Int Journal of Social Sciences Management and Entrepreneurship 9(2): 12-30 2025

ISSN 2411-7323

www.sagepublishers.com

INVESTMENT DIVERSIFICATION AND FINANCIAL PERFORMANCE OF INVESTMENT FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE, KENYA

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ABSTRACT

Financial performance of investment firms has been challenged by many emerging factors which are exacerbated by dynamic business environment. Many scholars have used firm related factors, both internal and external to evaluate contributing factor to investment firms' performance with little regard to portfolio diversification approaches. Therefore, lack of adequate empirical evidence on the significant effect of investment diversification on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. The specific objectives were to determine the effect of investment in shares and real estate investment on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. Capital Asset Pricing Model (Real Estate Investments), and Keynesian Theory of investment (Investment in shares) informed the study. The study adopted descriptive survey design and used a secondary data collection sheet to collect secondary data. The study targeted investment firms listed at NSE where a census method was used. This study covered a 5-year period from 2017 to 2023. The study used secondary data that was extracted from the websites of the respective listed firms. Descriptive statistics summarized data into meaningful forms while for variable relationships, inferential statistics was computed using STATA 15. All analyzed data was presented in form of tables and graphs. The findings revealed that investment diversification has positive effect on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya although there was mixed outcome in regards to significant effect. Investment in real estate and shares were found to have significant effect In this regard, the study concluded that investment diversification has positive effect on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. Firms should also consider the maturity periods of these securities to balance liquidity and returns.

Key Words: Investment Diversification, Financial Performance, Investment Firms, Nairobi Securities Exchange, Investment in Shares, Real Estate Investment

Background of the study

Investment is the commitment of present financial resources with the hope of achieving higher returns in the future. It involves sacrificing certain present values in order to gain future uncertain benefits. It also deals with time, inflation and uncertainty of future payments. Investment requires strategic decision making such as timing, amount, mix, type and grade of investment. According to Estrada (2019), the term investing may be associated with a variety of activities involving the spending of money and whose focus is geared towards the improvement of the investors' wealth. Institutional investors invest majorly because of the desire to pass money from the present into the future as well as increasing and protecting investors' wealth (Pavelkova & Dehning, 2017).

Further, Pavelkova and Dehning (2017) asserted that the choice of a portfolio that an investor chooses depends on their risk profile and not only on returns. Similarly, Sethilnathan (2016) argues that in investment, more so in portfolio management, risk and return are the most crucial measures in making investment decisions. That, even though investors are aware of the benefits of diversification they appear to adopt a naive diversification strategy where they form portfolios without considering the correlations among the stocks. Therefore, portfolio diversification involves adoption of several investment portfolios to minimize risks associated with non performing portfolios. For instance, a government is a debt in the form of a loan between the lender and the borrower (Felicien, 2015).

An equity investment is money that is invested in a company by purchasing shares of that company in the stock market. These shares are typically traded on a stock exchange (Sang, 2017). It is an operation where an individual or company invest money into a private or public company to become a shareholder. The most basic equity investment operation is the purchase of a common share. Common shares are pieces of a given business, also known as stocks. These stocks entitle the owner to a certain portion of the profits and assets and they can be bought either privately or publicly, depending on how the company is currently structured (Sang, 2017).

Real estate investment involves the purchase, ownership, management, rental and/or sale of real estate for profit (Andelinovic, Samodol & Pavkovic 2018). Improvement of realty property as part of a real estate investment strategy is generally considered to be a subspecialty of real estate investing called real estate development. Real estate is an asset form with limited liquidity relative to other investments, it is also capital intensive (although capital may be gained through mortgage leverage) and is highly cash flow dependent. If these factors are not well understood and managed by the investor, real estate becomes a risky investment (Yat et al, 2017).

Therefore, diversification is a technique that is employed to reduce risk by allocating funds across various financial assets and industries. Effective diversification is achieved where assets with negative correlation are combined in the portfolio with the motive of achieving optimal portfolio. Positive diversification value exists for any assets that are imperfectly correlated, the lower the correlation between the assets, the higher the diversification value (Norsim, Yakob & McGowan, 2019). Further, for a portfolio to be truly diversified, stocks from different industries and different sized companies must be used in its construction, and that diversification is increased with dissimilar companies from various industries due to the fact that stocks are not all affected by the same economic factors (Norsim, Yakob & McGowan, 2019). Therefore this study endeavors to examine influence of portfolio diversification on market capitalization of investment firms listed at Nairobi securities exchange, Kenya.

Statement of the problem

Financial performance of investment firms especially in dynamic business environment shows inconsistent trends as most investors do not engage in very risky investment ventures that

record negative or insignificant financial performance (Estrada, 2019). However, the financial performance of listed investment firms at the NSE, Kenya, has exhibited worrisome trends, characterized by volatility, declining profitability, and suboptimal returns on investment. Capital Markets Authority (2023) reported that the average return on equity (ROE) for listed investment firms at the NSE fell to 12.5% in 2022, compared to 18.7% in 2019 (CMA, 2023). This represents a significant 31% decline within a three-year period. NSE (2023) indicated that the average net profit margin for listed investment firms dropped to 5.8% in 2022, down from 7.2% in 2020 (NSE, 2023). This translates to a 19.4% decrease in profitability within two years.

The volatility of returns on investment for shareholders of listed investment firms has increased significantly, reflecting uncertainties in the market environment. Data from the NSE suggests an increase in the standard deviation of monthly returns for listed investment firms. For instance, the average standard deviation might have risen from 5.2% in 2019 to 7.1% in 2023. This represents a 36.5% increase, indicating greater fluctuations in monthly returns. The NSE All-Share Index (NASI), a broad market indicator, could be experiencing higher volatility. The coefficient of variation (standard deviation divided by the mean) of the NASI might have increased from 15% in 2020 to 20% in 2023. This 33.3% rise suggests a larger dispersion of returns around the average, signifying greater volatility (NSE, 2023).

Data from the NSE or reputable financial institutions can reveal a decline in average dividend yields for investment listed companies. For instance, the average dividend yield might have dropped from 6.5% in 2020 to 5.2% in 2023. This represents a 19.2% decrease, signifying a significant decline in income potential for dividend-seeking investors. Another concerning statistic could be the decreasing percentage of listed companies offering competitive dividend yields (e.g., above 4%). The number might have fallen from 45% of companies in 2020 to 32% in 2023. This 28.9% reduction suggests a shrinking pool of attractive options for income investors (NSE, 2023).

Statistically, the market capitalization for the listed investment firms in Nairobi Securities Exchange has recorded a steady decline from the year 2016 to 2020 (NSE, 2021). Centum Investment limited market capitalization dropped from KES 42,255,553 in 2016 to 15,006,000 in 2020. This represented 64.0% decrease in market capitalization during the study period. Home Africa limited market capitalization reduced from KES 1,985,751,068.00 in 2016 to KES 384,992,554.00 in 2020. This represented 81.0% decrease in market capitalization. Similarly, Olympia Capital Holdings Limited market capitalization declined from KES 280,000,000.00 in 2016 to KES 136,000,000.00 in 2020 representing 51.0% decline in market capitalization. Lastly, market capitalization of Trans Century declined from KES 7,876,070,665.00 in 2016 to KES 2,251,216,596.00 in 2020 which represent 71.0% drop in market capitalization (NSE, 2021).

