

**INVESTMENT DIVERSIFICATION AND FINANCIAL PERFORMANCE OF
DEPOSIT TAKING SACCOS IN KENYA**

By

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**MASTER OF SCIENCE IN COMMERCE
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**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL
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SCIENCE IN COMMERCE (FINANCE AND INVESTMENT OPTION) DEGREE AT
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DECLARATION

Declaration by the Student

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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I do hereby confirm that I have examined the master's dissertation of
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ABSTRACT

The study sought to investigate the relationship between investment diversification and the financial performance of deposit-taking SACCOs in Kenya. The specific objectives of the study were to examine the effect of investments in bond market, real estate, and FOSA products on financial performance of deposit-taking SACCOs in Kenya. The study was guided by Keynesian Theory of Investment, Prospect Theory, Modern Portfolio Theory, and Theory of investments. The target population was 178 SASRA licensed deposit taking SACCOs in Kenya and sample size was 36. Secondary data was collected from the 36 SACCOs over a period of five years. The study employed a mixed-methods research design, integrating both quantitative and qualitative approaches. This data was analyzed using descriptive and regression analysis to investigate the relationship between investment strategies and financial performance. Different indicators, were deployed with Return on Assets (ROA), serving as the dependent variable. Diagnostic tests of multicollinearity, Hausman test, normality test, heteroskedasticity, test unit root test, confirmed the reliability and validity of the collected data. The descriptive statistics revealed the suitability of the sampled data. The inferential analysis demonstrated that investment in bonds, real estate and FOSA products have varying positive and significant relationships with financial performance of SACCOs with all the three variables having p-values less than 0.05. The coefficient of determination, R^2 was 0.818 which indicates that the estimated regression equation can predict only 81.8% of the variation. The adjusted R^2 was 0.815 which tells us there was a 81.5% variation in the financial performance of SACCOs due to changes in investment in bonds, real estate and FOSA products. The research therefore recommends that SACCOs should strive to give top priority to integrating and utilizing investment portfolio, such as bonds, real estate and FOSA products in order to improve the financial performance and profitability of SACCOs in Kenya. The study suggests that research on other determinants of investments should be revisited to evaluate their effects on corporate performance and profitability in SACCOs.

Key Words: Investment diversification, Bond Markets, Real Estate, Financial Performance

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DEDICATION

I dedicate this dissertation to my beloved parents, whose unwavering love, prayers, and sacrifices laid the foundation for my education and success. Your guidance and encouragement have been my constant source of strength. To my family, friends, and mentors who stood by me through challenges and triumphs, I am deeply grateful. Your belief in me kept my spirit alive. Every achievement in these pages reflects your support. May this work honor your faith in my journey. Thank you all for making this dream possible. May you live long.

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LIST OF ABBREVIATION

DT	Deposit Taking
FOSA	Front Office Sacco Activities
KCA	Kenya College of Accountancy
KPDA	Kenya Property Developers Association
NSE	Nairobi Stock Exchange
ROA	Return on Assets
SACCOs	Savings and Credit Cooperatives Societies
SASRA	Societies Regulatory Authority
USA	United States of America
WCCU	World Council of Credit Unions

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Investment diversification is a crucial strategy for enhancing the financial performance of deposit-taking Savings and Credit Cooperative Societies (SACCOs) in order to reduce the risks associated with retaining all assets in one category. SACCOs provide financial stability and increased returns through optimal investments by diversifying into loans, real estate, government securities, and equity investments (Mwangi & Muturi, 2021). Spreading funds across multiple market sectors assists SACCOs in reducing market risks and improving financial liquidity, which promotes economic stability during difficult economic times. Empirical studies show that SACCOs perform better when their investments are spread across several sectors rather than being limited to a single source (Ngugi, 2021).

SACCOs are acknowledged as significant channels for economic expansion (ICA Report, 2018). SACCOs are important in helping the underprivileged (target populations) receive financial services. They give people, organizations, and group members access to credit, savings, and investment options. SACCOs are key players in financial intermediation, facilitating the flow of funds between net savers and net borrowers, while also bridging urban, semi-urban, and rural regions. They ensure that the loan resources remain within the communities where the savings were collected. SACCOs' financial performance has shown occasionally diminishing and stagnant development. Declining asset quality, particularly with regard to loan assets, which are the primary source of business concern, is the cause of this problem. The concept of investment diversification has gained international prominence in the process of evaluating the financial performance of investment businesses, and it

remains a vital component of investment diversification in the modern world (Shrestha, 2018).

Globally, studies during recent times have evaluated how spread investments affect financial results among deposit-taking cooperatives including credit unions. The third quarter 2024 National Credit Union Administration statistics show US credit unions enjoying advanced financial growth rates by spreading their loans across multiple sectors. The total loans for federally insured credit unions with \$1 to \$10 billion in assets grew by 5.8% while their net worth expanded by 8.9% for the year. The analysis implies that maintaining different types of assets leads to better stability and improved financial outcomes. The World Council of Credit Unions presents worldwide credit union performance data through their 2023 Statistical Report. The report reveals that credit unions handling diversified investments through financing instruments and savings portfolios together with various financial solutions maintain growth despite challenging economic conditions (WCCU, 2023).

The Kenyan Co-operative Movement is ranked seventh among developed movements worldwide, thanks to the International Cooperative Alliance. Together with the Sacco Movements in Brazil, the United States, Ireland, Austria, Mexico, Canada, Poland, the Caribbean, and Costa Rica, the Kenyan Sacco Movement was included among the top 10 Sacco movements worldwide. The KUSCCO is the group's representative for Kenya. The nation is represented in the global cooperative movement through the Cooperative of Alliance Kenya Limited and various national cooperative organizations, which are the apexes. That is from a regional standpoint in Africa. Landi (2017) examined how investment

choices affected DT-SACCOS's profitability and discovered that they had a direct impact on both revenue growth and profitability.

According to a 2015 study by DeYoung on how investment choices affect earnings volatility, financial institutions' profits increased when they made a variety of investments. According to reports, approximately 7% of Africans are members of cooperatives. Additionally, the findings indicate that, despite their size, the movements are limited by the lack of adequate representation. According to Pollet (2009), there aren't many clear social protection systems associated with cooperatives in Africa. According to estimates, SACCOS savings in Sub-Saharan Africa increased by 32% in 2008 when compared to the average growth rates of savings in the years prior. The growth in loans was averaged at twelve percent lower than the preceding years (WOCCU, 2009). 2006 had a 21 percent increase in loans, while 2007 saw a 35 percent increase. Additionally, the number of new members has been rising significantly. A cautious attitude by SACCOS in Africa when granting loans to members who request them is indicated by the drop in the marginal growth in loans disbursed. Additionally, it has been suggested that the need to protect against losses has led to a reduction in loans related to export commodities. Kenya provides consultancy services on co-operatives to several African countries, for example, South Sudan, Rwanda and South Africa and has developed an MOU (Memorandum of Understanding) with the Ethiopian government for Technical Cooperation Program.

The first law governing cooperatives was passed in 1931, marking the beginning of the cooperative movement in Kenya. Every nation's economy benefits greatly from Credit

and Savings Cooperative societies, especially when it comes to achieving financial inclusion and public access. SACCOS are allegedly established with the intention of increasing financial 73 Volume 4, Issue 1, 2022, pp. 72–90, Journal of Current Aspects in Finance, Banking, and International Accounting, ISSN 2707-8035 accessibility, increasing financial stability, and encouraging efficiency for Kenyan financial service providers (IFSB, 2010). Cooperatives are defined as autonomous, voluntary groups of people who work together to address specific economic, cultural, and social needs through a democratically controlled business.

The main motivators include widely accepted concepts, such as moral convictions, accepted fundamental values, and principles upon which distinctive identities are predicated. Democracy, equality, solidarity, self-help, equity, self-reliance, and self-responsibility are among the fundamental principles. Openness, honesty, social responsibility, and compassion are among the ethical principles that are equally enshrined. The cooperatives seek to further the social and economic interests of their members as well as their wellbeing, guided by these principles. According to the Cooperative Societies Act, Kenya's legal system upholds the fundamental ideals, global norms, and moral standards that guide these cooperatives everywhere. For all Kenyan cooperatives, the Act serves as the overall incorporation and registration law.

Regionally, it has been reported that approximately 7% of Africans are members of a cooperative. Despite being substantial in terms of quantity, the findings also suggest that the movements are limited by the lack of effective representation. In Ghana, credit unions are expanding quickly. As per Darko et al. (2021), there were 455 credit unions registered in

Ghana as of 2014. There were 490,167 credit union members in Ghana as of 2014. There were 2,384 workers in all. Savings and shares made up the members' deposits totaling GH\$ 475,966,676. When Landi (2019) examined how investment diversification affects the profitability of DT-SACCOS in Sub-Saharan Africa, she discovered that it had a direct impact on revenue growth and profitability. Financial institutions' profitability increased as they engaged in a variety of investment kinds, according to a 2020 study by DeYoung on the impact of investment diversification on earnings volatility.

A number of academic studies across Sub-Saharan Africa investigate how diversified investments affect the profitability outcomes of deposit-taking Savings and Credit Cooperative Societies (SACCOS). Between 2017 and 2021 researchers studied Tier One deposit-taking SACCOS in Kenya which produced a combination of positive and negative financial effects. Return on equity declined from 39.6% in 2017 to 38.1% the following year but experienced a subsequent rise in 2019 until reaching 57.8% then experienced a minor decrease to 55.0% in 2020 before falling to 49.3% in 2021. The diversity of financial investments demonstrates positive effects on performance but these results tend to change according to selected investment types coupled with current economic conditions.

Locally, the vital aspect of diversifying investments in Kenya helps SACCOS improve their financial outcomes in deposit-taking operations. SACCO financial risk reduction occurs when funds are spread across investment types including fixed deposits and government securities as well as shares and real estate investments. The financial performance of tier-one deposit-taking SACCOS in Nairobi County, Kenya became stronger and more significant according to ROA and ROE measurements due to their fixed deposits,

shares and real estate investment diversification (Kamau & Njiru, 2021). The investment decisions of deposit-taking SACCOs in Nairobi County show a substantial lasting impact on their profitability (Kebaso & Wekesa, 2022).

1.1.1 Investment Diversification

Investment diversification is widely recognized in financial literature as a strategic allocation of resources across different asset classes, industries, and geographies to reduce exposure to idiosyncratic risks while enhancing long-term stability (Markowitz, 1952; Yavas & Rezayat, 2020). Asset class diversification emphasizes spreading investments across instruments such as stocks, bonds, government securities, real estate, and mutual funds. This approach ensures that poor performance in one asset category is offset by better performance in another, thereby stabilizing overall returns (Osewe, 2020). In the Kenyan context, SACCOs and investment companies have increasingly allocated resources to government securities and real estate, which have shown consistent returns, while heavy reliance on equity markets has often yielded volatile or inferior performance (Osewe, 2020).

Another construct is sectoral diversification, which entails spreading investments across industries or business lines to mitigate sector-specific risks. Firms exposed to a single industry may experience significant shocks when that sector faces downturns, whereas diversified firms remain cushioned by growth in other areas. This is closely aligned with the principles of Modern Portfolio Theory, which asserts that holding a portfolio of unrelated or less-correlated assets reduces unsystematic risk, leaving investors only with unavoidable systematic (market) risk (Markowitz, 1952). Within financial institutions, sectoral

diversification also means balancing investments between lending portfolios, capital markets, and alternative assets, thereby enhancing resilience during periods of credit default or liquidity shocks.

Geographical diversification, which gained prominence with globalization in the 1960s and has since been reinforced by research highlighting the imperfect correlation of national business cycles is also another essential element (Yavas & Rezayat, 2020). By investing across multiple regions, organizations reduce vulnerability to localized shocks such as political instability, inflationary pressures, or regulatory changes. However, the impact of geographical diversification is nuanced: while Doukas and Lang (2023) found that foreign investments in core business divisions strengthen shareholder value and long-term sustainability, expansion into non-core regions or industries may generate temporary and long-lasting financial declines. This indicates that not all diversification strategies produce uniform benefits, and careful alignment with institutional capabilities is critical.

1.1.2 Financial Performance of Deposit Taking SACCOs

According to Metcalf and Titard (2016), financial performance is the process of making financial decisions in order to accomplish particular financial goals within a given amount of time. It entails putting a business's operations and policies into monetary terms in order to assess the overall financial health of the organization over a given time frame. An evaluation of a company's financial performance helps determine how healthy it is and can be used to compare companies within the same industry as well as across industries or sectors. Ratios play a crucial role in assessing financial performance because they provide a consistent way

to summarize large amounts of financial data and extract information about how well a company is performing. Key indicators of financial performance typically include return on equity and return on assets.

Return on equity (ROE) and return on assets (ROA) are among the most critical indicators of financial performance in Savings and Credit Cooperative Organizations (SACCOs) because they directly reflect efficiency, profitability and sustainability. ROE measures profitability relative to members equity, is an indicator of value creation for members, it is a management efficiency test and it can be used as benchmarking tool. On the other hand, return on assets (ROA), measures efficiency in asset utilization, risk and sustainability assessment and signals cost control. These two therefore are crucial for SACCOs since they operate on thin margin and rely heavily on member trust. Strong ROE and ROA reassure members that their funds are being handled responsibly, regulator such as SASRA in Kenya often use these ratios to gauge compliance, financial stability and institutional health and investors also rely on these ratios to assess whether the SACCO is a viable. Therefore, ROE tells whether the SACCO is rewarding members' equity investment and ROA shows how efficiently it is using its total assets to create income. Together, they give a comprehensive picture of financial performance, sustainability and competitiveness of SACCOs.

DT SACCOS are not only essential but also indispensable development tools because of the additional important functions they perform in society. For example, co-operatives are said to employ more than a hundred million people worldwide, with eight hundred million individuals holding individual memberships. Many academics have identified factors

that influence bank performance. In spite of this, there is disagreement about the ways in which investment diversification has aided in cost effectiveness and sparked an improvement in performance in this specific area (Olweny & Shipho, 2018).

