

**THE EFFECT OF LIQUIDITY RISK ON THE FINANCIAL
PERFORMANCE OF MUTUAL FUNDS IN KENYA**

BY

MURITHI GLADYS UKIMA

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DECLARATION

This research project proposal is my original work and has not been submitted for examination in any other university.

Signature: Date.....

Murithi Gladys Ukima

D61/68306/2013

This research proposal has been submitted for examination with my approval as the University of Nairobi supervisors

Signature: Date.....

Mr. Ronald Chogii

Lecturer

Department of Finance and Accounting
School of Business
University of Nairobi

Signature: Date.....

Dr. Cyrus Iraya

Lecturer

Department of Finance and Accounting
School of Business
University of Nairobi

DEDICATION

This project is dedicated to my parents for their continued support through my education journey.

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LIST OF ABBREVIATIONS

BHC	Bank Holding Companies
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
GDP	Gross Domestic Product
LCR	Liquidity Coverage Ratio
LOTA	Loan to Total Assets
NSE	Nairobi Securities Exchange
NSF	Non Sufficient Funds
ROA	Return on Assets

ABSTRACT

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Liquidity risk is an essential resource price determinant, resource costs can be completely gotten from speculators' requirement for liquidity, and that they dodge budgetary resources which offer at a premium. Keene and Petersen (2007) watched find that liquidity is a vital element while considering venture choices they utilized the Fama-French time-arrangement relapses way to deal with inspect liquidity as a hazard figure influencing stock returns, bolsters these discoveries. Common assets are liable to entirely overwhelming control (utilizing, utilization of subordinates, short offering, and so on.), and along these lines improving execution through introduction to risk is exceptionally restricted (Sadka, Dong, and Feng 2011).

Liquidity transformation is basically the generation of liquid claims that can be used to back other financial assets. Common assets are arranged by securities they put resources into. The most widely recognized sorts are security stores, value reserves, currency advertise finances, and adjusted stores. Returns are periodically distributed to investors, for example yearly or every six months, and some funds allow some investors to redeem their funds at any one time within a few days' notice. The terms of investing and the rates of return vary based on the type mutual fund and the company offering them. In spite of the fact that there are laws and rules to help speculator security, it is eventually the financial specialist's duty to assess the reasonableness, benefit and feasibility of a venture. Since the financial crisis, there has been substantial debate whether liquidity transformation by asset managers can cause liquidity risk in mutual funds (Feroi et al, 2014).

Mutual funds do not simply act as pass-through instead they perform a significant amount of liquidity transformation. They use property of money to effectively deal with their liquidity arrangement and to decrease their effect on the costs of the hidden resources. As opposed to transacting in values and securities, common assets utilize money to oblige inflows and surges. Stores develop money positions when they get inflows and draw down money when they endure surges and the extents are monetarily critical. Resource liquidity additionally influences the affinity of assets to utilize money property to oversee support streams. In the cross segment, stores with less liquid assets are more aggressive in using cash to meet inflows and outflows (Chernenko & Sunderan 2016). Returns are periodically distributed to investors, for example yearly or every six months, and some funds allow some investors to redeem their funds at any one time within a few days' notice. The terms of investing and the rates of return vary based on the type mutual fund and the company offering them.

The occasional growth in the mutual fund industry in the developing markets has brought about an expansion in the quantity of speculation organizations offering a scope of assets. In Kenya with the entry of the Capital Market Authority Amendment Act (2000), which perceives particular venture vehicles and particularly shared assets and unit trusts, more open doors for expansion by both institutional and retail financial specialists rose. The first unit trust scheme in Kenya was registered in 2002 and this is attributed to the vast growth pattern in the market mainly in the share of trading volumes, market capitalization and share prices including the tremendous growth of these funds with numerous being registered on an annual basis (Kasanga, 2011).

1.1.1 Liquidity Risk

Liquidity risk is the likelihood that over a particular era, money related establishment will get to be not able settle commitments with quickness (Drehmann and Nikolaou, 2009). It is a risk emerging from an association's powerlessness to meet its commitments when they come due without bringing about unsuitable misfortunes. This hazard can antagonistically influence both income and the capital and consequently, it turns into the top need of administration to guarantee the accessibility of adequate assets to meet future requests. The powerlessness of money related foundations to liquidity hazard is controlled by the subsidizing hazard and the market chance. Liquidity chance should be checked as a feature of the undertaking wide hazard administration prepare, considering market risk and credit hazard to guarantee soundness to be determined sheet and element administration of liquidity risk. Jenkinson (2008), noticed that Liquidity chance influences the execution of common supports as well as its notoriety. A shared reserve may lose the certainty of its clients if assets are not opportune gave to them. The common reserve's notoriety may get to be in question in this circumstance.

1.1.2 Financial Performance

Generally, financial performance of an organization begins from the money related position and structure of the firm. This data is gotten from the monetary articulation which is the measuring stick to assess and execution. Business officials utilize monetary proclamations to draft a far reaching money related arrangement that will expand shareholders riches and minimize conceivable dangers that may preexist. Money related Statements assess the budgetary position and execution of a firm. These announcements are arranged and delivered for outside partners for instance: shareholders, government organizations and loan specialists (Rahaman, 2010).

