# EFFECT OF FINANCIAL RISKS ON FINANCIAL PERFORMANCE OF MUTUAL FUNDS IN KENYA

**BY**

**ALWY AHMED HASSAN**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, FACULTY OF BUSINESS AND MANAGEMENT SCIENCE, UNIVERSITY OF NAIROBI**

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## DECLARATION

This research project is my original work and to the best of my knowledge has not been submitted for the award of a degree in any other university.

Signature: ..... Date: 30/11/2023

**NAME: ALWY AHMED HASSAN**

**REG. NO:D61/5503/2017**

This research project has been submitted for the award of degree of Master of Business Administration with my approval as the University Supervisor.

Signed ..... Date. 30/11/2023.....

**DR. ZIPPORAH ONSOMU**

Department of Business Administration
Faculty of Business and Management Science,
University of Nairobi.

# DEDICATION

I dedicate this research to the reliable support base from my family. May the Lord bless each of you.

# ACKNOWLEDGEMENTS

First, I relay my gratitude to God for providing resources to enable me to reach this milestone. Secondly, I am beholden to my Supervisor, Dr. Zipporah Onsomu for guiding and consistently pushing me to complete the work; I pray that God showers his plentiful blessings on you in this life. Thirdly, I would like to convey my appreciation to the UON management for the chance to undertake my studies. In conclusion, I want to thank the family members for supporting me through the research process.

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# ABBREVIATIONS AND ACRONYMS

CTD: Cash to Deposit Ratio

CMA: Capital Markets Authority

MDB: Money Deposit Banks

NBFIs: Non-Bank Financial Institutions

NSE: Nairobi Securities Exchange

ROA: Return on Assets

ROE: Return on Equity

SPSS: Statistical Package for Social Scientists

VIF: Variance Inflation Factors

# ABSTRACT

The purpose of the research was to discover whether or not financial risk affect how mutual funds in Kenya perform financially. The research employed longitudinal survey study approach. The research targeted all mutual funds in Kenya. There were twenty-four (24) approved fund managers by Capital Markets Authority (CMA) as of December 2022. Data was collected from all of them for 2017-2021 period. Data of secondary nature was gathered regarding financial risks and financial performance from annual published reports. A multiple regression analysis was also performed. The study's findings indicate a significant and positive correlation between Return on Assets (ROA) and total assets. ROA and expense was discovered to have a strong positive and significant correlation. Credit, interest rate and liquidity risk however did not have a significant correlation with ROA. Their correlation with ROA is positively low. The adjusted $R^2$ of .643 indicated that approximately 64.3% of the fluctuations in the financial performance of mutual funds in Kenya was accounted for by the extent of financial risk exposure. Total assets and expense ratio influenced this relationship. Additionally, the study's results indicated that financial risks, which are comprised of interest rate, liquidity and credit risks reliably predicted financial performance (ROA) of mutual funds in Kenya. Finally, regression coefficients established that 47.3% variation in Kenyan mutual fund performance financially is due to changes in any of the determinants included in the regression model, with all of the other variables in the model's independent set remained constant. A stronger positive and statistically significant effect on ROA was also found to be associated with total assets and the expense ratio as given by $\beta$=.803, $p<0.05$. ROA was also positively impacted, if little, by the risks associated with credit and interest rate fluctuations. However, the detrimental impact of liquidity risk was statistically insignificant on ROA. The study concluded that financial risks, made up of interest rate, liquidity and credit risks reliably predict how mutual funds in Kenya perform financially. Based on correlation coefficient, ROA correlates positively and significantly with overall assets as well as expense ratio. Credit, interest rate and liquidity risk however did not have a significant correlation with ROA. Their correlation with ROA is positively low. The conclusion from the regression coefficient was that total assets and expense ratio have higher positive and statistically significant effect on ROA. Credit and interest rate risk had a low positive effect that was statistically insignificant on ROA, and liquidity risk had a lower negative effect that was statistically insignificant on ROA. Based on the conclusion, management of mutual funds should put in place a robust financial risk management system that would ensure optimal ROA, based on the various risk exposures. The management would also adopt the use of hedging, diversification, insurance, risk transfer, scenario analysis and stress testing, tailored to deal with specific risks.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Financial stability and the general performance of regional and domestic economy has suffered the effects Covid-19 pandemic, leading to economic meltdown. This arose following the world wide economic crisis that occurred between 2008 - 2009 that exposed organizations to financial risks. These crises have eroded the trust investors have regarding effective risk management ability financial institutions and has since created a concern regarding risk management overtime (Onsongo, Muathe, & Mwangi, 2020). The reality is that financial decision making by institutions are closely pegged on risks, to the extent that the way the risks are managed become critical in determining performance of firms. Hypothetically, financial risks expose firms to failure financially and may subsequently make investments close due to poor returns (Cuong, 2019). The aim of financial investments is the maximizing wealth of shareholders and sustainable performance financially.

The study was anchored on Credit Risk Theory by Merton (1974); Modern Portfolio Theory by Markowitz (1952) and Keynesian Liquidity Preference Theory by Keynes (1936). Credit risk theory posits the need to assess company exposure to credit risks which can help to determine sustainable financial relationship with stakeholders. Modern portfolio theory posits on the need to select and construct optimum portfolio that maximizes expected portfolio returns and minimizes risk arising from investments. Finally, Keynesian liquidity preference theory posits the need for speculation, to transact and to take care of any emergency daily (Missaglia &Botta, 2020). The main theory was the modern portfolio theory.

Kenyan mutual fund sector has experienced escalated growth over the previous two decades (Ombogi, 2014). The domestic Capital Markets remained resilient during the past two years, even as the Covid-19 Pandemic continued to pose an existential threat to the overall recovery of economies globally. From a meager Shs 500 million in 2001, the value of assets handled by the mutual funds increased to Shs 111 billion by the first quarter of 2021 (Capital Markets Authority, 2021). The motivators for growth have been the rising numbers of middle class, pension systems being privatize and improvement in market penetration of insurance sector (Muthomi & Muturi, 2019). Unexpectedly, even with this growth, mutual funds have not been performing well in Kenya. This in addition to greater strides in emerging market economies, sparkles the need for this study.

### 1.1.1 Financial Risks

It means the incapacity of a firm to achieve financial objectives. This is due to uncertainty in the business environment, especially regarding foreign exchange rates, rates of interest, goods and services price levels, prices of stocks, quality of credit and financing accessibility (Onsongo, Muathe, & Mwangi, 2020).It is the possibility of variations in financial returns that may not favor the expectations of the organization, based on the financial objectives(Gacheru, 2021). Financial risks are grouped into market risks, credit risks and financing risks. They include equity, interest rates, exchange rate, commodity prices, customer, supplier and liquidity risks (Gacheru, 2021). The current study focuses credit, interest rate and liquidity risk. The rationale is because these risks relate and are relevant to the operations of the mutual funds.

Liquidity risk stems from inability to turn an investment into cash within a short term without loss. This further affect the value of investments held by a fund, especially in

the money market. Variability in credit performance arise when monies lent out are not repaid as per the terms of the contract. This arises when funds are invested in bonds and credit-financed ventures (Kouam, 2021).Variations in interest rates affects valuations of financial assets and liabilities of fund managers. It equally relates to how volatile the expected returns are with respect to financial instruments that can be converted such as bonds (Nzuve, 2016). Mutual funds would develop strategies to manage the financial risks, either through asset allocation or diversification of investments. Variations in credit will be measured using debt to income ratio.Variations in interest rates will be measured using interest rate sensitivity gap ratio, which assesses how assets and liabilities are sensitive to variations in rates, and finally variations in liquidity will be ascertained using liquidity coverage ratio (LCR), which measures the capacity of mutual funds to satisfy their liquidity requirements over a time horizon of thirty days in the event of extreme liquidity constraint.

### 1.1.2 Financial Performance

It indicates how a firm utilizes available assets to achieve financial objectives. It is indicated by returns on financial investments and related operations. Achievement of financial performance imply that the company is financially healthy and can sustain good financial outlook overtime (Kamau, Olweny, & Muturi, 2021).It means measurement of firm performance based on ability to generate monetary returns and the level of asset performance. It is generally the effectiveness of a firm in generating investment returns. It is also a measure of how profitable an organization is as indicated by ROA, the return on equity, the ratio of net profits to shareholders' funds, and the ratio of net profits to total assets.

