Investment Diversification And Financial Performance Of Tier One Deposit-Taking Saving And Credit Co-Operative Societies In Kenya

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Abstract:
SACCOs play an essential role in economic development as part of the financial system. However, according to SACCO Societies Regulatory Authority, many SACCOs in Kenya have posted poor performance in terms of return on asset, return on equity and return on investment despite exploring non-core business investments. This study examined the effect of investment diversification on profitability of tier one deposit Taking Saccos in Kenya. The specific objectives were to determine the effect of investment in Fixed deposits, investment in shares, investment in government securities and real estate investment on profitability of tier one deposit Taking Saccos in Kenya. Portfolio theory (in regards to Fixed deposits), 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 tier one deposit taking Saccos in Nairobi County. This study covered a 5-year period from 2017 to 2021 The study used secondary data that was extracted from the websites of the respective Deposit Taking Saccos. Both descriptive and inferential statistics were 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. The findings revealed that investment diversification has positive effect on financial performance of tier one deposit-taking SACCOs in Kenya although there was mixed outcome in regards to significant effect. Investment in fixed deposits, real estate and shares were found to have significant effect whereas investment in government securities was found to have insignificant positive effect. In this regard, the study concluded that investment diversification has positive effect on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya. The study therefore recommended management of deposit taking Saccos SACCOs should compare each of the fixed deposit options basing on desired risk, interest rate, and tenure, and choose a fixed deposit only after weighing the benefits and drawbacks of various fixed deposits on the market. high liquidity produced by deposit taking Sacco'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 recommended that SACCOs can buy short-term Treasury bills directly or through a bank or broker.
Key Word: *Investments Diversification, Financial Performance, Investment on Fixed Deposits, Investment in Shares, Investment in Government Securities, Investment in Real Estate.*

I. Introduction

SACCO's have been recognized worldwide as important avenues of economic growth (ICA Report, 2018). SACCOs play a significant role in the provision of financial services to the poor (target groups). They provide savings and credit and investment opportunities to individuals, institutions and group members. Sacco's perform an active financial intermediation function, particularly mediating from urban and semi-urban to rural areas and between net savers and net borrowers while ensuring that loan resources remain in the communities from which the savings were mobilized (Lomuria, Wanyama & Mamuli, 2020). The financial performance of SACCOs has registered stagnating and sometimes declining growth. This condition is occasioned by declining asset quality especially the loan assets which represent the major business concern. In the process of determining investment companies' financial performance, the concept of investment diversification has taken a global center stage continues to be a very crucial aspect of investment diversification in today's world (Shrestha, 2018).

Members' savings are the major source of funds in SACCOs which are used by SACCOs in various investments such as loan to members, financial and liquid investments. While undertaking all these investments, managers should ensure safety and good returns for their money (Morwabe & Muturi, 2019). Investment diversification by experts are crucial; they add value to cooperatives' credibility rating by the agencies. However, it is not clear which of these investment diversifications led to desirable profitability of these SACCOs hence the study.

In Africa, that is in the regional perspective Landi (2017) analyzed effects of investment diversification on profitability of DT-SACCOS and found out that they directly affected profitability and revenue growth. DeYoung (2015) study on the effect of investment diversification on earnings volatility noted that financial institutions earnings grew once they engaged different types of investments. Reports indicate that around 7 percent of the populace in Africa has affiliation to cooperatives. The reports further give an indication to the effect that the movements are constrained due to the absence of effective representation despite being large in terms of numbers. Credit unions are growing rapidly in Ghana according to Darko, et al (2016), the registered credit unions in Ghana as of 2014 were 455. As of 2014, the total membership of credit unions in Ghana was 490,167. The total number of employees was 2,384. Members' deposits (shares and savings) were GH$ 475,966,676.

