FINANCING OPTIONS AND GROWTH OF REAL ESTATE FIRMS IN SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN NAIROBI CITY COUNTY, KENYA

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A RESEARCH PROJECT PROPOSAL SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS, AND TOURISM IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION (FINANCE OPTION) OF KENYATTA UNIVERSITY

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DECLARATION

I declare that the ideas and work presented in this proposal are entirely my own, and I have not previously submitted this material for the purpose of obtaining an academic degree.

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I verify that the research described in this proposal was conducted by the applicant under my guidance and oversight.

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DEDICATION

This scholarly work is devoted to honouring the Supreme Being, who created the universe, the source and sustainer of all things, and to my beloved husband, Ezekiel Alfred Omolo. I express my heartfelt gratitude for his financial support, love, patience, kindness, and gentle encouragement, all of which provided me with strength throughout this journey.

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I would like to convey my gratitude to my friends, peers, and professors in the School of Business, Economics, and Tourism, as well as to my employer, whose support and contributions played pivotal roles in various aspects.

May abundant blessings be upon you all!

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OPERATIONAL DEFINITION OF TERMS

Term	Definition
Equity Financing:	Raising funds by real estate firms in SACCOs through the sale of shares, where the amount available depends on the capital raised, the duration shares are held before their sale affects long-term investment stability, and the return on equity reflects the profitability relative to shareholders' investments.
Financing options:	Methods used by real estate firms in SACCOs that encompass equity financing, which involves raising capital through shareholder investments; mortgage financing, which secures funds through long-term loans backed by property collateral; lease financing, which allows the use of property through rental agreements without ownership transfer; and savings financing, which relies on accumulated member contributions for investment purposes.
Lease Financing:	Accessing a specified amount of funds by real estate firms in SACCOs based on the value of leased assets, with interest rates charged determined by SACCO policies,

	and repayment arrangements structured as regular instalments over the lease period.
Mortgage Financing:	Obtaining funds for property acquisition or development by real estate firms in SACCOs, with the amount available determined by the property's value and SACCO limits, interest rates influenced by market conditions and SACCO policies, and eligibility dependent on the applicant's credit rating.
Real Estate Firms:	Companies in SACCOs that facilitate the buying, selling, or renting of properties. These firms employ licensed real estate agents who act as intermediaries between buyers and sellers, landlords and tenants, or developers and investors.
Real Estate Growth:	The expansion and development of properties within the real estate firms in SACCOs' portfolio. Its performance is evaluated based on the return generated compared to the initial capital invested, (ROI).
Saving Financing:	Funds accumulated from the contributions by real estate firms in SACCOs, with the amount available dependent on the total savings, the return on savings influenced

	by the SACCO's interest policies, and the saving period determining the maturity and accessibility of funds for investment.
Size of Real Estate Firm:	Magnitude of the properties owned or managed by real estate in SACCOs. It may encompass factors such as the total land area, the number and size of buildings, and the overall valuation of the real estate assets the real estates within SACCOs own. The size is a key metric in assessing the scope and effect of real estate growth within SACCOs.

LIST OF ABBREVIATIONS AND ACRONYMS

GDP	Gross Domestic Product
KBS	Kenya National Bureau of Statistics
KPDA	Kenya Property Developers Associations
NACOSTI	National Commission for Science, Technology and Innovation
NCC	Nairobi City County
PPPs	Public-Private Partnerships
RDT	Resource Dependence Theory
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
SACCOs	Savings and Credit Cooperatives
SASRA	Sacco Societies Regulatory Authority
TCT	Transaction Cost Theory

ABSTRACT

Real estate firms drive economic growth by facilitating property development, providing housing and commercial spaces, employment opportunities, and wealth creation and investment diversification. Savings and Credit Cooperatives Societies financing supports real estate firms within Savings and Credit Cooperative Societies by providing affordable and flexible financial solutions, such as equity, mortgage, lease, and savings financing, enabling property acquisition and investment while fostering member-driven economic growth and financial empowerment. However, the challenges confronting real estate firms in Kenya, especially within Nairobi City County, are substantial, regarding financing decisions given the capital-intensive nature of their projects. The evident gap between annual housing demand and actual supply underscores the critical need for effective financing mechanisms to improve the expansion and development of the real estate industry. The research concentrated on investigating the effect of various financing options available through Savings and Credit Cooperative Societies in Nairobi City County is particularly relevant, given Savings and Credit Cooperatives s' role in offering financial services to their members. Evaluating the effects of mortgage financing, lease financing, savings financing, and equity financing on real estate firms' growth can offer valuable insights into the feasibility of different funding avenues for these enterprises. Considering the moderating influence of real estate firm size on the relationship between financing options and growth rates enriched the analysis, acknowledging that a firm's size and scale can significantly shape its financing strategies and growth trajectory. Drawing on theoretical frameworks such as the housing cycle theory, lien theory of mortgage financing, transaction costs theory, and resource dependency theory provided a robust foundation for understanding the dynamics of financing and growth in the real estate sector. Adopting a descriptive research design, along with panel data analysis spanning a five-year period (2019-2023), facilitated an examination of trends and patterns among real estate firms operating within Savings and Credit Cooperative Societies in Nairobi City County. By employing a census approach to collect data from the entire population of 72 real estate companies, the study ensured a representative sample, enhancing the reliability and validity of the findings. The study found a significant and positive effect between mortgage financing, lease financing, savings financing, and equity financing and growth of real estate in Savings and Credit Cooperative Societies. The result indicated a moderating effect on the relationship between financing options and growth of real estate firms in Savings and Credit Cooperative Societies. The study concluded that the real estate sector in Nairobi City County requires effective financing options, relying on mortgage, lease, savings, and equity financing to optimize resource allocation and drive growth, with Size of real estate firms in Savings and Credit Cooperative Societies significantly and positively moderating the effect of these financing options on firm performance. Based on the study findings, policy recommendations include reducing mortgage costs through subsidies and regulatory reforms, increasing lease financing options via innovative structures, boosting savings financing through mobilization programs, facilitating equity financing with improved market mechanisms, and optimizing these firms, performance through targeted training. The study enriches understanding by demonstrating the significant effect of various financing options on real estate firm growth, advancing theoretical frameworks, addressing methodological gaps, and providing practical policy recommendations to support sector expansion.

CHAPTER ONE: INTRODUCTION

1.1 Background

Financial institutions in the developed economies have shifted from the traditional reliance on interest-based returns to embracing non-interest income sources, such as fees, commissions, and stock trading (Nashipae & Bichanga, 2023). This transition has significantly boosted revenue levels in recent times. The real estate sector focused on properties and buildings used for residential, commercial, or industrial purposes has consistently lured new investors, primarily fuelled by the perceived surge in demand for housing units (Hotchkiss, Smith & Strömberg, 2021). This pattern is often linked to the growing population, characterized by the movement of people from rural areas to cities (Nguyen, Nguyen, & Dang, 2017). The demand for housing units is expected to continue its upward trajectory alongside population growth. Notably, China witnessed a significant real estate boom, with an approximate construction of 100 billion square feet of residential houses over a decade until 2014 (Abuamsha, 2022). This highlights the vast scale regarding the industry focused on properties and buildings and its significant influence on a country's GDP growth.