Estimating how firms perform financially is done using financial ratios that measures profit making, ability to meet short term financial obligations, investment suitability and efficient usage of assets. They therefore help in the assessment of how businesses perform over time (Agbata, Osingor, & Ezeala, 2021). They help in the evaluation of how healthy a company is financially, especially regarding realizing investment returns. This study focuses on financial performance indicated by ROA. It is a measurement of the abilityof a company to realize incomes through proper utilization of its assets. When ROA is high, the implication is that the company is using its resources with efficiency hence maximized wealth of shareholders.

### 1.1.3 Financial Risk and Financial Performance

Companies are vulnerable different financial hazards, such as credit, liquidity, foreign exchange, market, and interest rate risks. This creates the need to manage them efficiently for sustainability to be achieved in operations (Chepkemoi, Ndung'u, & Kahuthia, 2019). Financial risks significantly affect operations of a company since the risk elements are related to the business and investment transactions undertaken. This implies that financial risks are core in understanding how companies perform financially (Onsongo, Muathe, & Mwangi, 2020).

Financial risks affect the performance of companies by affecting their operations in terms acquiring assets and the financial transactions. This subsequently affect how they perform financially. It can be noted that market risks, specifically financial leverage significantly affect financial performance (Chepkemoi, Ndung'u, &Kahuthia, 2019). The study by Sisay (2017) established that credit, liquidity, and solvency risks negatively affect the extent to which the firms make profits, in the context of insurance

companies. The study by Nyasaka (2017) equally found out that variations in credit negatively affect how commercial banks perform financially.

### 1.1.4 Mutual Funds in Kenya

They are firms of pooled investments that are managed in a professional manner to earn returns to the investors. The firms invest in stocks, treasury bills, treasury bonds and other investment vehicles. The securities are traded on to realize capital gains or losses, and the collection of dividends or interests on investment. The returns on investment are then divided among the individual investors according to their investments and as per the agreement (Scholl, &Fontes, 2022). The role of fund managers therefore is to ensure maintenance adequately the asset base and implement policies to help in minimization of variations in investment returns. Mutual funds provide options for investments with proper diversification.

The industry of mutual funds in Kenya has experienced gradual expansion during the past few years, despite a tremendous growth in unit trusts (Capital Markets Authority (CMA), 2021). Over the years, valuation of assets managed by mutual funds grew from a paltry sum of Shs 500 million in 2001 to Shs 111 billion as of the first quarter of 2021. (Capital Markets Authority, 2021). Driving improvement here is the rise in growth has been largely middle class, pensions managed privately and insurance industry improving in their penetration (Muthomi & Muturi, 2019). Currently, there are 24 authorized fund managers (Appendix II).

## 1.2 Research Problem

The variations in financial returns can be either positive or negative implying the possibility of fluctuations in returns over time. A negative variation imply that the firm would lose money based on less level of returns or negative returns. This means

therefore that firms need to monitor and manage the financial risks to ensure sustainable financial performance (Alia, & Oudat, 2020). The concern therefore for fund managers is to ensure that the variations in returns from the investments do not be of disadvantage to the investors. The fact that there is exposure to possibility of negative returns means that fund managers would need to put frameworks in place to ensure sustainability of returns.

Mutual fundsin Kenya haverealized remarkable growth during the past two decades. Equally, asset valuation managed by mutual funds grew from a meagre Shs 500 million in 2001 to Sh 111 billion by the first quarter of 2021 (CMA, 2021). The industry has therefore grown impressively (Ombogi, 2014). This, however, is not the case with Kenyan mutual funds' performance. In addition to this, the upcoming market economies sparks the need to manage the financial risks.

There are much research works that are relevant to the current study, though they depict either contextual, conceptual, or methodological gap. The study by Sisay (2017) established that credit, liquidity, solvency risks negatively and significantly affect the extent of profit making by insurance companies in Ethiopia. Nyasaka (2017) established that credit risks negatively affect a bank's lending ability. In another study, Kamau and Njeru (2016) reached a conclusion that market, and operational risks significantly and negatively affects Return on Equity (ROE) among listed insurance companies in Kenya. Muriithi (2016) opined that variations in credit and ability to meet short-term financial obligations significantly and negatively affect ROE of Kenyan banks. Chepkemoi, Ndung'u and Kahuthia (2019) on the contrary, reached a conclusion that changes in changing interest rates affect how listed non-bank financial institutions perform financially in Kenya. Onsongo, Muathe and Mwangi (2020) established that

financial risks influence how listed commercial and service companies perform financially in Kenya. Lastly, Hacini, Boulenfad and Dahou (2021) also established that liquidity risks significantly and negatively affect how banks in Saudi Arabia performs financially.

The reviewed studies indicate the presence of contextual, conceptual, and methodological gaps. Contextually, studies conducted in other countries depict a contextual difference because the Kenyan mutual funds market has experienced several growth-related challenges that may be different from other countries. Equally, the study focuses on mutual funds due to the significance of variations in financial returns on investors decision making and the fact that, almost all investment vehicles form the portfolio managed by the funds. Conceptual gaps exist where studies focus on concepts other than financial risks and performance. There are studies that focused on market and operational risks as independent variables while others focused on ROE to ascertain how firms perform financially. Methodologically, the reviewed studies show the use of different methodologies. The study by Mwangi (2020) adopted explanatory design with reliance on secondary data. Equally, the study by Folajimi and Dare (2020) used an expo facto research design, employing convenience sampling to identify sample items. Sisay (2017) on the other hand employed panel data and unstructured detailed interviews. The study by Onsongo, Muathe and Mwangi (2020) also adopted an applied explanatory research design. In a bid to provide a different viewpoint for further research insights, the current study adopts a longitudinal survey design, with reliance on secondary data that is more reliable.

This study differed from the others in that it focused not only on all aspects of the variables that were being investigated but also on how the three predictor variables

interacted with one another to produce an effect on professional achievement. Generally, the focus on mutual funds opined on the fact that mutual funds play a key role as an investment platform. Given this information, the objective of the present study was to differentiate itself from previous research by investigating the interplay between financial risks and the overall Kenyan mutual funds' financial performance.

### 1.3 Research Objectives

To establish the effect of financial risks on financial performance of mutual funds in Kenya.

### 1.4 Value of the Study

The results are useful to not just the implementation of theory but also the formulation of new policies. Practically, the study findings enable investment managers to consider addressing the key risks to ensure stable returns. It would also sensitize the fund managers on the need to hold diversified portfolios. The implication is that those taking care of funds would selectively put in their portfolios for greater returns. Additionally, participants and those regulating this industry through this investigation may come up with proper estimates of fund performance.

In theory, this research would benefit researchers in continued development of academic papers in investments, especially in mutual funds market and how its growth affects the general financial markets growth. Financial risks studied would inform more academic debate, enabling research and theoretical understanding of financial markets. Lastly, regarding policy, the study would inform the government, through the CMA, on appropriate plan for coming up with index-tracking funds. The research will therefore help the Government to formulate governance operations in the mutual fund sector. The

study would also create curiosity in policymaking and regulations, especially as the investment markets remain very volatile.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Introduction

The ideas that are talked about in this part are in line with the investigation. Further, analysis and synthesis on other work done on this area of interest has been covered to bring out what is missing in those previous works that this investigation has handled. It additionally, draws a conceptualization of the construct that has been dealt with in this study.

## 2.2 Theoretical Review

This section outlines an in-depth review of the theories that underpins the research. The study was anchored on Credit Risk Theory by Merton (1974); Modern Portfolio Theory by Markowitz (1952) and Keynesian Liquidity Preference Theory by Keynes (1936). The main theory was credit risk theory, since credit risk creates financial commitments by institutions that lend money, invest in financial instruments, and underrate trade in financial markets.

### 2.2.1 Credit Risk Theory

It was put forward by Merton (1974).It postulates that credit risk of an enterprise is assessed by modeling the equity of the enterprise as a call option on its assets. It further indicates that default is a put option that a company can exercise when circumstances favor the one who has borrowed money to exercise the default option. The implication is that default can occur at any time an asset is held by an investor (Cohen, &Costanzino, 2022). The concern is that it is possible for firms and other issuing companies whose bonds are managed by the funds not to have their debts paid. It asserts that performance of credit check therefore needs to be done, and even a requirement

that the borrower have the loan insured is considered appropriate (Folajimi, & Dare, 2020).