Financial estimation has turned into a mainstream range in the budgetary writing. Financial performance measures how well a firm is produce esteem for the proprietors. It can be measured through different budgetary measures, for example, benefit after expense, return on resources (ROA), return on value (ROE), income per share and any market esteem proportion that is for the most part acknowledged (Pandey, 1985).The money related performance of monetary foundations can been measured utilizing a blend of monetary proportions examination, benchmarking, and measuring performance against spending plan or a blend of these procedures. The money related explanations of monetary establishments usually contain an assortment of financial proportions intended to give a sign of the enterprise's execution (Oye, 2006).

1.1.3 Liquidity Risk and Financial Performance

According to a study conducted by Shano, Ganesh & Mwaura (2009) shows that the overall performance of funds has improved tremendously due to public confidence and uptake, it is still necessary to study why some funds outperform others in an efficient market. Support age is adversely related with store execution showing that more youthful assets have a tendency to perform better. Extra tests demonstrate that expenses (yearly and introductory charges) are emphatically connected with execution. In the event that charges are viewed as the value that ignorant financial specialists pay to chiefs to contribute their cash, while paying higher expenses speculators are paying the advantages related to that venture, and get better execution. Common assets oversaw by an individual chief perform better.

Liquidity issues may influence shared assets income and capital and in outrageous conditions may bring about the crumple of generally dissolvable common assets. Besides, promote acquiring to take care of clients demand may put the company's capital in question. In this manner, obligation to value proportion will rise, influencing the association's push to keep up an

ideal capital structure (Muranaga and Ohsawa, 2002). Liquidity hazard may bring about a fire offer of the advantages of the firm which may overflow into a disability of the capital base. This situation may manage to offer value rebate to draw in purchasers. This circumstance will have a thump on impact on the monetary records of different establishments since they will likewise be obliged to stamp their advantages for the fire sale price (Brunner Meier and Yogo, 2009).

1.1.4 Mutual Funds in Kenya

A mutual fund implies Investment Company which gathers funds from several investors and puts the funds in form of shares, securities, different securities, or even money. The venture organization (subsidize chief) designates pooled cash as indicated by the reserve's goals. Common assets are arranged by securities they put resources into. The most widely recognized sorts are security stores, value reserves, currency advertise finances, and adjusted (blended) stores. Returns are periodically distributed to investors, for example yearly or every six months, and some funds allow some investors to redeem their funds at any one time within a few days' notice. The terms of investing and the rates of return vary based on the type mutual fund and the company offering them. In spite of the fact that there are laws and rules to help speculator security, it is eventually the financial specialist's duty to assess the reasonableness, benefit and feasibility of a venture. A financial specialist must read the data which is required to be given in the outline and settle on the choice whether to contribute or not, in view of their own condition and state of mind towards hazard. All privately authorized common reserve organizations offer the alternative to put resources into various sorts of shared assets which are occupied with various sorts of money related speculations.

Security Fund puts resources into government and corporate securities and Managed Fund pools the aggregate ventures of the workers in an organization with returns made accessible upon their

retirement. Mutual Fund performance in Kenya is evaluated in terms of capital growth, periodical returns and value funds respectively. The survival of the fund is solely determined by its performance in the market, that is, persistent increase in capital for growth funds and constant returns for value funds (Melih, 2010).

1.2 Research Problem

The investment environment within which the mutual funds operate are faced with a number of challenges chief among them is the risk. Risk basically is the variability of the portfolio return as a result of unforeseen circumstances. Diversification of the investment assets forms a critical component of a fund manager's strategy in their endeavor to improve the portfolio returns. Ramasang (2003) observed that robust growth in fund management in emerging markets has resulted in a rapid increase in investment firms offering diversified portfolio funds. However, the investors, while evaluating these factors, do not investigate them conclusively before settling on a fund to invest in. Mutual funds in Kenya have recorded significant growth in the last two decades and the rapidly growing middle class is gradually gaining interest in them (Kariuki, 2012).

Cheong (2006) who carried out a research on factors influencing unit trust performance in Singapore using secondary data research and his results revealed that large funds outperformed small funds, although better performance of large funds was not significant. Khorana *et al.* (2007) examined the link between fund managers ownership and the perceived and predicted performance of mutual funds. These studies on performance of Unit Trusts resulted to mixed findings, thus it is not clear on what specific factors affect profitability of Unit Trusts.

Kagunga (2010) explored the execution of Unit Trust contrasted with that of market situation of shares at Nairobi Stock trade. The study uncovered that Unit Trust outflanked the market which was credited to access to private data by Fund Managers. Maiyo (2007) in her study of the performance of unit trust funds in Kenya, using cross sectional survey, observed that the main reason for low performance of some funds was due to the portfolios having instruments of various categories put together in varying proportions. Maina (2011) assessed portfolio administration by unit confides in Kenya and uncovered that execution of value unit trust is exceptionally impacted by the nature and sort of benefit determination by store chiefs. His study was constrained to value reserves. Kasanga (2011) in an investigation of determinants of execution of unit trust supports in Kenya found that estimate capacity, showcase timing capacity and security determination methods to be imperative determinants of execution. His research however did not cover other determinants such as growth in size and expense ratio. .