In this regard, Sethilnathan (2020) argued that in investment, risk and return are the most crucial measures in making investment decisions; and that even though investors are aware of the benefits of diversification they appear to adopt a naive diversification strategy where they form portfolios without giving proper consideration to the correlations among the stocks.

Hitt, Hoskinson and Kim (2017) find that many of the prior global studies differed on the kind of association between diversification and Investment Company's profitability. Yahaya et al. (2015), Ogada (2016), Mochabo (2017), Sigve and Lars (2017 studies were inconclusive on the viability of diversification approaches; and more so the studies were based on banks and not investment firms. Kioko and Ochieng (2020) in their study on financial performance of investment firms in Kenya found that while real estate and equity investments showed positive relationship, government investment revealed a negative relationship with financial performance of investment firms, thus suggesting a further empirical inquiry in the existence of the negative relationship.

Arising from continuous decline in financial performance of investment firms in Kenya and inconclusive findings on the effect of diversification on financial performance of investment firms, motivated this study to fill these contextual and empirical gaps by examining the influence of portfolio diversification on financial performance of investment firms listed at NSE.

Objectives of the Study

General Objective of the Study

The general objective of the study was to examine the effect of investment diversification on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya.

Specific Objectives

i To evaluate the effect of investment in shares on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya.
ii To establish the effect of real estate investment on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya.

LITERATURE REVIEW

Theoretical review

Capital Asset Pricing Model (CAPM)

The capital asset pricing model (CAPM) is a model that gives an appropriate cost of capital for each project for the given project's relevant risk characteristics. The model states that an investment's cost of capital is lower when it offers better diversification benefits for an investor who holds the overall market portfolio - less required reward for less risk contribution. Market beta is its measure of risk contribution. Projects contributing more risk (market beta) require a higher expected rate of return; projects contributing less risk require a lower expected rate of return. The capital asset pricing model pictures investors as solely concerned with the level and uncertainty of their future wealth. The underlying principle in the CAPM is that company or industry specific events have very little impact on an asset's required return. The relevant risk is the market risk, which refers to the sensitivity of the asset's returns to the returns of the market as a whole, which is reflected in beta (Brealey, Myers & Allen, 2011).

The CAPM explains that the super-efficient portfolio obtained through the combination of risk-free and risky assets is located at the point of tangency between the Capital Market Line (CML) and the efficient frontier. In Capital Asset Pricing Model (CAPM) total risk associated with an asset can be split up in two components: systematic (non-diversifiable) and unsystematic (diversifiable) risk. If the number of assets included in the portfolio is high and these assets are not perfectly correlated, the unsystematic component of the portfolio risk diminishes. The CAPM shows that investors only get compensated for holding systematic risk, since the firm's specific component of risk can be eliminated through diversification (Monda, Giorgino & Modolin, 2013).

Despite of its assumptions, CAPM has got shortcoming such as, the capital market is so unpredictable that it is impossible for investors to beat it using the CAPM. It is important to remember that the operational usefulness of alternative mean-variance analyses and expected utility models explained at the very beginning of this text are also severely limited in their application.

This theory was instrumental in establishing the influence of real estate investment on profitability. CAPM is used most often in commercial real estate to assess risk measures by property type. For this, investors need to put the CAPM within the context of the entire market's

historical returns as well as those for the specific property type. The specific property types are apartments, offices, retail, industrial and hotel properties. Investors in the real estate market alike use the CAPM formula to evaluate whether a potential asset is not only fairly valued, but worth the time and money for its expected rate of return. By calculating the value of the property and its potential to earn more money in the long-term, commercial real estate investors can make more informed decisions for their real investment portfolios.

Keynesian Theory of Investment

The Keynesian investment theory was developed by Maynard Keynes in 1936. It posits that investment is driven by interest rate and Marginal efficiency of capital (MEC) (Arrow, 2017). MEC is the discount rate which could make the present value from expected returns of a capital asset equal to the price of supply. It is used in ranking projects from the most viable to the least. The MEC rule is to accept projects on condition that MEC exceeds interest rate. Low interest rates attract investments as firms can borrow at low rates since savings will only give low returns (Fuller, 2013).

Firms have a target of maximizing returns; this is possible by considering suitable investments due to their irreversible nature (Arrow, 2017). Marginal efficiency of capital decrease with the level of investment; this is because most of the projects with great opportunities are given a first hand at the earlier stages. The theory has been criticized in its consideration of supply price as an ex-ante decision; this is untrue as it requires an investor to have knowledge on the other investors' intentions in the industry to be aware of the supply price (Chick, 2002)

The theory was important in guiding investment firms on the best time to borrow and invest or when to deposit their money and postpone their investment until its profitable in regards to investment in shares. According to the Keynesian theory of Investment, the firm determines the optimal amount of Investment by taking into consideration the marginal efficiency of capital and the rate of Interest. Therefore, an investment firms can choose whether to invest in ordinary shares or preferred shares.

Conceptual framework

Jabareen (2009) defines conceptual framework as a network of interlinked hypotheses that together provide a comprehensive understanding of a given phenomenon or phenomena. The framework illustrates how variables are linked and related to each other. The variables, in this case, are the independent (explanatory) along with the dependent variable (response). Notably, an independent variable affects and determines the effect of another variable. The figurative illustration of the dependent and independent variables in this study is shown below in the conceptual framework.

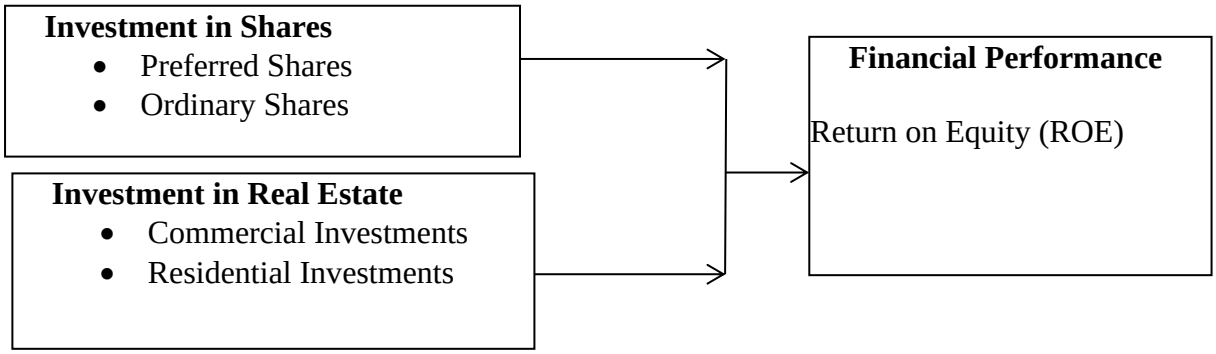

Figure 2. 1: Conceptual Framework

Investment in Shares

Shares are units of equity ownership in a corporation. For some companies, shares exist as a financial asset providing for an equal distribution of any residual profits, if any are declared, in the form of dividends. Shareholders of a stock that pays no dividends do not participate in a distribution of profits. Instead, they anticipate participating in the growth of the stock price as company profits increase. Shares represent equity stock in a firm, with the two main types of shares being common shares and preferred shares. As a result, "shares" and "stock" are commonly used interchangeably (Kebiro, 2019).

