INVESTMENT DIVERSIFICATION AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED AT NAIROBI SECURITIES EXCHANGE

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ABSTRACT

This study examined the effect of investment diversification on profitability of listed commercial banks in Kenya. Portfolio theory (in regards to Mutual funds), Capital Asset Pricing Model (Real Estate Investments), Q theory of investment (Investment in government securities) and Keynesian Theory of investment (Investment in shares) informed the study. The study adopted a casual research design approach where the target population was based on 11 commercial banks listed at Nairobi Securities Exchange. This study covered a 5-year period from 2018 to 2022. The study used secondary data that was extracted from the websites of the respective commercial banks listed at Nairobi Securities Exchange. Both descriptive and inferential statistics was computed using STATA 15. Descriptive statistics included mean, standard deviation, Maximum and minimum. Inferential analysis included Pearson correlation and linear regression analyses. The study used panel regression analytical model. This study conducted serial correlation tests, heteroscedasticity tests and multicollinearity test to evaluate the data collected before the actual analysis. findings revealed that investment diversification has positive effect on financial performance of commercial banks listed at Nairobi Securities Exchange. Investment in mutual funds, real estate and shares were found to have significant effect on financial performance and they explained up to 64.73% of the variation. In this regard, the study concluded that investment diversification has positive effect on financial performance of commercial banks listed at Nairobi Securities Exchange. The study therefore recommended management should compare each of the mutual fund options basing on desired risk, interest rate, and tenure, and choose a fixed deposit only after weighing the benefits and drawbacks of various mutual funds on the market. The management of the commercial banks listed at Nairobi Securities Exchange should strive to improve the financial performance of their banks through investment in shares preferably, preference shares. High liquidity produced by commercial banks listed at Nairobi Securities Exchange's client deposits should be invested in a variety of government securities and bonds, which are backed by the government, the study suggested.

Key Words: *Mutual Funds, Investment in Shares, Government Securities, Real Estate Investment*

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INTRODUCTION

Commercial banks operate in a turbulent business environment and this calls for an understanding of their internal and external factors to enable them to increase their financial performance (Thumbi & Ragui, 2019). The increasing uncertainty and turbulence in the banking environment have forced commercial banks to abandon certain of their structures and strategies in order to remain profitable, while adequately meeting the demands of their stakeholders. According to Ejim (2021), of commercial banks' financial performance has steadily deteriorated over time due to various internal and external factors. Consequently, there is a growing interest among academics and business analysts in determining which specific investment influence commercial banks' financial performance (Sarkar & Rakshit, 2021).

Financial institutions in the U.S has transitioned away from the traditional and ancient approach of producing returns based on interest. Non-interest income, such as fees and commissions, as well as stock trading, has become more prominent. The decision has contributed to higher levels of revenues in the recent days. Most financial institutions in global arena, according to Saghi-Zedek (2015), are increasing generating profits from non-core lending activities. Around 1752, prior to the independence declaration in the United States, it is presumed that the cooperative business was established. Available old records point to the practice of cooperative farming in Babylon. There is also evidence of the establishment of loans and savings associations by the Chinese that are synonymous with the contemporary ones. In North America, land clearance in preparation for crops planting, beans threshing as well as raising of barns all called for efforts cooperatively. SACCOS play other vital roles in society that has made them not only critical but indispensable development tools. For instance, co-operatives are reported to provide employment to above a hundred million people with individual membership standing at eight hundred million internationally. In 2006, the turnover of 300 top cooperatives in the world was reported to be US $963billion which is an equivalent of Canada's GDP.

Banks commercially trading in Sub-Saharan Africa tend to face great competition and, for them to survive this tide of competition, they ought to engage in diversity in terms of their assets (Ismail, Hanif, Choudhary, Nisar, 2015). In the African context, a study done by Landi and Venturelli (2012) sought to address the question of whether investment diversification is practiced in the African banking sector. The study sought to determine whether investment diversification in the banking industry is playing an up-surging important role of which the trend is proving hard to ascertain without at first stating and categorizing the business lines of financial intermediation role.

The Kenyan commercial banking sector with over 40 commercial banks has experienced mixed success over the past 10 years with some banks such as Kenya Commercial Bank, Standard Chartered bank, Co-operative Bank, and Equity Bank, reporting high financial performance while other banks such as Kingdom Bank, Bank of Africa, National Bank of Kenya, and Ecobank among others reporting poor financial results (CBK, 2017).

Different scholars have pinpointed variables that can inform bank performance and they highlighted one of them to be investment diversification, whereas Olweny and Shipho (2011), inferred that despite this, there exists no consensus regarding how investment diversification has contributed to cost efficiency and spurring upsurge in performance in this particular region. Kiweu (2012); Mulwa (2018) stated there is a need though urgent to scrutinize investment diversification in the region classified as SSA and is motivated by curiosity to bring to light its effect on bank performance after 2008 crisis. Efficient functioning of retail banking institutions that energize capital market deepening is the building block of formation of capital. The Kenyan financial system is considered to be at the top in rank among systems in sub–Saharan Africa (Odhiambo, 2008).