All the above studies were carried out in isolation, hence it cannot be concluded that a particular factor is solely responsible for how a specific mutual fund performance. This implies that limited research was carried out in examining the factors that effect of liquidity risk on the performance of mutual funds and to what extent. This study sought to bridge the gap in knowledge by addressing the following question: What is the effect of liquidity risk on the performance of mutual funds in Kenya?

1.3 Research Objective

The objective of this study is to determine the effect of liquidity risk on the financial performance of mutual funds in Kenya.

1.4 Value of the Study

Choosing the right mutual funds has considerable effects especially for individual investors in Kenya who are increasingly relying on collective investment schemes to accumulate wealth. The findings of this study will be of most benefit to two groups of people; investors and policy makers. Given the wide array and increasing number, the investor needs to be able to make sound investment decisions. By studying specific fund attributes such as the age, size and transaction fees, the research will be able to deduce a trend on the effects of these attributes to the returns of mutual funds.

Policy makers in Kenya, and the Retirements Benefits Authority, will also benefit from this research while formulating guidelines governing the Collective Investment Schemes. This will ensure that individual investors are earning the maximum return from their investment and not being manipulated by fund managers through hidden costs. This study could also help in setting the minimum size and age entry requirements for new players in the mutual fund industry.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the existing studies on the effect of liquidity risk on the performance of mutual funds in Kenya. In specific the study reviewed the theoretical review, determinants of performance, empirical literature review, conceptual framework and summary of the literature review.

2.2 Theoretical Review

This study sought to establish the effect of liquidity risk on the performance of mutual funds in Kenya. The study was guided by the efficient market hypotheses, portfolio theory and capital asset pricing model.

2.2.1 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) states that at any given time, security costs totally reflect every single open data Fama (1970). The securities markets are to an incredible degree gainful in showing data about specific stocks and about currency advertises with everything taken into account. There are three sorts of the gainful market hypothesis; i).the slight shape attests that all past market expenses and data are totally reflected in securities costs. In a manner of speaking, particular examination is of no usage; ii).the semi-strong edge expresses that all transparently open information is totally reflected in securities costs. By the day's end, focal examination is of no usage and iii).the strong edge expresses that all information is totally reflected in securities costs. By the day's end, extensively insider information is of no usage Fama(1970).

The most immediate and most persuading test regarding market effectiveness is immediate trial of the capacity of expert Fund Manager to beat the market overall. Without a doubt, if the market costs were dictated by unreasonable speculators and deliberately veered off from discerning assessments of the present estimation of corporates and on the off chance that it were anything but difficult to spot unsurprising examples in security of profits on bizarre security costs, then expert Fund Managers ought to have the capacity to beat the Market. Coordinate trial of the real execution of experts who regularly are remunerated with solid motivating forces to beat the market ought to speak to the most contending confirmation of market productivity.

2.2.2 Modern Portfolio Theory

The Modern Portfolio Theory (MPT) underlines how financial authorities can create portfolios to upgrade or help expected benefit based for a given level of danger, focusing on that peril is an intrinsic bit of higher reward. As showed by the speculation, it's possible to construct a beneficial edges of perfect portfolios offering the most extraordinary expected return for a given level of peril. There are four vital steps required in portfolio advancement: security valuation, asset allocation, and portfolio change and execution estimation.

Portfolio theory is a logical itemizing of the possibility of improvement in contributing, with the purpose of selecting a social event of wander assets that has all things considered lower peril than any individual assets. For instance, when costs in securities exchange fall, costs in the security advertise frequently increment, and the other way around. An accumulation of both sorts of advantages can accordingly have bring down general hazard than either separately. Yet, expansion brings down hazard regardless of the possibility that benefits returns are not contrarily associated for sure, regardless of the possibility that they are emphatically corresponded (Markowitz, 1952).

Numerous hypothetical and practical arguments have been put forward on this hypothesis the more crucial being its estimation of hazard as far as aggregate hazard while pertinent hazard in speculation evaluation is non-diversifiable hazard and the way that money related returns don't take after a Gaussian appropriation or to be sure any symmetric dispersion, and the relationships between's advantage classes (Micheal, 1998). The mutual fund managers will therefore assemble assets in their portfolio that are likely to record high portfolio return within any given level of risk.

2.2.3 Capital Asset Pricing Model

Capital Asset Pricing Model (CAPM) was produced by three researchers Sharpe 1964. The model is founded on portfolio hypothesis and shows how hazard and return could be connected together furthermore determines the way of hazard/return relationship. For any security or portfolio, the CAPM decays and measures the aggregate danger of a portfolio or individual resources into parts: diversifiable (particular hazard) and non-diversifiable hazard (precise hazard).

As the market moves, every individual resource is pretty much influenced. To the degree that any advantage takes an interest in such broad market moves, that benefit involves efficient hazard. Particular risk is the hazard which is one of a kind to an individual resource. It speaks to the segment of a benefit's arrival which is uncorrelated with general market moves (Lintner, 1965). Unsystematic hazard is the hazard to a benefit's esteem brought on by elements that are specific to a relationship, for instance, changes in senior organization or product offerings.