Investing in shares or stocks means having a ownership share in a public company. By investing in shares, an investor hopes the organization will grow and perform well over time. When the performance of the company improves, its shares become more valuable and they can be bought by other investors at an amount higher than what they were bought. Implying that if one decides to sell them, he gets a profit (Davis, 2022).

Investment in Real Estate

Real estate is "property that consists of land and the buildings on it together with its natural resources like water, minerals, crops and so on". Buying real estate is an investment strategy that can be both satisfying and lucrative (Beattie, 2022). The existence of a market portfolio will all available assets to investment is suggested by modern portfolio theory (Markowitz, 1952). In the United States, real estate assets represent a notable part of investment companies' diversified portfolios. There are two basic categories of real estate; residential and commercial property are the two real estate basic categories.

Real estate investment is the provision of finance or capital for housing purchase or building. Real estate finance also means the capital required for construction of housing or the resources required to acquire or access housing project by household or the credit supplied by housing finance institutions against some collateral (Dymski, 2017). Real estate finance loans are generally structured as long-term loans, the periodic payments for which are similar to an annuity and calculated according to the time value of money formula (Chen & Kieschnick, 2018). Accordingly, the modern portfolio theory suggests that commercial banks will engage in real estate financing as a way of diversifying their investment diversification and also due to the fact that real estate financing is more profitable in the long run will influence their profitability positively (Godswill, Ailemen & Pascal, 2018).

According Elhiraika (2011) real estate investment diversification is one of the fundamental decisions of business management. The assets may be physical such as real estates or machinery, intangible, or financial. Some investment firms engage in asset investment particularly in real estate. The continued viability of financial investments depends on its ability to earn an appropriate return on its assets which enables it to fund expansion, remain competitive and replenish capital. The growth of investment firms' wealth is represented by the value of its net assets and an increase in these assets translates to effective investment on assets. The funds invested by the members of the investment firms can generate enough surpluses to contribute to institutional capital as they provide for investment diversification. The institutional capital consists of the capital reserves and accumulated surpluses which investment firms have generated through retained surpluses. The institutional capital, which is a plough back of the income from investments, reflects the surpluses of investment firms.

Financial Performance

Financial performance can be synonymous with how well a corporate organization is doing in achieving its financial targets and shareholders' expectations. Corporate financial performance can be looked at as the level of performance of an organization at a point in time. This could be measured in terms of overall profits and losses or asset utilization (Iliemena & Ijeoma,

2019). The measures of financial performance of an organization are as varied as the motive for the measurement. Financial performance measures quantitatively compare the performance of an organization against predetermined standards. Indices of measure include but not limited to return on Equity (ROE) and Return on Assets (ROA). However, our current study adopts ROA to measure financial performance as according to Poddi and Vergalli (2009), ROA is one of the variables that provide a credible measure of financial performance. Return on Assets (ROA) is an indicator of how profitable a company is relative to its total assets. It is calculated by dividing company's total earning by the total asset.

However, a business cannot shut down its doors simply because it has made a loss in a single financial year but when the firm makes losses continuously in consecutive years this jeopardizes the viability of that business (Scotti & Volta, 2017). The amount of profit can be a good measure of performance of a company. So profit is used as a measure of financial performance of a company as well as a promise for the company to remain a going concern in the world of business (Agha, 2014). The profitability position of a firm can be analysed using return on assets (ROA). Return on assets indicates how profitable a business is relative to its assets and gives how well the business is able to use its assets to generate earnings calculated. Nyabwanga, Ojera, Otieno and Nyakundi (2013) assert that return on assets must be positive and the standard figure for return on assets is 10% - 12%. The higher the ROA the better because the business is earning more money on the capital invested.

Empirical review of literature related to the study

Investment in shares and Financial Performance

Gachenga (2022) sought to assess the relationship between investment diversification and liquidity of farmers-based Saccos. Descriptive cross-sectional survey research design was employed where the study population consisted of 49 finance managers and 49 credit managers of the 49 farmers-based Saccos respectively. Further, the study utilized Yamane formula to determine the sample size where cluster sampling was employed to sample the investment firms and simple random sampling were used to sample 78 out of 98 respondents. The regression models revealed that; investment in shared had a p-value of 0.000 revealing that there exists a significant nexus between predictor variables and liquidity of Saccos.

Kebiro (2019) sought to determine how investment diversification impact the efficiency of Saccos in Nairobi. The study's population was all the 43 Saccos in Nairobi County, Kenya. The independent variable for the study was investment in shares. The study utilized secondary data from 2014 to 2018 (5 years) on annual basis. A descriptive cross-sectional design together with the multiple linear regression model were used for the analysis of the variables. For this analysis the researcher used the SPSS version 21 software. The results showed that investment in shares produced positive and statistically substantial values for this study.

Morwabe and Muturi, (2019) carried out a study to establish the effect of investment diversification on financial performance of deposit taking savings and credit co-operatives in Nairobi County. Investment in shares were used to measure investment diversification. The study considered descriptive research design and census method in forty-three investment firms using time series secondary data from 2014 to 2018. The regression model indicated that investment in shares were statistically significant on financial performance. The study recommended investment firms to invest in front office. The study considered financial investments which accounts for 5 percent failing to consider major investments like lending which accounts for 85 percent. Therefore, financial investments may be a weak representative of investments decisions made in investment firms

Cappiello, Kadareja, Sorensen and Protopapa (2017) sought to investigate whether investment in shares and credit standards had an effect on output. The study adopted a panel approach for the Euro area. The study presented empirical evidence regarding the existence of a bank lending

channel of monetary policy transmission in the Euro area. In contrast to previous findings from the United States, the study revealed that the Euro area changes in respect of investment in shares, both in terms of volumes and credit standards.

Rose (2013) studied effects of investment diversification on credit unions in United States. The research embraced descriptive research design. Data from primary sources was gathered from selected credit unions in New York. Data analysis was conducted via descriptive statistics. The research noted that credit institutions have embraced 24-7 services through automation, housing financing as well as mortgages with the aim of improving their incomes. The study concluded that, credit unions invest in permissible shares, however with limitation to the list provided by government regulations.

Riedel (2014) conducted a study on the rationale for investment in securities exchange. Descriptive research design was deployed. The target population was 36 firms listed in Ghana stock exchange. Data was gathered for Bank of Ghana bulletin and GSE website. Time series was used for analysis of data. It was concluded that shares as mode of investment leads to financial improvement to the investor. Menggen (2017) carried out a study on risk of investing in shares in Chinese market. Descriptive research design was used. Data was sampled from daily, weekly and monthly market returns. Data analysis was performed with aid of GARCH - M. model. The research found out that there was a positive association between risk and returns on shares in Sheng hen stock exchange.