According to Central Bank of Kenya, a commercial bank is an institution which conducts banking business in Kenya. Banking industry in Kenya is regulated by the central bank of Kenya, The companies Act and Banking Act. Additionally, the prudential guidelines issued from time to time not forgetting the treasury guidelines and the finance Act. The industry plays a vital role in the implementation of the monetary policy, intermediation and humanitarian roles among others as argued by Hugo, 2013. In Kenya the Licensed Commercial banks are 42 as at Dec 2020. (Central Bank of Kenya, 2021). The CBK has licensed Mortgage Finance Institution and Seven Non-Operating Bank Holding companies. The listing in the stock exchange is done at the Nairobi Securities Exchange after a company has met the minimum requirements as provided by the Capital Markets Authority. The Listed commercial banks out of the 42 licensed are Abssa, CFC-Stanbic, HF, NCBA, Cooperative Bank, I&M Holding, KCB ltd, Standard chartered, BK group, Diamond trust Bank, National Bank and Equity holdings (NSE, 2020). In comparison with the other Eastern African economies, Kenya's banking industry has for several years been credited for its dimension as well as diversity. Private credit to GDP, a common indicator of monetary development, was 23.7% in 2018, compared to an average of 12.3% for Sub-Saharan Africa.

Statement of the problem

The banking sector has attracted a lot of accusations from Kenyans due to its predatory nature or behavior with the sole aim of growing profits due to unregulated markets interest rates. This has led to numerous industry regulations, competition and banks that cannot cope with prevailing environment have been struggling to stay afloat as the traditional income space shrinks. As can be seen in the trend analysis graph below income diversification has been on the rise since year 2000 to 2010 implying a move towards Non-Funded Incomes. From the trend prior to 2010 there was a steady growth in fee-based income or the NFIs. Small banks which are on the danger of being wiped out would also benefit from income diversification (Fadhila, 2014). This is due to the fact that smaller organization and more so banks would be more efficient to employ diversification despite the structural and industrial challenges. Many banks have been on the fore front to employ use of technology in order to reduce the costs and offer other products and services. The aim has been to reduce operational cost and also offer other non-interest income generating products and services all in the aim of diversifying income sources.

Much research has been conducted at local and international level to review the diversification of banks and most of this research is concentrated in international banks focused on various factors such as technology, changing economic conditions, new participants, bonds, loans and the skills of banking products affect the financial performance of commercial banks and the negligence of local banks. There is little literature on local banks. Therefore, the study focuses on assessing the effects of diversification on the financial performance of commercial banks in Tanzania. This helps to build the scarce local data available on the diversification of the financial performance of commercial banks in Tanzania

Scanty systematically documented information exists that attributes investment decisions to dismal performance of listed commercial banks at Nairobi Securities Exchange. Some of the studies conducted on profitability of SACCOs have continuously produced mixed results. Kebiro (2019) showed that alternative income produced positive and statistically substantial values although the study focused on investment in Mutual funds. Maina (2017) indicated that the investment in government securities had a negative effect on ROA indicator and ROE indicator although the study focused on investment in government securities. Further Bhuyan et al. (2019) studied the effect of alternative investment on performance of commercial banks. The study observed that small banks did not significantly benefit from alternative

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investments although the study limited itself to real estate investments as a portfolio diversification. While the above findings provide valuable insights on investment diversification, it is only partial and inconclusive. The current study leveraged on this gap by examine the effect of investment diversification on financial performance of commercial banks listed at Nairobi Securities Exchange.

Objectives of the Study

The general objective of the study was to examine the effect of investment diversification on financial performance of commercial banks listed at Nairobi Securities Exchange. The study was guided by the following specific objectives;

- To determine the effect of investment in mutual funds on financial performance of commercial banks listed at Nairobi Securities Exchange.
- To evaluate the effect of investment in shares on financial performance of commercial banks listed at Nairobi Securities Exchange.
- To assess the effect of investment in government securities on financial performance of commercial banks listed at Nairobi Securities Exchange.
- To establish the effect of real estate investment on financial performance of commercial banks listed at Nairobi Securities Exchange.

The study responded to the following research questions

- What is the effect of investment in mutual funds on financial performance of commercial banks listed at Nairobi Securities Exchange.
- What is the effect of investment in shares on financial performance of commercial banks listed at Nairobi Securities Exchange.
- How does investment in government securities affects financial performance of commercial banks listed at Nairobi Securities Exchange.
- How does real estate investment affect financial performance of commercial banks listed at Nairobi Securities Exchange.

LITERATURE REVIEW

Theoretical review

Modern Portfolio Theory

The Modern Portfolio theory was developed by Markowitz (1952) and first presented in his seminal paper on portfolio selection. The theory has since been modified by several researchers to be what is now commonly referred to as the Modern Portfolio Theory (MPT). MPT currently forms a cornerstone of finance and is widely accepted and applied in the field of finance and economics. The model suggests that organizations must diversify their portfolios to achieve maximum returns while at the same time reducing the risk in the portfolio. According to the portfolio theory, diversification is achieved through the allocation of resources to securities that promise maximum returns and minimum variance (Madan, 2018). Markowitz further posits that the securities with the highest expected returns are not necessarily the ones with the least variance. Due to the intercorrelation of the securities' returns, diversification cannot eliminate all variance, and therefore the portfolio with maximum expected returns is not necessarily the one with the least variance (Llano-Paz, Calvo-Silvosa, Antelo & Soares, 2017).

