PORTFOLIO COMPOSITION AND FINANCIAL PERFORMANCE OF INVESTMENT COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366

Received: 14th March 2024

Published: 19th March 2024

Full Length Research

Available Online at: https://iajournals.org/articles/iajef_v4_i1_321_344.pdf

Citation: Cheruiyot, S. K., Aluoch, M. O., Ndungu, P. (2024). Portfolio composition and financial performance of investment companies listed at the Nairobi Securities Exchange, Kenya. *International Academic Journal of Economics and Finance, 4*(1), 321-344.

ABSTRACT

Stakeholder choices are greatly swayed by potential gains from investment. They generally lean towards opportunities that promise heftier rewards rather than those that offer lower returns. Firms in the investment sector pledged greater profits, but they have yet to uphold their commitment. The downward trajectory in performance observed in investment firms enlisted on the Nairobi Securities Exchange shoulders much of the blame for this. By scrutinizing the interplay between the fiscal performance of publicly traded investment ventures in Kenya and the makeup of investment portfolios, this inquiry sought to furnish a response to this query. The focal point of this inquiry was to assess the influence of distinct asset classes on the profit margins of investment enterprises featured on the Nairobi Securities Exchange. Five investment firms listed on the Nairobi Securities Exchange were the subjects under investigation. To ensure a holistic grasp of the topic at hand, the research melded principles from other theories, including the Modern Portfolio Theory and the Black-Litterman Theory, to appraise a company's holdings. The scrutiny adopted a theoretical model to assess a company's holdings. The examination grounded itself on positivist philosophical tenets and a causal research approach. The quintet of investment enterprises listed on the Nairobi Securities Exchange constituted the intended recipients of this inquiry, which was executed using secondary data procured from the exchange and the websites of the relevant investment firm. The study was slated to commence in 2015 and conclude after an eight-year span, terminating in 2022. To ensure the research was conducted within the bounds of legality and ethics, Kenyatta University and the National Commission for Science, Technology, and Innovation both provided their sanction for the study to gather data. In the data analysis phase, both descriptive and inferential statistics were brought into play. Descriptive statistics, including standard deviation, mean, and median, were presented in tables and charts. In terms of inferential statistics, panel regression analysis and correlation were applied. Prior to executing the panel regression analysis, diagnostic tests were administered to affirm the assumptions of the panel model. The inquiry unearthed a substantial correlation between returns on investment (ROI) and equity fund investments. Financial performance and investments in mutual funds exhibited a modest but constructive correlation. Bond and real estate investments were found to have no appreciable effect on the return on investment for listed investment enterprises. To enhance their financial performance and more effectively mitigate their firm's investment risk, the study recommended that investment company management uphold a well-balanced portfolio of investments. In an endeavor to refine their financial performance, investment firms should give heed to equity investments. This necessitated investing in dependable counters with superior dividend payout and appreciation potential.

Key words: Portfolio Composition, Financial Performance of Investment, Investment in Equity, Investment in Bonds, Investment in Real Estate, Investment in Mutual Funds

INTRODUCTION

It is common to see portfolio structure as a challenging field with no easy ways to optimize a portfolio (Aliu, Pavelkova, & Dehning, 2017). Adding more assets to a portfolio can reduce its risk, and an investor's choice of portfolio is influenced by both potential profits and risk tolerance (Bhattacharjee, 2017). Furthermore, risk and return are the most crucial factors to take into account while making investing decisions, especially when it comes to portfolio management, according to Sethilnathan (2016). A well-structured portfolio tailored to an investor's needs should be built. Lowering investment risk while maintaining the expected return on investment is the goal of the well-known investing strategy known as portfolio optimization (Lekovic, 2018).

Financial Research in 2015, as well as the International Monetary Fund (IMF). Lack of liquidity, linkages and concentration issues, as well as increased cyclicality, are the main problems. Although these issues affect the whole financial sector, they have a disproportionately large and progressive impact on the US financial asset management business. The Global Financial Crisis (GFC) of 2007–2008 showed how some financial events have the potential to lead to dangerous financial instability.

According to Laes and Silva (2014), luck rather than competence is more likely to have contributed to the success of Brazil's best fund managers. On the other hand, research indicates that inadequate management, as opposed to pure luck, may be the reason for the low performance of the funds that rank lowest. Larger funds outperform smaller and mid-sized ones in terms of performance.

According to Jensen's Alpha, fund managers in Africa lacked both specialized knowledge and the ability to foresee the market (Tan, 2015; also Mohamed, 2014). In contrast to the local market index, funds are thought to yield subpar results. Kenya did not show portfolio optimization, but the risk of individual funds was frequently lower than the risk of the market. According to Oduwole (2015), Nigerian mutual fund managers are unable to correctly forecast stock prices in order to outperform buy-and-hold and buy-the-market strategies.

Investment firms that are listed in Kenya often possess a diverse portfolio of assets. To invest in a variety of assets that most individuals would find challenging to do themselves and to provide returns for its stakeholders and investors, they hire professional asset managers. For the sake of investors, these asset managers are in charge of managing assets worth billions of shillings (Nairobi Securities Exchange, 2020). Investment businesses maintain a diverse portfolio of bonds, equities, and real estate to protect their clients' money from losing all of its value in the event that one particular investment collapses. The portfolio may include bonds, shares, options, futures contracts, gold funds, warrants, real estate, and production facilities, among other assets, in order to retain value. Having a varied portfolio of investments can improve your quality of sleep at night. Managing a portfolio include allocating cash, assessing possible gains and losses, and coordinating short- and long-term goals (Chen, 2018). Many factors affect the returns of investment enterprises, but portfolio diversity is especially crucial when it comes to the best-performing stocks, which are usually impacted by automated financial technologies.

Portfolio Composition

A portfolio is a collection of several investments that people can buy or have professionally handled. According to Markowitz (1959), a solid portfolio is more than just a selection of top-notch equities and bonds. This carefully considered combination provides both safety and strong returns across a range of chances. According to Markowitz, investors should put together a diversified portfolio that meets their needs.

One popular investing tactic to reduce risk and yet anticipate respectable returns is portfolio diversification (Lekovic, 2018). Investment companies distribute their capital among various assets such as mutual funds, equities, bonds, and real estate.