Unsystematic hazard is accessible as a result of the way that every association is provided with an exceptional social affair of advantages, considerations and work compel whose aggregate productivity may change. A significant standard of cutting edge portfolio speculation is that unsystematic danger can be directed through improvement. That is by holding an extensive variety of focal points; discretionary instabilities in the estimation of one will be adjusted by changes in another (Markowitz, 1952). Proficient danger is risk that can't be ousted by upgrade. This addresses the assortment in leeway's regard realized by irregular money related improvements. This sort of hazard addresses the key risk that proprietors of a firm ought to recognize while moving an attempt. In the CAPM, the risk associated with preference is measured in relationship to the peril of the market all in all (Sharpe, 1964).

2.3 Determinants of Financial Performance

This study aimed at investigating the effect of liquidity risk on the performance of mutual funds within Kenya. Further, the study described that determinants of the overall financial performance of mutual funds in the country comprise the fund size, cash inflows, firm age and expense ratio.

2.3.1 Fund Size

Managers who are able to perform well use the approach of gather adequate money from investors resulting in the fund growing bigger (Beckers & Vaughan, 2001). Large mutual funds can spread settled overhead costs over a bigger resource base. Promote, administrators of enormous assets can pick up positions in helpful speculation openings not accessible to littler market members (Ciccotello and Gant, 1996). Smith (1994) proposes that huge reserve organizations routinely are apportioned partakes in oversubscribed IPOs. Among others, Glosten

and Harris (1988) found that expansive assets can achieve exchanges at more good spreads, given their market positions and substantial exchanging volumes.

As a major mutual fund continues developing it needs to keep on finding beneficial speculation openings. Enormous finances some of the time need to go up against bigger positions per stock than ideal though little subsidizes can put all the cash in their best thoughts. Liquidity implies that a major store needs to discover more stock thoughts than its little companions. Probably, a substantial store can stand to enlist extra administrators and along these lines cover more stocks and create extra smart thoughts; implying that expansive common assets can take little positions in loads of stocks Chen et al (2003).

2.3.2 Cash inflows

A large inflow of capital can cause administration stress i.e. organizations have to employ people as a way of accommodating growth and development needed in fund stability. This administration stress can also take place when the mutual fund experiences large cash outflows (Indro *et al*, 1999).

New cash inflows into mutual funds can cause managers to invest in stocks in which they might not otherwise invest. Besides, the cash inflow can cause managers to make suboptimal investment decisions, where relatively poor decisions can represent a performance drag. The reason is that if managers receive large injections of cash, they might spend less time on research for each stock they decide to invest in, resulting in a low information decision (Chan *et al*, 2005).

2.3.3 Firm Age

The age of a mutual fund could play a part in choosing performance since more recent assets may confront critical higher expenses in their startup period. This is because of advertising expenses additionally that the underlying money streams will put a more noteworthy weight on the store's exchange costs. There is likewise confirm demonstrating that arrival of new common assets might be influenced by a speculation learning period (Gregory et al, 1997).

There is a relationship between age and store measure; youthful assets have a tendency to be littler than more established ones, which make the youthful assets' profits and appraisals more defenseless for control. The littler the store, the more a modest bunch of lucky stock picks can float the execution of the whole reserve. Additionally, in light of the fact that youthful common assets are ordinarily littler, support families might have the capacity to bear to defer a portion of the costs (Adkisson and Fraser, 2003).

2.3.4 Expense Ratio

Effectively managed funds cause different expenses, including working and research costs, which are measured by the cost proportion. Indro et al. (1999) characterized cost proportion as the extent of advantages paid for working costs and administration charges, including organization expenses and different expenses, yet barring business costs. Despite the fact that different expenses are incorporated into the proportion, the vast majority of the costs can be connected with money related statistical surveying Indro et al. (1999).

Be that as it may, the broad work of Friend et al. (1970) distributed in a book, report no critical connection amongst execution and cost proportion and just a slight positive connection with turnover proportion. Ippolito (1989) finds that the hazard balanced returns, net of charges and

costs of dynamic portfolios are similar to those of list assets and that reserve execution is not identified with portfolio turnover and administration expenses. Grinblatt and Titman (1989, 1992) likewise report that common assets can create adequate comes back to balance the costs that they caused. The discoveries of these studies are conflicting with the supposed unique rendition of productive market hypothesis (EMT, from this point forward) which suggests that consumptions of cash on research and exchanging are squandered in a market in which securities costs officially consolidate all accessible data. This form of EMT predicts that dynamic administration of store will bring about alphas equivalent to the negative of the costs caused in getting the data.

2.4 Empirical Literature

Grinblatt and Titmann (1989) examined funds amid 1975 to 1984 utilizing both genuine returns and gross returns. They utilize Jensen's single-record measure with four arrangements of benchmarks. They find altogether unrivaled execution among development stores when gross returns information are utilized however proof of this vanishes when utilizing real returns. Subsequently, they infer that development reserves beat the market yet the proof vanished in light of its high costs.