The Portfolio theory portends that high-risk investments usually promise equally high- returns while low-risk assets equally promise low returns. All portfolios, therefore, exhibit all the characteristics of the individual assets used in their formation in terms of risk and return. Any investor who wishes to construct an optimal portfolio will be contending with a portfolio that neither promises the highest returns nor the lowest risk. The optimal portfolio will, however, seek to achieve a balance between the expected return and the acceptable level of risk (Cuchiero, 2019).

The framework of portfolio theory includes numerous assumptions on investors and markets. While some of these assumptions are explicit, others are implicit (Mangram, 2013). The portfolio theory makes the following assumptions; investors

are rational (they seek to maximize returns while minimizing the risk), investors have timely access to information pertaining their investments, markets do not charge transaction costs and no tax is applicable for the transactions, investors will only accept higher risks if the expected returns are high, investors can borrow or lend capital at the risk-free rate of interest and markets are very efficient.

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).

Q Theory of Investment

This theory was proposed by Tobin and Brainard (1968). The hypothesis emanates from neoclassical theory as it integrates the alteration cost which explains output losses. Twine, Kiiza and Bashaasha (2015) argued that organizations select levels of investment which makes use of the present firm value. The hypothesis proposes that market approximation of equities is the main element of firms' investment. Therefore, decisions of investment are stimulated when funding bases are extremely valued in the market residence than it would charge to produce it (Erickson & Whited, 2000).

The hypothesis is related to the rate of investment of Q function. Q function is the ratio of market price of fresh added investment capitals to their extra cost. According to Eklund (2013) the theory of investment gives suggestion that metric q done to recap the existence of occasions for investments for exact organizations. Tobin also argued that q is greater than 1 which means that fixing new capital will have more profit to the exact organization. Henceforth 1<q shows that the firm should accumulate more wealth and vice versa (Balfoussia & Gibson, 2016).

The hypothesis further argued that decision of investment is dependent on the marginal Q level. Marginal Q level refers to looming marginal yields of investment over the current marginal investment cost. In addition, the hypothesis proposed that the organization market worth is higher than the replacement cost of firms (Warström & Niemelä, 2015). The limitation of this theory is that though the market value of the firm is easy to ascertain, the exact replacement cost for all assets may not be available as a secondary market for used equipment which may not be always available for all assets.

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).

Conceptual framework

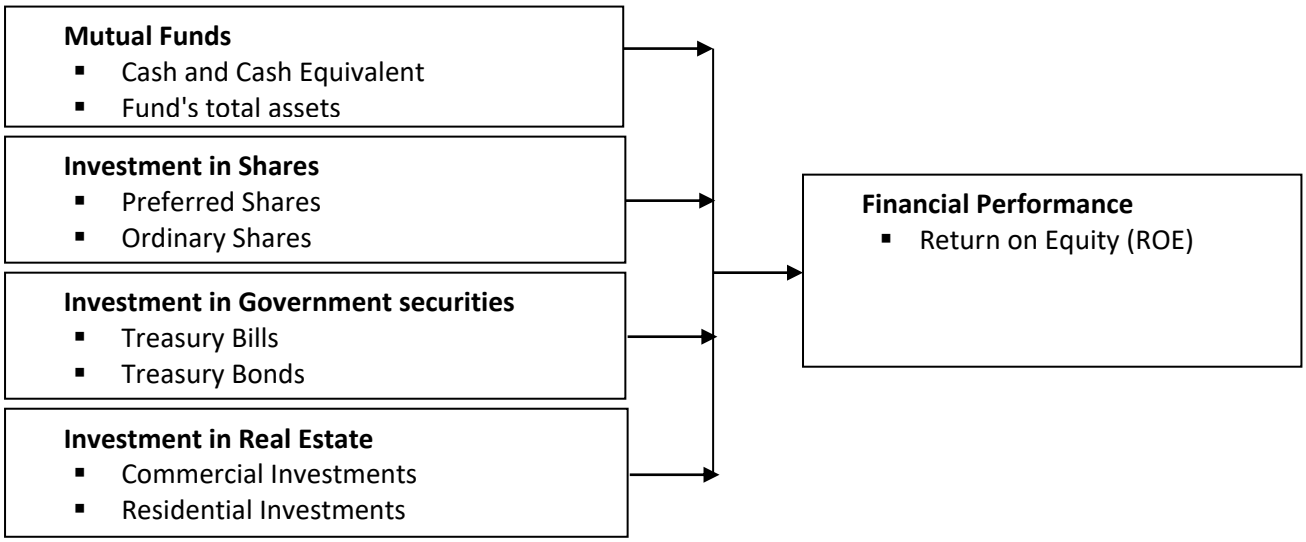

Figure 1: Conceptual Framework

Investment in Mutual funds: Mutual funds (MF) are managed financial assets pooled together that can be invested in to by either retail or institutional investors. The origin of Mutual fund industry dates to a Dutch man Abraham Van Ketwich in 1744, the first mutual fund was founded in the Netherlands, after the financial crisis from 1772 to 1773 he created the closed-end fund of 2,000 shares which was called "Eendragt Maakt Magt" which means Unity creates Strength. This was aimed at providing diversification to retail investors. During this period, the British Banks were bankrupt because of the over extension of their position in British East India Company and this crisis also affected many banks in Europe (Nyanamba, Muturi, & Nyangau, 2015).