The performance of real estate firms in SACCOs has undergone significant transformation in recent years, shaped by a variety of economic, social, and regulatory factors. One key trend is the increased participation of members and capitalization in real estate investments (Alohan & Ogedengbe, 2021). As more members contribute funds, SACCOs have been able to diversify their portfolios, expanding into residential, commercial, and industrial properties (Cytonn, 2019). This shift has been accompanied by a growing focus on mixed-

use developments, which integrate residential, retail, and office spaces to meet diverse market demands, thereby boosting profitability.

Real estate firms in SACCOs have embraced technology, improving property management and financing processes. Digital platforms now enable members to track investments, access real-time data, and apply for financing online, enhancing transparency and member engagement (Nashipae & Bichanga, 2023). Alongside this technological advancement, there has been a marked focus on affordable housing, aligning with government initiatives and addressing housing shortages for lower and middle-income members (Mungai & Mwangi, 2020). This focus has not only strengthened member loyalty but also broadened the SACCOs' appeal.

SACCOs are also diversifying their financing models, offering a variety of options such as equity financing, mortgage schemes, and savings-based investments to cater to the financial capabilities of their members. Lease financing, in particular, has become increasingly popular, allowing members to access properties without the need for outright ownership (Jones & Stead, 2020). Despite the benefits, the performance of SACCO real estate firms is still effected by economic fluctuations, such as inflation and interest rate changes, which affect property prices and financing costs (Alohan & Ogedengbe, 2021). During economic downturns, some SACCOs have struggled with liquidity, although periods of stability have seen significant growth.

The regulatory environment has also become more stringent, with SACCOs required to comply with enhanced accountability measures. While these regulations have increased operational costs, they have also bolstered the credibility of SACCOs, attracting more

members and external partnerships (Nguyen, Ongena, Qi & Sila, 2022). Furthermore, there is a growing emphasis on sustainability, with SACCO real estate firms investing in green building technologies, energy-efficient designs, and renewable energy sources (Okuta, Kivaa, Kieti & Okaka, 2023). This commitment to environmental responsibility not only aligns with global sustainability goals but also appeals to eco-conscious investors.

The real estate market has become more competitive, prompting SACCOs to innovate in order to remain attractive to both existing and potential members. Collaborations with developers and financial institutions have become a common strategy to maintain a competitive edge (Mushi, 2020). As a result of these efforts, SACCO real estate investments are yielding higher returns, driven by strategic investments in high-demand areas, rental incomes, property sales, and the appreciation of property values (Mungai & Mwangi, 2020). Alongside this financial success, SACCOs have placed an increasing emphasis on member education, offering workshops and training to build financial literacy and real estate investment awareness. This has led to greater member engagement and informed decision-making in real estate ventures.

Globally, the real estate sector has been a significant catalyst for economic growth, attracting investors and contributing to employment and GDP in numerous countries beyond China and Brazil. For instance, in the European Union, real estate accounted for 2.0% of employment in 2016 (Yasar, 2021). In the United States, the availability of capital and financing options has been pivotal for property development. Foreign direct investments (FDI) factors have been instrumental in driving the growth and development of the real estate industry, especially in Asian countries (Jones & Stead, 2020). China's real estate growth, driven by increasing house prices, exemplifies how industrial factors

can influence the sector's expansion (Ngoc, Tien, Chau & Le Khuyen, 2021). In Brazil, the flourishing of real estate is closely tied to the availability of funds. Capital development and financing options pose significant challenges for real estate firms globally, as projects are long-term and returns may take years to materialize.

Regionally, the real estate sectors in African countries, such as Nigeria, have experienced notable expansion with support from the financial system, including initiatives like mortgage companies and pension funds (Alohan & Ogedengbe, 2021). Several African countries, including Kenya, Tanzania, Uganda, and Rwanda, still face substantial housing deficits, suggesting that the pinnacle of real estate advancement remains elusive in these areas.

In Kenya, the real estate sector faces considerable obstacles in obtaining financing, mainly owing to sluggish economic expansion, volatility, and strict rules implemented by financial organizations (Mushi, 2020). The structure of interest rates exacerbates the situation, making it difficult to secure funds for real estate development. The dominance of commercial real estate investment by private investors and institutional entities like Housing Finance adds to the challenges encountered by private real estate investors (Kieti, 2020). Despite these hurdles, there is a growing demand for various types of real estate in Kenya, driven by a young and employed population.

The increasing demand highlights the potential for real estate development in the country, notwithstanding the existing financing constraints and market complexities. Effectively addressing these challenges is crucial for unlocking the full potential of the real estate sector and meeting Kenya's population's housing needs.

The availability of financing for real estate development in SACCOs in Nairobi City County (NCC), Kenya remains a significant challenge for developers. The challenge mainly stems from weak economic performance, lack of stability, and the stringent regulatory environment imposed by most financial institutions (Mungai & Mwangi, 2020). Complicating matters, interest rate structures have adverse effects on securing funds for real estate development (Katiti, Omanwa, Mwaniki, & James, 2022). Given the inherently long-term nature of real estate financing, high interest rates are commonly applied to funds allocated for such projects.

The landscape surrounding Kenya's real estate investments is undergoing a significant transformation, with private investors and institutional entities like Housing Finance emerging as key players (Okuta, Kivaa, Kieti & Okaka, 2023). This dominance poses challenges for private real estate investors, as individual properties are not traded as frequently as shares and bonds in the securities market. Unlike in developed countries where stocks and bonds are heavily involved in real estate financing, Kenya relies primarily on mortgage financing.

This scenario underscores the unique dynamics of real estate investment in Kenya, where traditional financing mechanisms like mortgage loans serve as the primary avenue for accessing capital. The limited liquidity and trading activity in the real estate market pose challenges for individual investors seeking to enter or exit investments swiftly (Kieti, 2020). As a result, private investors often encounter hurdles in navigating the complexities of the real estate sector, particularly in terms of liquidity management and portfolio diversification.

The dominance of institutional entities like Housing Finance further consolidates the influence of established players in the market, potentially limiting opportunities for smaller investors to participate in commercial real estate ventures (Katiti, Omanwa, Mwaniki, & James, 2022). Addressing these challenges requires innovative approaches to financing, regulatory reforms to enhance market transparency and efficiency, and initiatives to promote broader participation in the real estate sector by both institutional and individual investors (Njoroge, Koori & Warui, 2021). By fostering a more inclusive and dynamic real estate market ecosystem, Kenya can unlock its full potential for sustainable economic growth and development.

Despite these challenges, there is a growing demand for various types of real estate in Kenya, propelled by a young and employed population (Njoroge, Koori & Warui, 2021). The management of real estate firms plays a critical role in choosing appropriate financing options that do not compromise current and future cash flows. The study recognizes that the growth of individual firms within the sector influences the overall development of the real estate market. Real estate, being influenced by both internal and external factors, requires strategic financial management to navigate challenges and promote sustainable growth.