1.1.3 Deposit Taking SACCOs in Kenya

SACCOs have been integral to Kenya's financial landscape, promoting savings and providing credit facilities to their members. The evolution of Deposit-Taking SACCOs has been particularly noteworthy. The cooperative movement in Kenya began in 1908 with the establishment of the Lumbwa Cooperative Society, primarily serving dairy farmers. The first SACCO, however, was formed in 1964 in Mariira, Murang'a County, by the Catholic Church under Fr. Joachim Getonga. This initiative aimed to encourage savings and provide affordable credit to its members. Throughout the 1970s and 1980s, SACCOs experienced significant growth, especially among civil servants, teachers, and farmers. These SACCOs operated on a non-deposit-taking basis, focusing on mobilizing member savings and offering loans without maintaining Front Office Service Activities (Sacco Societies Act, 2008).

In the 1990s and early 2000s, there was an increasing demand for more comprehensive financial services. In response, some SACCOs began offering banking-like services, including savings accounts, salary processing, and micro-loans, through the establishment of FOSAs. This transition allowed members easier access to their funds and additional services. However, the absence of a regulatory framework during this period led to challenges such as mismanagement and, in some cases, the collapse of SACCOs. To address these challenges and strengthen the SACCO sector, the Kenyan government enacted the Sacco Societies Act in 2008 (Sacco Societies Act, 2008). This legislation led to the creation of the Sacco

Societies Regulatory Authority (SASRA) in 2010. The Act provided a legal framework for licensing all deposit-taking SACCOs, introducing guidelines on capital adequacy, governance, and financial reporting, akin to those for commercial banks (SASRA, 2010).

According to Kiweu (2022) and Mulwa (2018), it is imperative to carefully examine investment diversification in Kenya. Numerous SACCOs in Kenya have reported subpar returns on equity, assets, and investments, according to data from the SACCO Societies Regulatory Authority (SASRA, 2022). Furthermore, the return on asset (ROA) of tier one deposit-taking SACCOs fluctuated between 2017 and 2021. The tier one deposit-taking SACCOs' return on equity fell from 39.6% in 2017 to 38.1% in 2018. Following that, it rose to 55.0% in 2020 and 57.8% in 2019, before dropping to 49.3% in 2021 (SASRA, 2022). SASRA (2022) reports that the sector's nonperforming loans have increased. Notably, the non-performing loan ratio increased from 5.12 percent in 2019 to 5.23 percent in 2020 and eventually to 6.14 percent in 2021, which had a significant influence on the ability to maintain profit growth.

1.2 Statement of the Problem

Deposit-Taking Savings and Credit Co-operative Societies (DT-SACCOs) in Kenya have experienced substantial growth in asset base but persistently declining profitability, raising concerns about their capacity to fulfil their mandate. As of end 2023, DT-SACCO assets had risen to KSh 971.96 billion, and total industry membership to 6.84 million, yet many DT-SACCOs report increasing loan delinquency and lower returns on equity (SASRA, 2023; Kenyanews, 2025). For example, deposits grew by 9.95% from KSh 620.45 billion in 2022

to KSh 682.19 billion in 2023, but the loan disbursements in certain sectors have either stagnated or dropped, indicating under-utilization of capital (SASRA, 2023).

A key contributor to this performance shortfall appears to be inadequate investment diversification. Most DT-SACCOs heavily concentrate their investments in member loans, liquid cash, and short-term instruments, making them vulnerable to credit risk and macroeconomic shifts. SASRA's reports show rising Portfolio at Risk (PaR) ratios and increasing dormant memberships 21.15% of members in 2023 were inactive implying both risk and inefficiency in the current investment mix (SASRA, 2023). While some SACCOs have begun exploring non-traditional investment channels, the empirical evidence on how diversification across multiple asset classes (such as securities, real assets or equity investments) impacts financial performance in DT-SACCOs is still limited.

Thus, there is a pressing need for systematic research into how strategic investment diversification could help DT-SACCOs reverse declining profitability, better manage risk, and improve returns on assets and equity. Without diversification, DT-SACCOs risk continued slump in performance, reduced capacity to serve members, and weakened resilience to economic shocks. This study aimed to contribute to the existing literature by providing empirical evidence on the impact of investment diversification on the financial performance of deposit-taking SACCOs in Kenya. Past investigations of SACCOs' financial performance factors exist but research about effects from diverse investment portfolios on their profitability and sustainability have not been adequately studied. This research used recent data with solid methodological approaches to address the current knowledge gap

which provides important findings that assist SACCO sector policy-making and planning. The research results will help SACCO managers and stakeholders develop well-balanced investment choices to strengthen both their financial stability and service provision.

1.3 Research objectives

1.3.1 General Objective

To establish the effect of investment diversification on financial performance of deposit taking SACCOs in Kenya.

1.3.2 Specific Objectives

- i. To determine the effect of investment in bond markets on the financial performance of deposit taking SACCOS in Kenya.
- ii. To establish the effect of investment in real estate on the financial performance of deposit taking SACCOS in Kenya.
- iii. To determine the effect of investment in FOSA products on the financial performance of deposit taking SACCOS in Kenya.

1.4 Research Questions

- i. To what extent does investment in bond markets affect financial performance of deposit taking SACCOS in Kenya?
- ii. What is the effect of investment in real estate on the financial performance of deposit taking SACCOS in Kenya?
- iii. How does investment in FOSA products affect the financial performance of deposit taking SACCOS in Kenya?

1.5 Justification of the Study

SACCOs' financial performance has shown occasionally diminishing and stagnant development. Declining asset quality, particularly with regard to loan assets, which are the main source of business concern, is the cause of this problem. Investment diversification has gained international prominence as a method of analyzing the financial success of investment organizations. In the present world, it remains an important aspect of financial diversification. Member savings are SACCOs' primary source of capital, and they can be used to fund a variety of investments, including loans to other members as well as liquid and financial ones. Managers must ensure the safety and profitability of their assets while making all of these commitments.

1.6 Significance of the Study

1.6.1 Financial Institutions

The study's findings will help Sacco management understand how investment diversification affects their bottom line and how it can significantly improve the bottom line of Kenya's deposit-taking Saccos. This will help to highlight the favorable ideas of investment diversification that SACCO management should adopt. The results of this study help other financial institutions understand how performance is impacted by investment diversification.

Additionally, this study will assist both professors and students in understanding the impact of investment diversification on the financial performance of deposit-taking SACCOs. It will enhance knowledge of how investment diversification relates to the financial success of these SACCOs and identify future research directions in this field. By highlighting areas needing further investigation, the study will address gaps and explore new avenues. Improved insights

into investment diversification assessment can also help marketing practitioner's better measure their influence on SACCOs' financial performance.

1.7 Scope of the Study

This study focused on establishing investment diversification and financial performance of deposit taking Saccos in Kenya, the research was designed to look at the impact of investment diversification and how it affect the financial performance of deposit taking Saccos in Kenya. The examination explored how diversification of investments relates to financial outcomes for deposit-taking SACCOs operating in Kenya. The research targeted licensed deposit-taking SACCOs which function under the regulatory systems of the Sacco Societies Regulatory Authority (SASRA). Different market dynamics receive detailed examination within this research because the study analyzes SACCOs spanning throughout all regions of Kenya. Financial performance data and investment trends from 2019 to 2024 served as the basis for analyzing performance patterns and diversity strategies in the chosen sector.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In order to determine investment diversification and the financial performance of deposit-taking SACCOs in Kenya, this chapter reviewed the relevant literature. While the second portion examines the empirical literature on the difficulties county governments experience in meeting their revenue expenditure goals, the first section covers the theories that serve as the theoretical foundation for this investigation. Additional research carried out in relation to this study is covered in the last section of the literature review.

2.2 Theoretical Literature Review

This research was guided by; Keynesian Theory of Investment, Prospect theory, Modern Portfolio Theory (MPT) and Agency Theory. The aim of the study was to establish investment diversification and financial performance of deposit taking Saccos in Kenya.

2.2.1 Keynesian Theory of Investment

Keynesian theory of investment, developed by Keynes (1936) and it posits that investment decisions are primarily influenced by interest rates and expected returns rather than just savings. According to this theory financial institutions together with firms make investment decisions when project return potential exceeds their debt costs. Instructor confidence and general market conditions together determine how investments will develop according to this theory. According to Keynes' model deposit-taking SACCOs (DT-SACCOs) will use their funds to invest in bonds provided that the predicted yields are greater than the danger level. SACCOs make bond investments consistent with Keynesian doctrine because they

evaluate interest rates alongside economic stability before investing their long-term funds (Keynes, 1936).

In its development Keynesian investment theory now includes present-day macroeconomic principles that cover liquidity preference along with government intervention effects. Keynes pointed out that economic downturns lead investors to choose funds over making investments because of their preference for liquidity which results in reduced bond market capital inflows. Modern DT-SACCOs require strategic management of bond investments because they face the need to maintain liquidity while benefiting from bond returns that need exposure to interest rate risks. The application of Tobin's q-theory as part of post-Keynesian analysis connects stock market assessments with firm profitability to explain investment choices (Tobin, 1969). The expanded theory allows researchers to understand the ways that DT-SACCOs handle changes in their bond investment strategies based on market performance.

Investment behavior according to the Keynesian theory demonstrates essential insights regarding how interest rate conditions along with macroeconomic factors proceed investment choices. The theory provides effective real-world explanations of investment reactions during economic downturns. The theory demonstrates that investors' predictive thinking together with national leadership direction plays an essential role in forming market finance dynamics. A significant weakness of this model exists because it fails to account for investment factors which extend past interest rates including technological progress along with financial industry evolution. The critique against Keynesian theory involves its diminished emphasis towards production and financial decisions since

establishing international capital links in the contemporary economic atmosphere (Mankiw, 2019).

Applying Keynesian investment theory to DT-SACCOs' bond market investments helps explain how these institutions allocate resources in response to interest rate movements and economic cycles. DT-SACCOs' bond market activities respond to interest rate fluctuations via applications of Keynesian resource allocation principles which determine investment decisions during different economic cycles. The performance of SACCOs depends heavily on their interest income from loans and investments because the bond market causes significant financial impact. The decline of interest rates makes bond investments stronger which would improve the overall financial strength of SACCOs. The increase of interest rates drives SACCOs to explore different investment alternatives because they lose interest in bond investments. Managers of SACCOs and policymakers should prioritize understanding these bond market dynamics as fundamental knowledge helps them make investments that improve financial performance as well as risk management (Blanchard, 2021).

2.2.2 Prospect Theory

Prospect theory was developed by Kahneman and Tversky (1979). It challenges the traditional rational investor model by arguing that individuals make decisions based on perceived gains and losses rather than objective outcomes. According to the theory loss aversion describes how investors feel stronger dread towards losing money rather than enjoying equal financial gains. The investment decisions of DT-SACCOs toward property markets tend to be risk-averse in uncertain economic conditions when considering real

estate opportunities. The tendency to fear losses more than appreciate equivalent gains among SACCOs can cause them to pass on real estate deals or choose very safe investments despite long-term benefits exceeding short-term risks (Kahneman & Tversky, 1979).

The impact of Prospect Theory on financial institutions' risk-taking practices, particularly in lending decisions, was examined by Booij et al. (2010). The study investigated how behavioral finance concepts, such as Prospect Theory, are used by banks, especially those in the retail industry, to evaluate risk. The theory predicts that people and institutions are risk-averse in profits and risk-seeking in losses. Banks were found to exhibit loss aversion and changed risk preferences based on past outcomes. Barberis, Jin, and Wang (2016) created a model that explains 23 well-known abnormalities in the stock market using Prospect Theory. Their findings demonstrated that investors' risk assessments differ from conventional models in that they take past profits and losses into account. The study found that Prospect Theory can quantitatively explain the anomalies related to volatility, skewness, and capital gains, demonstrating its relevance in asset pricing and stock market behavior

Scholars have criticized Prospect Theory's underlying presumptions about non-linear probability weighting and framing effects. The subjectivity involved in setting the value and weight functions which might vary depending on how individuals perceive risks is a significant restriction. These functions don't always match empirical data, particularly when examined outside of controlled studies, which raises the possibility that decision-making in the actual world is more complex than theory predicts (He & Hong, 2020).

Furthermore, others contend that its applicability in more expansive economic contexts is restricted by its dependence on experimental data.

Another critique highlights the theory's restricted use in business decision-making, particularly in fields like innovation. While it effectively models individual risk attitudes, its ability to predict decisions within complex organizational or market environments is questioned. The theory's focus on risk-based scenarios makes it less applicable in dynamic, strategic decision-making, where multiple factors influence choices (Wu & Quiggin, 2020). This gap suggests the need for integration with broader behavioral models to address real-world business risks .

Applying prospect theory to DT-SACCOs' real estate investments helps explain their cautious approach to property acquisition and development. Real estate investments by DT-SACCOs follow prospect theory principles which explain why they proceed with extreme caution when buying and developing properties. SACCOs use real estate investments for long-term growth but base their real estate investment choices on market perception together with loss aversion behavior. A deep comprehension of prospect theory in real estate investment practices allows SACCO managers and policymakers to create strategies which reduce biased decision making while making better property investments to increase financial outcomes. DT-SACCOs should combine behavioral investment knowledge with rational financial assessments to achieve maximum return benefits while controlling real estate market risks (Shefrin, 2016).

2.2.3 Modern Portfolio Theory (MPT)

Modern Portfolio Theory (MPT), introduced by Markowitz (1952), proposes that investors can maximize returns while minimizing risk through portfolio diversification. Through investments in different types of assets having various risk profiles investors can reach their optimal risk management to return maximization point. DT-SACCOs need to allocate funds between Front Office Service Activity investments and other investments so they achieve better financial stability and security. According to MPT SACCOs need to avoid using FOSA products exclusively for income generation since they should expand their investment options to decrease market risk exposure (Markowitz, 1952).

According to Diamond (1984), the primary purpose of a financial institution in offering a specific product is to combine it in such a way that returns are maximized. One of the goals of DT-SACCOS could be considered as super profit, which is ultimately realized by an institution's ability to raise the economic value for its clients even at the risk of oversimplification. There must always be a mechanism to keep unethical loan practices from causing significant losses. Because profit is DT SACCOS' major goal, carefully monitored loans and a well-diversified risk portfolio can help reduce the likelihood of bad performance to a manageable level (Linnet, 2008).

In 1958, Tobin expanded on the work of Markowitz by introducing an examination of risk-free assets. This concept's third goal presents an alternative perspective on risk and reward. An excellent example would be a loan with risks associated with the borrower's type of income. This theory is fundamental to the modern financial sector and has advised

the majority of institutions on how to prevent default losses. According to Bennett (2014), it mandates that financial institutions look for stable loan products that raise interest rates and have less of an impact on competitors' interests than high-beta loans.