Portfolio management is a complex discipline that does not offer straightforward solutions for portfolio optimization, claim Aliu, Pavelkova, and, Dehning (2017). According to research by Aliu, Pavelkova, and Dehning (2017), a portfolio's risk level decreases as the number of assets rises. They come to the conclusion that an investor's risk tolerance and prospective rewards both affect their portfolio. Similar to this, Sethilnathan (2016) claims that risk and return are the most important aspects to consider when making investment decisions, especially when managing a portfolio. Although investors are aware of the advantages of diversification, Kumar (2001) contends that they occasionally approach diversification naively, neglecting to take stock correlations into consideration. As they work toward economic development, nations focus on expanding their stock markets (Adebayo, 2016). Since domestic savings are invested in the economy through these markets and banks, the success of the stock market is a reliable predictor of the state of the country's economy (Ndwiga and Muriu, 2016). To stay in operation, modern organizations need to ensure that their financial structure facilitates both development and adaptation (Pandey, 2009). As such, it is imperative that these organizations consider the potential impact of stock investment decisions on their overall profitability.

Financial Performance

When determining if a corporation is financially successful, both the trading company's and its clients' perspectives are taken into consideration. The rates of return offered to clients based on their original investment, as perceived from their perspective, are what are highlighted. Although employees and depreciation are considered when making changes, the firm's main priority is the profits provided to clients. The net profit after taxes is calculated after making the required changes to elements like taxes and interest payments. A range of profit indicators can be used to examine long-term financial reports, and performance monitoring is essential for keeping companies accountable.

Managers must take into account the requirements of all stakeholders in order to increase performance. One of the most significant performance indicators is profit on investments, which is calculated by dividing net profit by total assets. Return on assets, or ROA, is the most effective statistic for measuring success.

A strong case was made by Willie and Hopkins (1997) against using branch numbers, asset size, or technological prowess as the primary indicators of an organization's performance. Rather, they suggested that Return on Equity (ROE), or Profit from Equity for its Shareholders, be used as the main indicator. Return on equity (ROE) is cited as the standard for evaluating financial success. Return on Equity (ROE) and Return on Investment (ROI) were used as performance metrics in the study.

For ROI, use the formula "100% * Net Profit/Cost of Investment." Just add the net profit and the entire investment cost to determine ROI. Because ROI concentrated on investments in equities, mutual funds, securities, and real estate, it was selected for their study.

Portfolio composition and Financial Performance of Investment Companies Listed in Kenya

The Kenyan Capital Markets Authority (CMA) issues licenses to adventure businesses that operate there. The Capital Markets Act of 2001 is the law that regulates these businesses, which are known as Collective Investment Schemes (CIS). The guidelines specified in the license that each investment firm is awarded must be rigorously followed. Just five trading organizations had CMA registrations and were listed on Kenya's Nairobi Securities Exchange (NSE) as of January 31, 2022.

Kenyan investment firms often diversify their money by owning a range of assets. They use certified asset managers to invest in a variety of assets that most consumers wouldn't have access to on their own. For the sake of their clients and stakeholders, these investment businesses are in charge of managing assets worth billions of shillings (Nairobi Securities Exchange, 2020). To diversify their holdings and lower risk, investment firms hold a variety of assets, including stocks, bonds, and real estate. This indicates that a small number of companies are not essential to their success. The performance of these investment companies is significantly influenced by the growth of the portfolio, particularly when the highest-performing assets perform well. Risk-based analysis is used to assess the performance of these NSE-listed companies. To precisely evaluate their effectiveness and performance, they employ a variety of methods and resources.

Statement of the Problem

Because financial backers are extra concerned in ventures that possess the potential for higher yields than the companies that offer lesser rewards, the presence of a hypothesis influences whether they will persist in providing resources. The financial presentation, for example, of Transcentury Limited, Centum limited, Home Africa limited, Olympia limited, and Kurwitu Ltd showed a negative return on investment for the duration from 2015 to 2021. The unfavorable ROI has consistently dwindled over the years as demonstrated in the years 2015 and 2021. Solely Olympia limited had succeeded in maintaining a positive return on investment of 0.11, 0.02, 1, 1.2, and 0.8 for the years 2016 to 2021. The ROI fell by an average of 50% for the period 2015 to 2022 from -0.0425 to -0.0850 for the four investment firms, namely Transcentury Limited, Centum limited, Home Africa limited, and Kurwitu Limited. This downward trend in financial performance thus compels the researcher to investigate why there was a continual decline in Financial performance of Investment Companies despite the extensive portfolio diversification by the firms.

Nonetheless, due to a diminishing pattern of execution in listed investment firms recorded in Nairobi Securities Exchange, the obligation of additional substantial returns has been completely unreliable. Hypothesis connections promote risk-taking by offering the opportunity for substantial earnings with minimal risk.

The impact of portfolio mix on financial performance remains a contentious issue, given the disparities in research findings, particularly in the global context. Less attention has been devoted to developing nations like Kenya, with a greater emphasis on research conducted in affluent ones. Consequently, there exists a void in the body of knowledge concerning developing economies like Kenya. Through examining the performance of Kenyan investment firms and providing more pertinent data on the impact of portfolio mix on their success in the country, this research aims to bridge that knowledge gap.

Research Objective

General Objective

The general objectives of the study was to examine how portfolio composition impacts the financial performance of investment firms listed on Kenya's Nairobi Securities Exchange.

Specific Objectives

The study's objectives were as follows:

i. To investigate how equity investments influence the bottom lines of Kenyan companies registered on the Nairobi Securities Exchange.
ii. To evaluate the impact of bond investments on the financial performance of Kenyan investment businesses listed on the Nairobi Securities Exchange.
iii. To examine how real estate investments influence the bottom lines of Kenya's Nairobi Securities Exchange companies.
iv. To assess the impact of mutual fund investing on the profitability of Kenyan investment businesses registered on the Nairobi Securities Exchange.
v. To research on how the portfolio mix of Nairobi Securities Exchange-listed investment firms affects their financial performance when Kenyan inflation rates rise.

Research Hypotheses

The investigation was directed by the following hypothesis:

H_{01} Equity capital has no appreciable effect on the financial performance of Kenyan investment companies registered on the Nairobi Securities Exchange.

H_{02} The financial performance of Kenyan investment businesses registered on the Nairobi Securities Exchange is not significantly impacted by bond investments.

H_{03} Real estate investment has little effect on the financial performance of Kenyan investment companies registered on the Nairobi Securities Exchange.

H_{04} The financial performance of investment businesses registered on Kenya's Nairobi Securities Exchange is not significantly impacted by investments in mutual funds.

H_{05} The link between portfolio composition and financial performance of Nairobi Securities Exchange of listed Kenya's investment firms is unaffected by the inflation rate.

Scope of the Study

Home Afrika Limited, Trans-century Limited, Olympia Capital Property Limited, Kurwitu Ventures Limited, and Centum Limited were the subjects of the investigation. The goal is to assess how portfolio management affects investment businesses that are listed on the Nairobi Securities Exchange in terms of their financial performance. The portfolio structure comprised value-related interests, shares, real estate, and shared asset interests, among others. The context was chosen with consideration for the investment companies' diminishing financial performance as well as the identified empirical gaps. The analysis was carried out between 2015 and 2022, a period when most investment businesses saw a decline in their returns on investments. The chosen time frame was in line with a precipitous drop in the ROI of the businesses.