1.1.1 Financing Options

There are several methods for raising finance to support investment projects. Generally classified, these methods can be divided into internal and external sources. Internal sources entail acquiring funds from within the organization, whereas external sources entail securing capital from outside entities (Yasar, 2021). Each financing source comes with its own set of costs and benefits. Internal sources, such as reinvesting profits or issuing

additional share capital to existing members, imply that shareholders will expect returns in the form of dividends in the future (Okuta, Kivaa, Kieti, & Okaka, 2023). In contrast, external sources, like borrowings, incur interest costs, which can become burdensome for firms during periods of rising interest rates. The interest on loans is tax-deductible, making external borrowings a viable option, provided firms can prudently manage associated bankruptcy costs.

Financing options play a pivotal role in enabling individuals and businesses to access the necessary capital for various endeavours, ranging from purchasing real estate to funding business expansions. These options encompass a diverse array of financial mechanisms tailored to meet different needs and circumstances, each possessing its unique array of benefits and factors to take into account (Mushi, 2020). Gaining insights into these options and their associated metrics is essential for making informed financial decisions and achieving strategic objectives effectively (Kalu, Ishaq, Adeyemi & Abdullahi, 2021). Among the primary financing avenues are mortgage financing, lease financing, savings, and equity financing, each offering unique benefits and challenges.

Mortgage financing involves securing a loan by offering real estate as collateral, commonly used for property purchases. This option enables individuals and businesses to access significant capital while spreading repayments over an extended period (Owuor, Githii & Mirie, 2018). To measure the effectiveness of mortgage financing within a conceptual framework, variables such as interest rates, loan terms, and the loan-to-value ratio are crucial (Mungai & Mwangi, 2020). These metrics help gauge the affordability and risk associated with the mortgage, providing insights into its viability and effect on financial stability.

Lease financing provides an alternative means of acquiring assets without outright ownership, offering flexibility and preserving capital. Entities can lease various assets, including equipment and property, paying periodic lease payments instead of purchasing outright (Nguyen, Ongena, Qi & Sila, 2022). Key variables in assessing lease financing effectiveness include lease terms, residual value, and lease rates. These metrics aid in evaluating the cost-effectiveness of leasing compared to purchasing, as well as understanding the implications on cash flow and long-term financial commitments.

Savings represent a fundamental component of financing, involving the accumulation of funds over time to meet future needs or investments. Monitoring variables such as savings rates, investment returns, and liquidity levels is essential within a conceptual framework (Muyambiri & Magali, 2020). These factors help gauge the growth and stability of savings, as well as their capacity to support financial goals and withstand unforeseen expenses.

Equity financing entails securing funds by offering shares of ownership in a venture or enterprise to investors. In contrast to debt financing, where borrowed funds must be repaid with interest, equity financing does not necessitate repayment (Abuamsha, 2022). Instead, investors acquire ownership rights or a portion of future profits in return for their investment. While equity financing offers substantial funding without accruing debt, it also entails diluting ownership and sharing business control with investors (Njoroge, Koori & Warui, 2021). Several variables play a crucial role in evaluating equity financing arrangements. Valuation metrics, such as the company's current valuation and projected future value, are essential for determining the attractiveness of equity financing. A thorough understanding of valuation metrics allows stakeholders to assess the potential

return on investment for equity investors and the overall value proposition of the financing arrangement.

The equity stake offered to investors is another critical variable in equity financing. The equity stake represents the percentage of ownership that investors receive in exchange for their investment (Yasar, 2021). Determining the appropriate equity stake involves balancing the need for capital with the desire to retain control and ownership of the business. The equity stake effects both the allocation of profits and decision-making power within the company. Investor returns are also crucial factors in equity financing. Investors anticipate earning a return on their investment that aligns with the level of risk they undertake (Mungai & Mwangi, 2020). Evaluating investor returns involves analysing factors such as dividend payments, capital appreciation, and exit strategies. Understanding investor return expectations is crucial for structuring equity financing deals that attract investors while maximizing value for the company's owners.

1.1.2 Size of Real Estate Firms in SACCOs

Kalu et al. (2021) conceptualized the size of real estate firms in SACCOs as the scale or magnitude of the firms involved in real estate development, measured as logarithm of total assets. It encompasses various aspects such as the total assets, membership base, loan portfolio, and operational reach of the real estate firms in SACCOs ((Mungai & Mwangi, 2020). The size of these firms is a critical factor as it influences the organization's ability to provide financing options and support the growth of real estate projects within its membership.

The moderating influence of real estate magnitude within SACCOs on the connection between financing alternatives and real estate development is justified by its potential to affect the effectiveness and availability of financing. Larger real estate firms in SACCOs typically possess greater financial resources, operational capacity, and bargaining power compared to smaller ones (Alohan & Ogedengbe, 2021). As a result, the size of the real estate in SACCO can moderate the correlation between financing choices and the expansion of real estate by effecting the availability of funds, the range of financing products offered, and the terms and conditions attached to these products.

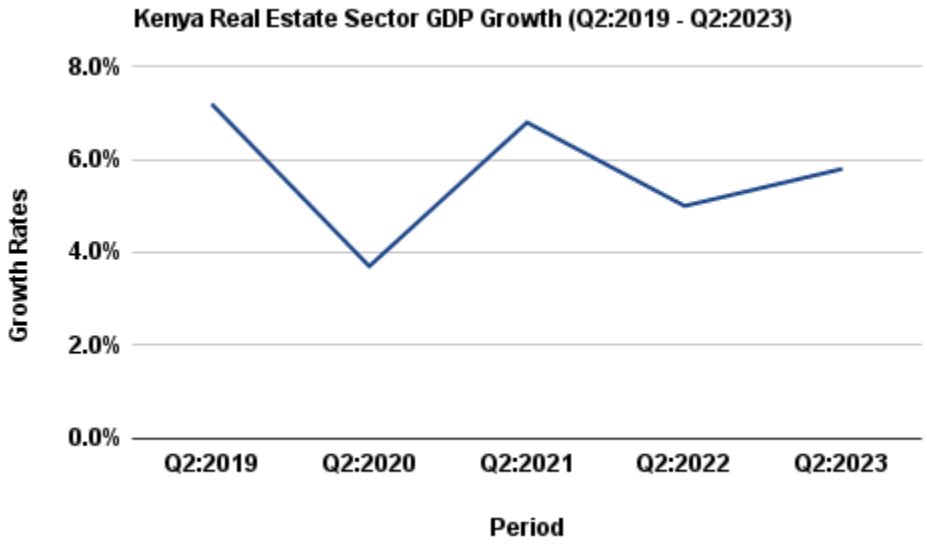
Calculating the logarithm of the total assets helps normalize the data and addresses potential skewness in the distribution of real estate firms in SACCOs sizes (Jones & Stead, 2020). Using total assets as a measure captures the overall financial strength and capacity of the real estate in SACCOs, which is crucial in determining its ability to support real estate growth (Nashipae & Bichanga, 2023). By incorporating Size of real estate firms in SACCOs as a moderating variable, the study can assess how variations in Size of real estate firms in SACCOs effect the connection between financing alternatives and the development of real estate endeavours, providing valuable insights for policymakers, practitioners, and researchers in the field of real estate finance and cooperative management.

