, there exists an insignificant relationship between; fund flows and investor sentiment; small stock behaviour and close end fund discount behaviour.

More importantly, researchers (Santini and Aber 1998, Warther 1995) explore the relationship between aggregate mutual fund flows and variables such as interest rate levels; risk adjusted and non-risk adjusted performance measures; and changes in personal disposable income. Results indicate that new money flows are negatively correlated to real long term interest rates and positively related to disposable personal income and stock market performance. Investors have been found to be more sensitive to risk adjusted performance measures (Guercio and Tkac, 2002; Shu et al. 2002). As a case in point, loads affect mutual fund flows differently with some researchers posting negative correlation (Cashman et al. 2006, Brad et al. 2005) likewise others post positive correlation (Berkowitz and Ketowitz, 2000). Doubtless, marketing efforts have positive correlation with fund flows (Sirri & Tufano, 1998; Reuter & Zitzewitz, 2006, Capon et al. 1996; Barber et al. 2005). Above all, Jain and Wu (2000) in their examination of signaling hypothesis document benchmark outperformance pre-advertisement period with underperformance post-advertisement period. Likewise, Reuter and Zitzewitz (2006) suggest that media spotlight on mutual funds have significant economic influence on fund flows but with uncertain future prospects on performance.

Fund attributes such as age and size have an influence on fund flows with larger and older funds posting less relative flows (Barber et al. 2005; Rockinger, 1996). Even so, smaller younger funds attract high flows (Goriaev et al. 2002). Of course, fund fees and loads have been found to affect performance with investors giving more weight to loads than fees (Elton et al. 2003; 2004, Barber et al. 2005, Wilcox, 2003; Nanda, 2004, Cashman et al. 2006). Specifically, marketing costs have a direct impact on fund flows (Ferris & Chance, 1987;
Elton et al. 2003). While recognizing that managerial incentives affect risk taking behaviour thereby driving return alphas (Elton et al. 2003), investors behave differently at purchase points with irrationality increasing with financial literacy (Capon et al. 1996; Wilcox, 2003, Goetzmann & Peles, 1997).

On the one hand, diversification affects fund flows with investors preferring highly diversified fund families (Rockinger, 1996); on the other hand, some investors prefer less diversified fund families with spill-over effects emanating from star funds (Nanda, 2004). Since, brokers and financial advisors have been found to exercise substantial influence on purchase of load funds (Zhao, 2006), they direct investor monies into smaller but high load funds, which may experience better performance due to their smaller size. Even so, investors who have been directly investing their money, go for larger funds due to high visibility.

2.2.3 Compensation Incentives

Agency theory monitors moral hazard by factoring in high-incentive contracts for managers which leads to increased fund leverage (Grinblatt and Titman 1989). Conversely, Ross (2004) shows that sometimes, compensation incentives do have a negative correlation with risk appetite. Similarly, Avramov and Wermers (2006) model an investment strategy that captures manager skill, fund risk loadings and benchmark returns. Of course, research (Hendricks et al. 1993; Goetzmann and Ibbotson 1994; Brown and Goetzmann 1995; Carhart 1997; and Bollen and Busse 2005) suggests that performance persistence in mutual funds is short term in nature. Indeed, Carhart (1997) shows that momentum effect can explain all the observed persistence in performance of the best funds, in addition, Wermers (2000) explains the persistence through funds’ expenses but not through managerial ability.

2.2.4 Fund Performance Issues

Performance evaluation has received a lot of attention from academics and practitioners alike. Specifically, Close (1952) compares performance of open and close ended funds and suggests that the mean returns of close ended funds are higher, in spite of three times more sales and popularity of open ended funds. Similarly, Brown and Vickers (1963) observe that different funds require different performance criteria. Consequently, various performance measures have been developed, primarily taking inputs from the pioneering work on Modern Portfolio Theory (Markowitz, 1952; 1959) and Capital asset pricing model (Sharpe, 1964; Lintner, 1965; Treynor, 1965; Mossin, 1966). In his study, Treynor (1965) discusses the impact of market on portfolio returns and risk aversion by investors by graphically developing a
measure for management performance. On the other hand, Sharpe (1966) presents a linear relationship between expected return on portfolio and its associated risk premium known as beta. More importantly, performance is measured in the form of Sharpe ratios (reward to variability ratio) with higher Sharpe ratios depicting better performance than market performance.