Cumby and Glen (1990) research 15 U.S.- based global assets amid the period 1982-1988. They utilize Jensen's measure and the Positive Period Weighting proposed by Grinblatt and Titmann (1989) and discover positive alphas in just 3 supports however even these are not factually critical. They likewise investigate advertise timing capacity as a piece of their common store execution ponder. Utilizing Treynor and Mazuy's planning model, they discover confirmation of negative market timing capacity. He uncovers that, by and large, common assets have failed to

meet expectations benchmark both previously, then after the fact charges and costs have been deducted.

Gruber (1996) examined equity fund from 1985 to 1994 utilizing a relative come back to the market, Jensen's measure and multifaceted model. The multifaceted model incorporates four factors, to be specific market return premium, contrast consequently amongst little and vast top stocks, distinction consequently amongst development and esteem and security return premium.

Chen et al. (2000) inspected shared assets amid 1975 to 1995. The most widely recognized sorts are security stores, value reserves, currency advertise finances, and adjusted stores. Returns are periodically distributed to investors, for example yearly or every six months, and some funds allow some investors to redeem their funds at any one time within a few days' notice. The terms of investing and the rates of return vary based on the type mutual fund and the company offering them.

Pástor and Stambaugh (2003) outlined that market liquidity has all the earmarks of being steady factor that is essential in valuing normal stocks. They found that normal stock returns are cross-sectional identified with the affectability of stock comes back to total liquidity. As indicated by their measure, littler stocks are less fluid and in this manner profoundly touchy to total liquidity. What's more, research by Li, Mooradian, and Zhang (2007) bolsters the speculation that market wide liquidity is an imperative hazard consider and significantly affects expected returns.

Lou and Sadka(2011) recorded the significance of recognizing liquidity level as measured by the illiquidity measure of Amihud (2002) and liquidity chance, which measures affectability to changes in market wide liquidity. They found that liquidity hazard is a superior indicator of stock costs amid an emergency than liquidity level.

Gitagia (2013) concluded from his assessment that fund size and performance are negatively correlated so that as fund's assets rise, it is more than likely that the fund manager will be less flexible in taking decisions and will be facing a great deal of bureaucratic inefficiency as do industrial firms. It is inevitable that this would have dire consequences.

Mbataru (2009) investigated the factors influencing the performance of mutual funds in Kenya. Key amongst them was size. She concluded that growth of funds is a critical determinant of performance of mutual funds.

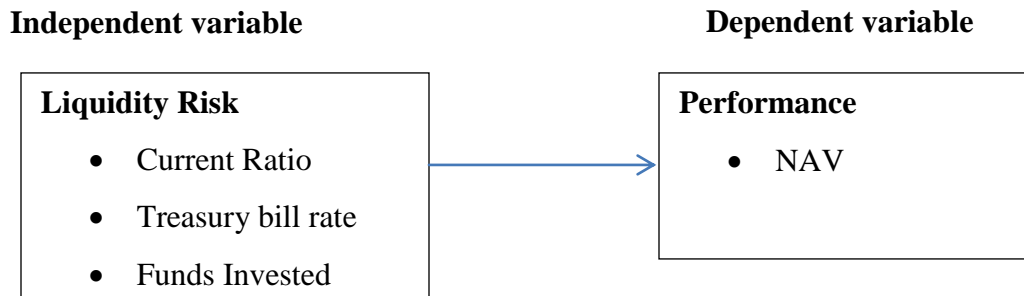
Maina (2013) found that there was a strong link between fund performance and fund size. The study found that operation risks, transactions cost and fund size were statistically significant to affecting mutual fund performance in Kenya. The study found that risk in the management of mutual funds cannot be ignored in any investment venture. The risk of a security is the variability in its expected future returns. The study proposed for the management of mutual funds to mitigate operation risk involved in the mutual fund investment as it was found that high risk securities have high dispersion around the mean while low risk securities will have a low dispersion around the mean.

Kasanga (2011) investigated the determinants of performance of unit trust in Kenya from January 2008 to December 2010. He found out that forecasting ability, market timing ability and security selection techniques employed by fund managers in managing both equity and money market portfolios were important determinants of performance. He also found out that performance of equity and money market funds managed by unit trust schemes was highly positively correlated with forecasting ability, market timing and security selection techniques.

2.5 Conceptual Framework

Theoretical system, as stated by Saunders (2007) are organized from an arrangement of wide thoughts and speculations that help an analyst to appropriately recognize the issue they are taking a gander at, edge their inquiries and find reasonable writing. As indicated by Young (2009), reasonable system is a diagrammatical representation that demonstrates the relationship between ward variable and autonomous factors. In this study, the applied structure will take a gander at the impact of liquidity hazard on the execution of common supports in Kenya. The free factor is the liquidity hazard while the reliant variable is the performance.

Figure 2.1: Conceptual framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter outlines the methodology and procedures used in data collection. Section 3.2 outlines for the research design applied, section 3.3 presents target population and sample size, section 3.4 discusses the data analysis models employed, section 3.5 shows the data collection methods used in the study and section outlines the data reliability and validity.

3.2 Research Design

The study used longitudinal descriptive survey utilizing data from the year 2013 to 2015 for various funds. The major purpose of longitudinal research design is to present a time series data and changes over time period. According to Robson (2002), the research design portrays an accurate profile of persons, events or situations.