But over time, MPT has come under heavy criticism. According to Michaud (1989), MPT fails to take future uncertainties into account, which results in inferior portfolio outcomes in real-world markets. MPT also relies heavily on historical data and assumptions about market efficiency. Scherer (2022) argued in a more recent critique that MPT fails to account for more complex hazards such as tail occurrences and systemic shocks since it uses variance as the only risk measure. According to these two criticisms, MPT has a sound theoretical foundation, but in order for it to be completely applicable in the dynamic and frequently unpredictable financial markets, it needs to be modified and expanded. According to Chong and Phillips (2022), tail risks and systemic financial shocks are not sufficiently captured by MPT's emphasis on variance as a risk indicator. Additionally, behavioral finance scholars, such as Shiller (2015), argue that MPT overlooks the impact of investor psychology and market sentiment. These critiques suggest that while MPT is foundational, it requires modification and integration with other models to address its shortcomings.

MPT stands as a fundamental concept for DT-SACCOs that seek optimal use of FOSA products alongside secure financial operations. SACCOs can build investment pools using MPT principles which combine useful FOSA service earnings with risk-reducing investments. The SACCOs need to evaluate the financial relationship between FOSA revenue generation and their other income streams in order to avoid dependency on one

main source. SACCO financial performance will improve when leaders implement diversified portfolios that follow MPT principles which helps the institutions become sustainably resilient against economic market shifts (Elton et al., 2014).

2.3 Empirical Review

This review was chosen for this research dissertation because it summarizes prior investigations, discusses the methodologies used, and delivers conclusions relevant to the current topic. This section reviews the literature on empirical research conducted by various academics to determine the financial performance and investment diversification of Kenya's deposit-taking SACCOs.

2.3.1 Investment in Bond Markets and Financial Performance

Policymakers can benefit greatly from a greater understanding of the relationships between bond markets, corporate expansion, and other macroeconomic variables. For example, economic growth is dependent on the co-development of the stock and bond markets, as well as the presence of feedback causality the flow of causality in the financial system. Financial performance is defined as the establishment and expansion of institutions, tools, and markets that support investment and economic progress. Historically, banks and non-bank financial intermediaries, such as stock markets and pension funds, were responsible for transforming household savings into company investments, distributing funds and monitoring investments, and pricing and dispersing risk. (Levine et al., 2020)

Purnamasari and Azis (2020) evaluated the financial performance of Pakistan's DT-SACCOS using mutual fund portfolio investments. The study acknowledged the impact of mutual asset portfolio investments on DT-SACCOS's financial performance. Because

banks function as mutual fund agents, they were the primary target group for the secondary data collected. One of the factors being investigated was investing in bond markets. The study discovered a high positive correlation between financial performance and investments in the bond markets. One unmet study need was to determine whether mutual fund investments influenced DT-SACCOS's financial performance. The study was important because it showed how portfolio investments in mutual funds improved DT-SACCOS's financial performance.

Rop, Kibet, and Bokongo (2022) identified a link between Kenyan commercial banks' financial performance and investments in the bond markets. The study set out to look into the relationship between bank financial performance and bond market investments. The population being investigated was made up of forty banks. The study adopted an exploratory technique and relied on secondary data. A regression analysis revealed a positive correlation between financial performance and investments in bond markets. Investigating whether these investments influence the financial performance of DT-SACCOS remains an area that requires further research. The study's key finding was that financial institutions like DT-SACCOS function better when they invest in the bond markets.

Hussein (2021) explored how investments in government securities, bond markets affect the financial performance of commercial banks in Kenya. The study examined the influence of these investment activities on the financial outcomes of 42 banks, employing a causal research approach. Data analysis, conducted using correlation and regression techniques, showed a positive relationship between financial performance and investments

in bond markets. More research was needed to understand whether ownership of government securities, bonds markets, and other assets had an impact on DT SACCOS's financial performance. The study's conclusion that financial institutions like DT-SACCOS outperform when they invest in government securities markets was significant.

Malm and Roslund (2020) evaluated the relationship between enterprise performance and the bond-to-total debt ratio. The examination focused on Norway's robust and established bond market. A quantitative analysis analyzed multiple correlations to establish the importance of the ratio-performance link. Because none of the tests revealed significant correlations for the relationship, the results were consistent. As a result, they concluded that the bond-to-total-debt ratio did not appear to have any effect on Norwegian business performance. The testing results showed that the corporation's performance was unaffected by the bond-to-total-debt ratio. This finding implied that industry practitioners should not be concerned about how bonds can impair their productivity.

The 2024 Global Debt Report from Organization for Economic Co-operation and Development (OECD) investigates sovereign debt and corporate debt markets to study present market conditions along with policy implications that involve financial stability dangers. Authorities need to implement wise debt control methods to manage financial stability issues because bond markets serve critical funding purposes for governments and corporations yet high debt creates structural challenges.

Kamau and Njiru (2020) established through statistical methods that DT-SACCOS with diversified investment buckets generated higher return on assets results because enhanced diversification improved financial performance. Investment decisions explained

52.77% of the financial performance variations in DT-SACCOs. Oluoch et al. (2023) demonstrated the considerable influence of strategic diversification on financial outcomes. Rotich et al. (2020) found out that there is a linear correlation between financial performance and investment diversity of Kenyan commercial banks. According to their analysis of 44 Kenyan banks from 2015 to 2019, financial diversification boosts performance.

Gachenga (2022) aimed to evaluate the connection between the liquidity of DT SACCOs based on farmers and investment diversification. The regression model results indicated a significant relationship between the predictor variables and the liquidity of farmers-based DT-SACCOs. Morwabe and Muturi (2020) examined the effect of investment diversification on the financial performance of deposit-taking SACCOs in Nairobi County. Their regression model revealed that share investments had a statistically significant impact on financial performance.

Origa (2020) conducted research that studied the influence of certain macroeconomic variables on government bond yields throughout Kenya. The research established that inflation together with interest rates and exchange rates cause substantial changes in government bond yields which determine both investor returns and governmental borrowing costs. The bond market requires policymakers along with investors to analyze macroeconomic conditions in order to achieve maximum financial results.

2.3.2 Investment in Real Estate and Financial Performance

The BIS (2020) estimates that real estate accounts for up to 60% of the world's largest asset class. Thus, the banking system's orientation was influenced by the profitability of clients who commonly used real estate assets such as land, buildings, and other properties—to get loans from financial organizations. This is the outcome of challenges with real estate process management, which necessitated the cessation of further services. For example, losses in the commercial real estate sector throughout the 1990s had a detrimental influence on Australia and Japan's banking systems. This meant that commercial real estate prices and interest rates had an impact on investors from diverse countries. According to BIS (2020), the value of professionally managed real estate assets increased by 37% globally between 2014 and 2019, from 9 trillion to 9.6 trillion US dollars.

Odhiambo (2021) examined the returns from Kenyan commercial banks, focusing on real estate as an investment. Over the course of five years, data was collected for nine of these institutions. The collected data was subjected to panel data analysis. The data indicated that investments had no significant effect on the financial performance of these institutions. The study concluded that while real estate investments did not influence profitability, factors such as operational expenses, size, and market structure had a notable impact on profitability. Marete (2021) examined the main factors affecting real estate property values in Kiambu, Kenya, and found that pricing was influenced by the municipality and estate brokers, suggesting that the real estate market operates under distinct characteristics compared to other markets governed by supply and demand. In her analysis of residential real estate prices in Nairobi, Makena (2019) argued that the volume of money in circulation and information availability offer a clearer understanding of the

real estate market, based on a dataset of over 680,000 transactions from the Nairobi Securities Exchange between 2015 and 2018, involving retail properties.

Bello (2021) conducted a comparison of financial assets and real estate performance as collateral for mortgage loans issued to Nigerian lenders. The research involved assessing the performance of real estate and financial assets through a sample of 46 transactions from selected banks in Lagos. Despite banks focusing on financial assets, the data indicated that loans were backed by both real estate and financial assets. A key area for further research is understanding the reasons behind the shift towards financial assets. This study is pertinent as it highlights the impact of real estate finance on the financial performance of DT-SACCOS and other financial institutions.

Kipkorir, Namiinda, and Njeje (2020) explored the impact of real estate investment decisions on the financial performance of DT-SACCOS in Baringo County. Their findings indicated that real estate investments significantly affect the financial success of DT-SACCOS. The study involved 73 DT-SACCOS and provided data matrices to 177 members for data collection. It was revealed that real estate investments contributed up to 9.8% to the financial performance of these SACCOs. The study highlighted the need for further research on the influence of real estate investment on DT-SACCOS's financial performance, emphasizing the strong correlation found between investment decisions and financial outcomes.

Muli (2019) examined how real estate investment decisions impacted the financial performance of DT-SACCOS in Kitui, Kenya. The research aimed to assess the effect of these investment choices on the financial success of DT-SACCOS, using a six-year

empirical study from 2006 to 2015. The study focused on twelve DT-SACCOS, with real estate investment being one of the key independent variables. Data were analyzed using Karl-Pearson correlation and multivariate analysis, revealing a strong link between real estate investment decisions and financial performance. The research highlighted the need to further explore how real estate investment affects the financial performance of Kitui's DT-SACCOS, making the study's findings on the positive impact of real estate investment timely.

Kimani and Aduda (2020) investigated the relationship between portfolio size and financial performance at DT-SACCOS in Kenya. The study aimed to assess how portfolio size influences the financial performance of these SACCOS, with one independent variable being investment in bond markets. They analyzed 90 companies from the Kenya Association of Investment Groups, focusing on a sample of 45 companies and utilizing secondary data. The regression analysis revealed that investments in bond markets, which offer high returns just behind stock portfolios, positively affect financial performance. The research identified a gap in understanding how portfolio size impacts the financial performance of DT-SACCOS. The study's findings, which show a positive correlation between financial performance and portfolio size in the bond markets, highlight its relevance.

The global financial performance of institutions has been studied through recent empirical research from 2020 to 2024 regarding real estate investments. The research by Mariani et al. (2024) assessed how Environmental Social Governance (ESG) criteria influence real estate investment performance through their integration process. ESG

integration continues to grow in the market yet financial returns show different results based on the real estate sector indicating that individual ESG factors do not automatically lead to better financial results. The research by Cannas (2022) evaluated how ESG performance changes in real estate generate effects on market dynamics together with profit levels. Financial uncertainties stem from irregular ESG performance according to research findings thus showing the necessity to standardize ESG practices for achieving stable outcomes.

Numerous investigations of real estate investment-performance relationships took place in Kenya throughout this time period. Muigai (2024) evaluated how Real Estate Investment Trusts (REITs) impacted financial results of investment banks operating within Nairobi County. The research study established that corporate financial outcomes improve for banks which invest in Real Estate Investment Trusts. The Cytonn Report (2023) evaluated authorized REITs in Kenya by assessing their financial performance through examination of important factors that influenced sector outcomes. The document showed REITs maintain potential to increase financial results through targeted investments and expert investor acquisition despite current low market interest from the public.

Lamont (2021) notes that real estate investors are driven by several factors, including periodic capital returns, protection against inflation, and a desire for social recognition. Investors typically anticipate strong market demand for their property to cover expenses through rental income and aim to sell the property at a profit after a period of ownership. Given that most real estate investments involve significant financial transactions, it is expected that the decision-making process is complex, involving careful consideration of all relevant factors to produce clear, projected outcomes. Lamont (2021)

also discovered that some mental information processing has already occurred in the behavioral and psychological states of investors prior to an investor making a property acquisition.

2.3.3 Investment in FOSA Products and Financial Performance

FOSA products in Kenyan deposit-taking SACCOs are front-office, quasi-banking offerings transactional accounts, savings, fixed deposits, salary and school-fees accounts, mobile and payment services – licensed and supervised by SASRA to protect members’ deposits. The key distinction between FOSA and BOSA is functional: FOSA provides withdrawals. Liquid banking -type services accessible daily, whereas BOSA (back-office service activity) comprises non-withdrawable long-term or compulsory savings and share capital used as collateral and retained for liquidity and capital adequacy. Investment in FOSA products influences overall SACCO performance through revenue diversification, increased deposit mobilization and improved intermediation (higher loanable funds), but also raises operating costs and liquidity risk from transactional liabilities. Empirical Kenyan studies report mixed effects: several studies find positive associations between FOSA activity and SACCO profitability and outreach, while others note insignificant or cost driven reductions in surplus where operating expenses rise faster than interest income (SASRA, 2025; Njuguna, 2019, Ogum & Jagogngo 2025) and members convenience benefits.

DT-SACCOs need front office service activity products (FOSA) investments as their key performance enhancement strategy. SACCOs develop new sources of revenue through

savings accounts and fixed deposits and salary processing and loan disbursement services which complement their basic membership savings and loans business. The investments of SACCOs in FOSA products create financial benefits through better liquidity access and improved member retention and profitability generated from transactions and deposits interest payments (Wamalwa, 2020).

Asuma (2020) reports that SACCOs take advantage of FOSA service addition because this initiative raises their financial industry competitiveness through bank-like operations which attract a wide range of customers. SACCOs using FOSA products face performance variations because of compliance demands and expenses and competitive pressure from commercial banks. The strategic adoption of FOSA product investments strengthens SACCO financial strength and longevity as it reduces dependence on member funds deposit risks.

Studies between 2019 and 2023 have analyzed how Front Office Service Activity (FOSA) product investments affect financial results of Deposit Taking Savings and Credit Cooperative Societies (DT-SACCOs) operating in Kenya. Asuma (2020) assessed how non-core investments that spanned FOSA products influence the financial outcomes of DT-SACCOs. Research compiled secondary information from 174 DT-SACCOs to conduct correlation analysis along with descriptive statistics and panel data regression analysis. The combined investment in FOSA products and treasury bills, shares, real estate and fixed deposits showed significant impacts on the financial operation of these institutions. The research established that DT-SACCOs gained improved financial stability through introducing FOSA products because it created new income streams for these organizations.

Further, Wamalwa (2020) examined the effect of regulatory frameworks on the financial performance of SACCOs offering FOSA services in Kenya. The researchers applied descriptive research methods together with survey collection procedures to evaluate how regulations influence SACCOs. The research confirmed that safety rules exist to protect firms but they create additional costs that negatively affect profits. Financial performance improvement became evident when SACCOs mastered the integration of regulatory requirements into their operations but at the same time adopted strategic FOSA product investments in addition to regulatory standards compliance.