The theory focuses on the variable of credit risk and would guide the mutual fund managers in evaluating financial risks in assets held. Credit risks as an element of financial risks exists in cases of mutual funds since they hold a portfolio of investments of debt and equity nature (Saleh, &Afifa, 2020). The reality is that;fund managers deal in a debt-related investment that therefore exposes the funds to credit-related risks. In practice, the fund managers would therefore need to consider securities of lower credit rating that would subsequently lead to increased credit risk of the portfolio (ALrfai, Salleh, &Waemustafa, 2022). The implication is that; fund managers must conduct a credit assessment of debt funds before deciding to invest in them.

### 2.2.2 Modern Portfolio Theory

It was put forward by Markowitz (1952). It posits that a good investment is considered optimal. The optimality of an investment decision means that it leads to maximization of expected returns, given a level of risk exposure. Equally, it should be able to minimize risks in relation to returns expected of a given portfolio. Xie (2021) asserts that rational investment decision making requires the need to form an investment portfolio that is efficient. The basis is that an efficient portfolio would offer the best returns, considering the level of risk exposure. Fund managers would therefore need to hold an investment portfolio that would lower investment risks, while at the same time achieve the highest possible returns.

The suitability of the theory is on the basis that it based on the variable of financial performance, as it focuses on returns on investment. It also focuses on the contextual aspect of the study, being the mutual funds activities. The emphasis is on the need for

fund managers to build an investment portfolio that is as optimal as possible to realize sustainable financial returns overtime (Moradpour, 2021). Investors rely on fund managers to manage their assets, providing them with good returns overtime. MPT theory therefore asserts its relevance in sustaining performance of investments held by mutual funds overtime. This is achieved by holding diversified investments held by fund managers.

### 2.2.3 Keynesian Liquidity Preference Theory

It was developed by Keynes (1936). It posits that people have preference to hold cash and therefore an investment opportunity should be able offer the investors cash and cash equivalence with ease. The argument is that easy conversion of investments to cash would lower risk exposure. Liquid investments are easily sold or converted into cash, making an investment less risky (Margono, Wardani, & Safitri, 2020). The theory assert that people demand liquidity in investments to ease transactions, for precautions, and for speculations. The need to transact easily arise because incomes may be fluctuating. Equally, investors would need to be cautious by being financially ready to deal with any emergency. Finally, investors require liquidity to be able to speculate any changes in the investment environment for any favorable opportunity.

The theory gives insights into financial performance of mutual funds. This is because mutual funds hold investments in different investment vehicles and may face liquidity problems, especially when clients want their money held in short term assets (Moradpour, 2021). This would deter investments in projects that yield good profits in future due to liquidity problem. It therefore also relates to the variable of financial risks, especially where debt assets are held as part of the portfolio, and they become

delinquent. Mutual funds management therefore need to hold more debt-free investments to mitigate the level of credit risks (Jossa, 2021).

### 2.3 Determinants of Financial Performance

Investing through mutual funds implies that investors expect returns, and this is achieved through how mutual funds perform financially. The concern is whether the investor offers superior or inferior performance, and this is affected by the given elements.

#### 2.3.1 Financial Risks

Financial risks mean unpredictability of financial returns as caused by variations in liquidity, credit, interest rate and foreign exchange issues. This unpredictability affects how firms eventually perform financially (Onsongo, Muathe, & Mwangi, 2020).They therefore determine the extent to which firms achieve and sustain financial performance. Liquidity risks a significantly negative correlation with ROA. Credit risks arise when borrowers fail to repay debts advanced to them. The compensation to lenders is hence achieved through interests charged to the borrowers. Muriithi, Waweru and Muturi (2016) establish that credit risk negatively and significantly relates with bank profitability. Interest rate risk arise when there is fluctuation in interest rates as well as rate of returns. This affects assets and financial obligations of companies, leading to a significant effect on financial performance (Nzuve, 2016).

Finally, variations in exchange rates arise because of emergent fluctuations in exchange rates due to international financial transactions. The effect is on prices of imports that eventually impact investment performance (Onsongo, Muathe, & Mwangi, 2020). The study by Al-slehat (2022) established that variations in interest rates significantly lead to variations in how commercial banks perform financially. When the interest rates are

lower, organizations can access cheap finance, and this would help maximize financial returns.

### 2.3.2 Fund Size

Managers who can perform well use the approach of gathering adequate money from investors resulting into a large fund. Large mutual funds can spread settled overhead costs over a bigger resource base and as well, administrators of enormous assets can pick up positions in helpful speculation openings not accessible to littler market members (Nthimba, Jagongo, &Wamugo, 2021). The reality in terms of financial performance is that optimality must be achieved regarding the size of the mutual fund. This implies that larger sized funds perform better compared to smaller ones, due to economies of scale. There may equally be cases of disadvantages of operating in large scale that can affect performance of mutual funds.

The size of funds affects performance because of reduced unit costs created by economies of scale. It can be noted that management of large funds create more chances for investments as compared to the smaller ones, as well as possible reduced brokerage commission (Farid, & Wahba, 2022). It can however be noted that small-sized funds could have financial efficiency than the large-sized due to the cost of large funds management and investment inefficiencies.

### 2.3.3 Fund Expenses

The expenses consist of amount of money spent to administer and generally operate the portfolio. They are fees incurred to manage, to oversight the spending activities and costs incurred in supporting customers. To evaluate the costs of mutual funds, expense ratio is used. This is therefore yearly fees charged by funds to shareholders (Servaes,

&Sigurdsson, 2018).Organizations would try to optimize these kinds of expenses so that they can improve growth in shareholders' funds.

Investments in mutual funds require investors to pay fees and other administrative expenses, including the cost incurred to gather information (Rehan, 2020). Mutual funds with high expense ratio have high variations in comparison to mutual funds with low expense ratio (Livingstona, Yaob, & Zhouc, 2019). Generally, effectively managed funds mean management of the expenses, and this reduces financial variations in returns.

### 2.4 Empirical Literature Review

The literature reviewed relate to the variables under study. Onsongo, Muathe and Mwangi (2020) studied how financial risks affects the extent to which businesses involved in commerce and services that are listed perform in Kenya. It adopted the use of explanatory research design. It targeted 14 firms quoted under this category at the NSE. It used published data in the yearly financial reports covering the duration 2013–2017. There was then the use of panel regression model randomly according to the Hausman specification test. It was established that credit risk insignificantly, though positively affects ROE. The return on equity was also strongly impacted in a negative way by liquidity risk, while the return on equity is significantly impacted in a positive way by operational risk.

Folajimi and Dare (2020) studied how credit risk affect Nigerian banks' performance financially. It used an expo facto research design. The data was described and then inferred to arrive at conclusion. The targeted population was all the 19 money deposits banks under Nigeria stock exchange as at 31st December, 2018. Thirteen MDBs were identified using convenience-sampling, considering the available data for the period

under study. The extraction was done from the already available information. It focused on three parameters of financial performance, combined in return on capital employed (ROCE), while the proxies of regressor variable included delinquent loans, the level of capital employed, bank size, the percentage of loan loss provisions to deposits, and other control variables. It established that credit management positively and significantly affect how MDBs perform financially.

Nyanamba, Muturi, and Nyangau (2015) conducted research to aspects impacting on profitability of mutual funds in Kenya. It used a descriptive design that involved the analysis of 19 mutual funds at the end of 2014. It employed already published data from the annual reports. Financial performance of mutual funds was found to be positively impacted by asset quality, liquidity, and balance sheet strength. It was also established that expenses negatively affect the extent to which mutual funds are profitable.

Muthomi and Muturi (2019) investigated how mutual funds in Kenya perform and focusing on choice of stocks, timing of the market, fund size, and cost ratio affecting fund features performance. Firstly, employing the Treynor and Mazuy (1966) approach to time the market and choose appropriate stocks in examining the probability of availability of timing and stock selection skills. Subsequently, the model of pricing assets with a single index was employed to evaluate how mutual funds perform. The outcomes alluded to the fact that the stick selection manner and market timing influenced positively on performance of mutual funds.

Chepkemoi, Ndung'u and Kahuthia (2019) examined how interest rate variations impacted on the level at which NBFIs listed in Kenya perform financially. It covered a duration of between 2012–2017. The examination focused on analyzing the components of the financial status report and financial ratios of the non-bank financial

institutions (NBFIs). Panel data was utilized. Financial performance was proxied using net profit margin, while variations in interest rates was proxied using leverage ratio. The study adopted multiple regression to assess how variations in interest rates impact the profitability of Kenya's listed nonbank financial institutions. This was based on tests specified by the Hausman and the LM. The study concluded that financial advantage significantly and positively affects how listed NBFIs in Kenya perform financially.