3.3 Population and Sample

The target population includes all 16 unit trust schemes registered with CMA as at 31st December 2015. A census study for the trust schemes was carried out on all money market, equity and balanced funds managed by the schemes from January 2013 to December 2015.

3.4 Data Analysis

3.4.1 Conceptual Model

The Statistical Package for Social Sciences (SPSS) version 21 analytical tool as applied in the data analysis. Firstly, data was coded to facilitate computer input, then, summarized by use of

descriptive statistics such as frequency distributions, percentages, and standard deviation. Data was presented in form of frequency tables. A test of Multi-co linearity was conducted using the Pearson correlation analysis to check for any correlation between variables. The conceptual model adopted was as follows:

$$Y=f(X_1, X_2, X_3) \dots\dots\dots (1)$$

3.4.2 Analytical Model

Secondary data was the major source of data for the study. The net asset value (NAV) and average yield for money market funds will be used to calculate the return on investment.

This study will employ the Jensen's model to calculate the risk adjusted returns with the following regression specification:

$$Y= B_0+B_1X_1+B_2X_2+B_3X_3 +e$$

Where:

$$Y = \text{Change in Net Asset Value} = (\text{Closing NAV} - \text{Opening NAV})$$

$$\text{Hence: } Y = \Delta (\text{NAV}) = (\text{Financial Performance})$$

$$X_1 = \text{Current Ratio (Current Assets/Current Liabilities (Liquidity Risk))}$$

$$X_2 = \text{Treasury bill rate for the period (Control Variable)}$$

$$X_3 = \text{Ln Amount of funds invested (Control Variable)}$$

3.5 Data and Data Collection

The information required for this study was secondary data. The data was obtained from the business annual report and other relevant company documentations or records available in the library and also in the web sites.

3.5.1 Diagnostic Tests

The validity are instruments of a basically positivist epistemology Winter (2000). For dependability and legitimacy to exist in information, the information gathering methods must yield data that is applicable to the exploration speculation as well as right. Resolute quality is portrayed as how much a review, test, recognition or any estimation framework conveys comparable results on reiterated trials. Basically, it is the security or consistency of scores after some time or transversely over raters.

Legitimacy is the precision and weightiness of surmising which depend on the examination comes about. Its how much results got from the investigation of the information really speaks to the wonder under study. Legitimacy is to a great extent controlled by the nearness or nonappearance of orderly mistake in information. The scientist utilized substance legitimacy which is a measure of how much information gathered utilizing a specific instrument speaks to a particular area of pointers or substance of a specific idea.

3.5.2 Test of Significance

Linear and correlation regression analysis implements a statistical model that, when relationships between the independent variable and the dependent variables are almost linear, cause and effect relationship is expected. The model of coefficients of the independent variables and there P-

values will also be used. The tests were performed at 95% confidence level and at 5% significance level.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section describes the outcome of results as well as the findings on the research. Inferential statistics was utilized using regression analysis to provide an insight depth into the impacts of liquidity risk on the performance of mutual funds in Kenya.

4.2 Response Rate

Information was collected for nineteen registered mutual funds, with available and complete set of data, for a period of 3 years from 2013 to 2015. Data on fund size, current assets, current liabilities, liquidity, NAV and performance of the funds was analyzed from the published annual financial reports as well as from the Capital Markets Authority. There was a general high response rate by the participants which was due to fact that the information sought was considered as public information and was therefore readily available.

4.3 Descriptive Statistics

Descriptive statistics including the mean, standard deviation, coefficient of variation, skewness and kurtosis describe the probability distribution of a variable. Table 4.1 below describes the descriptive statistics for each of independent variables; Data on fund size, current assets, current liabilities, liquidity as well as the dependent variable performance as measured by the NAV is shown in Table 4.1 below

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
FP	48	-7.50000	17.60000	4.9250833	5.07015908
LR	48	.01200	3.85400	.5634937	.72842312
FS	48	2.58000	5.20000	3.8404375	.68906338
TB	48	8.15000	9.13000	8.6000000	.40833862
Valid N (list wise)	48				

Source: Author 2016

The mean for the NAV was 4.92 with a standard deviation of 5.07, the maximum was 17.60 and the minimum was negative -7.50. This was an indication that there was a big variation of performance as measured by net assets value with a standard deviation of 5.07. The mean for the liquidity ratio was .563 with a standard deviation of .728, the maximum was 3.85 and the minimum was .012. This was an indication that there was a big variation on the liquidity of the mutual funds with a standard deviation of .728. The means for the fund size and Treasury bill rates were 3.84 and 8.6 respectively. The standard deviation for the fund size and Treasury bill rate was .689 and .408 respectively. The maximum and minimum for fund size was 5.2 and 2.58 respectively. The maximum and minimum for the Treasury bill was 9.13 and 8.15 respectively. There was an indication that the variations on the Treasury bill were very minimal. A negative kurtosis is seen that signifies that a bigger probability was possible than the expected value of the viable extreme (Cooper & Schindler, 2003).