1.1.3 Real Estate Growth in Kenya

The projected population growth for Kenya is anticipated to reach 60 million by the year 2030, with over half of this population expected to reside in urban areas. This demographic trend underscores a continual rise in the demand for housing. Kenya is currently experiencing rapid urbanization (Macharia, 2019). The latest report from the Government

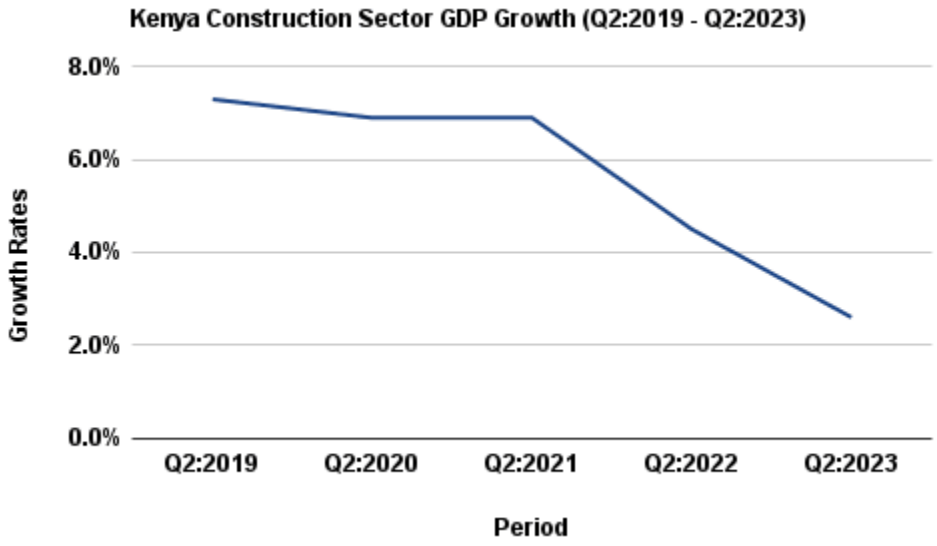
of Kenya highlights the inadequacy of dwelling units to cater to both urban and rural populations. The distribution of housing types reveals that 57.4% of the population resides in bungalows, 7.6% in flats, 1.3% in Maisonettes, 10.3% in Swahili houses, 16.5% in traditional houses (manyattas), and 1.7% in other housing types (KNBS, 2023).

At a national scale, Kenya is contending with a significant shortage of housing units, estimated roughly around 1.9 million units. In 2022, this deficit was expected to grow to more than 2.2 million units. It is anticipated that over 60% of Kenya's projected population by 2030, approximately 60 million people were living in urban regions. This demographic shift is expected to considerably amplify the demand for housing, emphasizing the pressing need to address the housing deficit and implement sustainable housing solutions to cater to Kenya's expanding urban population (Cytonn, 2019). In Q2:2023, Kenya's real estate industry demonstrated a growth improvement of 0.8%, reaching 5.8%, compared to 5.0% in Q2:2022. On a quarter-on-quarter basis, there was a positive shift of 0.6% (SASRA, 2024). Noteworthy is the sector's ascent as the third-largest contributor to GDP during the reviewed period. This notable performance was propelled by diverse expansion initiatives undertaken by both local and international investors. Development activities, especially in the residential, data centres, and industrial submarkets, contributed significantly, alongside an uptick in property rates.



Source: Kenya National Bureau of Statistics (2023)

In Q2:2023, the construction sector marked its slowest growth rate in the past five years, registering a mere 2.6%. This subdued performance can be attributed to a reduction in construction activities fuelled by sustained inflationary pressures (KNBS, 2023). Since 2019, there has been a consistent upward trend in the overall cost of construction. The sector's decline is influenced by a notable shift in the government's focus from infrastructure developments to other social projects. An examination of cement consumption over the past year indicates a general stagnation, with a q/q decline of 1.5%.



Source: Kenya National Bureau of Statistics (2023)

1.1.4 SACCOs in Nairobi City County Kenya

The SACCO Societies Regulatory Authority (SASRA, 2024) indicates the existence of 46 SACCOs in Kenya. These SACCOs play a significant role in the local economy by providing financial services to their members, which include savings mobilization, credit facilities, and other financial products (Amuyunzu et al., 2023). SACCOs in NCC are actively involved in financing various aspects of the sector, including land acquisition, property development, and home ownership.

The financing options offered by SACCOs in NCC align with the needs of real estate developers and homebuyers, contributing to the growth of the sector. These options include mortgage financing, lease financing, savings mobilization, and equity financing (SASRA, 2024). There has been a focus on mortgage financing, as a vital factor in the expansion of real estate in NCC, facilitating individuals and businesses to obtain capital for property

acquisition and development (Mungai & Mwangi, 2020). The role of SACCOs in offering affordable housing financing strategies has been acknowledged as crucial in addressing Kenya's housing deficit.

The rationale for examining SACCOs in NCC is grounded in similar studies conducted in other sectors in Kenya, which have shown the effectiveness of financing strategies in fostering economic growth and development. For instance, research on the effect of mortgage financing on real estate growth in NCC underscores the positive influence of SACCOs' involvement in providing affordable housing finance (Mungai & Mwangi, 2020). Studies on factors influencing real estate growth in Kenya underscore the significance of finance accessibility as a fundamental determinant of sectoral expansion (Kimani & Memba, 2017). Through its focus on SACCOs in NCC, this study aims to build on existing research and contribute to a deeper comprehension of the correlation between financing choices and the expansion of real estate in urban areas of Kenya.

1.2 Statement of the Problem

Real estate development in Kenya has emerged as one of the most promising and lucrative investment opportunities, with guaranteed returns and capital appreciation ranging between 20–23% (KNBS, 2023). This impressive growth is driven by a combination of rental yield, capital gains, and appreciation over construction, attracting both local and international investors eager to develop apartments and other real estate products (Njoroge, Koori & Warui, 2021). However, despite the high potential returns, real estate developers, particularly those within SACCOs, face significant challenges during the construction and completion of real estate units, primarily due to financing difficulties. The escalating costs associated with land acquisition, registration, transfers, permits, construction materials, and

quality furnishings pose a considerable hurdle (Okuta, Kivaa, Kieti & Okaka, 2023). Furthermore, inflation has exacerbated these costs, making it increasingly difficult for SACCOs to secure adequate funding for large-scale real estate projects. This financial strain hampers the growth and sustainability of real estate firms in SACCOs, despite the sector's high return potential.

In Nairobi City County, the real estate sector has seen a significant uptick in registered developers, increasing by 6.3% from 2009 to 2019. This growth rate surpasses that of neighbouring countries like Uganda (5.6%) and Tanzania (6.0%) (SASRA, 2024). Despite the notable surge in developer numbers, the real estate industry's growth rate remains moderate at 6.0% per year. This falls short of the government's objective of achieving a 10% annual growth rate, essential for delivering 500,000 housing units by 2022, as outlined by the Housing and Housing Kenya (HHK) initiative in 2019 (KNBS, 2023).