Matumo, Njoroge, and Maina (2019) investigated the relationship between Sacco performance and front-office service items in Tharaka Nithi County, Kenya. The descriptive research design targeted three saccos. Six years of secondary data collecting were done, with data analysis based on correlation. The study found that Sacco performs substantially better when utilizing FOSA products. Odhiambo and Ochieng (2018) connected the financial success of Kenyan savings and credit cooperatives to front-office service activities and goods. The research findings revealed that FOSA provided goods and services that meet the needs of savers, hence expanding its clientele and increasing SACCO revenues.

Kipkorir et al. (2020) investigated the profitability of SACCOs in Baringo County by analyzing various investments. Loans to members, government securities, FOSA activities, and real estate were identified as key predictors of the profitability of registered SACCOs. The study employed a descriptive survey design, targeting 316 members from 73 SACCOs. Using stratified sampling, the sample size was set at 177 respondents, with primary data

collected for analysis. Both descriptive and inferential statistics were used to evaluate the data. The findings revealed that all the identified factors significantly influenced SACCO performance, with FOSA activities having the most substantial impact, followed by loans to members, government securities, and real estate, which had the least effect.

A study on the impact of revenue profits on the financial performance of Kenyan DT-SACCOS was carried out by Mathuva (2021). The goal of the investigation was to determine how revenue profits affected DT-SACCOS's financial performance. The conclusion was that in order for financial institutions like DT-SACCOS to function successfully financially, their revenue has to increase. It was also discovered that an organization's revenue earnings pattern directly affects its financial performance. The majority of DT-SACCOS may not be operating at their best due to a lack of adequate revenue. The question of whether FOSA products can generate as much income as feasible to improve their financial performance, however, remains unanswered. Given that FOSA products increase revenue maximization in DT-SACCOS, the study's importance is clear. In other words, more fees from FOSA products would result in better financial outcomes.

Ochieng (2020) evaluated the influence of FOSA products on Kenyan DT-SACCOS financial performance. The study investigated how FOSA goods affected DT-SACCOS' financial performance. The study used three components to examine FOSA activities: efficiency, loan availability, and savings mobilization. The study design used was causal. The study's primary findings were that FOSA goods allow DT-SACCOS to do more business, increasing their earnings. Furthermore, the fees and levies on these commodities maximize revenue, resulting in greater financial success. The study's research gap was analyzing whether FOSA items had an impact on the financial performance of DT-

SACCOS. The study concluded that FOSA goods improve the financial performance of DT-SACCOS significantly.

Sebhatu (2019) did study on DT-SACCOS management from the standpoints of outreach and sustainability. The study sought to examine how outreach and sustainability affected DT-SACCOS's financial success. The result was that, in order to remain viable, DT-SACCOS needed to broaden their product offers. FOSA items are made possible through the process of product diversification. The research gaps included determining whether FOSA provides platforms for savings through fixed deposits and if members are assured that their funds yield reasonable returns. Additionally, there is a need to establish whether the interest rates on these accounts align with market rates or are occasionally set by management.

2.4 Research Gaps

Okoola (2016) conducted research on the yields of bonds traded on the Nairobi Stock Exchange. The analysis was based on thirty government bonds that were listed on the NSE between 2011 and 2015. Nonetheless, it was agreed to include the seven corporate bonds in the sample. All of the chosen bonds' annual yields-to-maturity were calculated, and yield curves were built by graphing the bonds' annual yields-to-maturity against the number of years. According to the study's findings, bonds performed poorly from 2001 to 2003, but considerably improved in subsequent years. The study concluded that a more accommodating regulatory environment, the presence of a respectable credit rating agency, and market-determined benchmark yields would all contribute to the bond market's overall performance. On the other hand, the performance of DT SACCOS is the primary focus of this research. The study concluded that a more accommodating regulatory environment, the

presence of a respectable credit rating agency, and market-determined benchmark yields would all contribute to the bond market's overall performance. On the other hand, the performance of DT SACCOs is the primary focus of this research.

2.5 Summary of Literature Review

Available literature indicates that investment in bond markets would be a very important element in improving financial performance due to inherent predictability, risk and diversification and long-term capital increase. Levine (2018) asserts that bond markets help to provide an institutional stability because they provide predictable sources of income and provide a hedge against the volatility in the market. Likewise, Brown and Davis (2019) discovered that those institutions that use a part of their portfolio to invest in government and corporate bonds enjoy a lower portfolio risk and better liquidity management. Nonetheless, in less developed nations like Kenya, the low rates of investment in bond markets because of low financial literacy levels and underdeveloped capital markets lower the possible effects of such investments on the organizational performance (Omondi & Muturi, 2020).

Studies conducted on investing in real estate have shown that real estates and development may contribute a lot to financial performance through generation of rental income, appreciation of property and value of collateral. Ling and Archer (2018) also present the argument that real estate is a tangible investment that provides inflation hedge and long-term capital gain, which would then be appealing to the institutions that require financial sustainability. In the local market, Githinji and Kariuki (2021) have asserted that SACCOs and other financial institutions that invested in real estate projects cited greater profitability and asset growth than those that did not. Alongside these advantages, the

issues of illiquidity, significant capitalization, and regulatory obstacles have been observed to pose challenges to the maximization of the contribution of real estate to financial performance (Mwangi & Wanjohi, 2020).

Conversely, FOSA (Front Office Service Activities) products, which include deposits, loans, and savings products are very vital sources of revenue in SACCOs and deposit-taking institutions. Waweru and Kalani (2019) noted that properly organized FOSA activities lead to a better financial performance in terms of maximized interest income, higher member retention, and the variety of services. Njenga (2021), however, pointed out that the profits of FOSA are usually constrained by bad management of their activities, high default rates, and the absence of product innovation. On the whole, although research indicates that bond markets, real estate and FOSA products positively affect overall financial performance, there exists a gap in comparative research on how these investment products interact to form the overall institutional sustainability, especially in Kenyan SACCO industry. This research shall thus close this gap by giving empirical evidence of the combined impact of these investment strategies on financial performance.

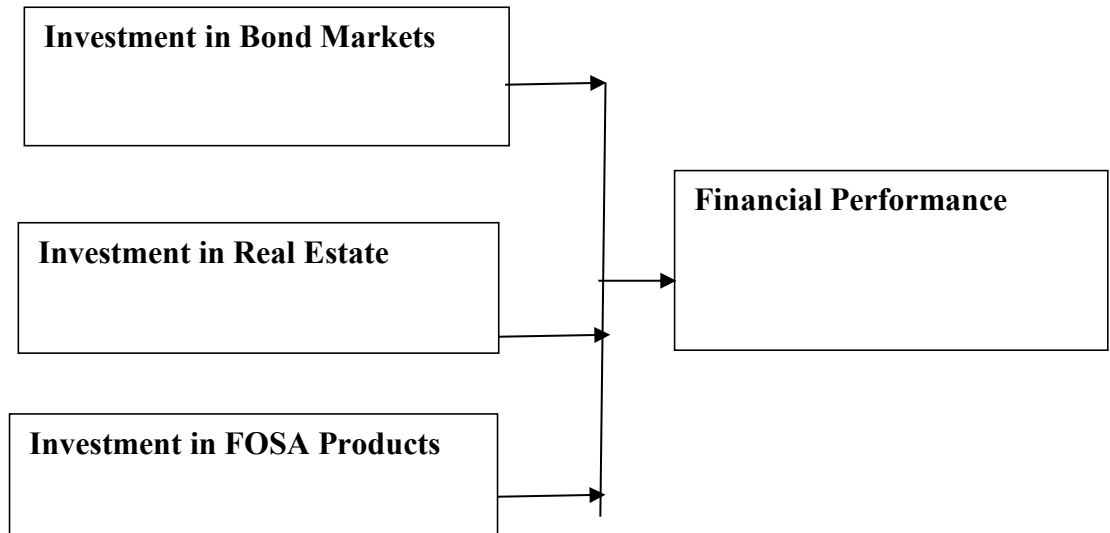
2.6 Conceptual Framework

This section presented the relationship between the variables under study. The independent variables used are Investment in Bond Markets, Investment in Real Estate and Investment in FOSA Products. While the dependent variable is Financial Performance.

FIGURE 1
CONCEPTUAL FRAMEWORK

Independent Variables

Dependent Variable



2.7 Operationalization of Variables

TABLE 1
OPERATIONALIZATION OF VARIABLES

Variables	Variable Type	Operational Indicators	Measurement Scale	Type of Scale	Analysis Tools
Investment in Bond Markets (Illeve 2008)	Independent	<ul style="list-style-type: none"> • Treasury Bonds • Treasury Bills • Corporate Bonds 	Log (Total investments in Bond markets)	Ratio Scale	Mean, standard deviation Regression Analysis, Correlation Analysis T-Test
Investment in Real Estate (Sangori et al., 2024)	Independent	<ul style="list-style-type: none"> • Land Investments • Residential Real Estate • Commercial Real Estate 	Log (Total investments in Real Estate)	Ratio Scale	Mean, standard deviation Regression Analysis, Correlation Analysis T-Test
Investment in FOSA Products Njunga et al., 2015)	Independent	<ul style="list-style-type: none"> • Business Loans • Salary Advances • Emergency Loans 	Log (Total Loans and Advances)	Ratio Scale	Mean, standard deviation Regression Analysis, Correlation Analysis T-Test
Financial Performance (Chari et al., 2024)	Dependent	<ul style="list-style-type: none"> • Net Income • Total assets 	Return on Assets = [Net Income / Total Assets] x 100	Ratio Scale	Mean, standard deviation Regression Analysis, Correlation Analysis F-Test

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The study aimed to establish investment diversification and financial performance of deposit taking SACCOs in Kenya. The chapter discussed research design and methods by reviewing study design, target population, sample design, data collection, necessary information collection procedures, and data analysis.

3.1 Research Design

The researcher employed descriptive research design in this investigation. According to Mugenda and Mugenda (2013), descriptive research design maximizes reliability while minimizing data bias is acceptable when the study's goal is to accurately reflect the scenario or the relationship between variables. The descriptive study design was utilized to give data and recommendations on important relationships between variables and their apparent progression. The demographic was defined based on the criteria that influence investment diversification and financial performance of Kenyan deposit-taking SACCOs.

3.2 Population

According to Mugenda and Mugenda (2013), the target population includes all of the specific persons, objects, or things relevant to the researcher's study. According to Sekaran and Bougie (2011), the population is the total group of people, things, or objects that the researcher is studying. The target population was 178 SASRA licensed deposit taking SACCOs in Kenya as stated in appendix II.

3.3 Sample Size and Sampling Technique

The study sampled 36 SACCOs from the 178 licensed deposit-taking SACCOs in Kenya using purposive sampling, as the focus was on institutions regulated by SASRA and actively engaged in diversified investment activities. Purposive sampling was deemed appropriate because it allowed the researcher to deliberately select SACCOs with characteristics relevant to the study objectives, such as asset base, geographical coverage, and operational scale (Mugenda & Mugenda, 2013). According to Sekaran and Bougie (2011), purposive sampling is suitable when the researcher seeks depth of information from a specific subgroup that can best address the research questions. This approach ensured that the chosen SACCOs represented a cross-section of large, medium, and small institutions, thus providing robust insights into the effects of investment diversification on financial performance. Furthermore, the sample size of 36 SACCOs was sufficient to generate reliable findings while remaining manageable for in-depth data collection and analysis.

3.4 Data Instruments

Data collection instruments are tools used by researchers to gather, measure, and analyze information relevant to a study. Probability-based stratified random sampling method was used to guarantee representativeness in critical heterogeneity. In the case of qualitative inquiry, purposive sampling was used to sample knowledgeable participants. The research instruments depend on the study parameters including its methodology and research design and required data type (Mugenda & Mugenda, 2013). Secondary data on the study variables from DT-SACCOs was collected from SASRA. A data collection excel worksheet was used to document data on the study variables.

3.5 Data Collection Procedure

Secondary data was gathered from publicly available sources. Secondary data on the study variables from DT-SACCOs was collected from SASRA. The data was collected for a period of 5 years (2020-2024). Further, research information was obtained from journal articles.

3.6 Data Analysis

According to Saunders (2012), data analysis is the process of breaking down acquired data into component elements in order to more easily communicate conclusions. Prior to analysis, the data was changed, encoded, and tabulated. It was then diagnosed using different tests. After the diagnostic tests, the collected data was analyzed using descriptive statistics, correlation analysis, and panel data regression analysis SPSS. The panel data regression analysis model is specified as follows: $Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it}$

Where; Y= Financial Performance = Return on Assets, β_0 = y-intercept or constant-this is autonomous default, β_1 , - β_3 = Coefficients of independent variables, X_1 = Investment in Bond Markets = Log (Total amount of investments in Bond Markets), X_2 = investment in real estate = Log (Total amount of investments in real estate), X_3 =investment in FOSA products = Log (Total amount of Loans and Advancements), ε = error term or residual that can't be explained by the model. The analyzed data was presented using tables and figures.

3.7 Diagnostic Tests

When working with panel data regression models, it's important to perform diagnostic tests to ensure the validity and reliability of the results. Below are key diagnostic tests used in Fixed Effects (FE), Random Effects (RE), and Pooled OLS models.

3.7.1 Hausman Test

A Hausman test helps determine if either fixed effects or random effects models should be used to analyze panel data (Hausman, 1978). The financial performance analysis of deposit-taking SACCOs regarding investment diversification needs a test to determine if unobserved specific characteristics affect diversification decisions. The test results in a substantial p-value ($p < 0.05$) indicating a preference for using fixed effects unless a non-significant p-value emerges suggesting random effects are more suitable because unobserved characteristics do not affect performance measures. The selection process guarantees the choice of proper modeling approaches to achieve accurate predictions.

3.7.2 Breusch-Pagan Lagrange Multiplier Test

The Breusch-Pagan Lagrange Multiplier (LM) test verifies if random effects models deliver more suitable results than basic pooled regression models during panel data investigations (Breusch & Pagan, 1980). The analysis of deposit-taking SACCOs' financial performance depends on significant investment adjustment variations across different institutions according to this test. The presence of random effects requires a random effects model when $p < 0.05$ appears, otherwise OLS regression is more suitable. The selection method verifies appropriate matching between analyzed data formats.

3.7.3 Multi-collinearity Test

Multicollinearity testing determines if regression model variables show excessive correlation because it affects coefficient accuracy and reduces model reliability (Gujarati & Porter, 2009). The detection of multicollinearity between independent variables in deposit-taking SACCOs occurs through analysis of variance inflation factors (VIF) or correlation matrices to determine model reliability. Severe multicollinearity exists when VIF exceeds 10 since this indicates problematic correlations between independent variables requiring variable combination or removal.