4.4 Correlation Coefficients of Mutual Funds

The study assessed the link between the free factors utilized as a part of the study; execution, finance estimate, 91 days Treasury charge rate and liquidity of mutual funds. examination, The

investigations of these connections appear to bolster the speculation that every autonomous variable has its own specific useful esteem in the capacity to clarify the profits of mutual funds.

Table 4.2: Correlation Coefficients

		FP	LR	FS	TB
FP	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	48			
LR	Pearson Correlation	.541**	1		
	Sig. (2-tailed)	.000			
	N	48	48		
FS	Pearson Correlation	.479**	.183	1	
	Sig. (2-tailed)	.001	.214		
	N	48	48	48	
TB	Pearson Correlation	-.091	.000	-.035	1
	Sig. (2-tailed)	.538	.998	.812	
	N	48	48	48	48

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Author 2016

The Correlation Matrix shows that there was a significant and positive relationship in fund performance and liquidity risk of mutual funds with an association of positive .541. The association between the fund size and performance was also positive at .479 while the relation between fund and liquidity was a positive .183 which was not very strong. The relation between the 91 days Treasury bill rate was not significant among all the variables.

4.5 Regression Analysis

Regression analysis of the model provided the results summarized in table 4.3 below.

Table 4.3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.670 ^a	.449	.411	3.89093183

a. Predictors: (Constant), TB, LR, FS

Source: Author 2016

The coefficient of correlation, R, examines the strength and direction of a linear relationship between the dependent variable and the independent variables. This model has an R of 0.670 which indicates a strong positive relationship between the variables. The coefficient of determination, R square indicates how well data fits in the statistical model; how successful the fit is in explaining the variation of the data. In this model, 44.9% of the disparities in the dependent variable are displayed by the independent variables.

The predictors are viewed as statistically significant compared to all the other variables that affect returns of mutual funds. The standard error is a measure of precision of the predictions. A standard error of 3.890 indicates variability in the model estimates.

Table 4.4: Regression results

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.327	12.494		.026	.979
	LR	3.272	.792	.470	4.128	.000
	FS	2.874	.838	.391	3.429	.001
	TB	-.963	1.391	-.078	-.692	.492

a. Dependent Variable: FP

Source: Author 2016

The Beta coefficients show a measure of the contribution of each variable to the model. A huge value indicates that a unit variation in this displayed variable has a huge impact on the criterion variable. The Regression coefficient value of liquidity risk was .792 with a p-value of less .05. The regression coefficient value of Fund size was .838 with a significance level of 0.001 while regression coefficient value of Treasury bill was 1.391 and the value was insignificant. From the table above, the regression becomes;

$$Y = 0.327 + 0.792X_1 + 0.838X_2 + 1.391X_3 + \varepsilon$$

Taking all other factors as zero, the return on fund will be 0.327. However, this is not a reasonable interpretation due to the fact that the fund size and liquidity can never be zero. The Coefficient of 0.792 indicates the difference in predicted value of Y for each one-unit difference in liquidity, all other factors held constant. From Table 4.4 above, it is evident that Fund size and transaction fees have a significant relationship with return of a mutual fund. ($p < 0.05$). The relationship between the 91 days Treasury bill and returns was not statistically significant ($p > 0.05$), implying that its beta coefficient is not significantly different from zero.

Table 4.5: Analysis of Variance

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	542.075	3	180.692	11.935	.000 ^a
	Residual	666.131	44	15.139		
	Total	1208.206	47			

a. Predictors: (Constant), TB, LR, FS

b. Dependent Variable: FP

Source: Author 2016

The overall model was statistically significant ($P < 0.05$) as illustrated in the Analysis of Variance Table 4.4 above. The statistic has an F-distribution with 11.935 and 47 degrees of freedom at 5% level of implication and 95% interval. The null hypothesis that fund characteristics and mutual fund returns are unrelated was therefore rejected.

4.6 Discussion of Research Findings

The overall aim of the study was to find out the effect of liquidity risk on the performance of mutual funds in Kenya, in particular the fund size and Treasury bill rate. The P value of 0.000 shows the importance of the model and we therefore reject the null hypothesis indicating that liquidity risk has an impact on the mutual funds.

There was a relatively positive explanatory relationship between liquidity risk and performance of mutual funds in Kenya; the coefficients are significantly different from zero. The link between the fund size and performance was also positive at .479 while the relation between fund and liquidity was a positive .183 which was not very strong. The relation between the 91 days Treasury bill rate was not significant among all the variables.

There was also a positive correlation between fund size and performance of mutual funds this means that larger funds achieve higher returns than small funds. Chen et al. (2004) is one such study that investigated the influence of fund management firm characteristics on mutual fund management and performance and found that the degree of focus by a management firm had a positive impact on fund performance. However, a study done on Swedish funds, which represents a much smaller industry size, by Dahlquist et al. (2000) showed a vital relationship between fund performance and small equity funds which is consistent with the findings of this study. The findings could also be attributed to the findings by Christofersen et al (2002) who indicated that nation features can elucidate the mutual fund performance outside fund aspects.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The main objective of this study was to evaluate the effects of liquidity risk on the performance of mutual funds in Kenya. This chapter presents a summary of findings for the research hypothesis and each variable studied, conclusion from these findings, study recommendations, limitations of the study and future research directions.