Hacini, Boulenfad and Dahou (2021) analyzed how variations in liquidity impacted on traditional banks performance in Saudi Arabia. The study focused on the duration of 2002-2019. How firms perform financially was approximated by the gain from equity, whereas loan to deposit and cash to deposit ratios were utilized to represent liquidity fluctuations. The ratio of equity to total assets was selected as the control variable. It employed the use of panel data method to test the hypothesis. It was found out that variations in liquidity significantly and negatively affect how Saudi Arabian banks perform financially.

Kiptoo, Kariuki and Ocharo (2021) conducted an examination of how risk management relate with how insurance companies in Kenya perform financially. The period was 2013–2020. The information was gathered from fifty-one different insurance firms. In order to examine the data, a regression model was utilized. The findings were encouraging, with one notable exception: a negative but statistically significant effect was discovered for credit risk on financial performance.

The study Sisay (2017) reviewed how financial risks impacted on Ethiopian insurance firms perform financially. It used panel surveys and non-structured detailed interviews. It employed 6 regressed variables including credit, liquidity, and solvency risks. ROA

was employed as a proxy for performance financially. It was found out that credit, liquidity, and solvency risks negatively affect the profitable level of insurance firms in Ethiopia.

### 2.5 Summary of Literature Review and Research Gap

The assessed research work depict research gaps contextually, conceptually and methodologically. Contextually, gaps exist when the reviewed research work are based on a context different from this study. The topic of discussion in this article is mutual funds in Kenya. The gap is based on the understanding that the variables financial risks and financial performance are also studies in different contexts including other countries. Studies based on commercial banks, insurance companies, NBFIs and commercial and service companies. Conceptual gap exists where the variables studied are different from the current study.

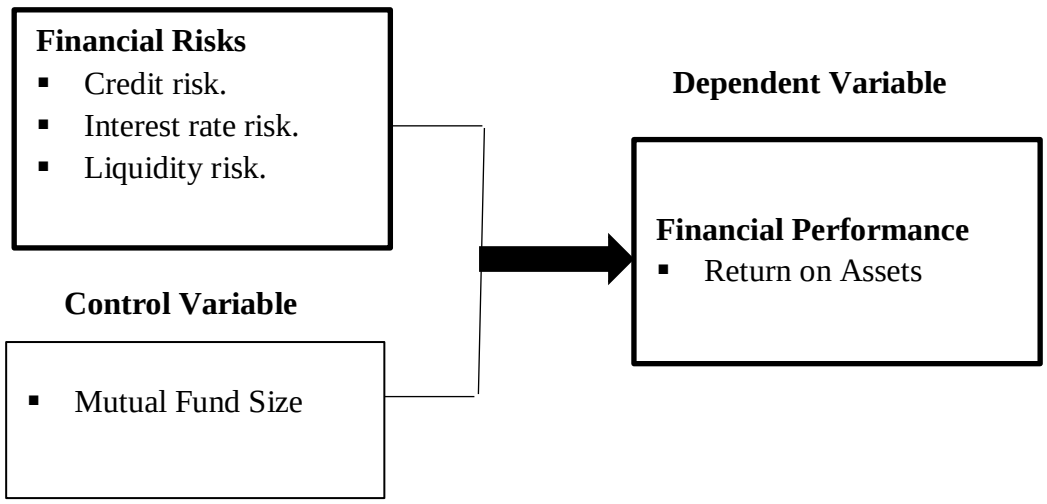
Methodological gaps exist when the studies reviewed adopts methodologies that are different from the current study. This study adopts adopt a longitudinal study. The study by Onsongo, Muathe and Mwangi (2020) adopted an applied explanatory research design, while Folajimi and Dare (2020) adopted an expo facto research design and Sisay (2017) employed a panel survey method. Some of the studies reviewed are alsoused case studies while others used descriptive survey design. Equally, some of the studies employed primary data through case studies, while the current study intends to use secondary data.

### 2.6 Conceptual Framework

The study explored the level to which financial risks affect financial performance of mutual funds in Kenya. The predictor parameter is the financial risks, while the forecast variable is the financial performance. Financial risks were proxied using credit, interest

rate and liquidity risks. The return on assets was used as the metric for determining how well the companies are doing financially. The total amount of money in the mutual fund, as assessed by its total assets, served as the control variable in this research. The illustration is as given in Figure 2.1:

**Figure 2.1: Conceptual Framework**




**Source:** Researcher (2022)

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

Provided here is a summary of the findings from the research technique as well as the population who will be the focus of the research. It also indicate the data that was used, how it was collected and analysed as well. Finally, it indicated how the study variables was measured and tested to assert whether they are significant or not.

## 3.2 Research Design

The investigation applied method known as a longitudinal survey study. This involves observing the variables under study for a longer time, sometimes lasting many years. A survey provides data that helps to describe how the phenomena under study relate. In this design, there is no manipulation of the parameters under study or interference with the context of the study (Hollstein, 2022). The work of the researcher is to observe the subject matter over the period under study. The approach was considered suitable in assessment of causality, and this enabled the quantification of how one variable affected the other.

This approach was considered appropriate since it determined how the various financial dangers affect overall performance financially over a period of more than one year. The design assisted in analyzing, interpreting, and reporting outcomes accordingly. Forming the basis here is that through longitudinal studies the period of coverage can be extended beyond a certain time and therefore, establish sequences is possible.

### 3.3 Population of the Study

The investigation concentrated on all of Kenya's mutual funds as its subjects. There were twenty-four (24) approved fund managers by Capital Markets Authority (CMA) as at December 2021 (CMA, 2021). Data was obtained from all of them for the period of study 2017-2021. The list of the mutual funds is as given in Appendix II.

### 3.4 Data Collection

This research utilized already released data from yearly reports submitted by each of the fund managers. Secondary data was collected regarding financial risks and financial performance. Data was collected on total debts, annual incomes, interest rates, current assets and liabilities held. Equally data was collected on total assets and annual administrative expenses of the funds held. The data sheet in Appendix II was used as an instrument to collect the data.

### 3.5 Diagnostics Test

For analysis purpose, multiple regression was utilized. This requires normal distribution of data. The testing of the normal distribution of data was done through Shapiro-wilk Test where the statistics value should be below 0.05. The VIF was utilized in order to examine the possibility of a correlation between the unrelated independent variables, with a value ranging from 2 to 10 being regarded as acceptable.

### 3.6 Data Analysis

To perform the data analysis, SPSS was utilized. This will first involve generating inferential and descriptive statistics. Descriptive measures, including mean and standard deviation, was applied in determining extent of financial risks facing the fund managers. Subsequently, multiple regression analysis was employed to aid in

determining the extent to which financial risk has an impact on how well firms are performing financially. The regression was modelled as follows:

$$\mathbf{FP = a + \beta_1 CR_1 + \beta_2 IRR_2 + \beta_3 LR_3 + \beta_4 FZ_4 + \beta_5 XR_5 + \varepsilon}$$

**Where:**

Y = FP

a = Constant

β= Coefficient

$CR_1$= Credit Risk

$IRR_2$= Interest Rate Risk

$LR_3$ = Liquidity Risk

$FZ_4$= Fund Size

$XR_5$= Expense Ratio

ε = Error term.

### 3.7 Test of Significance

T-tests and F-tests were utilized in this study, to help in identifying whether or not each parameter that was evaluated was significant. F-test on the other hand helps in testing how suitable the regression model. The researcher computed R and adjusted $R^2$. The R was used to establish the nature of the correlations while adjusted $R^2$ helped in establishing how the percentage change in financial performance is dependent on varying financial risks.