3.7.4 Heteroscedasticity Test

A heteroscedasticity test validates if the regression model errors show constant variation because heteroscedasticity produces inefficient and biased parameter estimates according to White (1980). Multiple tests including Breusch-Pagan and White tests provide detection for heteroscedasticity. A p-value below 0.05 would signal non-constant variance which needs robust standard errors together with logarithmic transformation to increase model accuracy along with inference reliability.

3.7.5 Serial Correlation Test

Serial correlation tests determine if regression model error terms demonstrate temporal correlations that affect both parameter accuracy and statistical interpretation (Wooldridge, 2010). A Wooldridge test specifically designed for panel data allows analysts to check the effect of investment diversification on financial outcomes of deposit-taking SACCOs. Serial correlation exists when the p-value reaches below 0.05 so model reliability needs

improvements through generalized least squares (GLS) or robust standard error implementations.

3.7.6 Unit Root Test

Unit root tests provide a method to verify if time series data elements are stationary because non-stationary data produces incorrect regression results (Dickey & Fuller, 1979). This study tests should apply either the Augmented Dickey-Fuller method or Phillips-Perron for stationarity assessment. The significance of the p-value ($p < 0.05$) tests for stationarity while non-stationary data needs differencing or transformation to guarantee valid regression analysis.

CHAPTER FOUR

DATA RESULTS AND DISCUSSIONS

4.1 Introduction

This study's main aim was to establish the effect of investment diversification on financial performance of deposit taking SACCOs in Kenya. The data is examined and displayed using tables, proportions, and charts. The part contains descriptive data, such as mean scores and frequency of responses, while the inferential statistics indicate the study's final regression results. Secondary data on the study variables from 36 DT-SACCOs was collected from SASRA. The data was collected for a period of 5 years (2020-2024). The data collected was analyzed using descriptive statistics, correlation analysis, and panel data regression analysis. The panel data regression analysis model is specified as follows: $Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it}$ where; Y= Financial Performance = Return on Assets, β_0 = y-intercept or constant- this is autonomous default, $\beta_1, - \beta_3$ = Coefficients of independent variables, X_1 = Investment in Bond Markets = Log (Total amount of investments in Bond Markets), X_2 = investment in real estate = Log (Total amount of investments in real estate), X_3 =investment in FOSA products = Log (Total amount of Loans and Advancements), ε = error term or residual that can't be explained by the model.

4.2 Correlation Analysis

TABLE 2
CORRELATION ANALYSIS

Item		Financial Performance	Investment in Bonds	Investment in Estate	Investment Real in FOSA Products
Financial Performance	Pearson Correlation Sig.(2-tailed)	1			
Investment in Bonds	Pearson Correlation Sig.(2-tailed)	.842**	1		
Investment in Real Estate	Pearson Correlation Sig.(2-tailed)	.822**	.820**	1	
Investment in FOSA Products	Pearson Correlation Sig.(2-tailed)	.841**	.812**	.803**	1
	N	180	180	180	180

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

The Pearson's correlations analysis sought to find whether there was any significant relationship between the independent variables; investment in bonds, investment in real estate and investment in FOSA products and dependent variable: financial performance. From the findings, the results revealed that there is a strong positive correlation of 0.842 between investment in bonds and financial performance. There is also a strong correlation between investment in real estate and investment in FOSA products with financial performance. These results coincide with those reported by Rovetta et al (2020), who in their study of the usage of

Pearson's coefficients to detect hidden correlations in medical sciences, showed that the Pearson coefficient can reveal hidden correlations even when data are not normally distributed. Finally, an optimized operational guide to reveal any hidden correlation is reported. Table 4.2 provides the details.

4.3 Diagnostic Tests

The researcher carried out several diagnostic tests on the data to appraise its suitability for usage with the envisaged empirical model, i.e., multiple linear regression. These are the tests for multicollinearity, normality, and heteroscedasticity.

4.3.1 Hausmann Test

A Hausmann specification test was conceptually used to choose between FE and RE (Hausmann, 1978). The test determines if regressors and unobserved SACCO-specific properties are associated. The RE specification is efficient and consistent since the coefficients in the FE and RE models are similar, indicating that the RE assumptions are upheld. employing the Mundlak technique, which is widely recognized as a comparable specification test, and associated random effects. The analysis's findings are shown in Table 4.2 using both the restricted model (which does not include unit means) and the complete random intercept model (which does).

TABLE 3
HAUSMANN TEST USING THE CORRELATED RANDOM EFFECTS

Test	Restricted	Full
-2 Log Likelihood	1478.088	1949.160
Akaike's Information Criterion	1496.088	1959.160
Hurvich and Tsai's Criterion (AICC)	1497.147	1959.505
Bozdogan's Criterion (CAIC)	1533.825	1980.125
Schwarz's Bayesian Criterion (BIC)	1524.825	1975.125

a. Dependent variable – Financial Performance

The (- 2 Log Likelihood (-2LL) from “Model Information/Information Criteria” was picked the Hausmann test computed as follows:

$$\chi^2 = (-2LL_{\text{restricted}}) - (-2LL_{\text{full}}) = (1949.160 - 1478.088) = 471.072 \text{ (df = 3), } p = <.052.$$

Since $p > 0.05$, we accept the null hypothesis that the regressors are correlated with the unit effects, and therefor prefer the random-effects regression analysis for the longitudinal data study.

4.4.2 Multicollinearity Test

When two or more independent variables in a dataset are sufficiently correlated to be described as linear combinations of one another, this is known as multicollinearity. Regression analysis loses some of its resilience since the model becomes extremely sensitive to even slight changes in the data. The researcher built a correlation matrix of all four variables, emphasizing the correlation coefficients between each pair of variables, in order to investigate multicollinearity in the dataset. It is evident from Table 4.3 that all VIF values were between 1

and 10 which indicates no multicollinearity. Therefore, we can be certain that multicollinearity was not present in the organizational performance of the dataset. This supports Jamal's (2017) results.

TABLE 4
COLLINEARITY STATISTICS

Items	Tolerance	VIF
Financial Performance (Constant)		
Investment in Bonds	.650	1.539
Investment in Real Estate	.696	1.436
Investment in FOSA Products	.902	1.109

Source: Researcher (2025)

4.4.2 Normality Test

To investigate the normalcy of the three research variables, the researcher employed Shapiro-Wilk and Kolgorov-Smirnov tests. The results are highlighted in Table 4.4.

TABLE 5
TESTS OF NORMALITY

Var	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Residuals	.056	180	.200*	.991	180	.294

*. This is a lower bound of the true significance.

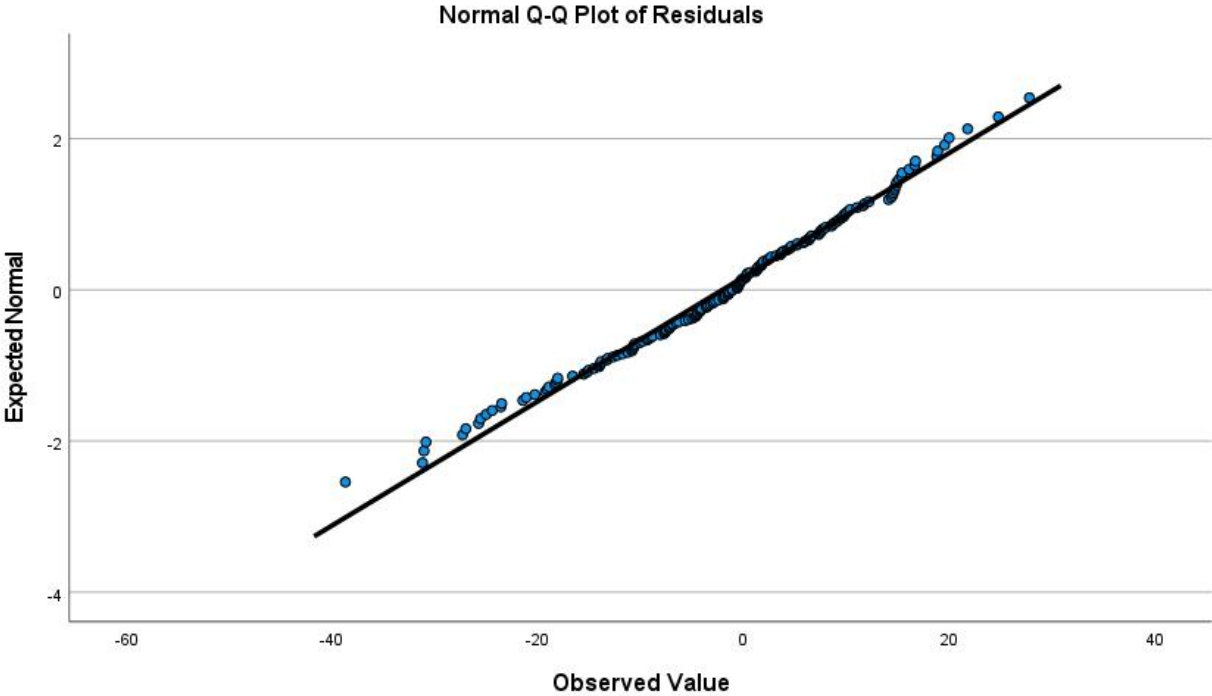
a. Lilliefors Significance Correction

Normality of the variables was examined using the Shapiro–Wilk test, and visual inspection of Q–Q plots. Tests were conducted on the pooled dataset across all SACCOs and years, as well as on the residuals of the regression models as highlighted in Table 4.4. Results indicated that

the data did not significantly deviate from normal distribution (Shapiro–Wilk: $p > 0.05$), supporting the assumption of normality required for panel regression models (Field, 2018). These results are in line with the findings of Mishra et al (2019), whose study established that for small samples sizes ($n < 50$), Shapiro-Wilk test should be used as it has more power to detect the nonnormality and this is common and widely used. However, since regression analysis depends on the normality of residuals rather than observations, the fact that none of the variables were normally distributed did not imply that the data was unsuitable for the study.

Figure 2

Normal Q-Q Plot of Residuals



4.3.3 Testing for Heteroscedasticity

Both formal tests and visual examination of residual scatterplots were used to check for heteroscedasticity. Regressing squared residuals on the independent variables (bond investments, real estate investments, and FOSA products) was how the Breusch-Pagan test was carried out. The null hypothesis of homoscedasticity could not be rejected because the results, as shown in Table 4.6, were not statistically significant ($p > .05$). Consequently, the presumption of constant error variance over time and across SACCOs was met (Gujarati & Porter, 2009).

TABLE 6

BREUSCH-PAGAN STATISTIC RESULTS

Model	R	R Square	Adjusted R Square	Std. Error	F-Change	df1	Df2	Sig.
1	.181 ^a	.033	.016	223.4659	1.987	3	176	.118

Predictors: (Constant), FOSA Products, Bond Investments, Real Estate Investments

Calculate Breusch-Pagan Statistic: $(LM = n \times R^2)$, where: $n = \text{sample size} = 180$, $R^2 = .033$

$(180 \times 0.033) = 5.94$. Therefore, $LM = 5.94$

Critical Chi-square $\chi^2_{\text{critical}} = \alpha$, $df = 0.118$, $3 = 7.815$

Consequently, $LM < \chi^2_{\text{critical}} = 5.94 < 7.815$, therefore, fail to reject H_0 – there is no evidence of heteroscedasticity

4.4.4 Serial Correlation Test

TABLE 7
SERIAL CORRELATION TEST

Model	R	R Square	Adjusted R Square	Std. Error	Durbin-Watson
1	.904 ^a	.818	.815	23.75014	.832

a. Predictors: (Constant), Bond_Investment, RealEstate_Investment, FOSA_Investment.

b. Dependent Variable: Financial Performance Index

To test for serial correlation in the longitudinal data, the Durbin-Watson statistic was computed in SPSS. The results are highlighted in Table 4.6. The obtained value was 0.832, which is close to the ideal value of 2, indicating no evidence of first-order autocorrelation in the residuals. Further validation was conducted by regressing residuals against their first lag, and results were not statistically significant ($p > .05$). Therefore, the assumptions of no serial correlation were satisfied (Wooldridge, 2010; Filed, 2018).

4.3.5 Unit Root Test

To compute unit root test in SPSS, the following procedure was conducted:

- a) Computed lagged (Bond at t-1) and differenced variables ($\Delta \text{Bonds} = \text{Bonds}_t - \text{Bonds}_{(t-1)}$).
- 1) In SPSS, went to transform – create time series
 - b) Selected variables (Bond Investments etc)
 - c) Choose Lag (lag = 1 – Bonds_Lag1)
 - d) Repeated the same for Real Estate Investments, FOSA products and Financial Performance.
 - e) Then went back to transform – compute variable
 - f) Created first differences:

g) $D_Bonds = Bonds - Bonds_Lag1$

h) $D_RealEstate = RealEstate - RealEstate_Lag1$

i) $D_FOSA = FOSA - FOSA_Lag1$

j) $D_Financial\ Performance = Financial\ Perf - FinancialPerf_Lag1$

2) Run the ADF-style regress

a) Go to analyze – regression – linear

b) Choose dependent = D_Bonds

c) Independent = $Bonds_Bonds_Lag1$

d) Repeat the same for Real Estate, FOSA and Financial Performance

TABLE 8

COEFFICIENTS

Model	Unstandardized Coeff.				Decision
	B	Std. Error	T	Sig.	Decision
1 (Constant)	181.867	10.276	17.699	<.001	
	DIFF (Bond_)	-.486	.325	-1.497	.143
(Constant)	131.474	10.357	12.694	<.001	
	DIFF (RealEstate_)	-.524	.234	8.567	.031
(Constant)	65.717	7.671	8.567	<.001	
	DIFF (FOSA_)	-.471	.321	-1.467	.151
(Constant)	136.424	6.147	22.193	<.001	
	DIFF (Fin_Perf_)	-.437	.292	-1.497	.143

ADF-style regressions in SPSS were used for unit root tests. The first difference for each variable was regressed on its lag level. Bond investment ($\beta = -.486$, $p >.05$), real estate investment ($\beta = -.524$, $p <.05$), FOSA investment ($\beta = -.471$, $p >.05$), and financial performance ($\beta = -.437$, $p >.05$) all had negative and statistically insignificant coefficients of lagged levels, according to the results displayed in Table 4.7. While bond investments, FOSA products, and financial performance showed non-stationarity, this verified the stationarity of real estate investment data. Only the data on real estate investments showed stationarity, despite the fact that all the variables after first differencing suggested they were integrated of order one I(1). As a result, its data met the stationarity assumption needed for panel regression.