While recognizing that alphas and betas of mutual fund performance attain wide publicity, Miller and Gressis (1980) observe that estimates of fund alphas and betas provide misleading information if non-stationarity present in the risk-return relationship is ignored. Specifically, a large number of studies record negative alphas with respect to the benchmarks used (Sharpe, 1966; Treynor & Mazuy, 1966; Jensen, 1968; McDonald, 1974; Elton et al. 1993; Gruber, 1996; Daniel et al. 1997). Similarly, Grinblatt and Titman (1989a) analyze both actual and gross portfolio returns and report superior performance in growth funds, aggressive growth funds and smaller funds.

As a case in point, Malkiel (1995) posits that negative alphas accompany net returns while positive alphas accompany gross returns, but neither alpha is significantly different from zero statistically. Admittedly, underperformance is a cause for concern to academics and practitioners alike. Indeed, Wermers (2000) suggests that under-performance of equity funds to market averages depicts sub-optimal performance of non-stock portfolio holdings; transaction costs and expense ratios. However, Kosowski et al. (2006) examine performance of US mutual fund industry from the period 1962 to 1994 by bootstrap method and conclude that some of the managers achieved superior genuine performance.

2.3.0 Summary of Previous Studies and Research Gaps

Several articles exist addressing fund manager compensation incentives in developed economies of Europe and America (Coles et al., 2000; Deli, 2002; Deli and Varma, 2002; Kuhnen, 2004; Warner and Wu, 2004). Similarly, research on fund flows and performance in developed economies is a priority topic (Spitz, 1970; Chevalier & Ellison, 1997; Sirri & Tufano, 1998). The current paper seeks to customize similar studies to Kenya with a different capital market microstructure and less developed financial architecture. Specifically, studies document a correlation between fund manager overconfidence, compensation incentives and performance (Malmendier et al. 2011; Hill and Phan 1991; Hayes et al., 2012; Skantz 2012). This paper is the first to document fund manager overconfidence, fund flows and compensation incentives on performance of mutual funds in Kenya. Whereas Iraya (2014)
looks at socially responsible investment and performance of mutual funds in Kenya under portfolio management as the intervening variable with institutional characteristics moderating the relationship, the current paper is the first one to study fund manager overconfidence and performance of mutual funds in Kenya under fund flows as the intervening variable and compensation incentives moderating the relationship.

The dependent variable in this study is the mutual fund performance measured by efficiency ratio of outputs to inputs. The DEA model proposed by Basso and Funari (2003) capture efficiency ratio with composite performance measures of Sharpe ratio as outputs. Inputs are transaction fees charged, age of the fund, total asset under management and standard deviation of returns. The Sharpe ratio is used because it does not assume that the portfolio is fully diversified and therefore uses portfolio standard deviation as the measure of risk unlike other composite measures such as Treynor ratio and Jensen alpha that use portfolio beta to measure risk. The independent variable is fund manager overconfidence represented by active share, annual earnings forecasts, net news and news ratio. Asset allocation attempts to balance risk and return by adjusting the percentage of each asset in an investment portfolio according to the investors risk tolerance, goals and investment time frame while transaction fees include the various expenses charged to investors by the mutual funds. The relationship between fund manager overconfidence and compensation incentives is assumed to be moderated by fund flow determinants such as fees, loads, marketing, fund age, size, interest rates and diversification.
Table 2.1
Summary of previous studies and research gaps

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<th>Researchers</th>
<th>Focus of study</th>
<th>Study model variables</th>
<th>Methodology</th>
<th>Findings</th>
<th>Research gaps</th>
<th>Focus of current study</th>
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<tr>
<td>Arman and Taffler 2012</td>
<td>Fund Manager Overconfidence and Investment Performance: Evidence from US actively managed Mutual Funds from 2003-2009</td>
<td>Optimism excessive certainty and excessive self-reference</td>
<td>Content analysis, cross sectional data</td>
<td>Excessive overconfidence associated with diminished future investment returns in the twelve months following publication of annual report.</td>
<td>The study fails to capture other variable measures such as active share, net news and news ratio. Both knowledge and methodological gap identified</td>
<td>The current study incorporates five variables under overconfidence and includes both intervening and moderating variables to determine performance of mutual funds in Kenya</td>
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<td>Erik and Tufano 1998</td>
<td>Costly search and Mutual fund flows from 1971-1990</td>
<td>Media coverage, fund complex size, total fees, performance, spillover effects, OLS coefficient estimates</td>
<td>OLS coefficient estimates</td>
<td>Money flows into funds with recent above average performance. Fees are sensitive, but consumers’ response to fees is asymmetric in that they respond differently to high and low fees, as well as to fee increases and decreases. Consumers respond to the risk of their portfolios which may offset but may not eliminate manager’s incentives to increase fund volatility.</td>
<td>The study relies on Jensen’s alpha at the expense of other measures such as Sharpe ratio</td>
<td>The current paper will use Sharpe ratio as its output measure</td>
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<td>Ronald T. Wilcox 2003</td>
<td>Bargain hunting or star gazing? Investors preference for stock mutual funds</td>
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<td>Conjoint analysis, hierarchical Bayes’ framework.</td>
<td>Investors pay less attention to fees than to past performance metrics. Investors with shorter investment horizon pay more attention to past performance than their longer horizon counterparts.</td>
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<td>The study concentrates on investors at the expense of fund managers</td>
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<td>The current study concentrates on funds managers and how do they perform their portfolio management functions</td>
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<th>Brad, Terrance and Lu 2005</th>
<th>The relation between different forms of expenses and the growth of new money from 1991 to 1996</th>
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<td>Independent variables include total expenses, operating expenses, front-load, annual market adjusted fund return for the previous 12 months. Dependent variable is quarterly net fund flows</td>
<td>Cross-sectional regression. consistently negative relations between fund flows and front-end-load fees or commissions but no relation (or a Perverse, positive relation) between fund flows and operating expenses. investors prefer to pay lower fees to mutual fund companies, but they have grown sensitive to front-end-load fees and commissions more quickly than to operating expenses.</td>
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<td>The paper deals with fund flows and performance and neglects fund managers work environment</td>
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<td>The current study includes fund manager overconfidence and their compensation incentives to fund flow determinant with a view to analysis performance of mutual funds in Kenya.</td>
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3.0 Research Methodology