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

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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 Government securities: Lending to the government by buying treasury bonds has been considered as one of the innovative investment decisions. Investment in government securities is a risk-free investment option in Kenya. Investing in government securities is actually a loan you give to the Kenya government through the Central Bank. The government promises to pay you back with interest after a certain period. To invest in government securities in Kenya, one must open a CDS Account with Central Bank of Kenya. Just like government securities, treasury bonds are also issued by the government to raise money. The difference is that government securities are longer term instruments over 1 year and the minimum investment amount is Sh. 50,000. Investment in treasury bonds is therefore a good investment idea in Kenya for those who are busy and want to earn some passive income without breaking a sweat. The most important thing is to do research and make wise decisions, understand thoroughly how the investment works and diversify the investment.

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.

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.

Empirical Review

Kipkwarkwar and Muoki (2020) sought to determine the influence of investment diversification on banks' profitability. A descriptive research design was adopted. The study population constituted 38 branch managers working with commercial banks operating in Nakuru town. A census design was adopted where all members of the study population constituted the unit of analysis and unit of observation. A structured questionnaire was used to collect primary data from the respondents. The Statistical Package. It was concluded that commercial banks diversified their investments particularly in form of mutual funds and co-ownership in other firms.

Ilo, Yinusa, and Elumah (2018) analyzed performance of Nigerian mutual funds obtaining data from 37 mutual funds in operation between

2012 and 2015. These companies used portfolios that were spread over six categories. The study aimed to evaluate fund managers' skills. The findings indicated that stock investment positively affected mutual fund performance. The study assessed Nigerian investments while this study focuses on Kenyan listed commercial banks.

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Mwangangi (2018) conducted research to ascertain the correlation existing between investment in government securities and the value of banks listed at the Nairobi Securities exchange. Descriptive correlation research design was used and 10 listed banks at Nairobi Securities Exchange were sampled. Regression Analysis was utilized to ascertain the correlation existing between investment in government securities and the value of firms. This research founded an inverse, insignificant correlation between investment in government securities and profitability. The study reviewed that an increase in profits as a result of investment in government securities is negatively affected by trade credit risks and the associated costs, therefore having a negative effect to the profitability.

Kumalija (2021) evaluated the effect of Investment diversification of on the financial performance of commercial banks in Tanzania. The specific objective was to find out effect of shares investment on financial performance. This study used a cross-sectional research design. The population of the study included the information of listed bank in DSE. The Secondary data on financial performance and diversification of investment were obtained from the commercial bank's annual reports. The study was limited to a time scope of 4 year starting 2014 to the year 2017. Furthermore, the statistical package for social sciences (SPSS) was used for analysis of data. The discovery indicates that there is a significant relationship between the Investment diversification made by banks and the bank's financial performance.

Wanyonyi (2018) studied how investment diversification affects financial results of NSE-listed agricultural firms, employing a descriptive research design and utilizing a census survey of the Kenyan listed agricultural firms. The research relied on panel data for the period 2010-2017. Findings indicated a positive association between bond investments, securities investment and profitability. The study was dependent on listed agricultural firms while this study examined CIS firms in Kenya.

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.

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concluded that commercial banks diversified their investments particularly in form of real estate.

Rop, Kibet and Bogonko (2016) associated financial soundness of commercial banks with investment diversification in Kenya targeting the commercial banks. A positive relationship was noted between government securities, insurance investment, and real estate investment and buying of Shares with financial performance of commercial banks in Kenya. Purchase of Shares was noted as the best investment others in that order included real estate, insurance and lastly government securities ventures.

METHODOLOGY

This study adopted causal research design which explores cause effect relationships. For the period ending December 31, 2022, the study's target population was 11 commercial banks listed at Nairobi Securities Exchange. The study used a census method to systematically acquire and record information from the 11 commercial banks listed at Nairobi Securities Exchange hence no sampling was done. The research utilized secondary data. Secondary data was collected from the audited financial statements. A secondary data collection sheet was used for initial recording of the data. Data was collected for the five-year period, 2018 to 2022.

The Secondary data was extracted from the audited financial statements. The data which of interest to the researcher included amount invested in Mutual funds, Government securities, shares, Real estate and financial performance for 5-year period from 2018-2022. The research utilized quantitative data analysis techniques. The gathered data was processed, cleaned, coded and calculated using STATA 15. A descriptive statistical analysis described data in understandable form, using frequencies, percentages, means and standard deviations; whereas inferential statistics, correlation, linear and multiple regression analyzes were calculated for variable relations.

The following multiple regression equation was used to shape the connection between the dependent variable [Financial performance] and independency variables [investment in Mutual funds, investment in Government securities, investment in Shares and investment in Real Estate];

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \varepsilon$$

Where γ= Financial performance as measured by ROE

B_0=Constant-the y intercept
X_1 is investment in Mutual funds
X_2 is investment in Government securities
X_3 is investment in Shares
$X_4$is investment in Real Estate
ε= error term
$\beta_1 \ldots \beta_4$ = Beta Coefficients

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 2018 and 2022 for all the variables both dependent variables, financial performance, and the independent variables, investment in mutual funds, investment in shares, investment in government securities and real estate investment. The descriptive statistics for the variable are presented in Table 1.