Simeyo and Francis (2015) study in Tanzania noted that investment is the amount of money committed to a business by an individual or business with an aim of generation returns in future that are more than the outlay amount in addition to profits to cover for risk and inflation. The champions of activity diversification contend that investment diversification provides a less volatile and stable economies of scale and scope, income and the capacity to leverage management strength across investment products. Through investment diversification in noncore business activities, a SACCO can achieve stable cash flows (Eukeria et al., 2015).

In Tanzania, by March 2013 of the national total of 9,700 registered cooperatives, 5,559 were SACCOs, with 45% in urban areas – an increase from 5,344 in 2011. They included 1,153,248 members, representing about 25% of clients in the financial sector (both formal and semi-formal organizations) (WB 2013). In Uganda, the Uganda Co-operatives and Savings Credit Union, which seeks to be the country's Sacco umbrella body is still financially weak while Banque Populaire du Rwanda, which started as a credit society, has turned out to be one of the region's success stories although many others, including those being supported by the government are faced with governance and administrative challenges.

In Kenya, the number of SACCOs has been on the rise. To ensure efficiency of cooperatives, there is need to secure the principle of maintaining sufficient liquidity levels to cater for current obligations and producing investment income equal to market yields (Stalebrink , 2006). Members' savings are the major source of funds in SACCOs which are used by SACCOs in various investments such as loan to members, financial and liquid investments. While undertaking all these investments, managers should ensure safety and good returns for their money (Auka & Mwangi, 2013). The deposit-taking SACCOs in Kenya have mostly invested in real estate, shares, government securities and fixed deposits and therefore the need to conduct an empirical study investigating whether these investments have a significant influence on their efficiency.

Rotich (2015) noted that, SACCOs invest in core business activities of receiving deposits and lending loans to members, this is the primary investment platform for all SACCOs. Secondly, SACCOs can invest their surplus funds in non-core business activities such as in treasury bonds, government securities, Shares, fixed deposits, real estate and Front Office Service Activity (FOSA). FOSA provides important platform for loan accessibility, funds mobilization, as well as efficacy in service delivery resulting in improved financial performance (Gegeh, 2016). According to SASRA (2017), deposit-taking SACCOs are mandated to file once-a-month returns of their principal capital and liquidity ratio that have well-defined limits stated in the SASRA guidelines.

SACCOs have registered different success rates while investing in non-core capital. Deposit-taking SACCOs have faced more challenges in promoting non-core capital investment due to scathing competition from commercial banks. A school of thought seems vehemently opposed to this form of investment in established literature. They propose that the guiding law ought to be revised to improve the supervisory hand of the Ministry so that investment that is not linked to the SACCOs' core business should be explicitly forbidden (KUSCCO, 2020)

Statement of the Problem

SACCOs play an essential role in economic development as part of the financial system. In Kenya, 63% of the population is either directly or indirectly benefiting from SACCO activities (Maosa, 2020). Moreover, SACCOs are now a vital instrument embraced by the Government towards increasing financial inclusion especially now that financial transactions are tending towards a cashless economy.

However, despite the significant government initiative, SACCOs continues to frustrate millennium development goals and vision 2030 objectives of increasing financial inclusion. According to SACCO Societies Regulatory Authority (SASRA, 2022) showed that many SACCOs in Kenya have posted poor performance in terms of return on asset, return on equity and return on investment. Furthermore, financial performance of tier one

deposit taking Saccos as measured by return on asset has shown mixed outcome between 2017 and 2021. The return on equity pf tier one deposit taking Saccos decreased from 39.6% in 2017% to 38.1% in 2018 thereafter it increased to 57.8% in 2019, and 55.0% in 2020 before decreasing to 49.3% in 2021 (SASRA, 2022). SASRA (2022) reported an upsurge in the amount of nonperforming loans in the sector. Notably, the level of non-performing loans experienced an upward movement from 5.12 percent in 2019 to 5.23 percent in 2020 and further to 6.14 percent in 2021 which greatly affects the ability to guarantee profit growth. The level of Non-Performing Loans remains way above the threshold set by World Council of Credit Unions (WCCU) (5 percent). A case in point is Mwalimu National Sacco which reported a downward fall in net profits and this was attributed to acquisition of Spire Bank as a new product line under risk assessment which had not been monitored.