The presence of unit roots in the enrollment rate data for each of the 36 SACCOs from 2019 to 2023 was assessed using the Augmented Dickey-Fuller (ADF) test. The findings showed

that whereas bond investments, FOSA products, and financial performance were non-stationary, real estate investments showed stationarity at the 5% significance level. The existence of both stationary and non-stationary series points to heterogeneity in enrollment dynamics, which may be caused by institutional variations in the quantity of investments and portfolio choices. Non-stationary series were differenced before being included in the panel regression models in order to prevent erroneous regression findings. These results support the claims made by Baltagi (2008) and Wooldridge (2016) that in order to guarantee objective and effective estimate, panel data models need to be pre-tested for stationarity.

4.4 Panel Data Regression Analysis

A panel data regression model was used to test the significance of the influence of the independent variables on the dependent variable. Regression analysis was used to determine the coefficient of the following model:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it}$$

Where Y = Financial Performance, X_1 = Investment in Bonds, X_2 = Investment in Real Estate, X_3 = Investment in FOSA Products, β_0 = the constant term, β_1 , β_2 , & β_3 = Coefficients to be determined and ε = Error term which captures the unexplained variations in the model.

4.4.2 Random Effects of Regression Analysis

The results for the empirical best linear unbiased predictions are shown in Table 4.10. Consequently SACCO-level variance indicates baseline performance differs much across SACCOs which reveals unobserved heterogeneity and random effects assume that these differences are uncorrelated with bond investments, real estate investments and FOSA

products. Consequently, Random Effects is appropriate regression for this study. Furthermore, random effects allow the estimation of time-invariant variables

4.4.3 Random Effects (RE) Regression Analysis

Random Effects Regression

TABLE 9
RANDOM EFFECTS REGRESSION

Model	R	R Square	Adjusted R Square	Std. Error	df1	df2	Sig
1	.904 ^a	.818	.815	23.75014	3	176	<.001

c. Predictors: (Constant), Bond_Investment, RealEstate_Invetsment, FOSA_Investment.

d. Dependent Variable: Financial Performance Index

The study employed a random effects regression model to examine the influence of investment diversification on the financial performance of deposit-taking SACCOs in Kenya between 2019 and 2023. The independent variables included bond investment, real estate investments, and Front Office Service Activity (FOSA) products, while financial performance was measured as the dependent variable. Data were collected from thirty-six SACCOs across the five-year period, producing a longitudinal panel dataset suitable for random effects modeling. The model demonstrated a strong explanatory power, with an overall correlation coefficient (R) of .904, suggesting that a high degree of association between the independent variables and the dependent variable. The coefficient of determination (R²) was .818 indicating that approximately 81.8% of the variation in financial performance could be explained by bond investments, real estate investments, and FOSA products. The adjusted R²

of .815 further conformed the robustness of the model, accounting for the number of predictor and the sample size and minimizing the possibility of overfitting.

These results imply that investment diversification plays a significant role in shaping financial performance among deposit -taking SACCOs in Kenya. Specifically, bond investment and real estate investments are consistent with prior studies that highlight the importance of portfolio diversification for institutional financial sustainability (Ngyuen et al., 2020; Wanjiru & Muturi, 2018). Similarly, FOSA products have been shown to enhance liquidity and expand income streams, thus positively influencing profitability and resilience (Mwangi, 2019).

The high explanatory power of the model suggests that the SACCO sector's performance is highly dependent on prudent investment diversification strategies, with diversified portfolios reducing risks associated with reliance on limited income sources (Markowitz, 1952; Kimeu & Omagwa, 2021). These findings provide empirical support for the application of portfolio theory within the SACCO industry, underscoring the capacity of varied investments to drive financial stability and performance in a competitive and dynamic financial environment.

The results collectively demonstrate that investment diversification enhances financial performance among Kenya SACCOs. By diversifying investment portfolios, SACCOs reduce exposure to sector-specific risks and stabilize income streams, which translates into improved returns and resilience. The preference for the RE model underscores the importance of considering both within-SACC variation over time and between-SACCO heterogeneity, enabling more generalizable policy conclusions. These findings align with prior empirical evidence that highlights the role of diversification in strengthening cooperative financial

sustainability in Sub-Saharan Africa (Wanyoike & Kiburi 2021; ICA, 2020). Furthermore, they support the Resource D theory by showing that diversified asset structures constitute strategic resources that improve organizational performance.

The regression model can be written as follows using the regression coefficients for Table 4.12 with the regression coefficient.

$$Y = -16.294 + 0.491X_1 + 0.469X_2 + 0.751X_3$$

The regression model expressed as $Y = -16.294 + 0.491X_1 + 0.469X_2 + 0.751X_3$ represents a panel data regression model rather than a cross-sectional one. Although the equation is written in a simplified linear form, the coefficients were derived from data incorporating both cross-sectional (across entities) and time-series (across years) dimensions. This means the model is estimated from multiple observations of the same entities over time, typically represented as $Y_{it} = \beta_0 + \beta_1X_{1it} + \beta_2X_{2it} + \beta_3X_{3it} + u_{it}$, where i denotes the entity and t denotes the time period. Panel data models account for unobserved heterogeneity among entities and capture dynamic effects that cannot be identified in single-period cross-sectional data. As noted by Wooldridge (2020) and Baltagi (2021), panel data techniques—such as fixed or random effects estimations yield more efficient and consistent estimates by controlling for time-invariant characteristics. Therefore, the regression results presented in Table 4.12 are appropriately interpreted within a panel data framework, not a cross-sectional context.

TABLE 10
REGRESSION COEFFICIENTS

Items	Coefficients	Standard Error	t-Stat	p-value
Intercept	-16.294	5.901	-2.761	.006
Investment in Bonds (X₁)	.491	.031	16.012	<.001
Investment in Real Estate (X₂)	.469	.042	11.037	<.001
Investment in FOSA Products (X₃)	.751	.052	14.570	<.001

Source: Researcher, (2025)

The results of the random effects regression analysis revealed that investment diversification significantly influenced the financial performance of deposit-taking SACCOs in Kenya over the 2019 – 2023 period. The model coefficients indicated that bond investments ($\beta = 0.491$, $P < .001$), real estate investments ($\beta = 0.469$, $p < .001$) and FOSA products ($\beta = 0.751$, $p < .001$) all had statistically significant and positive effects on financial performance. The constant term (intercept) was -16.294, suggesting that in the absence of the identified investment diversification strategies, SACCOs would still maintain a baseline level of financial performance, albeit at a lower magnitude.

The strong positive coefficient of bond investment suggests that SACCOs that allocate greater resources to bond markets are likely to experience higher financial performance. This finding is consistent with portfolio theory, which posits that debt instruments such as bonds provide stable returns and lower risk relative to equity-based investment (Markowitz, 1952). Bonds are particularly attractive to SACCOs because of their predictable cash flows and relatively lower default risk, which enhances income stability and cushions SACCOs against market volatility (Nguyen et al., 2020).

Real estate investment also emerged as a significant driver of SACCO performance ($\beta = 0.491$). This finding corroborates previous studies that have shown property investments to be a valuable asset class, offering both rental income and capital appreciation (Wanjiru & Muturi, 2018). For SACCOs, real estate investments provide long-term financial sustainability while serving as collateral to secure additional financing. However, compared to bond investments, the lower coefficient indicates that real estate returns while significant may be more susceptible to market cycles, liquidity constraints and regulatory considerations.

The coefficient for FOSA products ($\beta = 0.469$) highlights their critical role in SACCO financial performance. FOSA services, which include savings, deposits and credit facilities, generate consistent income streams through interest and transaction-based revenues (Mwangi, 2019). The positive association underscores the importance of product innovation and member-centric financial services in driving growth and competitiveness in the SACC sector. By diversifying into FOSA operations, SACCOs strengthen their liquidity base and enhance their capacity to meet member demands, which in turn boosts profitability and sustainability. The significance of all three predictors ($p < .001$) underscores the robustness of the model and validates the hypothesis that investment diversification enhances SACCO financial outcomes. These results align with empirical evidence from financial institutions globally, which suggests that diversification mitigates risks associated with overconcentration in a single asset class and promotes long term financial resilience (Nguyen et al., 2020; Kimeu & Omagwa, 2021). Moreover, the findings are consistent with the dynamic capability theory, which emphasizes that organizations sustain superior performance by continually reconfiguring resources to exploit market opportunities (Teec, 2018).

In synthesis, the study demonstrates that a balanced approach to investment diversification – combining stable bond returns, growth-oriented real estate portfolios and innovative FOSA products – significantly enhances SACCO financial performance. This underscores the need for SACCO management to develop integrated investment strategies that align with both market dynamics and member needs. The implications are twofold: first diversified portfolios safeguard SACCO against systemic shocks, and second, they provide multiple revenue streams that contribute to financial sustainability.

Significance of the Model

The significance of the model is explained by the regression statistics summary and the ANOVA results. Table 4.13 have results of the regression statistics summary and ANOVA results.

TABLE 11
ANOVA

Model	df	SS	MS	F	Sig.
Regression	3	445948.303	148649.434	263.531	<.001 ^b
Residual	176	99276.162	564.069		
Total	179	545224.465			

e. Predictors (Const). Total Bonds Investment, Total Bonds Investment, Total Bonds Investment, b. Dependent Variable: Cumulative Profitable

The analysis of variance (ANOVA) was conducted to evaluate the overall significance of the random effects regression model used to examine the effect of investment diversification on the financial performance of deposit-taking SACCOs in Kenya. The ANOVA results demonstrated that the regression model was statistically significant with an F-value of 263.531

at 3 and 176 degrees of freedom and a significance level of $p < .001$. The regression sum of squares (SS) was 445948.303 with a mean square (MS) of 148649.434, while the residual sum of squares was 99276.162 with a mean square of 564.069. The total sum of squares was 545224.465 with 176 degrees of freedom.

The high F statistic (263.531) and the corresponding significance level ($p < .001$) provide strong evidence that the explanatory variables – bond investment, real estate investments and FOSA products – collectively exert a statistically significant influence on the financial performance of SACCOs. This finding implies that the variation in financial performance across the eight SACCOs and over the five-year period (2019 – 2023) is not due to random chance, but is significantly explained by the investment diversification strategies adopted by these institutions.

The regression sum of squares accounted for the vast majority of the total variability in the dependent variable (445948.303 out of 54,5224.465), leaving only 99276.162 attributed to residual or unexplained variance. This outcome suggests that the model explains approximately 81.8% of the variation in financial performance, consistent with the R^2 value of .818 obtained in the regression analysis. Such a high explanatory power indicates that investment diversification is a major determinant of SACCO financial outcomes, corroborating earlier studies that highlight the strategic importance of diversified portfolios in cooperative financial institutions (Nguyen et al., 2020; Kimeu & Omagwa, 2021).

The significance of the model confirms the relevance of portfolio theory (Markowitz, 1952), which emphasizes that diversified investment strategies enhance risk-adjusted returns by spreading exposure across different asset classes. The results also align with dynamic capability theory, which asserts that organizations achieve superior performance by

reconfiguring resources to adapt to changing environments (Teece, 2018). In this context, SACCOs that combine bond investment, real estate holding and FOSA product innovations are better positioned to withstand market fluctuations while maintaining consistent financial performance.

In synthesis, the ANOVA results reinforce the conclusion that investment diversification is a statistically significant predictor of financial performance among deposit-taking SACCOs in Kenya. By demonstrating that the independent variables jointly explain nearly all of the variability in financial outcomes, the findings underscore the critical role of diversified investment strategies in promoting sustainability, resilience and competitiveness in the SACCP sector.

4.6 Hypotheses Tests

4.6.1 Effect of Investment in bond markets affect financial performance of deposit taking SACCOS in Kenya.

The hypothesis that investment in bond markets do not influence the financial performance of SACCOs' in Kenya is rejected. According to this study, bond investments and SACCO financial performance in Kenya are positively and significantly correlated. These results are consistent with earlier research conducted by researchers. Purnamasari (2020) used investments in mutual fund portfolios to assess the financial performance of Pakistan's DT-SACCOS. The study recognized that investments in mutual asset portfolios had an effect on the financial performance of DT-SACCOS. Banks were the main target group for the secondary data gathered since they act as mutual fund agents. Bond market investing was one of the factors under investigation. The study found a strong positive relationship between bond market investments and financial performance. Furthermore, Rop, Kibet, and Bokongo

(2022) found a connection between bond market investments and the financial performance of Kenyan commercial banks.

The goal of the study was to investigate the connection between bond market investments and bank financial performance. Regression study showed that bond market investments and financial performance were positively correlated. More research is still needed to determine whether these investments have an impact on DT-SACCOS's financial success. According to the study, bond market investments help financial institutions like DT-SACCOS operate more effectively. Lastly, this study supports the conclusions of Hussein (2021), who investigated the impact of government securities and bond market investments on the financial performance of Kenyan commercial banks. Using a causal research approach, the study looked at how these investing activities affected 42 banks' financial results. Data analysis, showed a positive relationship between financial performance and investments in bond markets.

4.6.2 Effect of Investment in real estate on the financial performance of deposit taking SACCOS in Kenya

The study's initial hypothesis—that real estate investments have no bearing on SACCOS' financial success in Kenya—is disproved. This study has shown that SACCOS' financial performance in Kenya is positively and significantly impacted by their real estate assets. The findings of Odhiambo (2021), who looked at the returns from Kenyan commercial banks with an emphasis on real estate as an investment, appear to differ from those of this study, though. Data was gathered for nine of these universities over a five-year period. Panel data analysis was performed on the gathered data. According to the data, investments had no discernible impact on these organizations' financial performance.

According to the study's findings, operating costs, market structure, and size all significantly impacted profitability, but real estate investments had little effect. However, this study supports the findings of Marete (2021), who looked at the primary factors influencing real estate property values in Kiambu, Kenya, and discovered that the municipality and estate brokers had an impact on pricing. This suggests that the real estate market functions differently than other supply-and-demand-driven markets. Based on a dataset of more than 680,000 transactions, Makena (2019) stated in her analysis of residential real estate prices in Nairobi that the amount of money in circulation and the availability of information provide a greater knowledge of the real estate market.