LITERATURE REVIEW

Presented in this part are the theoretical, empirical, and conceptual frameworks.

Theoretical review

Modern Portfolio Theory

In 1952, Markowitz proposed the Modern Portfolio Theory (MPT), which contends that risk-averse investors may build portfolios to maximize or increase expected returns while taking into consideration a particular degree of market risk. It highlights the fact that higher benefits come with a certain level of risk. MPT lays a big focus on diversification among a variety of companies rather than relying on the average return of a single asset. An investor can profit from diversification by lowering overall portfolio risk by investing in a variety of stocks. The idea's primary flaw is that investors want to minimize return variance and maximize constrained anticipated benefits.

The yield of the asset determines the expected returns, whereas return variation is regarded as a gauge of risk. Portfolio selection is influenced by the trade-off between average return and return variance. MPT states that it is possible to create effective Investing portfolios that deliver the highest predicted return at a given degree of risk. The resources in these effective portfolios have the best expected returns, outperforming alternative combinations while maintaining the same degree of risk. The premise that investors are logical individuals who want to maximize their utility or happiness is the first—and possibly most important—assumption of modern portfolio theory. This suggests that the main objective of investors is to expand their wealth and that they base their judgments on a rigorous examination of the information that is available. The portfolios that offer the highest projected return for a specific level of risk is chosen by rational investors after weighing the risks and projected returns of various investment possibilities.

The idea of Homo economics idealized economic actor who continuously makes rational decisions is the foundation of this presumption. MPT is predicated on the idea that, generally speaking, investors make logical judgments when making investments, even though real-world investors might not always act exactly logically because of behavioral biases and emotions. The second

fundamental tenet of MPT is that, given an equal expected return, investors are risk-averse and would rather take on less risk than more. This assumption is backed up by actual data and is consistent with the common sense understanding that, given the same circumstances, most individuals would rather have a more predictable outcome and are uncomfortable with uncertainty. The standard deviation of an investment's returns, which gauges the degree of variability or volatility, is commonly used in MPT to quantify risk. Building The objective of rational investors is to create portfolios that offer the highest projected return for a particular level of risk. This inspires the concept of the efficient frontier, a set of portfolios that show the ideal equilibrium between return and risk. A portfolio along the efficient frontier that corresponds to an investor's risk tolerance will be selected.

A key idea in modern portfolio theory is diversification, which is based on the idea that distributing investments throughout a range of assets can lower a portfolio's overall risk. This premise is supported by the fact that different assets have unique risk-return profiles and that there is imperfect correlation between their prices. The movements of one asset may cancel out the movements of another when there is imperfect correlation between them, lowering the risk of the portfolio as a whole. The idea of the correlation coefficient, which quantifies how much the returns of two assets move in tandem, serves as an illustration of this premise. When two assets move in perfect sync and have a correlation coefficient of +1, diversification is not beneficial. Nonetheless, diversification can assist in lowering the risk of the portfolio without compromising expected return if the correlation is less than +1 (and ideally negative or zero). MPT makes the assumption that investors have access to trustworthy data regarding the risks and expected returns of various investments or assets. Investors are able to build their portfolios with knowledge thanks to this information. It is predicated on the idea that historical risks and returns may be used to reasonably predict future risks and returns.

It can be difficult to forecast future returns and risks in practice, and these estimates are frequently rife with ambiguity and inaccuracy. Nonetheless, MPT is predicated on the idea that investors can approximate projected returns and risks fairly by using statistical techniques and historical data. MPT recognizes that investors' varying investing time horizons impact their choices regarding risk tolerance and asset allocation. In order to potentially achieve larger long-term profits, an investor with a longer time horizon, for instance, would be more willing to tolerate higher short-term volatility. On the other hand, a shorter-term investor can put less emphasis on risky investments and instead prioritize capital preservation. This presumption acknowledges that every investor has different financial objectives and limits, and that each investor's investment strategy should be customized to take these things into account. It emphasizes how crucial it is to take one's investment horizon into account when building a portfolio.

MPT functions in a fictitious environment without taking transaction fees or taxes into account. In actuality, transaction fees and taxes can have a big influence on portfolio efficiency and investment returns. Capital gain returns may be eroded by taxes, and the advantages of trading may be diminished by transaction costs like brokerage fees. Although the mathematical modeling is made simpler by MPT's assumption of no taxes and transaction costs, real-world investors still need to give these aspects significant thought when making decisions. Although this assumption represents a constraint on MPT, it can be overcome by employing a number of methods and plans intended to reduce these expenses. According to MPT, it is impossible to regularly generate above-average

returns through superior analysis or information, and markets are assumed to be efficient, which means that asset prices accurately reflect all available information. Every investor has access to the same information in an efficient market, and prices react quickly to fresh information.

According to the Efficient Market Hypothesis (EMH), it is difficult to consistently beat the market by selecting specific stocks or predicting market movements, is strongly tied to this premise. Rather, MPT promotes a passive strategy in which investors use broad diversification to try and mirror the performance of the market as a whole. MPT makes the assumption that diversity has a positive, win-win effect on the portfolio. It does this by making sure that there is little connection between the assets in the portfolio. One drawback of MPT is that it can be challenging to accurately analyze the relationship coefficient between two assets, especially when dealing with multiple assets. This requires specialist tools and isn't always feasible.

In order to deduce the validity of the correlations between risk, return, and diversity, modern portfolio theory makes certain assumptions. The normal distribution of asset returns, prudent investing behavior that shies away from needless risk, the goal of maximizing profits in all circumstances, and equal access to information for all investors are some of these presumptions. A single investor's incapacity to significantly impact market prices, the availability of infinite money at the absence of trade expenses and taxes, the risk-free rate of return, and the homogeneity of investor return expectations are among the other presumptions. While some contend that specific analysis yields more accurate information, others think that the buy-and-hold approach recommended by MPT is inefficient for diversification. Rather, they contend that the best outcomes can be obtained through active portfolio management.

Therefore, the theory backs up the study's methodology by stating that effective portfolio management was aided by addressing the risk-return trade-off for a certain level of portfolio risk. Because of this, asset managers need to be careful when choosing the asset mix for a portfolio. The primary theory that was looked at was Modern Portfolio Theory, which addresses the structure of portfolios and how investments in stocks, the success of investment enterprises is related to bonds, mutual funds, and real estate.

Empirical Literature Review

Scholarly research, publications, and articles on previous studies on the impact of artificial intelligence on performance were examined.