Scanty systematically documented information exists that attributes investment diversification to dismal performance of Tier one DT-SACCOS financially in Kenya. 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 Fixed deposits. Duho et al. (2021) 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, Muchomba (2018) studied the determinants of Commercial Banks' investment portfolios in Kenya. The study observed that small banks did not significantly benefit from alternative investments although the study limited itself to real estate investments as a investment 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 influence of investment diversification on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya.

Objectives of the Study
 i) To determine the effect of investment in fixed deposits on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya.
 ii) To evaluate the effect of investment in shares on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya.
 iii) To assess the effect of investment in government securities on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya.
 iv) To establish the effect of real estate investment on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya.

II. Literature Review

Theoretical Framework
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 is relevant to the study as it informs the SACCOS to design a portfolio to maximize returns by accepting a quantifiable amount of risk on their key loan products that include issuance of investment in Fixed deposits. This theory is going to aid in the current study due to the reason that a portfolio of loans that are different. It is going to help in terms of getting the right combination of loan products that guarantee maximization of anticipated returns for financial performance to be realized. The variable of investment in Fixed deposits and financial performance is taken care of by this theory because it is linked to the theory of investment diversification on the DT-SACCOS short term loans to members

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). 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.

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). In this study, the Q theory of investment was critical to explaining if the investment levels chosen by a firm enhances its efficiency in this case investment in government securities. The merits of this theory is that by comparing the market value of investments to its equity book value, it helps most financial institutions in predicting investment behavior for instance investment in bonds and money markets. This theory is relevant to the present study as it seeks to examine the relationship between investment diversification particularly from the standpoint of investment in government securities on the profitability of DT SACCOS in Kenya.

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).The theory was important in guiding SACCOs 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, a DT-SACCO can choose whether to invest in ordinary shares or preferred shares.

Conceptual Review

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.
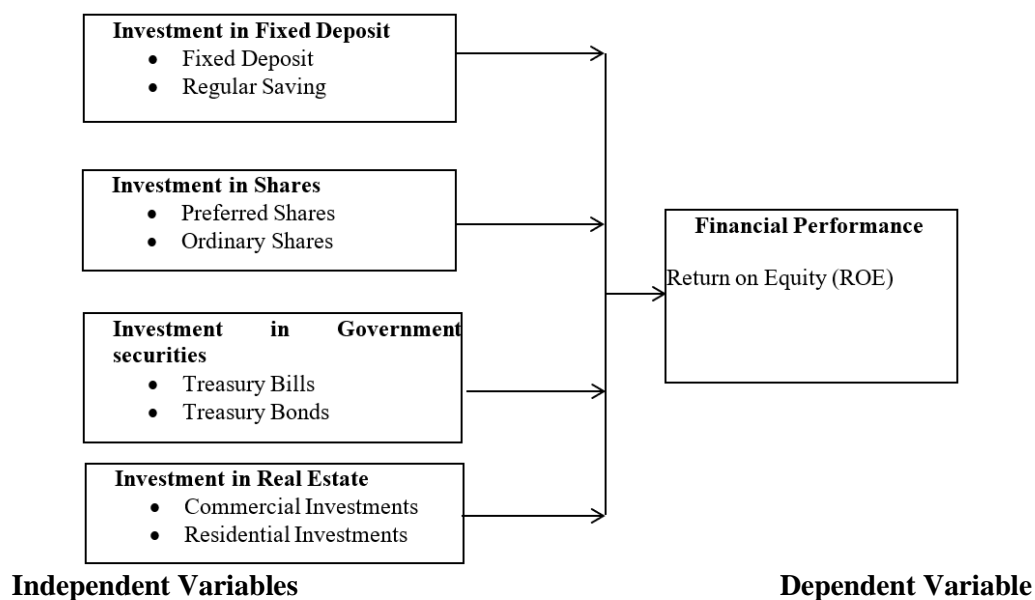
Independent Variables   **Dependent Variable**