Table 1: Descriptive Statistics - Investment in Mutual funds

Year	N	Min	Max	Mean	Sd	Skewness	Kurtosis
2018	11	0.013363	0.085146	0.047909	0.027633	0.258902	1.486928
2019	11	0.003975	0.128458	0.048564	0.034174	1.156679	3.772525
2020	11	0.009847	0.122266	0.054665	0.033325	0.40644	2.591455
2021	11	0.01174	0.098044	0.054857	0.032317	-0.02401	1.443765
2022	11	0.013321	0.130977	0.05969	0.035372	0.325752	2.646386
Total	55	0.003975	0.130977	0.053137	0.03175	0.48858	2.548135

From Table 1, investment in mutual funds was calculated by taking the ratio of investment in Fixed deposit to regular saving. From 2018 to 2022, investment in mutual funds ranged from 0.003975 to 0.130977 with a mean of 0.0531375 and standard deviation of 0.03175. There was presence of normality as indicated by Skewness less than 2.0 and kurtosis less than 6.0.

Table 2: Descriptive Statistics - Investment in Shares

Year	N	Min	Max	Mean	Sd	Skewness	Kurtosis
2018	11	0.219924	2.659025	1.052967	0.734187	0.904257	3.099572
2019	11	0.177969	2.61553	0.904741	0.668341	1.50928	5.010731
2020	11	0.243456	5.077997	1.324055	1.389584	1.951381	5.993449
2021	11	0.274575	6.256925	1.53261	1.78061	1.922922	5.614633
2022	11	0.273729	5.363286	1.555543	1.617479	1.430084	3.823076
Total	55	0.177969	6.256925	1.273983	1.296056	1.229256	4.855588

From Table 2, investment in shares was calculated by taking ratio of preferred shares to ordinary shares. Between 2018 and 2022, investment in shares ranged from 0.164464 to 0.572293 with a mean of 0.30156 and standard deviation of 0.083504. There was presence of normality as indicated by Skewness less than 2.0 and kurtosis less than 6.0.

Table 3: Descriptive Statistics - Government securities

Year	N	Min	Max	Mean	Sd	Skewness	Kurtosis
2018	11	0.094435	11.39018	1.912155	3.175424	2.74182	8.753111
2019	11	0.245863	3.796505	1.072957	0.940562	2.441958	7.814553
2020	11	0.231662	4.580436	1.178279	1.179838	2.408606	7.678179
2021	11	0.27717	4.41437	1.424703	1.267023	1.564936	4.064056
2022	11	0.465758	2.307768	1.102078	0.557605	0.730715	2.959582
Total	55	0.094435	11.39018	1.338034	1.656285	1.480663	4.25241

From Table 3, Investment in government securities was calculated as by taking ratio of treasury bills to treasury bonds. Between 2018 and 2022, investment in government securities ranged from 0.038403 to 0.244367 with a mean of 0.144812 and standard deviation of 0.066203. There was presence of normality as indicated by Skewness less than 2.0 and kurtosis less than 6.0.

Table 4: Descriptive Statistics - Investment in Real estate

Year	N	Min	Max	Mean	Sd	Skewness	Kurtosis
2018	11	0.514068	3.536663	1.832693	1.165459	0.382494	1.473915
2019	11	0.365043	4.103494	1.858239	1.331127	0.582018	1.783112
2020	11	0.767789	7.657518	2.484775	2.33315	1.428709	3.544359
2021	11	0.814097	3.750397	1.682414	0.985697	1.09565	2.783433
2022	11	0.905033	3.554089	1.794805	0.860616	0.901793	2.621882
Total	55	0.365043	7.657518	1.930585	1.409505	1.878346	4.354862

From Table 4, Real estate investment was calculated by taking ratio of commercial Investments to Residential Investments. Real estate investment ranged from 0.0111 to 0.134526 with a mean of 0.057943 and standard deviation of 0.023619. There was presence of normality as indicated by Skewness less than 2.0 and kurtosis less than 6.0.

Table 5: Descriptive Statistics - Financial Performance

Year	N	Min	Max	Mean	Sd	Skewness	Kurtosis
2018	11	0.0611	0.859597	0.379437	0.289543	-0.03596	1.967864
2019	11	0.0598	0.695107	0.352719	0.275197	-0.1835	1.500097
2020	11	0.0749	0.873288	0.449038	0.319609	-0.41284	1.779824
2021	11	0.0800	1.009409	0.516915	0.368108	-0.40413	1.79415
2022	11	0.0706	1.006982	0.454377	0.370832	0.034474	1.638159
Total	55	0.0598	1.009409	0.430497	0.320151	-0.08347	1.798607

From Table 5, financial performance which is the dependent variable was determined using the ratio of net income to shareholder equity. From Table 5, observing overall statistics as obtained from panel data, between 2018 and 2022, financial performance ranged from 0.0498 to 1.009 with a mean of 0.439 and standard deviation of 0.3201. There was presence of normality as indicated by Skewness less than 2.0 and kurtosis less than 6.0.