3.1 Introduction

This section presents the steps and approaches that will be followed in executing the proposed study. Specifically it discusses the research philosophy, the research design, the study population, data collection methods, reliability and validity of the measurement instruments, operationalization of the study variables and data analysis procedures.

3.2 Research Philosophy

Among the various research approaches that exist, two extreme research philosophies may be distinguished, namely a phenomenological and a positivistic paradigm. The phenomenological paradigm is also known as qualitative, subjectivist, humanistic or interpretive research paradigm,
whereas the positivistic paradigm is alternatively known as the quantitative, objective, scientific, experimentalist or traditionalist research paradigm (Blumberg et al., 2005).

A phenomenological research paradigm concerns understanding human behaviour from the researcher’s own frame of reference. The act of investigating a reality within a phenomenological context is thus seen as having an effect on that reality. Researchers using this paradigm essentially focus on meaning that individual experts attach to actual experiences related to a concept or a phenomenon rather than on measuring it from a population sample (Miller & Salkind, 2002: Collis & Hussey, 2003). This further implies that phenomenologists have to interact personally with units of analysis being investigated.

A positivistic research paradigm showcases several beliefs on how a researcher could make sense to others under the assumption of researcher fallibility through large samples subjected to hypothesis and theory testing. Indeed, it is suggested that human behavioral studies should be conducted in the same manner as those in natural sciences (Blumberg et al., 2005). Consequently, positivism stresses realism by searching for the truth. Given that this research strives to test a number of quantitative hypotheses, a positivistic research philosophy will therefore be adapted. Doubtless, positivists place strong emphases on the quantification of constructs and believe that the best and only way of measuring properties of phenomena is through quantitative measurement.

3.3 Research Design

There are three basic types of research design: exploratory, causal and descriptive. Exploratory research discovers ideas and insights; Causal research establishes cause-and-effect relationships between variables whereas descriptive research offers a description of a population with respect to important variables, estimates of the proportions of a population that have these characteristics and discovery of associations among different variables (Cooper and Schindler, 2003).

Descriptive designs involve three main methods namely; survey studies which describe status quo, correlation studies which investigate the relationship between variables and developmental studies which seek to determine changes over time. Descriptive designs could also be categorized as either cross-sectional which involves drawing a sample of elements from the population of interest and measuring characteristics of the elements only once or longitudinal where sample members are measured repeatedly over time (Sekaran, 1992).
This study will adopt a correlational descriptive research design to correlate fund manager overconfidence with fund performance under the moderation of fund flow determinants and the intervention of compensation incentives in Kenya. Certainly, researchers point to different facets of descriptive studies such as in-depth descriptions of specific individuals, social events, groups, companies or social artefacts (Sekaran, 1992) In addition, Collis and Hussey (2003) suggest that description of phenomena may range from narrative type (as in historic and discourse analyses) to highly structured statistical analysis (as in correlation studies).