Figure 1.0: Conceptual Framework

Empirical Review

Investment in Fixed deposits and Financial Performance

Kibet and Maina (2018) examined how profitability of deposit-taking SACCOs was influenced by investment in fixed deposit in Kenya. The study concluded that investment fixed deposit contributed positively to financial performance. Jepkorir et al. (2019) conducted research on liquidity management and financial hardship in Kenyan savings and credit cooperatives. Findings revealed that investment in fixed deposits have a very strong relationship with financial performance of SACCOs. Lomuria, Wanyama and Mamuli (2020) sought to establish the effect of expansion strategies and performance of SACCOs in Turkana County, Kenya. Results of the study were that: diversification in Fixed deposits had a positive, linear and significant (p-value is less than 0.05) association with the performance of SACCOs. Ochieng (2018) examined the role of Fixed deposits on DT-SACCOS financial performance in Kenya. The study established the effect of Fixed deposits on the financial performance of DT-SACCOS. A causal research design was used. The key findings from the study was that Fixed deposits increase the DT-SACCOS capacity to undertake more business which increases their returns. Additionally, the fees and charges on these products optimize revenue hence improving the financial performance. The research gap of the study was to ascertain whether Fixed deposits influenced the financial performance of DT-SACCOS. The relevance of the study was that Fixed deposits increase the financial performance of DT-SACCOS

Investment in government securities and Financial Performance

Kebiro (2019) sought to determine how investment diversification impact the efficiency of deposit taking SACCOs in Nairobi. The study's population was all the 43 DT-SACCOs in Nairobi County, Kenya. The results showed that investment in investment in government securities produced positive and statistically substantial values for this study. 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. 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. Hussein (2017) examined the relationship that exists between investment in money and bond markets and government securities on the financial performance of Kenyan commercial banks. The finding of the study discovered a positive relationship between investment in money and bond markets and financial performance. The research gap was to ascertain whether government securities and investment in bond and money markets influence the financial performance of DT SACCOS. The relevance of the study was that investment in money and bond markets and government securities increase the financial performance of financial institutions like DT-SACCOS. 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.

However, the study failed to identify the nature of investment in government securities whether horizontal, vertical or corporate since each one of them has its own impact on the financial performance.

Investment in shares and Financial Performance

Gachenga (2022) sought to assess the relationship between investment diversification and liquidity of farmers-based DT SACCOs. 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 farmers-based DT-SACCOs. 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. The regression model indicated that investment in shares were statistically significant on financial performance. 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 SACCOS 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.

Investment in Real Estate and Financial Performance

Muli (2016) assessed the effect of real estate decisions of investment on DT-SACCOS financial performance in Kitui, Kenya. 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 DT-SACCOS in Kitui. The relevance of the study was that real estate decision of investment increases the financial performance of DT-SACCOS. Andelinovic, Samodol and Pavkovic (2018) conducted a study on real estate investment allocation and profitability of commercial banks. 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 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. The study recommended that small banks should not use MREITs for diversification. Odhiambo (2015) investigated the effect of real estate finance on the financial performance of listed commercial banks in Kenya. 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. 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. 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.