Correlation Analysis

Correlation analysis was employed in assessing the linearity association among the variables. Table 6 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 6: Pearson Correlation Analysis

		FP	IFD	IS	IGS
Investment in mutual funds	Pearson Correlation	0.6313	1		
	Sig. (2-tailed)	0.005			
	N	55	55		
Investment in shares	Pearson Correlation	0.7397	0.5613	1	
	Sig. (2-tailed)	0.0005	0.0154		
	N	55	55	55	
Investment in government securities	Pearson Correlation	0.5738	0.1411	0.3687	1
	Sig. (2-tailed)	0.0128	0.5766	0.1322	
	N	55	55	55	55
Real estate investment	Pearson Correlation	0.5251	0.5439	0.3756	0.7372
	Sig. (2-tailed)	0.0252	0.0196	0.1245	0.0005
	N	55	55	55	55

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

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

IFD=Investment in mutual funds, **IS**=Investment in shares, **IGS**=Investment in government securities, **IRE**=Real estate investment, **FP**=Financial performance

The results indicated that the investment in mutual funds has a significant positive effect on the financial performance of commercial banks listed at Nairobi Securities Exchange (r = 0.6313, P=0.005). Investment in shares has a positive and significant on the financial performance of commercial banks

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listed at Nairobi Securities Exchange (r =0.7397, P=0.000). Investment in government securities has a positive and significant effect on the financial performance of commercial banks listed at Nairobi Securities Exchange (r =0.578, P=0.0128). Real estate investment has a positive moderate and significant effect on the financial performance of commercial banks listed at Nairobi Securities Exchange (r =0.5251, P=0.0252).

Multiple Linear Regression

Regression analysis was used to check for the hypothesis concerning the connection of independent variables with dependent variables. The main aim of regression analysis is to show how and extent of which each variable separately effects the dependent variables. Regression analysis is used in estimating the weight of the effects of the independent variables on the dependent variable.

Model Summary

Model summary is used to show the percentage of dependent variable that can be explained by changes in the independent variable. In this regression, the four independent variables were entered as a block. Table 7 below showed the model summary of the adopted fixed effect model.

Table 7: Model Summary Fixed Effect of Investment diversification on financial performance

Fixed-effects (within) regression	Number of obs =	55
Group variable: Commercial banks listed at Nairobi Securities Exchange	Number of groups =	11
R-sq:	Obs per group:	
within = 0.7404	min =	5
between = 0.5647	avg =	5
overall = 0.6473	max =	5
	F(4,40)=	7.84
	Prob > F=	0.003

The analysis shows that the panels were strongly balanced for this multivariate analysis as shown by the number of observations per group. They were a total of 55 observations used in this analysis considering 11 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 the investment diversification accounted for 64.73% (Overall R square=0.6473) of the variation in financial performance of commercial banks listed at Nairobi Securities Exchange. The F-statistic to the model shows is 7.84 which is greater than 0 implying that the estimated parameters in the model are at least not equal to zero. This implies that four investment diversifications have an effect on financial performance of commercial banks listed at Nairobi Securities Exchange. This effect is significant (P=0.003).

Regression Coefficients

Regression coefficients are estimates of the unknown population parameters and describe the relationship between a predictor variable and the response. In linear regression, coefficients are the values that multiply the predictor values. P-values and coefficients in regression analysis work together to tell which relationships in the model are statistically significant and the nature of those relationships. The coefficients describe the mathematical relationship between each independent variable (investment diversification) and the dependent variable (Financial performance). The p-values for the coefficients indicate whether these relationships are statistically significant. The results are presented in Table 8.

Table 8: Regression Coefficient

Financial Performance (FP)	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Mutual Funds (IMF)	0.41389	0.151147	2.74	0.006	0.11013	0.71765
Shares (IS)	0.097746	0.037318	2.62	0.009	0.024604	0.170888
Govt Securities (IGS)	0.143117	0.050326	2.84	0.005	0.010432	0.300554
Real estate (IRE)	0.23824	0.080165	2.97	0.013	0.061799	0.414681
_cons	6.028315	2.650851	2.27	0.044	0.193831	11.8628

The study regression model as obtained from table above is as shown below.

$Y=6.028315+0.41389X_1+0.097746X_2+0.143117X_3+0.23824X_4$

Where Y is Financial performance

X_1 is investment in Mutual funds

X_2 is investment in Government securities

X_3 is investment in Shares

X_4 is investment in Real estate

From the findings, the constant is 6.028315 implying that holding the independent variables at 0, financial performance of commercial banks listed at Nairobi Securities Exchange will be 0.6028315 units. Investment in mutual funds had a regression co-efficient (β_1) of 0.41389, p=0.006 implying that when investment in shares, investment in government securities and real estate investment are controlled, a unit increase in investment in mutual funds across time and among Commercial banks listed at Nairobi Securities Exchange would result in a significant increase of 0.41389 units in financial performance.