### 3.8 Operationalization of Study Variables

The analysis is centered on monetary hazards, specifically as predictor variable with financial performance being predicted. The parameters are measured as shown in Table 3.1:

**Table 3.1: Operationalization of Study Variables**

| Variable | Measures | Empirical Study Adapted from |
|---|---|---|
| **Independent Variable**<br>Financial Risks | ▪ **Credit Risk**<br>Total Debt<br>Net Income<br>▪ **Interest Rate Risk**<br>**Interest-sensitive Gap Ratio**<br>Interest-sensitive Assets<br>Interest-sensitive Liabilities<br>▪ **Liquidity Risk**<br>**LCR**<br>Liquid Assets x 100<br>Total Cash Outflows | Onsongo, Muathe and Mwangi (2020)<br>Nzuve (2016) |
| **Control Variables**<br>Mutual fund size<br>Expenses ratio | ▪ Total assets<br>▪ Fees charged as a percentage of assets. | Nthimba, Jagongo and Wamugo (2021).<br>Servaes, and Sigurdsson(2018) |
| **Dependent Variable**<br>Financial Performance | Return on Assets<br>$\frac{Net\ Income}{Total\ Assets}$ | Kamau, Olweny and Muturi (2021) |

**Source:** Researcher (2022)

# CHAPTER FOUR

# DATA ANALYSIS, FINDINGS AND DISCUSSION

## 4.1 Introduction

This part provides a comprehensive analysis of the data, as well as the findings, interpretations, and conclusions that were drawn. It also includes the relevant diagnostic tests. Descriptive statistics regarding the study variables were also undertaken. There was finally a detailed correlational test and the outcome of the regression process. The research covered the years 2017-2021. During this period, two of the mutual funds did not do consistent reporting, while others, just recently started operations, and hence do not have financial reports, covering the period of study. The total number of mutual funds that were therefore involved in the study was 22 instead of the 24 as enlisted in the Appendix.

## 4.2 Descriptive Statistics

The variables of the research consisted of financial risks, which served as the predictor variable, and how the firms perform financially, which served as the predicted parameter. Financial risks were proxied using credit, interest rate and liquidity risks. The estimates of how the companies perform financially was done using ROA. The control variable was mutual fund size and expense ratio. Mutual fund size was measured using total assets, while expense ratio was measured as 2% of the total assets. The table 4.1 presents the descriptive data in their current form.

**Table 4.1: Descriptive Statistics**

| | N | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Total Assets | 110 | 1596.79 | 3864.82 | 4.657 | 25.849 |
| Credit Risk | 110 | 27.2129 | 155.92975 | .214 | 4.581 |
| Interest Rate Risk | 110 | 23.2036 | 28.87100 | 1.224 | .177 |
| Liquidity Risk | 110 | 17.5977 | 27.05055 | 1.636 | 1.562 |
| Expense Ratio | 110 | 31.9350 | 77.29681 | 4.657 | 25.849 |
| Return on Assets | 110 | 14.1316 | 30.73028 | 1.338 | 1.601 |

**Source:** Research Data (2023)

The descriptive shows that total asset had the highest mean, followed by expense ratio, then credit risk and thereafter interest rate risk given by 1596.79 (SD=3864.82); 31.9350 (SD=77.29681); 27.2129 (SD=155.92975) and 23.2036 (SD=28.87100) respectively. Liquidity risk and ROA had means of 17.5977 (SD=27.05055) and 14.1316 (SD=30.73028) respectively. Higher average mean implies higher discrete values in the data, while a high standard deviation, means a high spread between the single data points.

Both the total assets and the expense ratio showed skewness statistics that fell within a range of -.5 to +.5, indicating that their distribution was roughly symmetrical. On the contrary, kurtosis were observed to be higher than +1, implying that the distribution was leptokurtic. On the other hand, the danger of interest rate fluctuations, liquidity risk and return on assets had greater than +1 indicating that the data exhibited a right-skewed distribution. The kurtosis greater than +1 imply that the distribution was leptokurtic.

### 4.3 Regression Diagnostics

In this study, a conscious decision was made to make use of multiple regression analysis in order to assist in determining how financial risk affects the extent of how the mutual funds perform financially. The utilization of regression analysis necessitates the

conducting of tests that can assist in diagnosing the appropriateness of the model and the data to be analyzed. The tests used here included multicollinearity, autocorrelation, heteroscedasticity, and linearity tests. The analysis was as given below:

### 4.3.1 Multicollinearity Test

Multicollinearity is where regressed constructs are highly correlated (Shrestha, 2020). This investigation utilized VIF and tolerance values for this assessment. To check on this Young (2017) indicated that VIFs are to lie between 1 and 10, whereas a tolerance value that is lower than 0.20 would be considered an indication of severe collinearity. The results that are given in Table 4.2 show that the VIF values vary between 1.004 to 1.050, and the tolerance values from 0.952 to 0.996 which are desirable and an indication of meeting this test. This implied that there was no high correlation between the regressors.

**Table 4.2: Multicollinearity Test**

| Model | | Collinearity Statistics | |
|---|---|---|---|
| | | Tolerance | VIF |
| 1 | (Constant) | | |
| | Credit Risk | .994 | 1.006 |
| | Interest Rate Risk | .953 | 1.050 |
| | Liquidity Risk | .955 | 1.047 |
| | Expense Ratio | .996 | 1.004 |
| | Total Assets | .996 | 1.004 |

a. Dependent Variable: ROA

**Source:** Research Data (2023)

### 4.3.3 Autocorrelation Test

Autocorrelation estimates association between present value of a construct and its previous one (Cui, Li, Li, Liu, Huang, & Chen, 2019). The rationale of the test ensues from if the model errors do not depend on each other. The assessment involved Durbin

Watson Test. Reading from Table 4.3; the value was 1.7. Thus, the test was passed (1.5 < d < 2.5). The conclusion therefore was that there was non-existence of autocorrelation.

**Table 4.3: Autocorrelation Test**

| Model | Durbin Watson Test |
|---|---|
| Interest Rate Risk, Liquidity Risk, Credit Risk, Total Assets, Expense Ratio and Return on Assets | 1.860 |

**Source:** Research Data (2023)

### 4.3.4 Heteroscedasticity Test

It is the phenomenon in which the SD of the residuals varies unequally across a set of measured values. In this study, it was measured with Breusch-Pagan and Koenker test. The test output is attached as Appendix III. The fact that the p>0.05 indicated that the data were homoscedastic. Table 4.7 indicate that the p values of 0.000 and 0.349 thus meeting the requirement.

**Table 4.4: Breusch-Pagan and Koenker test**

| | LM | Sig. |
|---|---|---|
| Breusch-Pagan | 23.014 | .000 |
| Koenker | 4.445 | .349 |

**Source:** Research Data (2023)

### 4.4 Correlation Analysis

Bivariate analysis that examines the direction and level of association between 2 constructs. A total level of correlation between 2 constructs is highlighted by a value of 1. A weaker association is depicted by correlation coefficient approaching zero. Further, the coefficient's sign is a clarification on linkage direction, with a + sign the association is positive, and a - sign describes an association which is negative. The display is in Table 4.5:

**Table 4.5: Correlation Matrix**

| | | ROA | TA | CR | IRR | LR | ER |
|---|---|---|---|---|---|---|---|
| **ROA** | Pearson Correlation | 1 | .796** | .030 | .117 | .044 | .796** |
| | Sig. (2-tailed) | | .000 | .752 | .225 | .645 | .000 |
| | N | 110 | 110 | 110 | 110 | 110 | 110 |
| **TA** | Pearson Correlation | | 1 | -.039 | -.030 | .039 | 1.000** |
| | Sig. (2-tailed) | | | .684 | .754 | .689 | .000 |
| | N | | | 110 | 110 | 110 | 110 |
| **CR** | Pearson Correlation | | | 1 | .062 | -.016 | -.039 |
| | Sig. (2-tailed) | | | | .522 | .866 | .684 |
| | N | | | | 110 | 110 | 110 |
| **IRR** | Pearson Correlation | | | | 1 | .204* | -.030 |
| | Sig. (2-tailed) | | | | | .032 | .754 |
| | N | | | | | 110 | 110 |
| **LR** | Pearson Correlation | | | | | 1 | .039 |
| | Sig. (2-tailed) | | | | | | .689 |
| | N | | | | | | 110 |
| **ER** | Pearson Correlation | | | | | | 1 |
| | Sig. (2-tailed) | | | | | | |
| | N | | | | | | |

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

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

**Source:** Research Data (2023)

Given that r =.796, and p 0.05, Table 4.5 demonstrates that ROA has a significant and positive association with the total assets of the company. Thus when total assets increase, financial performance improves as measured by ROA. It is an implication that fund managers utilize the assets efficiently. The Return on Assets (ROA) and expense ratio exhibited a robust positive correlation that was statistically significant, (r= .796, $p<0.05$). Expense ratio is a percentage of total assets and therefore increase in expense ratio means increased assets. Credit, interest rate and liquidity risk however did not have a significant correlation with ROA. Their correlation with ROA is positively low given by r= .03, $p>0.05$; r= .117, $p>0.05$ and r= .044, $p>0.05$ respectively.