5.2 Summary of Findings

Similar to studies previously done, this research has unveiled a relationship liquidity risk and performance of mutual fund in Kenya. The overall mutual fund size has been found to have vital and significant relationship with the performance thus showing that huge funds are better placed in the overall outcomes. In efficient markets, the prices of the assets should reflect all available information. The coefficient of size is relatively minute meaning that even if size has an impact on return it is small. There could also be other factors that affect the variability of mutual fund returns or hierarchies involved in processing soft information. Chen et al (2004), argued that institutional diseconomies linked to hierarchy costs erode the impact of fund amount on the expected returns.

The fund size is also positively related with fund performance, is statistically significant ($p > 0.05$); bigger funds tend to perform better smaller funds. The 91 days Treasury bill rate is negatively related to fund performance and it was not significant meant that the Treasury bill rate change did not have an influence on the performance because of the small variability. The

coefficient of this variable was negative and was statistically not significant ($p > 0.05$) at 5% level of importance and 95% confidence level. The overall model was significant and data was valid hence relevant to conclude on the findings.

5.3 Conclusion

This research builds upon existing studies to provide a framework for individual investors considering that liquidity risk and affect the performance of mutual funds. It presents results concerning liquidity risk, fund size and the 91 days Treasury bill rate for 16 mutual funds in Kenya over the period 2013 to 2015. The main goal of the research was to test whether this fund attributes influence returns of mutual funds and based on the findings, we rejected the null hypothesis that fund attributes and returns on mutual funds are unrelated. This implies that the variables under consideration, fund age, fund size and transaction costs have an effect on mutual fund returns.

Fund size affects returns positively; and this is support of earlier studies that found that big mutual funds perform better than smaller ones. Chen et al. (2003) exposed that mutual funds for huge mutual fund corporations perform well than others. The study also reveals that returns improve with higher transaction costs charged.

5.4 Recommendations

The evidence of this study suggests that an investor, except for risk considerations, should consider the fund characteristics of a particular fund before investing. Fund Managers should also regularly review the fund characteristics to ascertain their effect on the fund returns to ensure that investors are earning maximum returns from investing in unit trusts compared to active investment strategies. However, because the coefficients of these attributes are small, the

impact of these variables are modest compared to the other factors that influence mutual fund returns, such as risk.

Regulations such as minimum fund size and management costs charged by Fund managers, should be considered while approving new entrants into the fund industry as this study ascertains that some of these fund characteristics affect returns earned. Mutual funds are performing below market, as evidenced by the negative Sharpe ratio values. Policy Regulators should therefore seek to regularly analyses and evaluate all portfolio factors that have an effect on fund returns other than risk, so as to ensure investors are earning maximum returns from fund management in Kenya. This will in turn improve the viability of unit trusts as viable investment options for both local and foreign investors.

5.5 Limitations of the Study

The study was limited to nineteen mutual funds in Kenya with complete set of data for the period 2013 to 2015. While the secondary data was verifiable, the degree of precision obtained was a limitation. The existence of low informational efficiency, where the prices of an asset do not reflect all information available, in the Kenya mutual fund industry was also a limitation to the quality of data obtained for this study.

The outcomes of this study cannot be generalized to all types of international mutual funds as only Kenyan equity funds and balanced funds were considered in this research. Macroeconomic variables may affect the returns of some types of funds in developing countries more than others, say money markets funds.

5.6 Suggestions for Further Research

Some gaps still exist in studies on evaluating the determinants of mutual fund returns. A proposal of study would be to research on the persistence of financial performance in Kenya mutual

funds; is it the same funds that beta their benchmark indices every year? Another research gap exists in studying the qualifications and experience of fund managers and their effect on the return of funds. This factor, though undermined, could play a role in mutual fund returns as they are actively managed and investment decisions are made at the digression of the fund manager.

A research could also be carried out to compare mutual fund returns against set benchmarks to establish whether unit trusts in Kenya are performing below market. Essentially, in efficient markets, there should be no difference between investing actively versus passively but this is not the case for Kenya capital markets. A comparative study on individual investors versus institutional investors, such as pension funds, should also be carried out and an analysis done on the returns earned from both sets of investors. Institutional investors may enjoy better returns due to economies of scale compared to individual investors; factors influencing this difference in returns should be researched in detail.

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APPENDIX I: APPROVED COLLECTIVE INVESTMENT SCHEMES

- I. African Alliance Kenya Unit Trust Scheme:
2. Old Mutual Unit Trust Scheme:
3. British-American Unit Trust Scheme:
4. Stanbic Unit Trust Scheme:
5. Commercial Bank of Africa Unit Trust Scheme
6. Zimele Unit Trust Scheme:
7. Suntra Unit Trust Scheme:
8. Madison Asset Unit Trust Funds:
9. Standard Investment Trust Funds:
10. CIC Unit Trust Scheme:
11. ICEA Unit Trust Funds
12. Dyer and Blair Unit Trust Scheme:
13. Amana Unit Trust Funds Scheme:
14. CFC Unit Trust Fund:
15. Diaspora Unit Trust Scheme
16. First Ethical Opportunities Fund