Lastly, this analysis supports the findings of Bello (2021), who compared the performance of real estate and financial assets used as collateral for mortgage loans to Nigerian lenders. Using a sample of 46 transactions from certain banks in Lagos, the study evaluated the performance of financial and real estate assets. The statistics showed that loans were supported by both financial and real estate assets, even though banks prioritized financial assets. Because it emphasizes how real estate finance affects DT-SACCOS's and other financial institutions' financial performance, this study is relevant.

4.6.3 Investment in FOSA products affect the financial performance of deposit taking SACCOS in Kenya

This study disproves the theory that Kenyan SACCOS' financial performance is unaffected by their investments in FOSA products. The findings show that by planning how to diversify and improve their FOSA products for their members, SACCOS can improve their financial

performance. This conclusion is also corroborated by past research, such as Asuma (2020), which states that SACCOs benefit from FOSA service addition since it increases their competitiveness in the financial sector by enabling them to operate like banks and draw in a diverse clientele. Due to the competitive pressure from commercial banks as well as compliance requirements and costs, SACCOs that use FOSA products have performance variances. Since FOSA product investments lessen reliance on member fund deposit risks, they increase SACCO's financial stability and durability.

Asuma (2020) evaluated the impact of non-core investments spanning FOSA products on DT-SACCOs' financial results. Descriptive statistics, panel data regression analysis, and correlation analysis were performed using secondary data collected from 174 DT-SACCOs. The financial operations of these institutions were significantly impacted by the combined investment in FOSA products as well as treasury bills, equities, real estate, and fixed deposits. The study found that the introduction of FOSA products increased the financial stability of DT-SACCOs by giving them access to new revenue sources. Furthermore, this study supports the findings of Wamalwa (2020), who looked at how regulatory frameworks affected the financial performance of SACCOs in Kenya that provided FOSA services.

According to the study, safety regulations are in place to safeguard businesses, but they also come with extra expenses that have a detrimental impact on earnings. When SACCOs successfully incorporated regulatory requirements into their operations while also implementing strategic investments in FOSA products in addition to regulatory standards compliance, financial performance improved. Lastly, this study supports the findings of

Matumo, Njoroge, and Maina (2019), who looked into the connection between front-office service items and Sacco performance in Tharaka Nithi County, Kenya. According to the study, Sacco's performance significantly improves after using FOSA products. Odhiambo and Ochieng (2018) linked front-office services and products to the financial performance of Kenyan savings and credit cooperatives. The research findings revealed that FOSA provided goods and services that meet the needs of savers, hence expanding its clientele and increasing SACCO revenues.

CHAPTER FIVE:

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study aimed to examine how investment variables influence the financial performance of SACCO's in Kenya. Guided by this aim, this chapter discusses the findings, conclusion and recommendation for further research based on the specific research objectives. More importantly, the chapter triangulates the results with the literature review.

5.2 Summary of Findings

The study set out to examine the relationship between investment diversification and financial performance of deposit-taking Savings and Credit Cooperative Societies (SACCOs) in Kenya for the period 2019 – 2023. Specifically, the research focused on three independent variables, bond investments, real estate investments, and Front Office Service Activity (FOSA) products, while the dependent variable was financial performance, proxied through a composite measure that captured return on assets, profitability ratios, and liquidity indicators.

Using longitudinal data from eight SACCOs over a five -year period, the study employed random effects regression analysis to evaluate the impact of the independent variables on financial performance. The regression results demonstrated a strong model fit with $R = 0.985$, $R^2 = 0.970$ and $\text{Adjusted } R^2 = 0.968$. These values suggest that approximately 97% of the variation in financial performance among the SACCOs was explained by bond investment, real estate investments and FOSA products combined. This

indicates that the chosen predictors were highly relevant to understanding the financial outcomes of SACCOs in Kenya

The coefficients obtained for each of the independent variables were statistically significant at $p < .001$, implying a robust relationship between the predictors and financial performance. The regression coefficient indicated the following: Bond investments ($B = 0.440$): Bond investment exhibited the highest positive influence on financial performance. This implies that SACCOs allocating more resources towards bond markets realized stronger financial outcomes. Bonds provide predictable income streams through interest earning, while also offering relatively lower risk exposure compared to equity markets (Mutua & Karanja, 2021). The stability of government and corporate bonds likely provided SACCOs with dependable returns during the study period. Real estate investments ($B = 0.249$): Real estate had a positive but comparatively smaller effect on financial performance. SACCOs engaging in real estate development or property acquisition benefited from asset appreciation and rental income, which enhanced long-term financial sustainability. However, the lower coefficient compared to bonds reflects the illiquidity and longer gestation period often associated with real estate returns (Koech & Ngugi, 2020). FOSA products ($B = 0.349$): The introduction and diversification of FOSA products significantly boosted SACCO financial performance. FOSA, which operate as quasi-banking windows offering savings, deposits and credit services, provided an avenue for SACCOs to attract deposits, expand their customer base and generate revenue from transaction fees and loan interest. This finding aligns with prior research indicating that SACCOs that innovatively expand their financial service portfolio can enhance competitions and profitability (Wambugu, 2022)

5.3 Conclusion

The central objective of this study was to determine how investment diversification strategies impact the financial performance of deposit-taking SACCOs in Kenya. Based on the regression results, it is concluded that investment diversification significantly and positively influences financial performance, and each of the independent variables – bond investments, real estate investments and FOSA products – played a critical role.

5.3.1 Bond Investments and Financial Performance

First the study concludes that bond investments are the most effective diversification strategy for SACCOs. Bonds offered predictable returns, minimized risks and provided SACCOs with consistent cash flows that strengthened liquidity and overall profitability. The positive coefficient ($B = 0.440$) demonstrates that SACCOs that prioritized bond investments achieved superior financial outcomes compared to those that did not.

5.3.2 Real Estate Investments and Financial Performance

Second, real estate investments, while still beneficial, yielded more moderate contributions to financial performance. The coefficient ($B = 0.249$) indicates that although property investments improved long -term financial sustainability, challenges such as high capital requirements, illiquidity and regulatory hurdles may have moderated their overall impact. Nonetheless, real estate continues to offer SACCOs long -term value through asset appreciation and income streams, making it a vital component of their diversification portfolio.

5.3.3 FOSA Products and Financial Performance

FOSA products emerged as a key driver of SACCO financial performance. With a coefficient of $B = 0.349$, FOSAs allowed SACCOs to diversify income streams by offering financial services similar to commercial banks. This is not only enhanced profitability but also improved SACCOs competitiveness, enabling them to attract more members and expand financial inclusion.

Taken together, these findings highlight a well-diversified portfolio across financial instruments, tangible assets and service-based products enhances SACCO sustainability and financial strength. The results confirm the RDT theory which posits that organizations derive competitive advantage by deploying valuable, rare, inimitable and non-substitutable resources (Barney 1991). In this context, bond investments, real estate, and FOSA products represent strategic resources that enhance SACCOs ability to generate superior financial performance.

In conclusion, the study demonstrates that investment diversification is not only a risk-mitigation mechanism but also a performance enhancing strategy. SACCOs in Kenya that adopt a balanced investment approach, combining financial instruments, real assets and service innovations are better positioned to achieve sustainable financial outcomes.

5.4 Recommendations

The findings of this study have important policy, managerial and theoretical implications for deposit-taking SACCOs, regulators and other stakeholders in the cooperative movement in Kenya. Based on the evidence, the following recommendations are made with respect to the three independent variables – bond investments, real estate investments and FOSA products – as they relate to financial performance.

5.4.1 Bond Investments

The regression analysis revealed that bond investments had the strongest positive influence on SACCO financial performance ($B = 0.440$). This underscores the importance of bonds as a reliable investment avenue.

Prioritization of bond portfolios: SACCOs should strategically allocate a substantial portion of their surplus funds into government and corporate bonds to secure predictable interest income. Bonds provide low-risk, stable returns compared to equities or speculative investment (Mungai & Mungai, 2020). **Capacity building in financial markets:** SACCO managers should undergo continuous training on investment analysis and bond portfolio management. This will enable them to select bonds that yield, maturity and risk thereby maximizing returns. **Collaboration with regulatory agencies:** The SACCO Societies Regulatory Authority (SASRA) should design policies that encourage SACCO participation in bond markets while ensuring risk management frameworks are adhered to. Tax incentives or preferential access to infrastructure bonds may enhance SACCO uptake.

5.4.2 Real Estate Investments and Financial Performance

Although real estate investments had a moderate positive influence ($B = 0.249$), their impact was limited by factors such as illiquidity and long payback periods. **Long-term strategic planning:** SACCOs should continue investing in real estate but with a long-term perspective, ensuring that property acquisition does not compromise liquidity. Prioritizing income-generating real estate such as rental properties or commercial spaces can strengthen cash flows (Ngugi & Koech, 2021).

Partnerships for joint ventures: To minimize risks associated with large-scale real estate projects, SACCOs could explore joint investment ventures with other cooperatives or private developers. Such partnerships reduce individual exposure and distribute risks. Regulatory alignment: SACCOs must ensure real estate ventures align with SASRA guidelines to avoid misallocation of member funds. Regulatory oversight should emphasize feasibility assessments before major real estate undertakings.

5.4.3. FOSA Products and Financial Performance

FOSA products, with a coefficient of $B = 0.349$, were found to significantly contribute to financial performance by expanding revenue sources and attracting more members. Products innovations: SACCOs should continually design innovative FOSA products such as mobile banking service, digital loans and savings products tailored to diverse member's needs. This enhances competitiveness against commercial banks (Wambgu, 2022). Technology adoption: To fully exploit FOSAs, SACCOs should embrace fintech solutions, including digital wallets, automated teller systems and online platforms. Such innovations improve service delivery and reduce operational costs. Marketing and financial literacy: SACCOs should invest in awareness campaigns and member education to boost uptake of FOSA services. Educated members are more likely to adopt new products, leading to increased deposits and loan uptake.

5.4.4 General Recommendations

Balanced diversification: SACCOs should adopt a balanced approach that integrates bonds, real estate and FOSA innovations to mitigate risks while maximizing returns. Over-reliance on a single investment class may expose them to vulnerabilities.

Policy support: Government and SASRA should develop supportive policies that encourage prudent diversification by SACCOs, including training programs, credit lines and regulatory frameworks that promote innovations. Risk management: investment diversification should be guided by robust risk assessment frameworks to ensure that SACCOs safeguard member deposits while enhancing performance.

5.5 Limitations of the Study

While the study provides valuable insights into the relationship between investment diversification and financial performance of SACCOs in Kenya, certain limitations were encountered. Scope of Variables: The study focused on three independent variables – bond investment, real estate investments and FOSA products. Other potential determinants of financial performance such as equity investments, technological adoption, governance structures and macroeconomic factors were not included. This limits the comprehensive of the findings. Sample Size: The analysis was conducted on eight SACCOs within Nairobi Metropolitan. While these represent significant players in the sector, the relatively small sample limits the generalizability of finding to all deposit-taking SACCOs in Kenya. Larger studies covering different regions may produce broader insights.

Data limitations: The study relied on secondary longitudinal data from 2019 to 2023. Although secondary data is reliable, it may contain reporting inconsistencies across SACCOs due to differences in accounting practices, which could influence the accuracy of regress outcomes.

Time Horizon – the five-year period (2019 – 2023) was adequate for longitudinal analysis but may not fully capture long-term cyclical trends in investments, particularly for real estate,

which requires extended horizons to realize optimal returns. Regulatory and Economic Factors: The study did not fully account for external shocks such as policy changes, inflation or economic downturns (e.g. COVID – 19 pandemic) which may have impacted SACCO investments and financial outcomes. Statistical Model Assumptions: Although the random effects regression model demonstrated strong explanatory power, it assumes homogeneity in unobserved effects across SACCOs. Any deviations from these assumptions could influence the robustness of the coefficients. Acknowledging these limitations is crucial as it guides the interpretation of findings within the scope and context of the study.

5.6 Contribution to the Body of Literature

This study contributes to the growing body of knowledge on SACCOs, investment diversification and financial performance in several ways:

5.6.1 Theoretical Contributions

Validation of Modern Portfolio Theory (MPT): The findings validate the MPT by showing that SACCOs that leverage unique resources – such as bond investments, real estate and FOSA products – gain competitive advantage in terms of financial performance (Barney, 1991).

Support for Keynesian Theory of Investment: By empirically showing that bond investments, real estate and FOSA products collectively explain 97% of SACCO financial performance variance, the study supports Markowitz (1952) portfolio diversification theory, which posits that spreading investments across asset class reduces risk and improves returns.

5.6.2 Empirical Contributions

The study adds longitudinal evidence from 2019 to 2023 on the role of investment diversification in SACCO performance, addressing the scarcity of empirical research in cooperative finance in Kenya.

By ranking the relative impact of diversification strategies (Bonds>FOSA>Real Estate), the study provides actionable insights for SACCO investment prioritization.

5.6.3 Practical Contributions

The findings equip SACCO managers with empirical evidence to guide investment decisions and product innovation strategies.

Policymakers and regulators gain insight into which diversification strategies best strengthens SACCOs, enabling them to craft supportive regulations.

5.6.4 Contextual Contributions

While previous studies have examined banks and microfinance institutions, few have focused specifically on deposit-taking SACCOs in Kenya. This study fills that gap, highlighting the unique dynamics of cooperative finance in emerging economies.

5.7 Suggestions for Further Research

Building on the findings and limitations, future research could explore the following areas:

Broader scope on investments: Future studies should include additional diversification avenues such as equity investments, treasury bills and international investments to provide a more holistic view of SACCO investment strategies.

Geographic expansion: Research should extend beyond Nairobi Metropolitan to include SACCOs in rural and periurban regions, where investment opportunities and members dynamics differ significantly. Longer time frames: Future studies could use 10 – 15-year longitudinal data to capture cyclical trends in investments, particularly in real estate, which often requires extend time to mature. Comparative studies – comparative analysis between SACCOs and commercial banks or microfinance institutions could reveal difference in how diversification strategies affect financial performance across financial sectors. Role of Technology – Given the increasing role of fintech, future studies should investigate how digital transformation (mobile banking, fintech partnerships, block chain solutions) interacts with FOSA products and investments performance. Risk and governance factors – further studies could examine how governance structures, risk management practices and regulatory compliance mediate the relationship between diversification and performance. Impact of external shocks – Research examining how external factors such as inflation, exchange rate volatility or pandemics interact with SACCO investment diversification would provide insights for resilience planning.