Islam (2017) researched on the association between investment in shares and commercial bank performance in Kenya. The study followed a descriptive research style. Annual reports accessible from websites of distinct banks, the NSE data from CBK were used for sourcing secondary data. All 40 Kenyan commercial banks were included in the study. Data analysis was done with aid of inferential statistics. The research found out that banks invested in securities/shares of listed companies. Additionally, banks invest in subsidiaries and joint ventures mainly from their income left overs.

Musyoki (2011) carried out a study on Income diversification and SACCO's performance in Nairobi County. The research used descriptive research design. All investment firms regulated by SASRA in Nairobi County formed the target population of the study. Primary data was evaluated via explanatory and inferential statistics. The study averred that investment in shares and financial performance positively connected

Investment in Real Estate and Financial Performance

Muli(2016) assessed the effect of real estate decisions of investment on investment firms financial performance in Kitui, Kenya. The aim of the investigation was to see how real estate investment diversification influenced investment firms financial performance. An empirical study design with a time period from 2006 to 2015was conducted. The study's population consisted of 12 investment firms. The independent variable was investment diversification which included decisions to invest in the real estate. The study outcome depicted a significantly good link between real estate investment diversification and financial performance. The research gap was to ascertain how real estate investment influences the financial performance of investment firms in Kitui. The relevance of the study was that real estate decision of investment increases the financial performance of investment firms.

Andelinovic, Samodol and Pavkovic (2018) conducted a study on real estate investment allocation and profitability of commercial banks. The researchers collected data from the published accounts of the insurance organizations for the years 2008 to 2016. The data collected was analyzed using cluster analysis and panel data analysis techniques. Cluster analysis was employed for the classification of insurers according to their investment strategies and its results used in the prediction of the changes in asset allocation that financial regulation

would bring. The study revealed that loans in real assets had a positive and significant impact on the profitability of Croatian commercial banks.

Bhuyan et al. (2019) studied the effect of real estate investments as an investment diversification in commercial banks. The researchers collected data from the US financial markets for the period 2012 to 2017 to determine the magnitude and benefits of Mortgage Real Estate Investment Trust (MREIT). The study observed that small banks did not significantly benefit from diversification using MREITs. Further, the research revealed that MREITs turn out to be the worst asset class to be used in investment diversification. The study recommended that small banks should not use MREITs for diversification.

Kebiro (2019) to determine how investment diversification impact the efficiency of Saccos in Nairobi. The study's population was all the 43 Saccos in Nairobi County, Kenya. The independent variable for the study was investment diversification with; investment in real estate. The study utilized secondary data from 2014 to 2018 (5 years) on annual basis. A descriptive cross-sectional design together with the multiple linear regression model were used for the analysis of the variables. For this analysis the researcher used the SPSS version 21 software. The results also showed that investment in real estate produced positive and statistically substantial values for this study

Odhiambo (2015) investigated the effect of real estate finance on the financial performance of listed commercial banks in Kenya. Data for nine listed commercial banks was collected for the period 2009 – 2013 from the annual reports of the respective banks. Panel regression analysis was employed on the collected data. The results showed that real estate finance did not have a significant effect on the financial performance of listed commercial banks. Foreign ownership, market structure, cost of bank operations, and the size of the bank significantly influenced bank performance. The study concluded that real estate finance does not influence the financial performance of listed commercial banks. It is recommended that the Central Bank of Kenya (CBK) and stakeholders in the housing sector strategize to improve uptake of affordable mortgage loans in order to improve the overall performance of banks.

Ndururi (2018) using primary data found that banks use mortgage financing to improve their overall performance. The study had assessed the effect of mortgage income on the financial performance of banks. The authors collected primary data by interviewing respondents from 44banks in Kenya. While the author attempted to show how mortgage finance influences bank performance, the use of interviews is not reliable enough to conclude on whether bank performance is influenced by mortgage finance. This was the major limitation of the study hence the need to further test this relationship using panel data.

Njiiri (2015) assessed the strength of the association between investment in real estate and the performance of Kenya's financial firms. By use of a descriptive study, the researcher targeted the population of 34financial firms in Kenya. The secondary data was obtained from the financial firms audited accounts for the period 2010 to 2014. The study carried multivariate regression analysis and correlation analysis to evaluate the nature of the association between the variables. The research affirmed the existence of a positive and consequential relationship between real estate investments and the financial performance of financial firms.

A study conducted by Lwali (2016) analyzed the relationship between real estate and performance. According to the findings of the study, private investment in shares loan lenders will frequently require you to back up your loan with real assets. The study exemplifies that if an investor is in the know that they can buy a property and turn it quickly at huge profit and cannot get a standard mortgage, it might be one option to go for. The study further indicated that some investors use private investment in shares loan to get into the property, do some quick fixes to raise the property value, and then get a new loan (based on the property's new, improved value) from a bank to pay off the private investment in shares loan lender. The study findings concurred with conclusions drawn by a study conducted by Mburu and Owiti (2016)

that return on stock and savings are inversely related to mortgage uptake in Kenya while interest rate and inflation are significantly related to mortgage uptake in Kenya.

Onchomba, Njeru and Memba (2018) examined the influence of real estate investment on financial performance of commercial banks in Kenya and a corresponding hypothesis was formulated and tested. A census of 42 fully operational commercial banks in Kenya was done for a period of ten years from 2006-2015 because of increased investment diversification, using across-sectional survey design. A questionnaire was used to collect primary data from one key person in the finance/credit department of each bank. Secondary data was collected from audited financial statements and other relevant financial sources using data analysis sheet. Both descriptive and inferential statistics were used. Statistical package for social sciences (SPSS) and STATA version 14 were used to analyze data. Research findings established that real estate investment influence the financial performance of commercial banks. The study findings are supported by the Utilization of modern portfolio theory.

RESEARCH METHODOLOGY

This study adopted a descriptive research design. Descriptive research involved collecting data that answered questions from sampled participants of the study. It was appropriate when the researcher wished to provide an accurate representation of persons, events, or situations, according to Saunders et al. (2012), and made inferences about the target population. The target population for this study consisted of cases that contained the desired information, specifically five investment firms listed at NSE, with a total of 35 observations between 2017 and 2023. In this regard, the unit of analysis was the investment firms. Mugenda and Mugenda (2008) argued that if the target population is less than 100, a census method can be adopted. Since the target population in this study was less than 100 respondents, a census method was adopted to select all five investment firms listed at NSE for analysis.

Secondary data was obtained from NSE handbooks. The researcher first obtained an introductory letter from the university, which facilitated the acquisition of NSE handbooks. The researcher then contacted NSE and requested the NSE handbooks covering the period between 2017 and 2023. Panel data was highly appropriate for studying financial performance in listed investment firms, particularly when examining five firms over seven years (2017–2023). The use of panel data allowed for the combination of both time-series and cross-sectional data, providing a broader perspective and greater analytical depth. The research utilized a secondary data collection sheet based on the conceptualized study variables to collect data from audited financial statements of investment firms, as outlined in Appendix 1. The collected data was then used to compute ratios for individual study variables, ensuring a structured and accurate analysis of financial performance.