### 4.5 Regression Model Summary

Table 4.6 indicates that the adjusted $R^2$ is .643, indicating that the level of financial risk exposure can explain 64.3% of the variation in the financial performance of mutual funds in Kenya. This however mean that there are other factors, amounting to 35.7%, that affects financial performance of mutual funds in Kenya and were not studied in the current research. The estimate's standard deviation from the true value, which is 18.36274, indicates that the model is well-suited, hence the data points were closely packed around the estimated regression line. Further, it meant that the average data point falls at estimated 18.36 units from the regression line.

**Table 4.6: Regression Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .810[a] | .656 | .643 | 18.36274 |

a. Predictors: (Constant), LR, CR, TA, IRR, ER
b. Dependent Variable: ROA
**Source:** Research Data (2023)

### 4.6 Analysis of Variance

Table 4.7 displays the statistical significance of model, with an F-value of 50.068 and a significance level of P=.000 The model was therefore found to be fit for the research based on the parameters, and this justifies the use of regression. The implication further is that financial risks, made up of interest rate, liquidity and credit risks accurately forecast mutual funds' financial performance in Kenya.

**Table 4.7: Analysis of Variance**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 67529.173 | 4 | 16882.293 | 50.068 | .000[b] |
| | Residual | 35404.965 | 105 | 337.190 | | |
| | Total | 102934.138 | 109 | | | |

a. Dependent Variable: ROA

b. Predictors: (Constant), LR, CR, TA, IRR

**Source:** Research Data (2023)

### 4.7 Regression Coefficients

Table 4.8 demonstrates that approximately 47.3% of the fluctuations the mutual fund industry's financial performance in Kenya may be ascribed to differences in the factors that influence them included in the regression model. According to the findings, total assets and return on assets are significantly and positively related (β=.006, p=.000). Credit risk, however, had a small and statistically negligible impact on return on assets (β=.010 and p = .357). The impact of interest rate risk on (β=.149 and p=0.018) was found to be statistically negligible. Despite its presence, the impact of liquidity risk was minimal and not statistically significant on the return on assets (β=-.016, and p=.807). Furthermore, the expense ratio exhibited a positive and statistically significant impact on return on assets (β=.319 and p=.000).

The implication was that total assets and expense ratio significantly affected ROA, to the extent that improved asset quality would lead to improved ROA. However, variations in credit risk, interest rate risk, and liquidity risk have a negligible effect on the return on assets (ROA).

**Table 4.8: Regression Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .473 | 2.537 | | .187 | .852 |
| | Total Assets | .006 | .000 | .803 | 13.993 | .000 |
| | Credit Risk | .010 | .011 | .053 | .925 | .357 |
| | Interest Rate Risk | .149 | .062 | .140 | 2.395 | .018 |
| | Liquidity Risk | -.016 | .067 | -.014 | -.244 | .807 |
| | Expense Ratio | .319 | .023 | .803 | 13.993 | .000 |

a. DV: ROA

Since this was the case, the multiple regression model was modeled as $FP = .473 + .053CR_1 + .140IRR_2 - .014LR_3 + .803FS_4 + .803X_5$; where $CR_1$= Credit Risk, $IRR_2$= Interest Rate Risk, $LR_3$ = Liquidity Risk, $FS_4$= Fund Size and $ER_5$= Expense Ratio.

### 4.8 Discussion of Findings

Results show a positive and statistically significant correlation between ROA and total assets, as measured by r =.796 and a significance level of 0.05 or lower. Thus when total assets increase, financial performance improves as measured by ROA. It is an implication that fund managers utilize the assets efficiently. The study found a positive correlation between ROA and spending ratio with a correlation coefficient of 0.796 and a significance level of $p<0.05$. Expense ratio is a percentage of total assets and therefore increase in expense ratio means increased assets. Credit, interest rate and liquidity risk however did not have a significant correlation with ROA. Their association with Return on Assets (ROA) is weakly positive, as indicated by the correlation coefficients of r = 0.03, r = 0.117, and r = 0.044, all of which have p-values greater than 0.05.

Furthermore, the outcome indicate a significant positive link between the financial risks and how mutual funds in Kenya perform financially. The coefficient of determination,

R square, revealed that 65.6% of the financial performance of mutual funds in Kenya can be attributed to the variables utilized in the regression model. Further, the adjusted $R^2$ of .643 reveal that the level of financial risk exposure is responsible for 64.3% of the variance in the financial performance of mutual funds in Kenya, as determined by the risk of interest rates, the danger of liquidity, and the risk of credit, and moderated by total assets and expense ratio. Finally, the outcomes indicate that financial risks, made up of interest rate, liquidity and credit risks reliably predict returns on investment (ROA) for Kenyan mutual funds.

The study found that 47.3% of financial performance changes of mutual funds in Kenya can be attributed to variations in the determinants included in the regression model, while keeping all other independent variables constant. The results also demonstrate that total assets and return on assets have a substantial and statistically significant positive connection (.803, $p<0.05$). This indicates that a 62.5% change in return on assets (ROA) is linked to a one-unit change in total assets. Credit risk, however, has a minimal and statistically insignificant impact on return on assets ($\beta=.053$, $p>0.05$). It may be inferred that changes in credit risk accounted for just 5.3% of the fluctuations in ROA. The impact of interest rate risk on ROA was found to be statistically small ($\beta=.140$, $p>0.05$). The inference is that a one-unit increase in interest rate risk results in a 14% change in return on assets (ROA). Conversely, liquidity risk had a smaller negative impact on return on assets ($\beta=-.014$, $p>0.05$), and this impact was not statistically significant, implying that a one-unit increase in liquidity risk corresponded to a 1.4% increase in return on assets. Finally, the expense ratio exhibited a stronger positive and statistically significant impact on the ROA ($\beta=.803$, $p<0.05$).

The study's findings were congruent with the findings of Onsongo, Muathe, and Mwangi (2020) that credit risk insignificantly, though positively affects financial performance, though as measured by ROE. The current findings contradict the conclusion that liquidity risk has a considerable, yet unfavorable impact on financial performance (ROE), asserting that liquidity risk has an insignificantly low positive correlation with financial performance (ROA).The study findings regarding how interest rate risk affect financial performance of fund managers, is also consistent with the study by Sisay (2017) which established that solvency risks negatively affect the profitable level of insurance firms in Ethiopia. Solvency risks are closely related to interest rate risk that was established to have a minimal and insignificant negative connection with ROA.

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This section was used purposely to summarize the outcomes from the earlier on presented section and to draw a conclusion on the same. It also recommended the actions that were appropriate given the finding and identified the obstacles that the one carrying out the investigation had to grapple with in the entire process while pointing out how they were dealt with.

## 5.2 Summary of Findings

The modified $R^2$ value of .643 signifies that 64.3% of the variability in the financial performance of mutual funds in Kenya can be accounted for by the extent of financial risk exposure. The conclusion derived is that the financial success is influenced not just by mutual funds but also by a significant 35.7% due to overlooked factors. The study additionally shown that financial risks consistently forecast the financial performance (ROA) of mutual funds in Kenya. The regression analysis revealed that 47.3% of the variation in the financial performance of mutual funds in Kenya can be attributed to changes in the determinants included in the regression model, while keeping all other independent variables constant. The results also demonstrate that total assets and expense ratio had a strong positive impact on return on assets (ROA), as indicated by a $\beta$ coefficient of 0.803, which was statistically significant at a $p<0.05$. Conversely, credit risk and interest rate risk had a minimal beneficial impact that was not significant on the return on assets (ROA). However, liquidity risk had a slightly stronger negative impact that was also not statistically significant on ROA.

The study additionally discovered a robust and statistically significant association between ROA and total assets. When the total assets increase, there is an implicit suggestion that the financial performance improves, as indicated by the increase in ROA. Investing in high-quality assets and effectively utilizing them can lead to a substantial improvement in financial success for fund managers. The study revealed a robust and statistically significant positive association between ROA and expenditure ratio. However, there was no substantial association between credit risk, interest rate risk, liquidity risk, and return on assets (ROA). It is implied that differences in credit, interest rate, and liquidity risk result in changes in the financial performance of fund managers, albeit the impact was not substantial.