III. Material and Methods

The study adopted causal research design which explores cause effect relationships. This research design reveals a cause-and-effect relationship between dependent and independent variables. A variable quantity may be a symbol or concept that is predictable and caused by an experimental variable (Baskerville & Pries-Heje, 2014). For the period ending December 31, 2022, the study's target population was 11 tier one deposit-taking SACCO societies in Nairobi County. The study used a census method to systematically acquire and record information from the 11 tier one deposit taking SACCOs in Nairobi County hence no sampling was done. Secondary data was collected from the audited financial statement submitted to SASRA by the DT Saccos after they have been registered by the commissioner of Cooperatives. Data was collected for the five-year period, 2017 to 2021. Both descriptive and inferential statistics were computed using STATA 15. Descriptive statistics refer to methods of organizing and summarizing data, for this study frequencies and percentages as well as measures of central tendency (means) and dispersion (standard deviation) was used. Inferential statistics refer to methods of drawing conclusions from sample data about a population. For this study, regression and correlation analysis was used to determine both the nature and the strength of the relationship between study variables. Correlation analysis is usually used together with regression analysis to measure how well the regression line explains the variation of the dependent variable. The regression and correlation analyses were based on the association between two (or more) variables. Data was presented in form of tables and model.

$Y = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \beta_4 X_{it} + \varepsilon$

Where γ = Financial performance as measured by ROE

B_0 = Constant-the y intercept $\beta_1 \ldots \beta_4$ = Beta Coefficients

X_1 is investment in Fixed deposits X_2 is investment in Government securities

X_3 is investment in Shares X_4 is investment in Real Estate
i=is the DT-Sacco t=time in year
ε = error term

IV. Result and Discussion

Descriptive Analysis

Table 1 below is a representation of descriptive statistics and distribution of variables as considered for this study: liquidity level, financial leverage, operational efficiency and profitability on market capitalization. The descriptive statistics considered were mean, maximum, minimum, standard deviation, skewness and kurtosis. The results are shown in Table 1.

Table 1: Descriptive Statistics

Variable	N	Min	Max	Mean	Sd	Skewness	Kurtosis
Investment in Fixed deposits	55	0.003975	0.130977	0.053137	0.03175	0.48858	2.548135
Investment in shares	55	0.177969	6.256925	1.273983	1.296056	1.229256	4.855588
Investment in Government Securities	55	0.094435	11.39018	1.338034	1.656285	1.480663	4.25241
Investment in Real Estate	55	0.365043	7.657518	1.930585	1.409505	1.878346	4.354862
Financial Performance	55	0.0598	1.009409	0.430497	0.320151	-0.08347	1.798607

Investment in fixed deposits was calculated by taking the ratio of investment in Fixed deposit to regular saving. From 2017 to 2021, investment in fixed deposits ranged from 0.003975 to 0.130977 with a mean of 0.0531375 and standard deviation of 0.03175. Investment in shares was calculated by taking the ratio of preference shares to ordinary shares. Between 2017 and 2021, investment in shares ranged from 0.164464 to 0.572293 with a mean of 0.30156 and standard deviation of 0.083504. Investment in government securities was calculated as by taking ratio of treasury bills to treasury bonds. Between 2017 and 2021, investment in government securities ranged from 0.038403 to 0.244367 with a mean of 0.144812 and standard deviation of 0.066203. 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. Financial performance which is the dependent variable was determined using the ratio of net income to shareholder equity. Between 2017 and 2021, 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

Inferential Analysis
Unit Root Test

The study used Augmented Dickey-Fuller to test for the presence of unit roots in panels that combine data from the dimension of the time series with that of the cross-section dimension, so that fewer time observations are required for power to be available for the test. The results are indicated in Table 2.

Table 2: Unit Root Tests without Difference (Augmented Dickey-Fuller (ADF))

Variable	Augmented Dickey-Fuller unit-root Test
Investment in Fixed Deposits	11.9586 ** 0.0000
Investments in Shares	7.7950** 0.0000
Investment in Government securities	3.4142** 0.0003
Investment in Real estate	1.8275* 0.0338
Financial Performance	5.7011**
	0.0000

** sig at 1% level,

A p-value above 0.05 indicates the presence of unit roots, whereas a p-value under 0.05 indicates that the unit roots were not present for Augmented Dickey-Fuller tests. The results indicated that there was absence of unit root for the study variables. This showed that all variables are stationery, there was no problem of unit root, and the results can proceed for further inferential statistics.