Portfolio Composition

Kioko and Ochieng (2020) investigated the impact of broadening investment portfolios for adventure enterprises listed on the Nairobi Securities Exchange (NSE) using an engaging research approach. The research honed in on five NSE-listed venture businesses and selected the target audience through a random sampling approach. From 2014 to 2019, information was obtained from the NSE and the relevant companies' official websites. Diagnostic assessments and multiple linear regression models, along with statistical metrics like median, mean, and standard deviation, were

employed in inferential examinations. The study unveiled a notable and constructive correlation between portfolio variety and returns on investment for Nairobi Securities Exchange enterprises. The research emphasized portfolio expansion and utilized a range of regression methodologies, including panel data regression.

The study by Shukrani, Ifire, Yeya, and Banafa (2022) examined how venture businesses listed on the Nairobi Securities Exchange was impacted by investment portfolio decisions. The effective market speculation hypothesis, The evaluation was guided by the theories of behavioral finance, liquidity preference theory, and financial intermediation hypothesis. Optional data were employed for this investigation. To evaluate the outcomes of the researched parameters, an expressive exploration configuration was employed. Before employing the multiple linear regression models utilized in summarizing the study's findings, several demonstrations and linking tests were conducted. The outcomes of these relationships revealed regions of financial performance and relationship strength for bonds, equities, and real estate interest. A strong effect on bond and real estate interest was shown by hypothesis testing at a 5% significance level, which resulted in H02 being verified and H01 and H03 being disproved. Bond interest rates were anticipated to have an influence on the overall financial performance of investment enterprises listed on the Nairobi Securities Exchange. The goal was to create a speculative investment portfolio. Since the heuristic test was insufficient, a second regression analysis was carried out. The study will focus on the portfolio element, and the heuristics of the model will be evaluated using a board regression.

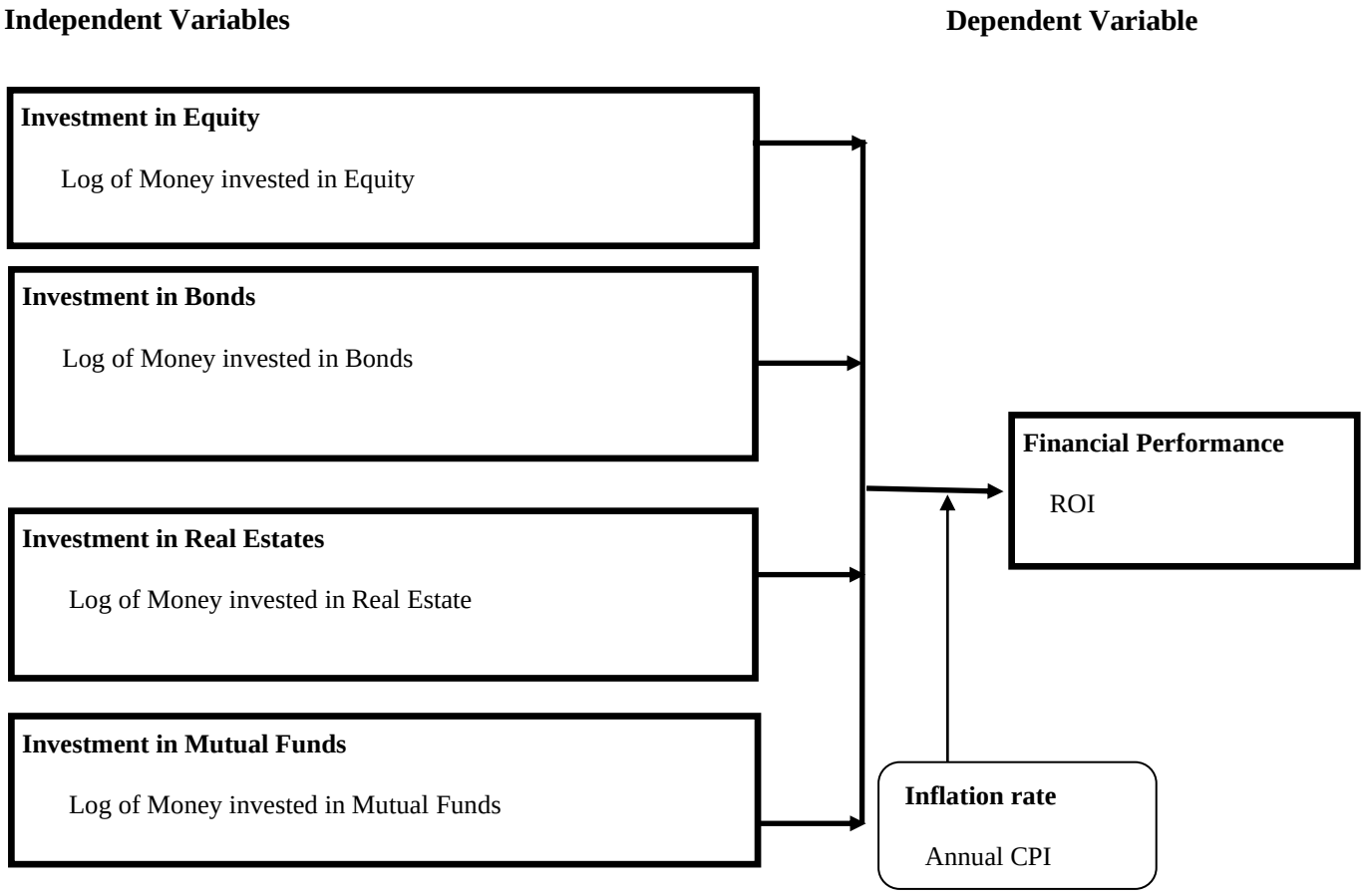
The exploration of Bhuyan et al. (2019) honed in on how the US Mortgage Real Estate Investment Trust impacts growth in portfolios. Specialists gathered information from various sectors within the US financial industry between 2002 and 2012 to scrutinize the value and benefits of the Mortgage Real Estate Investment Trust (MREIT). Post-event costs and earnings were computed for 82 enterprises, encompassing 26 REITs, 16 MREITs, and 42 standard equities listed on multiple stock exchanges. As per the assessment, financial backers will not reap gains from MREIT expansion. According to the analysis, MREITs stand as the feeblest asset category to employ for portfolio growth. According to the research, small-scale investors should steer clear of using MREITs for expansion. Due to context-driven divergence, the evaluation was conducted in the United States, and the proposed study will zero in on trading businesses listed on the NSE.