### 5.3 Conclusion of the Study

The study revealed that financial risks consistently forecast the financial performance of mutual funds in Kenya. Financial risks have a significant impact on the financial performance of mutual funds. Furthermore, it was determined that there exists a robust and noteworthy link, which is positive in nature, between the total assets and expense ratio, as well as the return on assets (ROA). Additionally, they exerted a statistically significant impact on financial performance. The suggestion was that enhancing the quality of assets will enhance the financial performance of mutual funds in Kenya. However, there was no substantial association between credit risk, interest rate, liquidity risk, and return on assets (ROA).

Conversely, the study found that credit risk, interest rate risk, and liquidity risk had a minimal positive impact on return on assets (ROA) and were not statistically significant. The suggestion was that fluctuations in credit risk and interest rates have minimal impact on the financial performance of mutual funds. Similarly, fluctuations

in liquidity risk had no substantial impact on the financial performance of mutual funds in Kenya.

### 5.4 Recommendations of the Study

Based on the conclusion, those manning mutual funds should put in place a robust financial risk management system, that would ensure optimal ROA, based on the various risk exposures. The management would also adopt the use of hedging, diversification, insurance, risk transfer, scenario analysis and stress testing, tailored to deal with specific risks facing the organization. The management of each fund would be required to assess, manage, and periodically review their liquidity risk, based on specified factors. The emphasis is to look to private assets to help in building resilience, and stress testing of various scenarios to manage the liquidity risks that come with increasing private market allocations. The management of mutual must also consider holding an optimal portfolio to maximize returns. Further, dealing with credit risk exposure would inform the setting of interest rates that would account for the risk.

The management of mutual funds in Kenya should also develop strategies to enhance the quality of assets owned. Based on the discovery, there is a strong and positive link between total assets and return on assets (ROA). The policy-making managers should prioritize income-generating assets in order to enhance the quality of their assets. This may necessitate the maintenance of a diversified portfolio of assets that ensures consistent and long-lasting financial gains. This is predicated on the notion that, for relatively modest amounts of money, the performance improves as the size of the fund grows, owing to the benefits of economies of scale. However, as funds increase in size, their performance is negatively affected by the presence of diseconomies of scale, necessitating management to develop a suitable asset management framework.

## 5.5 Limitations of the Study

There were a few issues that challenged the research process. The research only relied on secondary data. Despite their reliability, the use of questionnaires could have captured aspects regarding the variables studied that are qualitative in nature. To reduce the negative effect of this limitation, the researcher included aspects of qualitative through interpretation of the findings. Equally, the study was quantitative in nature, the researcher resolved the issue by including detailed explanation of the findings incorporating the qualitative aspects.

Lastly, there was an extraction of secondary data for five years that was very tedious. Some of the institutions did not have the needed data for the entire period of the investigation. Equally, the analysis involved using averages of the data over the period of investigation. The researcher therefore only included fund managers that had the data for the period under study.

## 5.6 Suggestions for Further Study

Upcoming investigations can focus on factors that determine performance of mutual funds in Kenya, using a comparative analysis, over a period. As the mutual funds industry is growing, the need for regulations is very critical. Future studies would focus on how regulations affect mutual funds' performance. This study also only focused on liquidity, credit and interest rate risks, as the determinants. Ther are other aspects including other financial risks that can be assessed in future studies to check the consistency of the findings.

Finally, the study variables included liquidity risk, credit risk, and interest rate risk which only explained 49.8% of the variation in ROA. Upcoming investigations should aim at establishing other elements explaining 50.2 percent of variations in the ROA of

mutual funds in Kenya. Additionally, a related investigation considered in the same area for more clarity in the association between mutual fund performance and financial risk in Kenya over a range of time periods.

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# APPENDIX I: RAW DATA

| | | ROA | TA | CR | IRR | LR | Expense Ratio |
|---|---|---|---|---|---|---|---|
| **2017** | 1. | 78.00 | 9,083.52 | 99.96 | 23.19 | 0.12 | 181.67 |
| | 2. | 96.48 | 15,710.50 | (96.12) | 0.16 | 0.56 | 314.21 |
| | 3. | 111.79 | 18,238.50 | 7.48 | 9.88 | 72.31 | 364.77 |
| | 4. | 80.01 | 10,388.30 | 26.08 | 0.17 | 1.30 | 207.77 |
| | 5. | 70.34 | 8,321.00 | (15.55) | 47.54 | 90.18 | 166.42 |
| | 6. | 67.99 | 4,113.21 | (51.75) | 0.47 | 6.57 | 82.26 |
| | 7. | 120.26 | 28,663.40 | (12.36) | 0.64 | 1.75 | 573.27 |
| | 8. | 0.52 | 402.72 | 69.99 | 53.29 | 27.72 | 8.05 |
| | 9. | 1.17 | 782.39 | 27.07 | 69.93 | 22.83 | 15.65 |
| | 10. | 56.38 | 2,450.92 | 5.79 | 54.32 | 0.02 | 49.02 |
| | 11. | 1.77 | 751.89 | 9.69 | 0.32 | 6.14 | 15.04 |
| | 12. | 0.45 | 227.24 | 51.58 | 13.21 | 18.88 | 4.54 |
| | 13. | 3.38 | 935.65 | 4.33 | 36.08 | 43.15 | 18.71 |
| | 14. | 1.71 | 774.07 | 96.65 | 3.39 | 0.10 | 15.48 |
| | 15. | 0.27 | 496.53 | 85.73 | 5.03 | 0.03 | 9.93 |
| | 16. | (1.72) | 216.87 | (92.30) | 0.46 | 57.37 | 4.34 |
| | 17. | 2.40 | 885.61 | 19.57 | 0.17 | 0.19 | 17.71 |
| | 18. | 0.06 | 192.74 | 36.31 | 1.16 | 1.50 | 3.85 |
| | 19. | (0.27) | 48.47 | (93.10) | 15.93 | 0.00 | 0.97 |
| | 20. | 0.26 | 145.00 | 24.30 | 9.98 | 0.49 | 2.90 |
| | 21. | 45.71 | 1,916.87 | 0.00 | 74.81 | 0.43 | 38.34 |
| | 22. | 0.06 | 104.12 | 10.28 | 35.91 | 3.74 | 2.08 |
| **2018** | 23. | 3.77 | 983.52 | 30.92 | 73.46 | 0.70 | 19.67 |
| | 24. | (31.99) | 53.06 | (47.82) | 0.15 | 3.53 | 1.06 |
| | 25. | 1.42 | 667.04 | 0.73 | 8.04 | 43.16 | 13.34 |
| | 26. | 0.20 | 72.05 | 20.39 | 0.93 | 1.34 | 1.44 |
| | 27. | (0.41) | 17.20 | (23.87) | 67.86 | 78.89 | 0.34 |
| | 28. | (31.49) | 87.58 | (29.45) | 0.68 | 7.34 | 1.75 |
| | 29. | (0.46) | 99.10 | (35.78) | 0.67 | 10.61 | 1.98 |
| | 30. | 0.01 | 40.61 | 37.39 | 83.88 | 20.67 | 0.81 |
| | 31. | 0.09 | 38.69 | 19.59 | 18.07 | 33.66 | 0.77 |
| | 32. | 43.17 | 1,088.19 | 73.83 | 71.18 | 0.02 | 21.76 |
| | 33. | 3.60 | 880.46 | 25.72 | 0.31 | 11.10 | 17.61 |
| | 34. | 2.76 | 763.60 | 47.29 | 11.81 | 33.62 | 15.27 |
| | 35. | 4.49 | 868.00 | 16.70 | 96.13 | 48.55 | 17.36 |
| | 36. | (0.29) | 84.34 | (102.65) | 3.71 | 0.10 | 1.69 |
| | 37. | 0.16 | 416.64 | 35.81 | 5.03 | 0.04 | 8.33 |
| | 38. | (0.01) | 29.31 | (296.94) | 1.73 | 27.28 | 0.59 |
| | 39. | 2.96 | 463.18 | 161.28 | 0.19 | 0.18 | 9.26 |
| | 40. | 3.06 | 492.74 | 203.12 | 0.83 | 1.56 | 9.85 |
| | 41. | (0.60) | 77.29 | (247.37) | 10.30 | 0.00 | 1.55 |
| | 42. | 0.57 | 44.72 | 90.10 | 9.46 | 0.59 | 0.89 |
| | 43. | (8.47) | 48.14 | (0.00) | 17.73 | 0.87 | 0.96 |