Hausman Test (Choice of Model)

A Hausman test was carried out to determine whether to use the fixed effect or random effect model to address objectives of this study. Under the test, the null hypothesis is that there is no significant correlation between the individual effects and the independent variables. Results in the table 3 indicated a prob>chi2 value of 0.0044 which is less than critical P value at 0.05 level of significance which implies that the null hypothesis that a random effect model is the best was not supported. The study hence used a fixed effect regression model. The results are indicated in Table 3.

Table 3: Hausman Test

	(b) Fixed	(B) Random	(b-B) Difference	sqrt(diag(V_b-V_B))S.E.
Investment in fixed deposits	0.41389	0.002993	0.4109	0.00341
Investment in shares	0.09775	0.021371	0.07638	0.00821
Investment in government securities	0.14312	0.012609	0.13051	0.00553
Real estate investment	0.23824	0.1278	0.11044	1.07536

b = consistent under Ho and Ha; obtained from xtreg

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

Test:Ho: difference in coefficients not systematic

$chi2(4) = (b-B)'[(V\_b-V\_B)^{(-1)}](b-B)$

= 13.642

Prob>chi2 =   0.0044

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 0.8 and a weak correlation if the results are less than 0.

Table 4: Pearson Correlation Analysis

		Financial Performance	IFD	IS	IGS
IFD: Investment in fixed deposits	Pearson Correlation	0.6313	1		
	Sig. (2-tailed)	0.005			
	N	55	55		
IS: Investment in shares	Pearson Correlation	0.7397	0.5613	1	
	Sig. (2-tailed)	0.0005	0.0154		
	N	55	55	55	
IGS: 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).					

The results indicated that the investment in fixed deposits has a significant positive effect on the financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r = 0.6313, P=0.005). Investment in shares has a positive and significant on the financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r =0.7397, P=0.000). Investment in government securities has a positive and significant effect on the financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r =0.578, P=0.0128). Real estate investment has a positive moderate and significant effect on the financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r =0.5251, P=0.0252).

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 5 below shows the model summary of the adopted fixed effect model.

Table 5: Model Summary Fixed Effect of Investment diversification on financial performance

Fixed-effects (within) regression	Number of obs =	55
Group variable: DT-Sacco	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 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 tier one deposit-taking SACCOs in Nairobi County, Kenya. 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 tier one deposit-taking SACCOs in Nairobi County, Kenya. This effect is significant (P=0.003).

Regression Coefficients

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 6.

Table 6: Multiple Regression Coefficient

Financial Performance(FP)	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Fixed Deposit (IFD)	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
Government Securities (IGS)	0.143117	0.080326	1.78	0.075	-0.01432	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 multiple 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 Fixed deposits
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 value was 6.028315 implying that holding all the independent variables at 0 or if they are absent, financial performance of tier 1 deposit Saccos in Nairobi County, Kenya will be at 6.028315 units. Investment in fixed deposits 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 fixed deposits across time and among Deposit taking Societies Saccos in Kenya 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 fixed deposits and real estate investment are controlled, a unit increase in investment in shares across time and among Deposit taking Societies Saccos in Kenya 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=0.075 implying that when investment in fixed deposits, Investment in shares and real estate investment are controlled, a unit increase in investment in government securities across

time and among Deposit taking Societies Saccos in Kenya would result in an insignificant 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 fixed deposits, Investment in shares and investment in government securities are controlled, a unit increase in real estate investment across time and among Deposit taking Societies Saccos in Kenya would result in a significant increase of 0.23824 units in financial performance.

Discussion of the Findings

What is the effect of investment in fixed deposits on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya?