Kenya faces a housing deficit of around 1.9 million units, a figure projected to exceed 2.2 million units by 2022 (SASRA, 2024). It is predicted that over 60% of Kenya's projected population by the year 2030, around 60 million individuals are expected to live in urban areas, according to insights from Cytonn (2019). Recognizing the vital role of real estate activities as fundamental drivers of economic development, the sector's contribution to the economy cannot be overstated. As highlighted by Huang and Ma (2015), real estate significantly influences the direction of economic growth, emphasizing the importance of addressing challenges and maximizing opportunities within this sector for sustainable development.

Empirical studies, such as that conducted by Mushi (2020), highlight conceptual gaps regarding the dynamics between fluctuations in housing prices and the accessibility of mortgage financing. Mushi (2020) suggests there exists a sustained correlation between the expansion of mortgage credit and the growth of housing prices over time, but the implications of these dynamics for the growth of real estate firms and the broader economy remain inadequately addressed. Studies like that of Njoroge, Koori, and Warui (2021) focus on a limited number of financing options, neglecting significant sources such as lease financing within SACCOs, leaving conceptual gaps in understanding the comprehensive effect of financing options on real estate growth.

Existing literature reveals methodological gaps, as noted by Bezemer, Samarina, and Zhang (2020), indicating the necessity for more extensive qualitative and quantitative analyses to explore contextual factors influencing the effect of mortgage lending on business credit across various economic contexts. The study by Kalu et al. (2021) concentrates on PPP housing provision but fails to directly address the moderating effect of size of real estate firms in SACCOs on the correlation between financing choices and the expansion of real estate, thus leaving methodological gaps in understanding the dynamics within SACCOs.

Empirical research, such as that conducted by Mungai and Mwangi (2020), highlights gaps in understanding the broader spectrum of factors affecting real estate advancement within Kenyan SACCOs. The research discovered that mortgage funding accounted for only a fraction of real estate growth, suggesting the existence of other significant contributing factors. Studies like that of Hassan, Aliyu, Saiti, and Halim (2020) do not specifically examine the effect of equity financing on the expansion of real estate enterprises within

SACCOs, leaving contextual gaps in understanding the comprehensive effect of financing options on real estate growth. However, this study focused on the Islamic stock markets, a contextual gap that the current study filled.

Despite these studies, there remains a research gap concerning the effects of financing options on the growth rate of real estate in Savings and Credit Cooperatives (SACCOs) in NCC. This study seeks to fill this void by specifically examining the effect of mortgage financing, lease financing, savings financing, and the influence of equity financing on the expansion of the real estate industry within SACCOs in Nairobi City County. The goal is to provide insights into the role of different financing options in influencing the growth dynamics of the real estate industry within the SACCO framework, contributing to a more comprehensive understanding of the sector's development.

1.3 Research Objectives

The main aim of this study is to ascertain the financing options and growth of real estate firms in Sacco's in Nairobi City County, Kenya.

The study is anchored on the following specific objectives.

i. To determine the effect of mortgage financing option on growth of real estate firms in SACCOs growth in Nairobi City County.
ii. To establish the effect of lease financing option on growth of real estate firms in SACCOs growth in Nairobi City County.
iii. To examine the effect of savings financing option on growth of real estate firms in SACCOs growth in Nairobi City County.
iv. To establish the effect of equity financing option on growth of real estate firms in SACCOs growth in Nairobi City County.

v. To establish the moderating effect of Size of real estate firms in SACCOson the relationship between financing options and growth of real estates in SACCOs in Nairobi City County.

1.4 Research Hypotheses

$H_{oi:}$ Mortgage financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.

H_{oii}: Lease financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.

H_{oiii}: Savings financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.

H_{oiv}: Equity financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.

H_{ov}: The moderating effect of Size of real estate firms in SACCOs does not significantly affect the relationship between financing options and growth rate of real estates in SACCOs in Nairobi City County.

1.5 Scope of the Study

The study concentrated on 72 real estate firms located in Nairobi City County, affiliated with the Kenya Property Developers Association (KPDA). The selection of 72 real estate firms in Nairobi City County is justified as it provides a representative sample of the broader real estate sector, making it a suitable focus for research and analysis of real estate firm performance, challenges, and opportunities in Kenya. The research covered the period from January 1, 2019, to December 31, 2023, encompassing five years. This duration provides a substantial timeframe to observe trends, patterns, and changes within the real estate market. Including data from January 2019 to December 2023 enables the research to capture recent developments and fluctuations in the real estate sector, facilitating a more

accurate assessment of market dynamics and performance over time. A five-year period offers an adequate number of data points to conduct meaningful analyses and draw insightful conclusions regarding the conduct and effectiveness of the chosen real estate companies.

The choice of Nairobi City County is justified as ensures a concentrated examination of a specific geographic area known for its significant economic activity and real estate investment. Nairobi serves as Kenya's capital and largest city, making it a vital hub for commercial, residential, and industrial developments. By narrowing the geographical scope to NCC, the research can delve deep into the dynamics of a specific real estate market, considering factors such as urbanization trends, infrastructure development, population growth, and regulatory frameworks unique to this region.

The selection of 72 real estate firms affiliated with the Kenya Property Developers Association (KPDA) facilitates convenient access to relevant data and insights. KPDA serves as a central platform for real estate developers, providing access to industry reports, market intelligence, and networking opportunities. Leveraging the association's affiliation streamlines data collection efforts and ensures access to reliable information necessary for conducting a thorough analysis of the selected firms and the broader real estate market.

The mention of SASRA (Sacco Societies Regulatory Authority) underscores the importance of regulatory bodies in shaping the real estate sector's landscape. SASRA's role in conducting research on real estate in Kenya highlights its relevance as a credible source of information for the study. By acknowledging SASRA's contributions, the research

demonstrates a commitment to incorporating diverse perspectives and authoritative sources, enhancing the study's credibility and robustness.

1.6 Significance of the Study

The investigation holds significant implications for theory, practice, and policy formulation within the real estate sector. By delving into the various financing options available to real estate developers, it contributes to advancing our understanding of the dynamics within this industry. This empirical evidence aids decision-makers in making informed choices, thereby facilitating the construction of more houses and stimulating growth within the real estate sector. The study's findings have implications for policy formulation, benefiting entities such as the National Construction Authority, Kenya Private Developers Association, and the Government of Kenya. Informed policy decisions are essential for fostering sustainable real estate development, particularly considering the sector's prominent role in Kenya's Big Four Government Agenda.

This study serves as a valuable reference for scholars and researchers interested in further exploration within the real estate field. By documenting the factors influencing real estate growth, it contributes to expanding knowledge and understanding in this domain. The empirical review conducted in this study significantly adds to the existing literature, offering insights that can guide future research efforts. The variables examined in this study have relevance beyond the real estate sector and can be applied to various industries, enhancing comprehension of financing options across different contexts.

This study addresses a gap in the literature regarding financing options, particularly in Sub-Saharan Africa, where financial markets may be less developed. By illuminating viable

financing strategies for real estate developers in this region, the study opens new avenues for both scholars and industry practitioners. It provides valuable insights into navigating financial challenges and opportunities specific to the real estate industry, ultimately leading to knowledge advancement and practices within the field.