The gathered data was processed, cleaned, coded, and analyzed using STATA 15. Descriptive statistical analysis was conducted to present the data in an understandable format, utilizing frequencies, percentages, means, and standard deviations to summarize key findings. Additionally, inferential statistical techniques were applied to determine relationships between variables. These included correlation analysis, linear regression, and multiple regression analyses, which were used to assess the strength and direction of relationships among the study variables. Finally, the analyzed data was presented in the form of tables and graphs, allowing for a clear and concise visualization of findings to facilitate interpretation and discussion.

RESEARCH FINDINGS AND DISCUSSION

Descriptive Statistics

In order to describe the features and characteristics of the data set, the study computed descriptive statistics. It provided a summary of the data and measures used in the study. Some

of the descriptive statistics that were used were measure of spread as well measure of central tendency. In this study, measure of spread used included minimum, values, variance, standard deviation and maximum values. The measures of central tendency in this data set include mean. The study calculated standard deviation, mean, maximum and minimum values between 2017 and 2023 for all the variables both dependent variables, financial performance, and the independent variables, investment in shares, and real estate investment.

Table 1: Descriptive Statistics- Investment in Shares

Statistics	2017	2018	2019	2020	2021	2022	2023	Total
Count	5	5	5	5	5	5	5	35
Minimum	0.3918	0.4514	0.2975	0.5406	0.2696	0.3845	0.4106	0.2696
Maximum	1.2954	1.4544	1.6024	1.0536	0.9574	1.626	1.5482	1.626
Mean	0.8047	0.8843	0.8334	0.8053	0.5746	0.782	0.8521	0.7909
Std Dev	0.4479	0.4511	0.5363	0.2077	0.2773	0.5108	0.4629	0.4006
Variation	0.2006	0.2035	0.2877	0.0432	0.0769	0.2609	0.2143	0.1605
Coefficient of Variation	0.5566	0.5102	0.6435	0.258	0.4826	0.6532	0.5432	0.5065

From Table 1, investment in shares was calculated by taking ratio of preferred shares to ordinary shares. In 2017, the mean ratio was 0.8047, indicating that, on average, the investment in preferred shares was about 80% of the investment in ordinary shares. In 2018, the mean increased slightly to 0.8843, showing a growing preference for preferred shares relative to ordinary shares. However, in 2019, the mean dropped slightly to 0.8334, suggesting a small decline in the relative investment in preferred shares. In 2020, the mean remained relatively stable at 0.8053, indicating a consistent investment pattern. A notable decline occurred in 2021, where the mean fell to 0.5746, suggesting a shift toward greater investment in ordinary shares. By 2022, the mean rebounded to 0.782, showing renewed interest in preferred shares, and in 2023, it increased further to 0.8521, reflecting a continued preference for preferred shares over ordinary shares. Overall, the mean across all years was 0.7909, suggesting that, on average, investment in preferred shares was about 79% of the investment in ordinary shares. This indicates a fluctuating trend in the ratio of preferred to ordinary shares, with periods of increasing and decreasing preference, but an overall tendency to maintain a balance between the two types of investments.

Regarding variability, the standard deviation was highest in 2019 (0.5363) and lowest in 2020 (0.2077), indicating that in 2019, firms exhibited diverse investment strategies in shares, while in 2020, their investments became more uniform. The coefficient of variation (CV), which measures relative risk, was highest in 2022 (0.6532), signifying the greatest inconsistency in investment patterns, while the lowest CV was in 2020 (0.258), indicating a more stable investment environment. Overall, the total coefficient of variation (0.5065) suggests moderate volatility in share investments over the period.

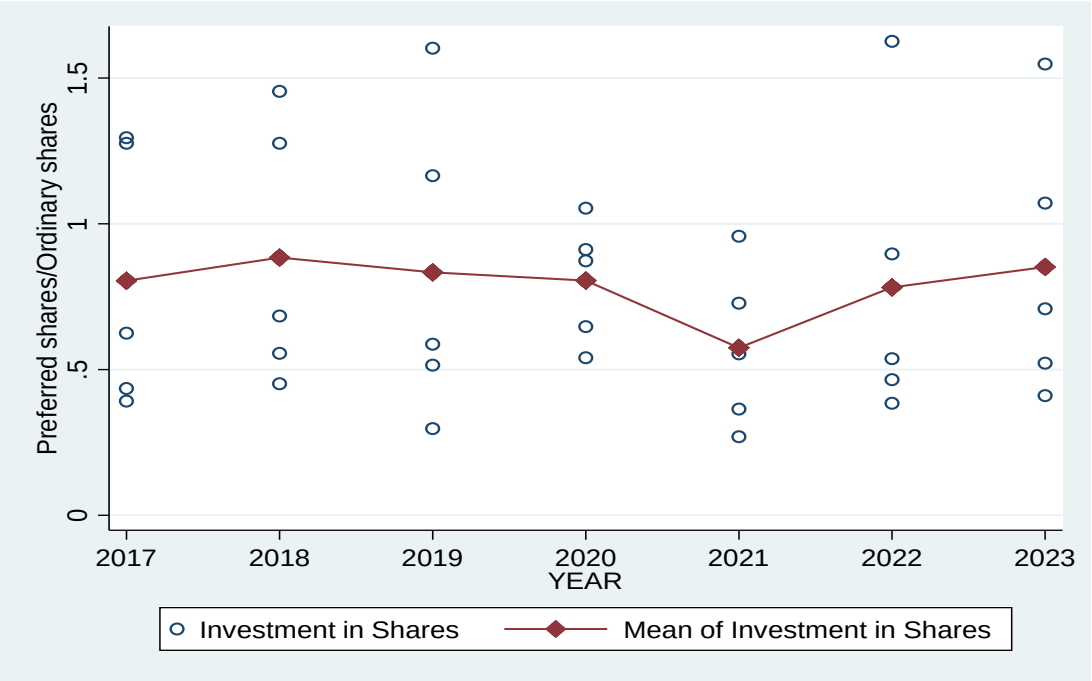

Figure 1: Scatter Plot for Investment in Shares

Table 2: Descriptive Statistics- Investment in Real Estate

Statistics	2017	2018	2019	2020	2021	2022	2023	Total
Count	5	5	5	5	5	5	5	35
Minimum	0.5206	0.6481	0.422	0.4369	0.2998	0.5884	0.6853	0.2998
Maximum	1.6891	1.9883	0.9752	1.4588	1.8142	1.3082	1.2219	1.9883
Mean	0.8951	1.2503	0.6363	0.9723	0.8526	0.974	0.9121	0.9275
Std Dev	0.4594	0.6191	0.2546	0.3954	0.5811	0.3153	0.2199	0.4272
Variation	0.2111	0.3833	0.0648	0.1563	0.3377	0.0994	0.0484	0.1825
Coefficient of Variation	0.5133	0.4952	0.4001	0.4066	0.6816	0.3237	0.2411	0.4606

From Table 2, Real estate investment was calculated by taking ratio of commercial Investments to Residential Investments. In 2017, the mean ratio was 0.8951, indicating that, on average, commercial investments were about 89.5% of residential investments. In 2018, the mean increased significantly to 1.2503, suggesting a greater preference for commercial real estate compared to residential investments. However, in 2019, the mean dropped sharply to 0.6363, indicating a shift back toward residential investment. In 2020, the mean rebounded to 0.9723, reflecting a more balanced investment between commercial and residential real estate. The trend slightly declined again in 2021, where the mean was 0.8526, showing a marginal preference for residential investments. In 2022, the mean increased to 0.974, suggesting near-equal investment in both commercial and residential properties. By 2023, the mean was 0.9121, maintaining a relatively balanced ratio. Overall, the mean across all years was 0.9275, implying that, on average, commercial investments were about 92.8% of residential investments. This suggests that while investments fluctuated between commercial and residential real estate, there was no overwhelming dominance of one over the other, with both categories maintaining relatively comparable levels of investment over the years.