Bhuyan et al. (2019) delved into the significance of reliance within the context of American housing loan land partnerships and their influence on the enhancement of portfolios. Over the course of a decade, from 2002 to 2012, researchers accumulated data from various sectors of the U.S. financial industry to assess the worth and benefits of the Mortgage Real Estate Investment Trust (MREIT). Ex-Post expenditures and earnings were calculated for 82 entities, comprising 26 REITs, 16 MREITs, and 42 ordinary stocks traded on various stock markets. As per the analysis, investors will not reap rewards from MREIT expansion. The report suggests that MREITs represent the feeblest asset category for fostering portfolio growth. The report advises small investors to steer clear of adopting MREITs for growth. This research was conducted within the United States to account for context-driven distinctions, and the recommended investigation would concentrate on trading enterprises listed on the NSE. Krishnamoorthi and Murigesan (2018) scrutinized the risk and value associated with several mutual fund programs based in India. This research proposed that it is

worthwhile to explore the customary returns and risks tied to investments in mutual funds. Irrespective of the level of risk associated with each firm's engagement, the BETA value was computed for the six companies as a whole. The utility of Sharpe, Treynor, and Jensen alpha risk-adjusted methodologies for evaluating the performance of profit-agnostic equity plans within the mutual fund sector is still uncertain. An annual returns appraisal of mutual fund equity assets was conducted, unequivocally demonstrating that all sample funds generated favorable returns exceeding the risk-free rate. While pooled investments had not yet reached their predictions, the assessment concluded that equities should be the preferred speculative avenue for modest financial support. The evaluation was formulated utilizing India's typical financial schemes. The primary focus will remain on speculative enterprises listed on the NSE.

Conceptual Framework

Figure 1: Conceptual Framework



RESEARCH METHODOLOGY

5 (95%) of the firms listed under the investment sector provided financial data for the research, which used secondary sources. Their audited financial accounts, which are available to the public, were the source of this information. According to Cooper and Schindler (2014), a response rate of more over 60% is deemed appropriate for quantitative analysis, providing trustworthy insights that

may be applied to the entire community. A summary of the descriptive statistics produced from the gathered data is represented in Table 1.

Table 1: Summary of the Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Investment in Equity (M)	40	53.27	173.01	113.14	31.41639
Investment in Bonds (M)	40	58.0	188.19	123.095	34.70721
Investments in Real Estate (M)	40	51.50	150.44	100.97	26.06772
Investments in Mutual Funds (M)	40	60.11	191.0	125.555	35.07369
ROI (M)	40	0.16	0.83	0.6084	0.15403
Inflation	40	4.69	7.98	6.1800	1.11469
Valid N (listwise)	40				

Source: Researcher Data (2023)

According to Table 1**,** the median stock investment is 113.14 million, with a minimum investment of 53.27 million and a maximum investment of 173.01 million. The modest amount of dispersion in stock investments across these businesses is shown by the standard deviation, which is around 31.42 million. These companies invest, on average, around 123.10 million in bonds, ranging from 58.0 million to 188.19 million. The standard deviation, which is around 34.71 million, shows that bond investment varies.

In addition, the average real estate investment is around 100.97 million, with a standard deviation of roughly 26.07 million, ranging from 51.50 million to 150.44 million. Mutual fund investments typically range from 60.11 million to 191.0 million, with a mean investment of about 125.56 million,35.07 million is the standard deviation.

The average return on investment (ROI) is about 0.6084 with a standard deviation of 0.15403. This metric signifies the financial performance of the companies. The ROI value indicates that, on average, these companies have generated a positive return on their investments. The range of ROI spans from 0.83, indicating diversity in investment performance among the companies. The mean inflation rate is approximately 6.18 with a standard deviation of 1.11469. Inflation stands as a pivotal economic factor that can influence investment returns. A higher inflation rate may erode actual returns. The range of inflation from the results spans from 4.69 to 7.98.

Diagnostic Tests

To make sure that the panel data adhered to the key assumptions for linear regression, the research performed diagnostic tests.

Multicollinearity Test

Multicollinearity examinations were conducted to assess the degree of linear connection among independent factors within the regression model, as described by Baltagi in 2005. The results for multicollinearity are presented in Table 2.

Table 2: Multicollinearity Results

Variable	Tolerance	VIF
Investment in Bonds	0.316742	3.157139
Investment in Real Estates	0.525939	1.901362
Investment in Mutual Funds	0.586618	1.704686
Investment in Equity Funds	0.350643	2.851907
Inflation	0.911883	1.096632

Source: Researcher Data (2023)

The findings in table 2 indicate that investment in bonds had a tolerance of 0.316742 and VIF of 3.157139, investment in real estates had a tolerance of 0.525939 and VIF of 1.901362, investment in mutual funds tolerance was 0.586618 and VIF of 1.704686, investment in equity funds tolerance was 0.350643 and VIF 2.851907 and inflation tolerance of 0.911883 and VIF 1.096632. Lack of multicollinearity is indicated by tolerance and VIF not exceeding 4. Since VIF was less than 4 for all the variables, there was no multicollinearity.

Normality Test

Normality tests are commonly used to determine if a given sample comes from a population with a normal distribution (Kothari & Garg, 2014). The study employed both kurtosis and skewness as approaches for determining the dataset's normalcy.

Table 3 Normality Results

	Statistic	**Skewness**	**Kurtosis**
Investment in Bonds	40	0.608	-0.719
Investment in Real Estates	40	0.289	1.531
Investment in Mutual Funds	40	0.833	1.437
Investment in Equity Funds	40	0.133	0.113
ROI (M)	40	-1.314	1.032
Inflation	40	0.415	-1.151
Valid N (listwise)	40		

Source: Researcher Data (2023)

Tabachnick, Fidell, and Ullman (2007) suggest specific criteria for interpreting normality tests, emphasizing that skewness values should remain below 2 and Kurtosis values should be less than 10 to consider the data as following a normal distribution. As depicted in table 4.3, the skewness values for the study variables were all below +2, and the Kurtosis values were found to be less than 10, which indicates that the data exhibited characteristics of normality according to these criteria.

Heteroscedasticity Test

Heteroscedasticity is defined as irregular fluctuations in the residuals of a regression model across different panel data points (Garson, 2012). The research investigation used a Breusch- Pagan/ Cook-Weisberg test to detect heteroscedasticity in the residuals of the regression model, as shown in table 4.

Table 4 Heteroscedasticity Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

Ho: Constant variance

Variables: fitted values of ROI

chi2(1) = 0.001

Prob > chi2 = 0.000

ROI = Return on Investment

Source: Researcher Data (2023)

The results in table 4.4 indicate that there is insufficient evidence to reject the null hypothesis (Ho) of constant variance in the fitted values of ROI. The chi-squared statistic (chi2(1)) is 0.001, and the probability (Prob> chi2) is 0.000, showing that there is no substantial heteroscedasticity in the data.