The study also established that investment in shares had a regression co-efficient (β_2) of 0.097746, p=0.009 implying that when investment in government securities, investment in mutual funds and real estate investment are controlled, a unit increase in investment in shares across time and among Commercial banks listed at Nairobi Securities Exchange would result to significant increase of 0.097746 units in financial performance.

From the findings, investment in government securities had a regression co-efficient (β_3) of 0.143117, p=0.005 implying that when investment in mutual funds, Investment in shares and real estate investment are controlled, a unit increase in investment in government securities across time and among commercial banks listed at Nairobi Securities Exchange would result in a significant increase of 0.143117 units in financial performance.

Lastly, the results revealed that real estate investment had a regression co-efficient (β_4) of 0.23824, p=0.013 implying that when investment in mutual funds, Investment in shares and investment in government securities are controlled, a unit increase in real estate investment across time and among Commercial banks listed at Nairobi Securities Exchange would result in a significant increase of 0.23824 units in financial performance.

Discussion of the Findings

What is the effect of investment in mutual funds on financial performance of commercial banks listed at Nairobi Securities Exchange?

The first research question sought to answer what is the effect of investment in mutual funds on financial performance of commercial banks listed at Nairobi Securities Exchange? To answer this question, the study conducted Pearson Correlation as well as linear regression analysis. Pearson correlation indicated that there is significant positive relationship between of investment in mutual funds and financial performance of commercial banks listed at Nairobi Securities Exchange (r= 0.6313, P=0.005). This implies that increase in investment in mutual funds would results to increase financial performance of commercial banks listed at Nairobi Securities Exchange. The study findings are in agreement with Parimalakanthi and Kumar (2015) found that bank deposits were preferred by investors. Parimalakanthi and Kumar (2015) concluded that investors prefer mutual funds as a form of

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investment. Nekesa and Olweny (2018) indicated that Mutual funds provide various accounts that fit savings needs of different members. This increases the capacity of SACCOs to undertake more business to increase returns of the organization. The charges and fees on Mutual funds can optimize the revenues of SACCOs. Ochieng (2018) However, Mella (2016) found that universities invested heavily in investing in real estate, followed by investing in bonds. In the fixed deposit account, low investment levels were observed.

Further, linear regression indicated that investment in mutual funds carries positive significant beta coefficient (β1) of 0.41389, p=0.006. Therefore, a unit increase in investment in mutual funds across time and among commercial banks listed at Nairobi Securities Exchange would result in a significant increase of 0.41389 units in financial performance of commercial banks listed at Nairobi Securities Exchange This variable was included in the optimum model. Kibet and Maina (2018) concluded that investment fixed deposit contributed positively to financial performance. Jepkorir et al. (2019) revealed that investment in mutual funds have a very strong relationship with financial performance. Mutual funds increase the commercial banks listed at Nairobi securities exchanges capacity to undertake more business which increases their returns. Additionally, the fees and charges on these products optimize revenue hence improving the financial performance. Matumo, Njoroge and Maina (2013) showed that investment in Mutual funds had an important positive impact on the economic performance. Lomuria, Wanyama and Mamuli (2020) revealed diversification in Mutual funds had a positive, linear and significant (p-value is less than 0.05) association with the performance.

How does investment in shares affect financial performance of commercial banks listed at Nairobi Securities Exchange?

The second research question sought to answer how does investment in shares affect financial performance of commercial banks listed at Nairobi Securities Exchange? Pearson correlation indicated that there is significant positive relationship between of investment in shares and financial performance of commercial banks listed at Nairobi Securities Exchange (r=0.7397, P=0.0005). This implies that increase in investment in shares would results to significant increase financial performance of commercial banks listed at Nairobi Securities Exchange. 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 significant beta coefficient (β_2) of 0.097746, p=0.009. Therefore, a unit increase in investment in shares across time and among commercial banks listed at Nairobi Securities Exchange would result to significant increase of 0.097746 units in financial performance. The study outcomes are in agreement with the literature presented. Kimani and Aduda (2016) looked into the relationship between the size of portfolio and financial performance of commercial banks in Kenya. The findings 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. 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 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.

How does investment in government securities affect financial performance of commercial banks listed at Nairobi Securities Exchange?

The third research question sought to answer to how does investment in government securities affect financial performance of commercial banks listed at Nairobi Securities Exchange? Pearson correlation indicated that there is significant relationship between of investment in government securities and financial performance of commercial banks listed at Nairobi Securities Exchange (r =0.5738, P=0.0128). This implies that increase in investment in government securities would results to significant increase financial performance of commercial banks listed at Nairobi Securities Exchange. Olokoyo (2017) suggested that commercial banks should focus on mobilizing more investment in government securities as this will enhance their lending performance through the liabilities they receive where proper appraisal could help identify liabilities to be used in making quick return on investments in order to positively influence on financial performance of these banks. Sola et al.(2012) in their study found a positive linear relationship between investment in government securities and firm performance derived from the fact that the benefits associated with investment in government securities surpass the costs of investment in government securities

Further, linear regression indicated that investment in government securities carried positive significant beta coefficient (β_3) of 0.143117, p=0.005. Therefore, a unit increase in investment in government securities across time and among commercial banks listed at Nairobi Securities Exchange would result to significant increase of 0.143117 units in financial performance. Maina (2017) investigated investment in government securities effect on financial performance of microfinance companies. The study adopted a descriptive survey design using secondary data obtained from financial records of Microfinance institutions and CBK. The research findings indicated that the investment in government securities had a negative effect on ROA indicator and ROE indicator were on a growth pace from 2012 to 2016