In terms of volatility, the standard deviation was highest in 2018 (0.6191) and 2021 (0.5811), indicating that investment varied significantly among firms in these years. The lowest standard deviation was observed in 2019 (0.2546) and 2023 (0.2199), implying that investment in real estate was relatively stable among firms in those periods. The coefficient

of variation (CV), which measures relative dispersion, was highest in 2021 (0.6816), signifying the most inconsistent investment behavior, while the lowest CV was in 2023 (0.2411), indicating more uniform investment patterns. The overall CV of 0.4606 suggests moderate variability in real estate investment across the years.

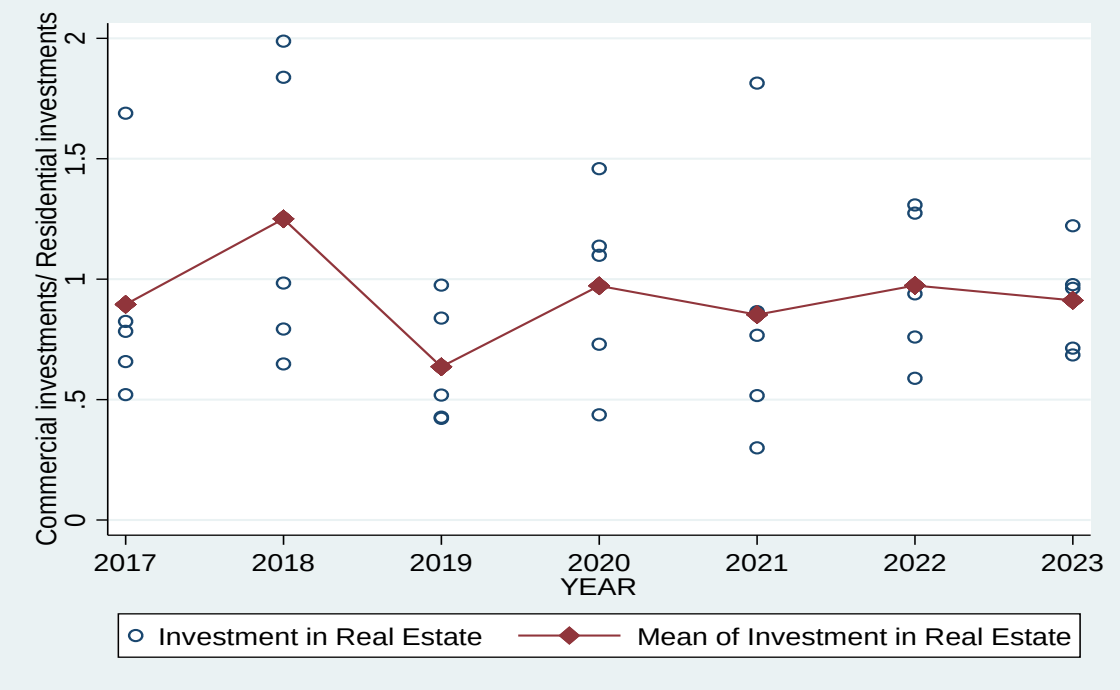

Figure 4. 1: Scatter Plot for Investment in Real Estate

Table 2: Descriptive Statistics- Financial Performance

Statistics	2017	2018	2019	2020	2021	2022	2023	Total
Count	5	5	5	5	5	5	5	35
Minimum	-0.1034	-0.1034	-0.1788	-0.0817	-0.1103	-0.0363	-0.1034	-0.1788
Maximum	0.0939	0.1603	0.0516	0.1804	0.1179	0.0715	0.2508	4.139
Mean	0.0328	0.0203	0.01783	0.0718	0.0158	0.0212	0.0382	0.0311
Std Dev	1.8395	0.3939	0.3162	0.1051	0.0957	0.0488	0.1385	0.8397
Variation	3.3858	0.1552	0.0999	0.011	0.0092	0.0024	0.0192	0.7051
Coefficient of Variation	2.0372	1.7888	1.7743	1.4645	6.062	2.3019	3.6276	4.0584

From Table 3, financial performance which is the dependent variable was determined using the ratio of net income to shareholder equity. The mean financial performance varied across the years, ranging from 0.0158 in 2021 to 0.0718 in 2020, with an overall mean of 0.0311. The highest mean value in 2020 (0.0718) suggests that firms performed better during this period, potentially due to stronger earnings or improved capital efficiency. Conversely, 2021 recorded the lowest mean (0.0158), indicating a decline in profitability, possibly due to market uncertainties or economic challenges. The minimum ROE values show that some firms experienced negative returns in all years, with the lowest value (-0.1788) occurring in 2019. This indicates that some firms made losses during this period, likely due to market downturns or declining investment returns. On the other hand, the maximum ROE was highest in 2023 (0.2508), suggesting an improved performance for some firms in the later years.

The standard deviation (Std Dev) indicates fluctuations in financial performance over the years. The highest standard deviation was recorded in 2017 (1.8395), meaning that performance was highly inconsistent among firms, with some firms doing extremely well while others struggled. The lowest standard deviation was in 2022 (0.0488), indicating that financial performance was relatively stable across firms during this year. The coefficient of variation (CV), which measures relative dispersion, was highest in 2021 (6.0620), implying significant variations in financial performance during that year. This suggests that while some firms performed well, others struggled significantly. The lowest CV was recorded in 2020 (1.4645), indicating relatively stable financial performance among firms during that period.