Test for Autocorrelation

The study also put autocorrelation assumptions to the test, which state that error terms should not fluctuate over time. This implies that errors linked to one observation have no discernible impact on errors related to other observations. Gujarati (2004) says that the Reed Watson test is the most reliable method for determining whether or not an autocorrelation problem exists. If the test result is close to 2, autocorrelation is not an issue. Table 5 summarizes the findings.

Table 5 Test for Autocorrelation

Dependent Variable	F	Durbin-Watson
Return on Investment	9.374	1.493

Source: Researcher Data (2023)

The results in table 4.5 Durbin Watson was 1.493. Durbin Watson statistics of 1.5 to 2.5 indicates that serial correlation is not present. The data was therefore appropriate for analysis.

Model Specification Tests

Before panel data analysis, analysis of the type of time series effect was assessed using Hausman Test. The findings are shown in table 6.

Table 6 Test for Autocorrelation

Hausman Test

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Random	.	Difference	S.E.
Bonds	-.0317218	-.032038	.0003162	.0107218
Real Estate	.0195348	.0115484	.0079863	.0102518
Mutual Funds	.0606243	.0591424	.0014819	.0083225
Equity_Funds	.248201	.2310029	.0171981	.0110782

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 6.50

Prob>chi2 = 0.1646

Source: Researcher Data (2023)

The study tested the null hypothesis that there existed nonsystematic effects in the model. The study obtained Prob>chi2 = 0.1646 the null hypothesis could not be rejected implying existence of fixed effect in the model. Fixed model was therefore appropriate for the study.

Correlation Matrix

Correlation tests were used in the study to determine the nature and robustness of the relationship between the independent variable and the dependent study variables. These correlation analyses were performed using a 95% confidence level. Table 7 summarizes the findings.

Table 7 Correlation Matrix

		ROI (M)	Investment in Bonds	Investment in Real Estates	Investment in Mutual Funds	Investment in Equity Funds	Inflation
ROI (M)	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	40					
Investment in Bonds	Pearson Correlation	0.157	1				
	Sig. (2-tailed)	0.335					
	N	40	40				
Investment in Real Estates	Pearson Correlation	0.093	.547**	1	.		
	Sig. (2-tailed)	0.566	0.000				
	N	40	40	40			
Investment in Mutual Funds	Pearson Correlation	.477**	0.169	.408**	1		
	Sig. (2-tailed)	0.002	0.296	0.009			
	N	40	40	40	40		
Investment in Equity Funds	Pearson Correlation	.611**	.715**	.368*	.447**	1	
	Sig. (2-tailed)	0.000	0.000	0.020	0.004		
	N	40	40	40	40	40	
Inflation	Pearson Correlation	-0.025	0.142	-0.078	0.116	0.196	1

		ROI (M)	Investment in Bonds	Investment in Real Estates	Investment in Mutual Funds	Investment in Equity Funds	Inflation
	Sig. (2-tailed)	0.880	0.382	0.631	0.477	0.225	
	N	40	40	40	40	40	40

Source: Researcher Data (2023)

Table 5 displays that the connection between ROI (M) and bonds investment is affirmative (0.157), but it does not bear statistical significance (p-value> 0.05). This implies a feeble positive association between returns on investment (ROI) and bond investments, but it lacks the strength to yield significant insights.

The correlation between ROI (M) and real estate investment is affirmative (0.093), but it does not possess statistical significance (p-value> 0.05). This denotes a feeble and non-significant positive link between ROI and real estate investments.

There exists a reasonably robust affirmative correlation (0.477) between ROI (M) and mutual funds investment, and this correlation is statistically substantial (p-value< 0.05). This implies a meaningful positive bond between ROI and mutual funds investments.

There is a pronounced affirmative correlation (0.611) between ROI (M) and equity funds investment, and this correlation is exceedingly statistically significant (p-value< 0.001). This points to a significant affirmative association between ROI and investments in equity funds.
There exists a very faint negative correlation (-0.025) between ROI (M) and inflation, but it does not hold statistical significance (p-value> 0.05). This suggests that, essentially, there is no substantial relationship between ROI and inflation.

Panel Regression Analysis

The researchers used Hausman to choose between using fixed effects or random effects models, specification tests are used. According to the study, the random effects model was superior fit for this investigation.

Fixed Panel Data Analysis

Table 8: lists the findings from the panel data analysis.

Table 8: Fixed Panel Data Analysis Results

ROI |	Coef.	Std. Err.	z	P>|z|
Bonds |	-.032038	.0308432	-1.04	0.299
Real Estate |	.0115484	.0244182	0.47	0.636
Mutual Funds	.0591424	.0239341	2.47	0.013
Equity Funds |	.2310029	.0228341	10.12	0.000
_cons |	-.0284404	.1491268	-0.19	0.849

R-sq: within = 0.8383 Obs. per group: min = 8

between = 0.8789 avg = 8.0

overall = 0.8333 max = 8

Wald chi2(4) = 175.00

corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0000

Bonds = investment in bonds, Real_Estate = property investments, Mutual Funds= mutual fund investments, Equity_Funds= equity investments

Source: Researcher Data (2023)

Table 8 provides useful insights into the relationship between various portfolio compositions and investment firm financial performance. The cumulative R-squared value of 0.8333 indicates that the model accurately predicts a significant percentage of the variation in the dependent variable, Return on Investment (ROI). This means that the independent variables chosen have a significant impact on the financial success of these organizations.

Among the specific coefficients, the Equity funds variable stands out with a p-value of 0.000 and a statistically significant coefficient of 0.2310029. This shows a strong positive connection between ROI and equity fund investment, with a coefficient of 0.0591424 and a statistically significant p-value of 0.013. Bonds and real estate, on the other hand, have negative coefficients that are not statistically significant, indicating that ROI may not be significantly impacted by these assets.

The Wald chi-squared statistic of 175.00 with a p-value of 0.000 suggests that at least one of the independent variables has a substantial role in explaining the variance in ROI. Furthermore, the random-effects GLS regression model implies no connection between the error term (u_i) and the independent variables (X), which is a critical requirement for model validity. Overall, our findings provide useful insights for investors and policymakers in understanding the portfolio composition

elements that determine the financial performance of Nairobi Securities Exchange investment businesses.

The study model was developed as below:

$$Y_{it} = -.0284404 + -.032038X_1it + .0591424X_2it + .2310029X_3it + .0115484X_4it + \varepsilon it \quad \text{..... Eq. 1}$$

Removing the insignificant coefficients, the model obtained is:

$$Y_{it} = 0.0591424X_2it + .2310029X_3it + \varepsilon it \quad \text{.....Eq. 2}$$

Where;

Y= Financial performance, β0=Constant term

β1,β2,β3,β4=Beta coefficients of the independent variables

X1= Bond investments

X2=Mutual Fund Investments

X3=Equity Investments

X4=Real Estate Investments

ε =Error term

i=Investment firm.

i=1...5 t = the time period index. t = 1…6

Test for Moderation

Two tests were carried out; one with a moderator and the other without a moderator.