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Appendix I: Letter of Introduction



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TO WHOM IT MAY CONCERN

Dear Sir/Madam,

PAULINE WAIRIMU MUGWE - REG NO. 23/00863

It is my distinct pleasure to introduce Pauline Wairimu Mugwe, a student at our institution pursuing a Master of Science in Commerce- Finance and Investment degree within the School of Business.

Pauline is conducting research on the topic: *“Investment diversification and financial performance of deposit taking saccoes in Kenya.”* which is part of the requirements of the program she is pursuing. The research as well as the data procured thereof shall be used for academic purposes only.

Any assistance accorded to her is highly appreciated.


In case of further inquiry, do not hesitate to contact the undersigned.


Yours faithfully,


DR. JACKSON NDOLO

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Appendix II: NACOSTI LICENSE


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Appendix III: List of Deposit Taking Saccos

KENYAN SACCO's Financial Data For 2019 – 2023 Period (in Billions of Kshs)

SACCO	Year	ROA (%)	Bonds (log)	Real Estate (log)	FOSA (log)
AFYA SACCO	2019	4.20	5.06	4.97	6.04
AFYA SACCO	2020	4.50	5.18	5.04	6.18
AFYA SACCO	2021	4.90	5.29	5.15	6.31
AFYA SACCO	2022	5.30	5.42	5.23	6.42
AFYA SACCO	2023	5.70	5.60	5.39	6.54
AMICA SACCO	2019	4.00	4.97	4.79	5.97
AMICA SACCO	2020	4.30	5.04	4.86	6.04
AMICA SACCO	2021	4.70	5.18	5.04	6.20
AMICA SACCO	2022	5.10	5.29	5.15	6.34
AMICA SACCO	2023	5.40	5.42	5.20	6.47
BANDARI SACCO	2019	4.70	5.24	5.04	6.14
BANDARI SACCO	2020	5.10	5.39	5.18	6.31
BANDARI SACCO	2021	5.50	5.47	5.23	6.42
BANDARI SACCO	2022	5.90	5.60	5.39	6.54
BANDARI SACCO	2023	6.20	5.79	5.47	6.60
BINGWA SACCO	2019	4.50	5.20	4.97	6.10
BINGWA SACCO	2020	5.00	5.31	5.04	6.20
BINGWA SACCO	2021	5.20	5.42	5.10	6.34
BINGWA SACCO	2022	5.60	5.55	5.23	6.47
BINGWA SACCO	2023	5.90	5.60	5.30	6.52
BORESHA SACCO	2019	4.20	5.06	4.97	6.04
BORESHA SACCO	2020	4.50	5.18	5.04	6.18
BORESHA SACCO	2021	4.90	5.29	5.15	6.31
BORESHA SACCO	2022	5.30	5.42	5.23	6.42
BORESHA SACCO	2023	5.70	5.60	5.39	6.54
COSMOPOLITAN SACCO	2019	3.90	4.79	4.60	5.79
COSMOPOLITAN SACCO	2020	4.20	4.97	4.74	5.91
COSMOPOLITAN SACCO	2021	4.40	5.04	4.81	6.04
COSMOPOLITAN SACCO	2022	4.70	5.18	4.97	6.15
COSMOPOLITAN SACCO	2023	5.00	5.29	5.04	6.23
GUSSI MWALIMU	2019	3.12	4.97	4.79	5.97
GUSSI MWALIMU	2020	4.30	3.44	4.86	6.04
GUSSI MWALIMU	2021	4.70	5.18	4.92	5.06
GUSSI MWALIMU	2022	5.10	5.29	5.15	5.89
GUSSI MWALIMU	2023	5.40	5.42	4.32	6.47
HARAMBEE SACCO	2019	4.50	4.89	4.97	6.10

HARAMBEE SACCO	2020	4.18	5.31	5.04	6.20
HARAMBEE SACCO	2021	4.36	5.42	5.10	6.34
HARAMBEE SACCO	2022	5.60	4.89	5.23	6.47
HARAMBEE SACCO	2023	5.90	5.60	4.44	6.52
HAZINA SACCO	2019	4.10	4.95	4.78	4.97
HAZINA SACCO	2020	4.30	5.05	4.85	5.04
HAZINA SACCO	2021	4.60	5.20	4.37	6.18
HAZINA SACCO	2022	4.90	4.58	5.06	6.25
HAZINA SACCO	2023	3.46	5.42	5.12	6.39
IMARIKA SACCO	2019	3.21	3.89	4.10	2.11
IMARIKA SACCO	2020	3.81	4.56	4.29	3.22
IMARIKA SACCO	2021	4.40	5.04	4.90	5.04
IMARIKA SACCO	2022	4.70	5.18	4.97	5.34
IMARIKA SACCO	2023	5.00	5.29	4.38	6.23
IMARISHA SACCO	2019	4.50	4.36	4.97	6.10
IMARISHA SACCO	2020	4.37	5.31	5.04	6.20
IMARISHA SACCO	2021	4.89	5.42	5.10	6.34
IMARISHA SACCO	2022	5.60	4.67	5.23	6.47
IMARISHA SACCO	2023	3.98	4.33	4.04	6.52
INVEST AND GROW SACCO	2019	4.00	4.97	4.79	4.97
INVEST AND GROW SACCO	2020	4.30	5.04	3.98	5.67
INVEST AND GROW SACCO	2021	4.70	5.18	4.38	6.20
INVEST AND GROW SACCO	2022	5.10	4.99	5.15	6.34
INVEST AND GROW SACCO	2023	3.45	5.42	5.20	6.47
KENYA BANKERS SACCO	2019	3.78	4.97	4.79	5.97
KENYA BANKERS SACCO	2020	4.30	3.89	4.86	6.04
KENYA BANKERS SACCO	2021	4.70	5.18	4.37	6.20
KENYA BANKERS SACCO	2022	5.10	5.29	5.15	4.53
KENYA BANKERS SACCO	2023	5.40	5.42	5.20	5.04
KIMISITU SACCO	2019	4.30	5.04	4.38	6.04
KIMISITU SACCO	2020	4.70	3.89	4.97	6.18
KIMISITU SACCO	2021	3.21	5.31	5.06	6.31
KIMISITU SACCO	2022	4.22	5.42	5.18	6.42
KIMISITU SACCO	2023	5.70	4.12	5.29	6.54

KITUI TEACHERS SACCO	2019	4.70	5.24	4.99	6.14
KITUI TEACHERS SACCO	2020	5.10	5.39	5.18	4.89
KITUI TEACHERS SACCO	2021	5.50	5.47	5.23	3.46
KITUI TEACHERS SACCO	2022	5.90	5.60	3.21	6.54
KITUI TEACHERS SACCO	2023	6.20	4.37	5.47	6.60
MAGEREZA SACCO	2019	4.44	5.04	4.86	6.04
MAGEREZA SACCO	2020	3.23	5.18	4.97	6.18
MAGEREZA SACCO	2021	5.00	4.23	5.06	6.31
MAGEREZA SACCO	2022	5.40	5.42	4.28	4.67
MAGEREZA SACCO	2023	5.70	5.60	5.29	4.52
MENTOR SACCO	2019	4.10	4.95	4.37	5.97
MENTOR SACCO	2020	4.30	4.26	4.85	6.04
MENTOR SACCO	2021	4.04	5.20	4.97	6.18
MENTOR SACCO	2022	3.26	5.31	5.06	6.25
MENTOR SACCO	2023	5.30	4.44	5.12	6.39
MWALIMU NATIONAL SACCO	2019	4.10	4.95	3.28	5.97
MWALIMU NATIONAL SACCO	2020	4.30	5.05	4.85	4.87
MWALIMU NATIONAL SACCO	2021	4.60	5.20	4.97	4.59
MWALIMU NATIONAL SACCO	2022	4.90	5.31	4.21	6.25
MWALIMU NATIONAL SACCO	2023	5.30	3.57	5.12	6.39
NATIONAL POLICE SACCO	2019	3.22	4.97	4.79	5.97
NATIONAL POLICE SACCO	2020	4.92	5.04	4.86	6.04
NATIONAL POLICE SACCO	2021	4.70	5.02	5.04	6.20
NATIONAL POLICE SACCO	2022	5.10	5.29	4.23	3.78
NATIONAL POLICE SACCO	2023	5.40	5.42	5.20	5.48
NEW FORTIS SACCO	2019	4.50	5.20	3.89	6.10
NEW FORTIS SACCO	2020	5.00	4.38	5.04	6.20
NEW FORTIS SACCO	2021	4.51	5.42	5.10	6.34
NEW FORTIS SACCO	2022	3.89	5.55	5.23	6.47
NEW FORTIS SACCO	2023	5.90	4.39	5.30	6.52
ONLIN SACCO	2019	4.20	5.06	4.38	6.04
ONLIN SACCO	2020	4.50	5.18	5.04	4.34
ONLIN SACCO	2021	4.90	5.29	5.15	5.34
ONLIN SACCO	2022	5.30	5.42	4.32	6.42

ONLIN SACCO	2023	5.70	4.38	5.39	6.54
PORTS SACCO	2019	3.88	4.79	4.60	5.79
PORTS SACCO	2020	3.28	4.97	4.74	5.91
PORTS SACCO	2021	4.40	4.68	4.81	6.04
PORTS SACCO	2022	4.70	5.18	3.09	4.59
PORTS SACCO	2023	5.00	5.29	5.04	4.39
SAFARICOM SACCO	2019	4.00	4.97	4.88	5.97
SAFARICOM SACCO	2020	4.30	4.39	4.86	6.04
SAFARICOM SACCO	2021	3.77	5.18	5.04	6.20
SAFARICOM SACCO	2022	4.32	5.29	5.15	6.34
SAFARICOM SACCO	2023	5.40	4.95	5.20	6.47
SHERIA SACCO	2019	4.70	5.24	4.92	4.82
SHERIA SACCO	2020	5.10	5.39	5.18	4.66
SHERIA SACCO	2021	5.50	5.47	4.97	6.42
SHERIA SACCO	2022	5.90	4.33	5.39	6.54
SHERIA SACCO	2023	4.23	5.79	5.47	6.60
SOLUTION SACCO	2019	3.94	5.04	4.86	6.04
SOLUTION SACCO	2020	4.70	4.91	4.97	6.18
SOLUTION SACCO	2021	5.00	5.31	3.88	4.87
SOLUTION SACCO	2022	5.40	5.42	5.18	4.58
SOLUTION SACCO	2023	5.70	5.60	3.99	6.54
STIMA SACCO	2019	3.90	3.99	4.60	5.79
STIMA SACCO	2020	4.21	4.97	4.74	5.91
STIMA SACCO	2021	4.02	5.04	4.81	6.04
STIMA SACCO	2022	4.70	4.92	4.97	6.15
STIMA SACCO	2023	5.00	5.29	4.98	5.58
TOWER SACCO	2019	4.70	5.24	5.04	5.44
TOWER SACCO	2020	5.10	5.39	4.29	6.31
TOWER SACCO	2021	5.50	3.59	5.23	6.42
TOWER SACCO	2022	4.39	5.60	5.39	6.54
TOWER SACCO	2023	5.49	5.79	5.47	6.60
TRANSNATION SACCCO	2019	4.10	4.35	4.78	5.97
TRANSNATION SACCCO	2020	4.30	5.05	4.34	5.23
TRANSNATION SACCCO	2021	4.60	5.20	4.97	5.45
TRANSNATION SACCCO	2022	4.90	5.31	4.34	6.25
TRANSNATION SACCCO	2023	4.95	3.21	5.12	6.39
UKULIMA SACCO	2019	3.99	4.97	4.79	5.97
UKULIMA SACCO	2020	4.30	4.76	4.86	6.04
UKULIMA SACCO	2021	4.70	5.18	4.67	6.04
UKULIMA SACCO	2022	5.10	5.29	5.15	5.12
UKULIMA SACCO	2023	5.40	5.42	4.42	6.47
UNAITAS SACCO	2019	4.30	4.58	4.86	6.04
UNAITAS SACCO	2020	4.91	5.18	4.97	6.18

UNAITAS SACCO	2021	4.97	5.31	5.06	6.31
UNAITAS SACCO	2022	5.40	4.89	5.18	6.42
UNAITAS SACCO	2023	5.70	5.60	5.02	5.66
UNISON SACCO	2019	4.00	4.97	4.79	4.56
UNISON SACCO	2020	4.30	5.04	4.55	6.04
UNISON SACCO	2021	3.89	4.32	5.04	6.20
UNISON SACCO	2022	4.74	5.29	5.15	6.34
UNISON SACCO	2023	5.40	4.49	5.20	6.47
UNITED NATIONS SACCO	2019	4.70	5.24	3.45	5.02
UNITED NATIONS SACCO	2020	5.10	5.39	5.18	3.45
UNITED NATIONS SACCO	2021	5.50	5.47	3.89	6.42
UNITED NATIONS SACCO	2022	5.90	4.04	5.39	6.54
UNITED NATIONS SACCO	2023	3.22	5.79	5.47	6.60
USHURU SACCO	2019	4.93	5.06	4.97	6.04
USHURU SACCO	2020	4.50	3.95	5.04	6.18
USHURU SACCO	2021	4.90	5.29	4.59	4.96
USHURU SACCO	2022	5.30	5.42	5.23	5.36
USHURU SACCO	2023	5.70	5.60	4.77	6.54
WAUMIN SACCO	2019	4.00	3.58	4.79	5.97
WAUMIN SACCO	2020	4.92	5.04	4.86	6.04
WAUMIN SACCO	2021	3.88	5.18	5.04	6.20
WAUMIN SACCO	2022	5.10	4.99	5.15	6.34
WAUMIN SACCO	2023	5.40	5.42	4.56	3.55
WINAS SACCO	2019	3.90	4.79	4.60	5.02
WINAS SACCO	2020	4.20	4.97	3.77	5.91
WINAS SACCO	2021	3.99	4.22	4.81	6.04
WINAS SACCO	2022	2.96	5.18	4.97	6.15
WINAS SACCO	2023	5.00	3.21	5.04	6.23
YETU SACCO	2019	4.20	5.06	3.94	6.04
YETU SACCO	2020	4.50	5.18	5.04	5.02
YETU SACCO	2021	4.43	4.07	3.29	4.42
YETU SACCO	2022	3.95	2.11	3.21	4.09
YETU SACCO	2023	2.11	3.42	2.45	3.33

(SASRA, 2025)