1.7 Limitation of the Study

Missing data is a common challenge in research that can significantly affect the accuracy and reliability of results. It may introduce bias, reduce statistical power, and undermine the integrity of the analysis, especially when the missing data is not random. Researchers can address this issue by understanding the missing data structure, which helps in choosing appropriate handling methods. Imputation techniques, such as median, mean, and regression imputation, can replace missing values with approximated ones, preserving sample size and statistical power. Sensitivity analysis allows researchers to assess the robustness of results across different handling methods, while a solid understanding of the data context can guide the most effective strategy for managing missing data and improving result interpretability.

1.8 Organisation of the Study

The study is structured into three main sections, each serving a distinct purpose. The first chapter provides a comprehensive overview, including background information, the problem statement, study objectives, hypotheses, significance, scope, limitations, and the research structure. This chapter lays the foundation for the project by establishing context and defining the research aims. The second chapter focuses on reviewing both theoretical and empirical literature, synthesizing key findings, identifying research gaps, and presenting the conceptual framework. This review informs the study's theoretical basis and

highlights areas for further research. The third chapter details the research methodology, including the empirical model, target population, data collection and analysis methods, diagnostic tests, and ethical considerations, ensuring a transparent and rigorous approach. Subsequent chapters will present findings, discussions, and conclude with a summary, conclusions, and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Research involves the systematic process where explanatory variables are analysed in terms of their potential effect or lack of effect on other variables, referred to as the dependent variable. The literature review involves identifying theories that form the basis for understanding the variables in the theoretical framework. An empirical review of relevant studies is conducted to identify any gaps in existing research. The relationships between variables are hypothesized and diagrammatically illustrated within the conceptual framework.

2.2 Theoretical Literature Review

2.2.1 The Housing Cycle Theory

The Housing Cycle Theory, proposed by Needleman in 1965, provides a framework for understanding the cyclical nature of housing development, emphasizing its dependence on macroeconomic factors, particularly housing prices and vacancies, as emphasized by Njoroge, Koori, and Warui (2021). This theory is directly linked to the growth of real estate firms in SACCOs, as it highlights the effect of these economic factors on investment in housing and, consequently, on the financing options available to SACCO members. In this context, mortgage financing, lease financing, savings financing, and equity financing options are all influenced by the cyclical patterns of housing demand and supply, which are governed by factors such as housing prices and vacancies.

According to the theory, housing development follows a cyclical pattern driven by fluctuations in macroeconomic conditions, with housing prices and vacancies being key indicators of demand and supply in the housing market (Huang, Luo & Peng, 2021).

Vacancies represent overall housing demand, while prices reflect the value of housing units. When demand is high, and favorable economic conditions prevail, real estate firms within SACCOs may seek financing options like mortgage and equity financing to expand their portfolios and meet the demand (Nashipae & Bichanga, 2023). Conversely, during economic downturns or periods of high vacancies, SACCOs may lean more towards savings financing options, which allow members to accumulate capital before pursuing investments in real estate. Lease financing may also become more attractive as it provides a flexible means for SACCOs to manage property without full ownership, especially during uncertain market conditions.

The assumptions underlying the Housing Cycle Theory such as the influence of macroeconomic conditions, housing prices, and vacancies are particularly relevant when analyzing the independent variables in this study. Economic growth and disposable income drive housing demand, and real estate developers in SACCOs are responsive to these fluctuations (Kieti, 2020). For instance, during periods of economic prosperity, there may be increased demand for mortgage financing options, which allows SACCO members to invest in real estate. The cyclical nature of the housing market suggests that financing options will vary depending on the stage of the cycle. At the peak of the cycle, SACCOs may experience more demand for equity financing and mortgage options, while in downturns, lease and savings financing might be preferred.

The theory assumes a linear relationship between housing prices, vacancies, and housing development, which may oversimplify real-world scenarios (Hotchkiss, Smith & Strömberg, 2021). For example, it does not adequately account for non-economic factors such as government policies or regional variations, which can influence financing decisions

and real estate growth in SACCOs. In this context, SACCO members may face barriers to accessing mortgage financing or may prefer alternative options, such as lease or savings financing, depending on local economic conditions and policies. Furthermore, speculative behavior and investor sentiment, which play a crucial role in shaping housing market dynamics, are not sufficiently addressed in the theory (Jones & Stead, 2020). These factors could significantly affect the attractiveness and availability of financing options like equity financing or mortgage financing within SACCOs, especially during periods of market volatility.

Despite these limitations, the Housing Cycle Theory remains relevant in understanding the growth of real estate firms in SACCOs and the role of financing options in that growth. By considering macroeconomic factors such as housing prices, vacancies, and economic growth (Kalu et al., 2021). The theory provides valuable insights into the cyclical patterns of real estate development. It also highlights how different financing options, including mortgage, lease, savings, and equity financing, align with the various stages of the housing cycle, offering a framework for analyzing how SACCOs can navigate the fluctuations in the housing market and sustain growth within their real estate portfolios.

2.2.2 Lien Theory of Mortgage

The Lien Theory of Mortgage, rooted in the work of Lloyd (1923) and further expanded by Harris (2017), offers a framework for understanding the legal dynamics of mortgage transactions. This theory highlights the division between the borrower, who holds possession of the property, and the lender, who retains legal ownership until the debt is fully paid off (Amuyunzu et al., 2023). In the context of SACCOs and the growth of real

estate firms within this sector, the Lien Theory provides valuable insights into how mortgage financing options drive the expansion of real estate development. Specifically, it underscores the critical role of mortgage financing in facilitating property acquisition, which in turn boosts real estate growth within SACCOs.

The Lien Theory assumes that the borrower possesses the property, while the lender holds the legal title, ensuring that the lender's interests are protected until the loan is repaid (Owuor, Githii, & Mirie, 2018). In SACCOs, mortgage financing, as explained by this theory, enables members to acquire real estate property by using the property as collateral. This dynamic directly effects the growth of real estate firms by providing a mechanism through which members can invest in real estate, thereby increasing the overall real estate stock (Katiti et al., 2021). The theory implies that as more members in SACCOs utilize mortgage financing to acquire property, the demand for real estate develops, spurring further expansion of real estate firms. This connection links the independent variable (mortgage financing option) to the dependent variable (growth of real estate firms in SACCOs).

However, the Lien Theory has its limitations. Critics argue that its focus on the legal aspects of mortgage transactions overlooks critical economic and social factors that influence mortgage practices (Owuor, Githii, & Mirie, 2018). For instance, economic conditions, interest rates, and housing market trends significantly affect the availability and attractiveness of mortgage financing, which may not be fully captured by the theory. The theory may not account for variations in mortgage practices across jurisdictions, such as those specific to SACCOs in Kenya, where different legal and regulatory frameworks exist. This limitation suggests that while mortgage financing is important, other factors like

economic stability, government policies, and interest rates may also play a crucial role in influencing the growth of real estate firms.

Despite these criticisms, the Lien Theory remains relevant for understanding the relationship between mortgage financing and real estate development. It highlights how mortgage financing enables property acquisition, which in turn supports the growth of real estate firms (Hotchkiss, Smith & Strömberg, 2021). Furthermore, the theory can be extended to explore how SACCOs' mortgage financing options contribute to the development and expansion of real estate projects, effecting the overall real estate market. By considering this legal framework, researchers can better understand how financing options, including mortgage, can foster growth in the real estate sector, especially within SACCOs. Thus, mortgage financing is a vital component of the broader financial landscape that influences real estate development and the expansion of real estate firms in SACCOs.