The first research question sought to answer what is the effect of investment in fixed deposits on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya? 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 fixed deposits and financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r= 0.6313, P=0.005). This implies that increase in investment in fixed deposits would results to increase financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya. 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 fixed deposits as a form of investment. Nekesa and Olweny (2018) indicated that Fixed deposits 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 Fixed deposits 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 fixed deposits carries positive significant beta coefficient (β_1) of 0.41389, p=0.006. Therefore, a unit increase in investment in fixed deposits across time and among tier one deposit-taking SACCOs in Nairobi County would result in a significant increase of 0.41389 units in financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya 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 fixed deposits have a very strong relationship with financial performance of SACCOs. Fixed deposits increase the DT-SACCOS 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 Fixed deposits had an important positive impact on the SACCOs economic performance. Lomuria, Wanyama and Mamuli (2020) revealed diversification in Fixed deposits had a positive, linear and significant (p-value is less than 0.05) association with the performance of SACCOs.

How does investment in shares affect financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya?

The second research question sought to answer how does investment in shares affect financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya? Pearson correlation indicated that there is significant positive relationship between of investment in shares and financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r=0.7397, P=0.0005). This implies that increase in investment in shares would results to significant increase financial performance of tier one deposit-taking SACCOs in Nairobi County, 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 significant beta coefficient (β_2) of 0.097746, p=0.009. Therefore, a unit increase in investment in shares across time and among tier one deposit-taking SACCOs in Nairobi County, Kenya 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 DT-SACCOS 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.

How does investment in government securities affect financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya?

The third research question sought to answer to how does investment in government securities affect financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya? Pearson correlation indicated that there is significant relationship between of investment in government securities and financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r =0.5738, P=0.0128). This implies that increase in investment in government securities would results to significant increase financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya. 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 insignificant beta coefficient (β_3) of 0.143117, p=0.075. Therefore, a unit increase in investment in government securities across time and among tier one deposit-taking SACCOs in Nairobi County, Kenya would result to insignificant 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, 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. 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 tier one deposit-taking SACCOs in Nairobi County, Kenya?

The fourth research question sought to answer to what is the effect real estate investment on financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya? Pearson correlation indicated that there is significant positive relationship between of investment in real estate and financial performance of tier one deposit-taking SACCOs in Nairobi County, Kenya (r =0.5251, P=0.0252). This implies that increase in investment in real estate would results to significant increase financial performance of tier one deposit-taking SACCOs in Nairobi County, 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. 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 tier one deposit-taking SACCOs in Nairobi County, 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 DT-SACCOS 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. 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 fixed deposits taking lead followed by lending to members then lending to the government, real estate lagged behind

V. Conclusion and Recommendation

The study established that investment in fixed deposits has significant positive effect on financial performance. An increase in investment in fixed deposits as compared to regular saving 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. From the linear and multiple regression results, the study established that investment in shares affected financial performance of DT-Sacco positively and significantly. Therefore, investment in shares has a significant positive effect of financial performance of Deposit taking Societies Saccos in Nairobi County. An increase in investment in preferred shares as opposed to ordinary shares would results to significant increase in financial performance. From the linear and multiple regression results, the study established that investment in government securities affected financial performance of DT-Sacco positively but not significantly. An increase in investment in government securities would results to insignificant increase in financial performance. Although investment in government improve DT-SACCOS financial performance, the effect is not felt in a significant way. The insignificant impact could be accredited to unpopularity of government securities among deposit taking Saccos as compared to commercial banks. 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 tier one deposit-taking SACCOs in Nairobi County, Kenya.

The study recommended that management of Deposit taking Societies Saccos should keep the investment in fixed deposits at maximum in order to enhance their financial performance. In this regard, SACCOs should compare each of the fixed deposit options basing on desired risk, interest rate, and tenure, and choose a fixed deposit only after weighing the benefits and drawbacks of various fixed deposits on the market. The management of the deposit taking Saccos should strive to improve the financial performance of their Saccos 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 deposit taking Sacco'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 recommended that SACCOs can buy short-term Treasury bills directly or through a bank or

broker. The study recommends that SACCOs can invest in rental properties to generate regular income and capital appreciation while maximizing capital through leverage. SACCOs 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.

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