Results without Moderator

The regression analysis for panel data without a moderator is presented in table 9.

Table 9 Fixed Panel Data Analysis Results

ROI |	Coef.	Std. Err.	z	P>|z|
Bonds	-.032038	.0308432	-1.04	0.299
Real_Estate	.0115484	.0244182	0.47	0.636
Mutual Funds	.0591424	.0239341	2.47	0.013
Equity_Funds	.2310029	.0228341	10.12	0.000
_cons	-.0284404	.1491268	-0.19	0.849

R-sq: within = 0.8383 Obs. per group: min = 8

between = 0.8789 avg = 8.0

overall = 0.8333 max = 8

Wald chi2(4) = 175.00

corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0000

Bonds = investment in bonds, Real_Estate = property investments, Mutual Funds= mutual fund investments, Equity_Funds= equity investments

Source: Researcher Data (2023)

The coefficient for bonds is in the negative (-0.032038), indicating an inverse relationship between the allotment of funds to bonds and ROI. Nonetheless, this connection is not statistically substantial as the p-value (0.299) surpasses the conventional significance level of 0.05. Consequently, the allotment to bonds does not yield a notable impact on ROI in this analysis .The coefficient for real estate stands as a positive figure (0.0115484); nevertheless, this correlation lacks statistical significance with a p-value of 0.636. This signifies that the influence of real estate investments on ROI doesn't carry statistical weight in the study. The coefficient for mutual funds exhibits a positive sign (0.0591424), indicating a favorable relationship between investments in mutual funds and ROI. In this instance, the p-value stands at 0.013, which is below 0.05, signifying that the allocation to mutual funds holds a statistically meaningful positive influence on ROI. The coefficient for Equity funds is significantly positive (0.2310029), implying a robust positive association between investments in Equity funds and ROI. Moreover, the exceedingly low p-value (0.0000) signifies that this connection is highly statistically significant, suggesting that investment in real-life funds wields a substantial positive impact on ROI. The constant term embodies the baseline ROI when all other variables registered at zero. In this scenario, the coefficient takes a negative value (-0.0284404), yet the p-value is markedly high (0.849), indicating that the constant term lacks statistical significance and doesn't make a substantial contribution to elucidating the variation in ROI.

Test with Moderator

The regression analysis for panel data with a moderator is presented in table 10.

Table 10 Results with Moderator

ROI	Coef.	Std. Err.	t	P>|t|
Bonds_infl	-.0056066	.0097352	-0.58	0.568
Equity_~e_infl |	.003565	.0077072	0.46	0.647
Mutual_infl |	-.0047904	.0075545	-0.63	0.530
Real Estate_~s_infl |	.0065542	.0072073	0.91	0.369
_cons |	1.073023	.3605542	2.98	0.005

F(4, 35) = 0.23 Prob > F = 0.9191 R-squared = 0.0257

Adj R-squared = -0.0856 Root MSE = .24888

Bonds = investment in bonds, Real_Estate = property investments, Mutual Funds= mutual fund investments, Equity_Funds= equity investments, infl = Inflation

Source: Researcher Data (2023)

The findings from Table 4.8 reveal that Bonds exhibits a coefficient of roughly -0.0056066, with a standard error of 0.0097352. The t-statistics records -0.58, and the p-value stands at 0.568. This implies a feeble negative correlation between the proportion of bonds in the investment portfolio and ROI. However, this connection lacks statistical significance at conventional levels (p> 0.05).

Real Estate displays a coefficient of about 0.003565, alongside a standard error of 0.0077072. The t-statistic is 0.46, and the p-value reads 0.647. This signifies a faint positive correlation between the proportion of real estate investments in the portfolio and ROI. Yet, akin to the prior variable, this correlation is not statistically significant.

Mutual Funds showcases a coefficient of roughly -0.0047904, coupled with a standard error of 0.0075545. The t-statistic shows -0.63, and the p-value is 0.530. This suggests a weak adverse relationship between the proportion of mutual fund investments in the portfolio and ROI, albeit without statistical significance.

Real Estate Stocks boast a coefficient of approximately 0.0065542, and a standard error of 0.0072073. The t-statistic registers 0.91, and the p-value stands at 0.369. This points to a subtle positive association between the proportion of real estate stocks in the portfolio and ROI, yet again, the correlation lacks statistical significance.

The constant term bears a coefficient of about 1.073023, alongside a standard error of 0.3605542. The t-statistic records 2.98, and the p-value is 0.005. The statistically meaningful p-value indicates that the constant term exerts a notable impact on ROI.

It is worth noting that the model preserved relevance in the absence of the moderator (inflation rate). However, when the moderator was included, the connection lost its significance, demonstrating that inflation has a sizable moderating impact on the association between portfolio mix investment and the financial success of companies listed on the Nairobi Securities Exchange.

Conclusion and recommendation and further research

Examining the effect of portfolio composition on the financial performance of investment businesses that are listed on the Nairobi Securities Exchange was the main goal of the study. The study's conclusion was that there was a strong and positive link between the financial performance of these exchange-listed investment companies' portfolio composition.

The study's primary goal was to determine how equity investments affected the financial success of investment businesses listed on Kenya's Nairobi Securities Exchange. The research showed a relationship between equity investment and returns on investment that was favorable. The correlation matrix's findings, which showed a strong and positive association between ROI and equity investment, supported this claim. Results from panel data further supported a favorable relationship between equity fund investments and financial success.

The second goal was to evaluate how bond investments affected the financial success of investment companies registered with Kenya's Nairobi Securities Exchange. Despite lacking the strength to draw firm conclusions, the analysis suggested a weakly positive association between returns on investment (ROI) and bond investments. As a result, these investments could not have a big impact on ROI.

Assessing the impact of real estate investments on the financial standing of Kenyan companies listed on the Nairobi Securities Exchange was the third objective. Although there was a positive correlation between ROI (M) and real estate investments, the connection remained shaky and unimportant since statistical significance was not attained.

The evaluation of the impacts of mutual fund investments on the operational outcomes of Kenyan investment businesses that are listed on the Nairobi Securities Exchange was the main objective of the fourth set of objectives. The study found a statistically significant (p-value 0.05) and substantial positive connection between ROI (M) and mutual fund investments.

The fifth goal was to look at how investment businesses listed on the Nairobi Securities Exchange's portfolio mix affects their financial performance when Kenya's inflation rates rise. The study found because inflation considerably reduces the relationship between investment portfolios and the financial success of investing firms in Kenya.