| | | ROA | TA | CR | IRR | LR | Expense Ratio |
|---|---|---|---|---|---|---|---|
| | 44. | 0.44 | 5.35 | 197.82 | 27.47 | 6.89 | 0.11 |
| **2019** | 45. | 2.83 | 524.57 | 66.41 | 45.82 | 1.09 | 10.49 |
| | 46. | (7.20) | 10.87 | (388.34) | 0.11 | 2.98 | 0.22 |
| | 47. | 2.06 | 143.18 | 2.01 | 4.51 | 75.83 | 2.86 |
| | 48. | 0.01 | 33.19 | 13.55 | 0.84 | 1.23 | 0.66 |
| | 49. | (0.55) | 11.00 | (10.22) | 10.58 | 57.49 | 0.22 |
| | 50. | (28.20) | 9.30 | (19.06) | 2.34 | 12.90 | 0.19 |
| | 51. | 0.51 | 63.61 | 68.72 | 1.92 | 3.47 | 1.27 |
| | 52. | 1.32 | 140.64 | 18.85 | 68.08 | 93.45 | 2.81 |
| | 53. | 14.54 | 212.00 | 11.44 | 73.12 | 10.60 | 4.24 |
| | 54. | 45.58 | 1,813.65 | 218.25 | 83.49 | 0.03 | 36.27 |
| | 55. | 3.55 | 406.00 | 20.06 | 1.15 | 93.48 | 8.12 |
| | 56. | 0.03 | 63.88 | 51.45 | 34.09 | 38.31 | 1.28 |
| | 57. | 14.17 | 765.57 | 5.83 | 11.26 | 35.18 | 15.31 |
| | 58. | 0.28 | 98.92 | 95.28 | 2.66 | 0.12 | 1.98 |
| | 59. | 44.39 | 1,235.67 | 34.29 | 71.42 | 0.25 | 24.71 |
| | 60. | 6.99 | 905.13 | 96.77 | 0.06 | 91.82 | 18.10 |
| | 61. | (2.20) | 6.65 | (90.15) | 0.14 | 0.17 | 0.13 |
| | 62. | 5.61 | 815.93 | 347.72 | 1.26 | 1.64 | 16.32 |
| | 63. | (0.46) | 52.55 | (289.23) | 14.59 | 0.00 | 1.05 |
| | 64. | 4.75 | 780.90 | 187.84 | 9.46 | 1.06 | 15.62 |
| | 65. | 6.51 | 980.05 | 0.00 | 73.24 | 1.52 | 19.60 |
| | 66. | 65.53 | 3,189.15 | 1.72 | 12.73 | 4.89 | 63.78 |
| **2020** | 67. | (6.65) | 96.47 | (53.28) | 24.17 | 1.41 | 1.93 |
| | 68. | (34.45) | 42.94 | (41.82) | 0.07 | 6.60 | 0.86 |
| | 69. | 68.24 | 5,667.04 | 0.00 | 47.44 | 52.47 | 113.34 |
| | 70. | 0.78 | 52.62 | 0.11 | 0.82 | 1.39 | 1.05 |
| | 71. | 4.77 | 996.00 | 2.10 | 88.30 | 90.18 | 19.92 |
| | 72. | (4.23) | 13.22 | (301.33) | 10.43 | 3.38 | 0.26 |
| | 73. | (2.53) | 219.27 | (15.08) | 1.12 | 1.99 | 4.39 |
| | 74. | 0.01 | 20.84 | 91.66 | 86.29 | 54.93 | 0.42 |
| | 75. | 0.27 | 53.36 | 3.53 | 54.05 | 34.76 | 1.07 |
| | 76. | 2.57 | 575.04 | 25.33 | 12.95 | 0.39 | 11.50 |
| | 77. | 45.09 | 1,580.00 | 3.31 | 3.16 | 95.99 | 31.60 |
| | 78. | 3.25 | 919.69 | 50.06 | 56.68 | 21.34 | 18.39 |
| | 79. | 2.96 | 813.06 | 23.67 | 97.34 | 2.80 | 16.26 |
| | 80. | 0.02 | 8.15 | 94.11 | 2.34 | 0.06 | 0.16 |
| | 81. | 4.95 | 986.58 | 39.41 | 2.96 | 0.03 | 19.73 |
| | 82. | 44.52 | 1,068.70 | 98.86 | 0.17 | 35.16 | 21.37 |
| | 83. | (3.33) | 6.60 | (233.36) | 0.49 | 0.00 | 0.13 |
| | 84. | 43.16 | 1,167.07 | 124.47 | 1.47 | 2.94 | 23.34 |
| | 85. | (0.57) | 40.68 | (324.14) | 11.72 | 0.00 | 0.81 |
| | 86. | 43.18 | 1,211.51 | 147.90 | 14.51 | 0.50 | 24.23 |
| | 87. | 46.44 | 2,841.91 | 0.00 | 23.20 | 1.49 | 56.84 |

| | | ROA | TA | CR | IRR | LR | Expense Ratio |
|---|---|---|---|---|---|---|---|
| | 88. | 1.44 | 863.09 | 224.65 | 20.94 | 13.66 | 17.26 |
| **2021** | 89. | 0.38 | 83.52 | 461.88 | 30.84 | 0.12 | 1.67 |
| | 90. | (14.88) | 7.09 | (45.03) | 0.13 | 2.07 | 0.14 |
| | 91. | 1.60 | 839.63 | 0.03 | 11.57 | 73.40 | 16.79 |
| | 92. | 0.01 | 8.64 | 18.88 | 0.79 | 1.25 | 0.17 |
| | 93. | (1.22) | 21.00 | (8.19) | 92.15 | 65.33 | 0.42 |
| | 94. | (53.03) | 4.55 | (1.37) | 43.42 | 0.35 | 0.09 |
| | 95. | (0.74) | 6.95 | (14.75) | 1.18 | 1.68 | 0.14 |
| | 96. | 0.01 | 91.95 | 404.77 | 8.70 | 49.15 | 1.84 |
| | 97. | 0.30 | 91.94 | 0.79 | 10.14 | 9.08 | 1.84 |
| | 98. | 65.89 | 3,949.30 | 17.48 | 93.50 | 0.49 | 78.99 |
| | 99. | 5.85 | 946.55 | 67.11 | 0.89 | 28.06 | 18.93 |
| | 100. | 66.13 | 4,220.86 | 64.58 | 12.36 | 11.27 | 84.42 |
| | 101. | 69.83 | 6,711.88 | 3.63 | 27.71 | 11.70 | 134.24 |
| | 102. | 0.02 | 11.88 | 590.59 | 1.47 | 0.02 | 0.24 |
| | 103. | 54.76 | 2,527.62 | 24.84 | 3.79 | 0.02 | 50.55 |
| | 104. | 66.60 | 4,312.65 | 5.77 | 38.43 | 0.20 | 86.25 |
| | 105. | (0.55) | 43.21 | (563.39) | 0.59 | 0.09 | 0.86 |
| | 106. | 0.24 | 32.21 | 314.47 | 1.21 | 2.20 | 0.64 |
| | 107. | 0.71 | 53.85 | 234.57 | 14.02 | 0.00 | 1.08 |
| | 108. | 1.07 | 56.18 | 549.30 | 21.30 | 0.57 | 1.12 |
| | 109. | 67.44 | 5,513.68 | 0.00 | 58.83 | 0.91 | 110.27 |
| | 110. | 54.12 | 2,435.17 | 73.67 | 30.23 | 42.73 | 48.70 |

# APPENDIX II: LIST OF FUND MANAGERS

1. Alpha Africa Asset Managers
2. Amana Capital Limited
3. Apollo Asset Management Company Limited
4. Britam Asset Managers (Kenya) Limited
5. Metropolitan Cannon Asset Managers Limited
6. Nabo Capital Limited
7. CIC Asset Management Limited
8. Co-op Trust Investment Services Limited
9. FCB Capital Limited
10. Fusion Investment Management Limited
11. GenAfrica Asset Managers Limited
12. ICEA Lion Asset Management Limited
13. Madison Investment Managers Limited
14. Old Mutual Investment Group Limited
15. Sanlam Investments East Africa Limited
16. Standard Chartered Investment Services Limited
17. Stanlib Kenya Limited
18. Zimele Asset Management Company Limited
19. Natbank Trustee and Investment Services Limited
20. Allan Gray (Kenya) Limited
21. Cytonn Asset Managers Limited
22. Altree Capital Kenya Limited
23. Jubilee Financial Services Limited
24. ABSA Asset Management Limited