Kebiro (2019) showed that investment in investment in government securities produced positive and statistically substantial values for this study. Shrestha (2018) indicated that both small firms and big firms were interested in the government investment. A conclusion was drawn that; income is the major factor in the government securities investment. Kapkiyai and Mugo (2015) founded a positive relationship between investment in government securities and firm's liquidity, profit margin and return on assets. However, Mwangangi (2018) founded an inverse, significant correlation between investment in

government securities and profitability. The study reviewed that an increase in profits as a result of investment in government securities is negatively affected by trade credit risks and the associated costs, therefore having a negative effect to the profitability. Purnamasari and Azis (2016) indicated that the investment in government securities had a negative effect on ROA indicator and ROE indicator were on a growth pace from 2012 to 2016.

What is the effect real estate investment on financial performance of commercial banks listed at Nairobi Securities Exchange?

The fourth research question sought to answer to what is the effect real estate investment on financial performance of commercial banks listed at Nairobi Securities Exchange? Pearson correlation indicated that there is significant positive relationship between of investment in real estate and financial performance of commercial banks listed at Nairobi Securities Exchange (r =0.5251, P=0.0252). This implies that increase in investment in real estate would results to significant increase financial performance of commercial banks listed at Nairobi Securities Exchange. 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. Bello (2015) demonstrated that both real estate and government securities covered secured loans. 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 (β_4) of 0.23824, p=0.013. Therefore, a unit increase in investment in real estate across time and among commercial banks listed at Nairobi Securities Exchange 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 commercial banks 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 commercial banks. 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. Kipkorir, Namiinda and Njeje (2016) evaluated SACCOs' profitability looking at various investments in Baringo County. It was noted that the above factors had a perfect influence on performance of SACCOs with mutual funds taking lead followed by lending to members then lending to the government, real estate lagged behind.

CONCLUSIONS AND RECOMMENDATIONS

Based on the empirical evidence, a number of logical conclusions can be made as follows and presented in terms of study objectives:

The first research question was what is the effect of investment in mutual funds on financial performance of commercial banks listed at Nairobi Securities Exchange? The study established that investment in mutual funds has significant positive effect on financial performance. An increase in investment in cash and cash equivalent would results to significant increase in financial performance. This investment option has favorable returns; it attracts less or no risk at all, hence there is an assurance of returns.

The second research question was to how does investment in shares affect financial performance of commercial banks listed at Nairobi Securities Exchange. From the linear and multiple regression results, the study established that investment in shares affected financial performance of Commercial banks listed at Nairobi Securities Exchange positively and significantly. Therefore, investment in shares has a significant positive effect of financial performance of Commercial banks listed at Nairobi Securities Exchange. An increase in investment in preferred shares as opposed to ordinary shares would results to significant increase in financial performance. Shares investments thus offers an opportunity for share prices when invested with stable or fast-growing firms in the market. In addition, the equity markets offers dividends and price yields for the investors within shorter periods of time.

The third research question was how does the investment in government securities affect financial performance of commercial banks listed at Nairobi Securities Exchange. From the linear and multiple regression results, the study established that investment in government securities affected financial performance of Commercial banks listed at Nairobi Securities Exchange. An increase in investment in government securities would results to significant increase in financial performance. Government securities carry lower risk compared to other assets like equities, as the returns are guaranteed by the government. There are some market-related risks, but by simply holding on to the governments until maturity, you can nullify the risk.

The last research question was what is the effect real estate investment on financial performance of commercial banks listed at Nairobi Securities Exchange. 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 commercial banks listed at Nairobi Securities Exchange. Real estate yields higher gains due to appreciation of land and development and thus lucrative for the investors.

The following recommendations were made based on the study conclusions as explained below:

The study recommended that management of commercial banks listed at Nairobi Securities Exchange should keep the investment in mutual funds at maximum in order to enhance their financial performance. In this regard, management should compare each of the mutual fund options basing on desired risk, interest rate, and tenure, and choose a fixed deposit only after weighing the

benefits and drawbacks of various mutual funds on the market.

The management of the commercial banks listed at Nairobi Securities Exchange should strive to improve the financial performance of their banks 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.

According to the results of the research, high liquidity produced by commercial banks listed at Nairobi Securities Exchange's client deposits should be invested in a variety of government securities and bonds, which are backed by the government, the study suggested. The study further found that the funds are better off invested through government securities since they carry lower risk compared to other assets like equities, as the returns are guaranteed by the government especially long-term returns.

The study recommends that commercial banks listed at NSE should invest more real estate to generate regular income and capital appreciation while maximizing capital through leverage. Banks 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 commercial banks listed at Nairobi Securities Exchange. The study was limited to 11 commercial banks listed at Nairobi Securities Exchange in Nairobi County. In this connection, future studies should consider other listed firms such as investment firms as well as other financial institutions such as microfinance and deposit taking Saccos.

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 listed commercial banks 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 insurance, commercial banks and fixed deposits.

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