2.2.3 Transaction Cost Theory (TC)

The Transaction Cost (TC) Theory, first proposed by Williamson in 1975 and expanded by scholars like Ngoc, Tien, Chau, and Le Khuyen (2021), offers a framework for understanding the cost efficiencies within firms, particularly regarding their strategic partnerships and interactions. This theory provides insight into how firms minimize transaction costs by optimizing decision-making processes and forming joint ventures or private equity arrangements to improve their operational efficiency. When applied to the context of SACCOs, TC Theory helps explain how various financing options, including mortgage financing, lease financing, savings financing, and equity financing, contribute to the growth of real estate firms.

Central to TC Theory is the assumption that firms strive to reduce transaction costs by streamlining their internal operations and forming strategic alliances. It posits that joint ventures and private equity arrangements can enhance firm performance through shared costs and better market positioning (Nashipae & Bichanga, 2023). In SACCOs, the application of this theory can illuminate how different financing options influence the growth of real estate firms. For instance, mortgage financing, by facilitating property acquisition through loans, helps reduce the upfront costs associated with real estate development, making it an essential tool for growth (Jones & Stead, 2020). Similarly, lease financing can be strategically used to minimize the capital outlay required for property development, while savings and equity financing offer long-term financial stability and risk-sharing benefits that contribute to sustainable growth. The theory links these financing options (independent variables) to the growth of real estate firms (dependent variable), highlighting how SACCOs leverage these tools to minimize costs and enhance real estate development within their portfolios.

The TC Theory faces criticisms for oversimplifying firm dynamics. Some scholars argue that it does not fully account for factors such as cultural differences, regulatory challenges, and technological changes that affect transaction costs (Jaffe & Esarey, 2017). Furthermore, the theory’s emphasis on cost minimization often overlooks other critical organizational goals, such as innovation, social capital, and long-term strategic objectives, which can also affect firm performance. Critics also point out that the theory's focus on transactional relationships neglects the role of trust and relational dynamics in partnerships, which are crucial for the success of strategic alliances.

Despite these limitations, TC Theory remains relevant for understanding how financing options influence the growth of real estate firms in SACCOs. By reducing transaction costs through optimized decision-making and strategic partnerships, SACCOs can improve their real estate portfolios, leading to increased growth (Huang, Luo & Peng, 2021). The theory provides a valuable framework for examining how real estate firms in SACCOs choose financing mechanisms to enhance their performance and growth, ultimately contributing to the expansion of the real estate sector within these organizations. Therefore, the TC Theory links financing strategies to the growth of real estate firms in SACCOs by highlighting how cost-effective financing options, including mortgage, lease, savings, and equity financing, influence the overall trajectory of real estate development.

2.2.4 Resource Dependency Theory (RDT)

The Resource Dependence Theory (RDT), initially formulated by Salancik and Pfeffer in 1978 and further developed by scholars such as Pfeffer (2005), provides a framework for understanding how organizations' strategies and structures are influenced by the availability and acquisition of resources. This essay explores the core principles of RDT, its assumptions, limitations, criticisms, and relevance to a study on the financing strategies of real estate developers, particularly within SACCOs.

RDT posits that organizations are not isolated decision-makers but are instead influenced by various environmental factors, internal power dynamics, and external control mechanisms (Muyambiri & Magali, 2020). According to the theory, organizations depend on external resources and must adapt their strategies to ensure continuous access to these resources. For real estate firms in SACCOs, decision-making processes are driven by the need to secure essential resources such as financing, which directly effects their growth. In

this context, the independent variables of mortgage financing, lease financing, savings financing, and equity financing serve as critical resources that these firms must manage effectively to foster growth (Mushi, 2020). The dependent variable, the growth of real estate firms, is shaped by the firms' ability to negotiate, acquire, and utilize these financing options.

The theory also assumes that organizations make rational decisions based on substantial information processing. Real estate developers within SACCOs, for example, must assess various financing options, including mortgage financing, lease financing, savings, and equity financing, and choose the most suitable ones based on their resource needs (Mungai & Mwangi, 2020). By strategically responding to uncertainties in their operating environment and acquiring the necessary financial resources, real estate firms can enhance their development and expand their portfolios. This aligns with RDT's notion that resource acquisition is crucial for organizational success and growth.

However, RDT has faced criticism for its narrow focus on resource dependencies, potentially overlooking other influential factors such as emotions, politics, and social dynamics within organizations. Critics argue that the theory's assumption of rational decision-making may not fully capture the complexities of organizational behavior, as cognitive biases and limitations in information processing can also influence decisions (Nguyen et al., 2022). Despite these criticisms, RDT remains valuable for understanding how real estate firms in SACCOs manage resources, particularly financial resources to drive growth.

Kalu et al. (2021) emphasize that real estate developers, especially within SACCOs, leverage various resources, including physical, financial, and human capital, to negotiate favorable financing terms. The acquisition of financing through mortgage, lease, savings, and equity financing options directly effects the growth trajectory of these firms. By strategically managing these resources, SACCO-based real estate firms can ensure long-term sustainability and development, highlighting the centrality of resource acquisition and management in shaping their growth (Tanui, 2021). RDT is a valuable framework for understanding how SACCO-based real estate firms navigate resource dependencies to achieve growth. By strategically utilizing different financing options such as mortgage, lease, savings, and equity financing these firms can foster growth and adapt to environmental challenges, ultimately influencing the trajectory of their real estate development.

2.3 Empirical Literature

2.3.1 Mortgage Financing and Growth of Real Estate

Okuta, Kivaa, Kieti, and Okaka (2023) conducted a study on housing price forecasting in Kenya, using both simple and complex regression models. They found that advanced modelling techniques, particularly the Vector Autoregressive (VAR) model, offered superior performance in forecasting housing prices. The study emphasized the importance of considering economic performance when assessing property valuations and feasibility in the Kenyan housing market. However, the study focused primarily on the commercial housing market and did not address the dynamics between mortgage financing and the growth of real estate firms, particularly within Savings and Credit Cooperative Organizations (SACCOs). The current study fills this gap by specifically examining the

effect of mortgage financing on the growth of real estate firms within SACCOs in Kenya. By incorporating micro-level data on mortgage financing and real estate growth within SACCOs, the study provides a more detailed analysis of the relationship between mortgage funding and real estate industry growth, offering valuable insights for policy and decision-making in the Kenyan housing market.

Bezemer, Samarina, and Zhang (2020) conducted a comprehensive study investigating the relationship between mortgage lending and business credit across 74 economies. By utilizing a disaggregated bank credit dataset, the study highlighted a significant shift away from business lending, particularly focusing on the consequences of increased mortgage lending on business credit streams. Their findings revealed that in developed economies, the expansion of mortgage credit positively correlates with the growth of business credit, while emerging economies experienced the opposite trend. However, the study identified gaps in understanding the mechanisms driving these effects, such as the role of regulatory environments, institutional factors, and market conditions. This study lays the groundwork for examining the broader effect of mortgage finance on business credit, but leaves a crucial gap in analyzing how specific contextual factors shape this relationship. The present study addresses this gap by incorporating qualitative analysis alongside quantitative methods to explore the influence of financial regulations and policies on the effect of mortgage lending on business credit growth.