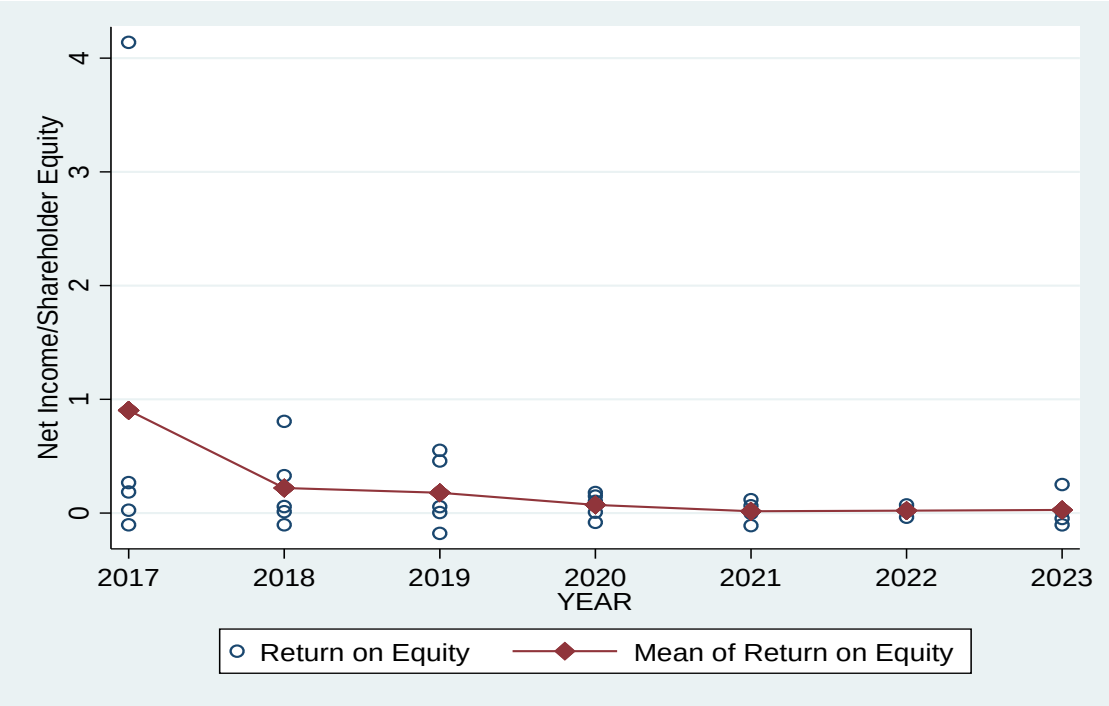

Figure 3: Scatter Plot for Financial Performance

Correlation Analysis

Correlation analysis was employed in assessing the linearity association among the variables. Table 4 results were to give spearman correlation coefficient ranging from -1 to +1, whereby −1 is total negative correlation, 0 is no correlation, and 1 is total positive correlation. There is a strong correlation if the results are greater than 0.9 and a weak correlation if the results are less than 0.

Table 4: Pearson Correlation Analysis

		FP	IS
Investment in shares	Pearson Correlation	0.7397	1
	Sig. (2-tailed)	0.0005	
	N	35	35
Real estate investment	Pearson Correlation	0.5251	0.3756
	Sig. (2-tailed)	0.0252	0.1245
	N	35	35

IS=Investment in shares, IRE=Real estate investment, FP=Financial performance

The results indicated that the investment in shares has a positive and significant on the financial performance of investment firms listed at Nairobi Securities Exchange, Kenya (r =0.7397, P=0.000). Real estate investment has a positive moderate and significant effect on the financial

performance of investment firms listed at Nairobi Securities Exchange, Kenya (r =0.5251, P=0.0252).

Linear Regression Analysis

Effect of Investment in shares on financial performance

The study sought to evaluate the effect of investment in shares on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. Having gone by the fixed effect model basing on the Hausman LM test, the results of the fixed effect model are presented in Table 5.

Table 5: Regression Fixed Effect of investment in shares on financial performance

Fixed-effects (within) regression				Number of obs =	35
Group variable: Firm-ID				Number of groups =	5
R-sq:				Obs per group:	
within =	0.4346			min =	7
between =	0.9797			avg =	7
overall =	0.5471			max =	7
				F(1,29) =	19.33
				Prob > chi2 =	0.000
FP	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]
IS	0.331273	0.075345	4.40	0.000	0.183599 0.478946
_cons	0.018203	0.030804	0.59	0.555	-0.04217 0.078578

The analysis shows that the panels were strongly balanced for this bivariate analysis as shown by the number of observations per group. The result obtained from fixed effect model indicated that investment in shares accounted for 54.71% (Overall R square=0.5471) of the variation in financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. The ANOVA statistics measure the general significance of the model. The F-statistic to the model shows is 19.33 which is greater than 0 implying that the estimated parameters in the model are at least not equal to zero. This infers that investment in shares has an effect on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. The effect is significant at $P<0.05$.

The estimated coefficient of investment in shares is significantly not equal to zero ($\beta=0.331273$, $t=4.40$, p-value= 0.000). The P-value is less than 0.05 which implies that the estimated coefficient is significant at 5% significance level. The estimated coefficient of investment in shares here implies that a unit increase in investment in shares would cause the levels of financial performance to increase by 0.331273 units. The p-value of the constant is less than 0.05 which shows a significant constant term. The regression model is as shown below

Financial performance = 10.018203+0.331273Investment in Shares

Hence. there is an effect of investment in shares on financial performance. This implies that increase in investment in shares would results to increase in financial performance of investment firms listed at Nairobi Securities Exchange, Kenya.

Effect of real estate investment on financial performance

The study sought to determine the effect of real estate investment on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. Having gone by the fixed effect model basing on the Haussmann LM test, the results of the fixed effect model are presented in Table 6.

Table 6: Regression Fixed Effect of Real estate investment on Financial performance

Fixed-effects (within) regression		Number of obs =	35
Group variable: Firm-ID		Number of groups =	5
R-sq:		Obs per group:	
within =	0.2792	min =	7
between =	0.997	avg =	7
overall =	0.2757	max =	7
		F(1,29) =	6.09
		Prob > chi2 =	0.0136

FP	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
IRE	0.14864	0.060223	2.47	0.014	0.03667	0.26306
_cons	0.099193	0.061311	1.62	0.106	-0.02097	0.219361

The analysis shows that the panels were strongly balanced for this bivariate analysis as shown by the number of observations per group. They were a total of 35 observations used in this analysis considering 5 groups of entities implying strongly balance panels. The minimum, maximum and average numbers of observations per groups were all equal to 5. The result obtained from fixed effect model indicated that real estate investment accounted for 27.57% (Overall R square=0.2757) of the variation in financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. The F-statistic to the model shows is 6.09 which is greater than 0 implying that the estimated parameters in the model are at least not equal to zero. This implies that real estate investment has a significant effect on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. The effect is significant (P=0.014).

The estimated coefficient of real estate investment is significantly not equal to zero (β=0.14864, t= 2.47, p-value= 0.014). The P-value is less than 0.05 which implies that the estimated coefficient is significant at 5% significance level. The estimated coefficient of real estate investment here implies that a unit increase in real estate investment would initiate the levels of financial performance to a significant increase by 0.14864 units. The regression model is as shown below

Financial performance= 0.099193+0.14864IRE

Hence, there is a significant effect of real estate investment on financial performance. This implies that increase in real estate investment would results to increase in financial performance of investment firms listed at Nairobi Securities Exchange, Kenya.

Discussion of the Findings

How does investment in shares affect financial performance of investment firms listed at Nairobi Securities Exchange, Kenya?

The first research question sought to answer how does investment in shares affect financial performance of investment firms listed at Nairobi Securities Exchange, Kenya? Pearson correlation indicated that there is significant positive relationship between of investment in shares and financial performance of investment firms listed at Nairobi Securities Exchange, Kenya (r=0.7397, P=0.0005). This implies that increase in investment in shares would results to significant increase financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. Hussein (2017) revealed a positive relationship between investment in money and bond markets and financial performance. Purnamasari and Azis (2016) found out

that there is a significant positive relationship between investment in money and bond markets and financial performance. Hussein (2017) discovered a positive relationship between investment in money and bond markets and financial performance. A study by Jemba (2010) noted that there was a good association between shares acquisition on commercial bank financial performance. The purchase of shares was ranked as the best investment. Riedel (2014) concluded that shares as mode of investment leads to financial improvement to the investor. Menggen (2017) found out that there was a positive association between risk and returns on shares in Sheng hen stock exchange. Islam (2017) found out that banks invested in securities/shares of listed companies. Musyoki (2011) averred that investment in shares and SACCOs financial performance positively connected.