3.4 Population and Sample

The unit of analysis in this study is the mutual fund and the target population will be mutual funds licensed by the Capital Markets Authority (CMA) or members of ASPEN Network of Development Entrepreneurs (ANDE) as at 31st December 2016 through a census survey. The Aspen Network of Development Entrepreneurs (ANDE) is a global network of organizations that support small and growing businesses in emerging markets by dramatically increasing the amount and effectiveness of capital and capacity development services for entrepreneurs. ANDE’s membership includes investment funds, non-governmental organizations, research institutions, and private philanthropic foundations that invest money and expertise to help entrepreneurs develop and grow small businesses in emerging markets. Members operate in over 130 countries.

3.5 Data Collection

Flawed data collection compromises reliability and validity of a study (Blumberg et al. (2005) and therefore this research will collect both primary and secondary data for triangulation purposes. Primary data will be captured through drop and pick later semi-structured questionnaires containing Likert-type statements, closed and open ended questions. Questionnaires will reflect pertinent literature in line with objectives of the study and required responses on the study variables of fund manager overconfidence, fund flow determinants, compensation incentives and performance of mutual funds in Kenya. They will be directed at mutual fund’s investment/asset managers or the Chief Executive Officers responsible for policy on mutual funds investment decisions.

Secondary data, capturing five year (2012-2017) monthly historical data on the mutual funds portfolio performance, will result in sixty data points adequate for computation of various ratios.
such as Sharpe ratio in line with Mueller (1991) and Shank et al. (2005). This data will be sourced from mutual funds monthly reports, annual reports, pamphlets, Capital Markets Authority, Central Bank of Kenya and Central Bureau of Statistics.

### 3.6 Data Analysis

This study will adopt Sekaran’s (1992) four step model of data analysis including getting data ready for analysis, getting a feel for the data, testing the goodness of fit of the data and hypothesis testing. Descriptive statistics including measures of central tendency for Likert scale variables in the questionnaire will be calculated. Standard deviation will be used to reveal dispersions in the underlying data while other measures such as coefficient of variation, kurtosis and skewness will also be computed. Correlation analysis will measure strength of the relationship between fund manager overconfidence and performance; fund manager overconfidence and fund flows; fund flows and performance; effect of compensation incentives on the relationship between fund manager overconfidence and performance; effect of fund flows on the relationship between fund manager overconfidence and performance; and the joint effect of fund manager overconfidence, fund flows and compensation incentives on performance of mutual funds in Kenya. This will establish the suitability of data for regression analysis by ensuring that the dependent and independent variables have a statistically significant relationship while at the same time controlling for multi-collinearity problem which occurs if any two independent variables are highly correlated (Cooper & Schindler, 2003).

Data Envelopment Analysis (DEA) model proposed by Charnes et al. (1979) focuses on analysis of relative efficiency of a set of decision-making units (the mutual funds) that require some inputs and in return supply some outputs. More importantly, Basso and Funari (2003) suggest three DEA models for measurement of the efficiency of decision making units which include a generalized basic DEA model, an exogenously fixed DEA model and a categorical DEA model. The categorical DEA model will be used because it does not require an indicator for each mutual fund unlike the exogenous DEA model.

Hierarchical multiple linear regression model will be used to assess the nature of the relationship between various variables hypothesized in the study at 5% level of significance. If adding a variable contributes value to the model, then they will be retained, but all other variables in the model are re-tested to see if they are still contributing to the success of the model. If they no
longer contribute significantly, they are removed. This ensures that only the minimum possible set of predictor variables is included in the model (Sekaran, 1992; Statman, 2000; and Kempf and Osthoff, 2007). Reliability tests such as multi-collinearity tests, adjusted coefficient of determination (adjusted $R^2$), F-tests and t-tests will be computed on the model to determine strength of relationship among study variables.

4. Conclusion

Fund managers operate in a complex work environment where performance is measured in terms of alphas. Such environments glorify knowledge intensive processes, flat managerial hierarchies, increased use of information technology in value creation processes and increased globalization of corporate structures (Ojwang’ 2016). Flat managerial structures may lead to corporate preference for secrecy over private disclosure. Indeed, if higher incentives increase both performance and risk, then it is likely to be neutral for investors and can be justified most likely in terms of producer surplus for the mutual fund management families. If, however, incentives improve managerial effort, by increasing collection of information, encouraging better techniques for constructing portfolios, or improving technological infrastructure – there should be a positive relation between performance and incentives, even after controlling for risk and survival. Moreover, according to conditioning on incentives, performance should persist. The attraction of net money flows is the mainstay of mutual fund success and survival. The key element is that fee compensation is typically charged as a percentage of total assets under management. As a consequence, a profound insight in the factors shaping the mutual fund purchase and redemption decision is an indispensable strategic and marketing tool. Moreover, investors could assess their previous investment decisions, and subsequently adjust their behaviour if their investment choices exhibit systematic biases.
References


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