The study recommends that it has been shown that the financial performance of investment companies registered on the Nairobi Securities Exchange is impacted by portfolio management. In order to enhance their financial performance and more effectively reduce their firm's investment risk, the analysis consequently indicates that the leadership of investment businesses should make sure they maintain an ideal assortment of assets.

The Nairobi Securities Exchange-listed investment businesses' financial performance was shown to be most significantly influenced by equity stakes. Therefore, in order to improve their financial performance, investment businesses are advised to pay attention to equity investments. This called for investing in strong counters with greater potential for gain and dividend payouts. Regarding investments in bonds, the study proposes that even though there exists a weak affirmative correlation between returns on Investments (ROI) and investments in bonds, this connection may not be substantial enough to markedly affect ROI. As a result, investment firms ought to be circumspect in allocating their resources to bonds and contemplate broadening their portfolios into other classes of assets to potentially enhance their comprehensive financial performance. Investment firms may need to reassess the extent to which they channel their resources into real estate ventures. The investigation suggests that these firms meticulously evaluate the risk and return profile of their real estate holdings and contemplate alternative avenues for investment. Conversely, the study proposes that investment firms should investigate opportunities to augment their exposure to mutual funds. Lastly, the research advocates that investment firms should thoughtfully weigh the option of enlarging their allotments to Real Estate Funds as a safeguard against inflation.

REFERENCE

Baltagi, B.H. (2005) Econometric Analysis of Panel Data. 3rd Edition, John Wiley & Sons Inc., New York.

Bell, E., Bryman, A., & Harley, B. (2022). *Business research methods*. Oxford university press.

Chepkorir, N., Kemboi, R., & Bett, A. (2022). Relationship between Mobile Banking and Financial Performance of Deposit taking savings and credit cooperatives in Kericho County, Kenya. *East African Journal of Business and Economics*, *5*(1), 62-71.

Chen, S., & Zhang, H. (2021). Does digital finance promote manufacturing servitization: micro evidence from China. *International Review of Economics & Finance*, *76*, 856-869.

Chijoriga, M. M. (2007). Application of Credit Scoring and Financial Distress Prediction Models to Commercial Banks Lending.

Coopers, P. (2016). Turkey-SME Energy Efficiency Project (Vakifbank): audited financial statement-year ending December 31, 2015.

Cooper, D. R., & Schindler, P. S. (2014). *Business research methods.* McGraw-Hill education

Chuang, L. M., Liu, C. C., & Kao, H. K. (2016). The adoption of fintech service: TAM perspective. *International Journal of Management and Administrative Sciences*, *3*(7), 1-15.

Dorfleitner, G., Hornuf, L., Schmitt, M., & Weber, M. (2017). Definition of FinTech and description of the FinTech industry. In *FinTech in Germany*. Springer, Cham.

Fan, L., & Suh, Y. H. (2014). Why do users switch to a disruptive technology? An empirical study based on expectation-disconfirmation theory. *Information & Management*, *51*(2), 240-248.

Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., & Saal, M. (2021). *Fintech and the digital transformation of financial services: implications for market structure and public policy*. BIS Papers.

García, A., Ortiz, C., Población, J. and Sarto, J.L. (2013). The dynamics of mutual fund management, AESTIMATIO, *The IEB International Journal of Finance*, 7, 154-175.

Garson, G. D. (2012). *Testing Statistical Assumptions*. Statistical Associates Publishing.

Gujarati, D.N. (2004) *Basic Econometrics*. 4th Edition, McGraw-Hill Companies.

Haider, H. (2018). *Innovative financial technologies to support livelihoods and economic outcomes.*

Hoberg G., & Moon S.K.(2017). *Offshore activities and financial vs. operational hedging*. Journal of Financial Economics.125:217–244.

Hornuf, L., & Schwienbacher, A. (2014). *The emergence of crowdinvesting in Europe*.

Kimeu, F. M. (2015). The effect of portfolio composition on the financial performance of investment companies listed in Nairobi securities exchange. *University of Nairobi*

Kiboi, B. T., & Bosire, M. *Selected Investment Choices and Effect on Financial Performance of Insurance Companies in Kenya*.

Kioko M., D. & Ochieng M (2020). Effect of Portfolio Diversification on the Financial Performance of Investment Firms Listed in the Nairobi Securities Exchange. *Journal of Finance and Accounting*, Vol 4(5) 77-96.

Kothari, C. R., & Garg, G. (2014*). Research Methodology: Methods and Techniques*. New Delhi: New Age International Publishers.

Lamichhane, S., & Rai, S. (2021). Dividends, earnings and stock prices: a case of Nepalese insurance companies. *Nepalese Journal of Insurance and Social Security*, *4*(1), 73-86.

Markowitz, H. M. (1999). The early history of portfolio theory: 1600–1960. *Financial analysts journal*, *55*(4), 5-16.

Musembi M, M., & Jagongo A., (2018). The Impact of Portfolio Diversification on Financial Performance of Investment Firms Listed In Nairobi Securities Exchange, Kenya: Empirical Review. *International Journal of Management and Commerce Innovations* ISSN 2348-7585 (Online) Vol. 5, (2) 177-187.

Murithi, B. K. (2021). Effect of M-Akiba Bond Financial Innovation on Financial Inclusion among University Employees: A Case of Strathmore University (*Doctoral dissertation, United States International University-Africa).*

Nzau, M, N., Kung'u, J, & Onyuma, S, O., (2019). Effect of bond issuance on financial performance of firms listed on Nairobi Securities Exchange. *International Journal of Business and Management Review*. 7, 8, 16-25

Otuteye, E., & Siddiquee, M., (2017). A Critique of Modern Portfolio Theory and Asset Pricing Models Based on Behavioral Insights from Benjamin Graham's Value Investing Paradigm

Parker, G., Van Alstyne, M. W., & Jiang, X. (2016). Platform ecosystems: How developers invert the firm. *Boston University Questrom School of Business Research Paper*.

Shukrani, K. D., Ifire, G, W., Yeya, U. M., Banafa, A. A. Effect of investment portfolio choice on the financial performance of investment companies listed at the Nairobi Securities Exchange. *International Academic Journal of Economics and Finance*, 3(7), 156- 167.

Sironi, P. (2016). *FinTech innovation: from robo-advisors to goal based investing and gamification.* John Wiley & Sons.

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using Multivariate Statistics* (Vol. 5). Boston, MA: Pearson.

Walsh, S. T., & Linton, J. D. (2011). The strategy-technology firm fit audit: a guide to opportunity assessment and selection. *Technological Forecasting and Social Change*, *78*(2), 199-216.

World Bank. (2015). *Investment Climate Reforms: An Independent Evaluation of World Bank Group Support to Reforms of Business Regulations*. The World Bank.