Further, linear regression indicated that investment in shares carried positive insignificant beta coefficient (β3) of 0.143117, p=0.075. Therefore, a unit increase in investment in shares across time and among investment firms listed at Nairobi Securities Exchange, Kenya, Kenya would result to insignificant increase of 0.143117 units in financial performance. The study outcomes are not in agreement with the literature presented. Kimani and Aduda (2016) looked into the relationship between the size of portfolio and financial performance of investment firms listed at Nairobi Securities Exchange, KenyaS in Kenya. The findings revealed that money and bond markets brings about the highest returns after the stock portfolio thus it was found to influence the financial performance positively. Rop, Kibet and Bokongo (2016) depicted a positive link between investment in money and bond markets and financial performance. Kimani and Aduda (2016) revealed that money and bond markets bring about the highest returns after the stock portfolio thus it was found to influence the financial performance positively.

Gachenga (2022) revealed that; investment in shared had a p-value of 0.000 revealing that there exists a significant nexus between predictor variables and liquidity of farmers-based DT-SACCOs Kebiro (2019) showed that investment in shares produced positive and statistically substantial values for this study. Morwabe and Muturi, (2019) using regression model indicated that investment in shares were statistically significant on financial performance. Cappiello, Kadareja, Sorensen and Protopapa (2017) revealed that the Euro area changes in respect of investment in shares, both in terms of volumes and credit standards. Chumba, Muturi and Oluoch (2019). Howver, Rose (2013) noted that credit institutions have embraced 24-7 services through automation, housing financing as well as mortgages with the aim of improving their incomes. The study concluded that, credit unions invest in permissible shares, however with limitation to the list provided by government regulations.

What is the effect real estate investment on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya?

The second research question sought to answer to what is the effect real estate investment on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya? Pearson correlation indicated that there is significant positive relationship between of investment in real estate and financial performance of investment firms listed at Nairobi Securities Exchange, Kenya (r =0.5251, P=0.0252). This implies that increase in investment in real estate would results to significant increase financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. Rop, Kibet and Bogonko (2016) showed a positive relationship was noted between government real estate investment with financial performance of commercial banks in Kenya. Muli(2016) depicted a significantly good link between real estate investment diversification and financial performance. Andelinovic, Samodol and Pavkovic (2018) revealed that loans in real assets had a positive and significant impact on the profitability of Croatian commercial banks. Kebiro (2019) to determine how investment diversification impact the efficiency of deposit taking SACCOs in Nairobi. The results also showed that investment in real estate produced positive and statistically substantial values for this study

Further, linear regression indicated that investment in real estate carried positive significant beta coefficient (β4) of 0.23824, p=0.013. Therefore, a unit increase in investment in real estate across time and among investment firms listed at Nairobi Securities Exchange, Kenya, Kenya would result to significant increase of 0.23824 units in financial performance. Kipkorir, Namiinda and Njeje (2015) examined the relationship between real estate investment decisions and financial performance of investment firms listed at Nairobi Securities Exchange, KenyaS in Baringo County. The key finding from the examination was that investment in real estate contributes up to 9.8 percent of the financial performance of the DT-SACCOS. Muli (2016) depicted a significant positive association between real estate investment decisions and financial performance. Odhiambo (2017) used data from annual reports for a 5-year study on the association between real estate finance and financial performance of 11 commercial banks registered on Nairobi Securities Exchange. The study found that real estate finance has an influence on the financial performance of publicly traded commercial banks, with mortgage finance having a particularly high impact. Njiiri (2015) affirmed the existence of a positive and consequential relationship between real estate investments and the financial performance of financial firms. Research findings established that real estate investment influence the financial performance of commercial banks.

However, Bhuyan et al. (2019) studied the effect of real estate investments as a investment diversification in commercial banks. The study observed that small banks did not significantly benefit from diversification using MREITs. Further, the research revealed that MREITs turn out to be the worst asset class to be used in investment diversification. Odhiambo (2015) investigated the effect of real estate finance on the financial performance of listed commercial banks in Kenya. The results showed that real estate finance did not have a significant effect on the financial performance of listed commercial banks. The study findings concurred with conclusions drawn by a study conducted by Mburu and Owiti (2016) that return on stock and savings are inversely related to mortgage uptake in Kenya while interest rate and inflation are significantly related to mortgage uptake in Kenya. Onchomba, Njeru and Memba (2018) examined the influence of real estate investment on financial performance of commercial banks in Kenya and a corresponding hypothesis was formulated and tested.

Conclusion

The fist research question was to how does investment in shares affect financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. From the linear and multiple regression results, the study established that investment in shares affected financial performance of investment firms listed at Nairobi Securities Exchange, Kenya positively and insignificantly. Therefore, investment in shares has an insignificant positive effect of financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. An increase in investment in preferred shares as opposed to ordinary shares would results to insignificant increase in financial performance.

The last research question was what is the effect real estate investment on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. The study established that real estate investment has significant positive effect on financial performance as indicated by multiple linear regressions. An increase in real estate investment specifically commercial investments would results to significant increase in financial performance. Hence, real estate investment is a significant predicator of financial performance of investment firms listed at Nairobi Securities Exchange, Kenya

Recommendations

The management of the investment firms listed at Nairobi Securities Exchange, Kenya should strive to improve the financial performance of their Firms through investment in shares preferably, preference shares since they offer investors a diversified investment option

typically for a minimum initial investment amount and there is possibility to increase the value of the principal amount invested. This comes in the form of capital gains and dividends well before common shareholders see any money.

The study recommends that firms can invest in rental properties to generate regular income and capital appreciation while maximizing capital through leverage. Firms could invest in Real Estate Investment Groups (REIGs) to gain more hands-off income and appreciation than owning rentals. This will result provide investment firms with long term financial security since they are not affected by inflationary tendencies.

Suggestion for Further Studies

The study assessed effect of investment diversification on financial performance of investment firms listed at Nairobi Securities Exchange, Kenya. The study was limited 5 investment firms listed at Nairobi Securities Exchange, Kenya. In this connection, future studies should consider other investment firms not listed at Nairobi Securities Exchange.

The current study did not control or moderate other variables that may have impact on the relationship between investment diversification and financial performances. Therefore, future studies should consider firm size, corporate governance as moderating variable and macro-economic indicators such as interest rate, foreign exchange and taxation as control variables which may have impact on financial performance and investment diversification.

The study didn't exhaust all the independent variables influencing financial performance of investment firms listed at Nairobi Securities Exchange, Kenya in Nairobi as far as investment diversification is concerned and a recommendation is given that more studies be carried out to constitute other variables for instance investment in commercial papers.

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