Chen, Michaux, and Roussanov (2020) focused on the relationship between mortgage refinancing and macroeconomic uncertainty, particularly investigating how households use homes as sources of cash during periods of economic stress. The study employed a structural model of liquidity management, revealing a countercyclical component to

mortgage refinancing activity, with households seeking liquidity during economic uncertainty. While this study offers important insights into household behaviour regarding mortgage refinancing, it leaves gaps in understanding the broader implications for the real estate sector. The present study fills this gap by examining the effects of mortgage refinancing on the growth of real estate firms, particularly exploring how household liquidity needs and macroeconomic fluctuations influence real estate dynamics. By incorporating both macroeconomic and microeconomic perspectives, the study aims to provide a more comprehensive understanding of the connection between mortgage refinancing and real estate growth.

Mushi (2020) explored the interaction between housing price shocks and mortgage credit availability in Tanzania between 2008 and 2018, using the Vector Error Correction Model (VECM). The study revealed a long-term relationship between mortgage credit expansion and housing price growth, with housing price fluctuations significantly influencing mortgage credit availability. Mushi also identified a dynamic association between luxury housing prices and mortgage credit, suggesting that fluctuations in luxury housing prices could amplify mortgage credit and stimulate further housing price changes. Despite these insights, the study left gaps in understanding the implications for the growth of real estate firms. The current study bridges this gap by investigating how fluctuations in mortgage credit and housing prices influence the growth strategies and investment decisions of real estate firms in Kenya, particularly focusing on how these dynamics effect the broader economy.

2.3.2 Lease Financing and Growth of Real Estate

Katiti, Omanwa, Mwaniki, and James (2022) studied how capital influences the expansion of commercial real estate in Machakos County, identifying personal savings and equity loans as the primary sources of investment. However, it overlooks the role of lease financing, which is a key financial mechanism for real estate development in SACCOs. The current study addresses this gap by analyzing the influence of lease financing on the growth of real estate firms within SACCOs in Machakos County, providing a more comprehensive understanding of the financing dynamics that drive real estate development in this region.

Njoroge, Koori, and Warui (2021) explored how different financing options influence the growth rates in Kenyan real estate firms. The study identifies that mortgage financing and retained earnings have a positive but limited effect, while bank loans have a negative effect, and private equity and joint ventures have a positive but statistically insignificant effect. However, it does not consider lease financing, a significant source of funding in SACCOs. The gap here is the exclusion of lease financing in their analysis. The current study fills this gap by specifically exploring how lease financing within SACCOs influences the growth of real estate enterprises, using advanced econometric techniques to analyze its effect.

Cai, Liu, and Cao (2020) examined the role of the real estate market in China's urbanization, emphasizing its contribution to infrastructure and rural-to-urban migration. While it provides valuable insights into China's real estate dynamics, the findings may not directly apply to Kenya, especially within the SACCO context. The study's primary gap

lies in the application of these dynamics to the Kenyan market. The current study addresses this gap by focusing specifically on lease financing within SACCOs in Kenya, investigating how this form of financing effects the expansion of real estate enterprises in the country.

Mungai and Mwangi (2020) investigated the influence of mortgage financing on real estate growth in Nairobi, with findings suggesting that mortgage financing contributes only 7.1% to real estate growth in Kenya. This underscores the importance of exploring other factors influencing real estate development. A significant gap in the literature is the lack of focus on alternative financing mechanisms such as lease financing within SACCOs. The present study builds on this by specifically examining the effect of lease financing on the expansion of real estate firms in SACCOs, thus providing a deeper understanding of financing alternatives that could drive real estate sector development in Kenya.

2.3.3 Savings Financing Option and Growth of Real Estate

Amuyunzu et al. (2023) evaluated various financing approaches for affordable housing in Kenya using a mixed-methods approach, combining interviews and quantitative analysis. The study found that a combination of financing options is necessary to address the challenges of affordable housing. While it emphasizes the need for a diversified financing approach, it does not focus on savings financing, a critical component of SACCO-based real estate development. The current study fills this gap by providing an in-depth examination of savings financing within SACCOs and its role in real estate firm growth, complementing the broader discussion on financing strategies for affordable housing in Kenya.

Omagwa (2021) focused on the policy guidelines and milestones of the Affordable Housing Programme in Kenya. By analyzing policy documents, it examined the regulatory framework shaping affordable housing initiatives and highlighted the importance of coherent policies in addressing housing affordability. While valuable for understanding the regulatory environment, Omagwa's research did not explore the financial mechanisms underpinning affordable housing, particularly the role of savings financing. The current study builds on Omagwa's findings by specifically investigating savings financing within SACCOs and its impact on the growth of real estate companies, thus providing a deeper understanding of financial dynamics in Kenya's real estate sector.

Huang, Luo, and Peng (2021) investigated the relationship between economic policy uncertainty and corporate financial asset ownership, concluding that corporate financial asset holdings could be viewed as a form of precautionary savings. While the study contributes to understanding savings behavior in the broader financial context, it does not focus on the real estate sector or examine how individual and collective savings impact real estate firm growth. The current study addresses this gap by focusing on savings financing within SACCOs and its influence on the expansion of real estate companies. By targeting this specific financial mechanism, the study provides valuable insights into how savings-based financing can foster real estate growth in Kenya.

Muyambiri and Magali (2020) assessed the causal relationship between financial development, investment, savings, and economic growth in Kenya and Tanzania from 1990 to 2017 using a multivariate Granger-causality framework. The study found that in the short term, investment leads financial development, suggesting that investment has a more substantial impact on economic growth than financial sector development. The study

emphasizes enhancing credit to boost investment, savings, and growth. However, it does not specifically explore the influence of savings-based financing on real estate firm expansion within SACCOs in Kenya. The current study addresses this gap by examining how savings financing within SACCOs affects real estate growth. By employing multiple regression analysis, the study investigates the unique dynamics of savings financing and its implications for real estate sector development in Kenya, offering insights for policymakers and real estate developers.

2.3.4 Equity Financing Option and Growth of Real Estate

Ngoc, Tien, Chau, and Le Khuyen (2021) explored the effect of capital structure on the performance of 25 real estate companies listed on the Ho Chi Minh City Stock Exchange between 2011 and 2018. The study used regression analysis to find an inverse relationship between capital structure and business performance, while tangible assets positively affected performance across all regression models. However, it did not find a significant link between control variables such as liquidity, firm size, economic growth, asset growth, and inflation rate with business performance. This study does not address the impact of equity financing on the growth of real estate firms within SACCOs in Kenya. The current study fills this gap by specifically examining the relationship between equity financing and the growth of real estate firms within SACCOs in Kenya using descriptive and inferential statistics, thus contributing to the existing body of literature and providing actionable insights.

Yasar (2021) analysed the emerging field of equity crowdfunding, reviewing its significance as a financing method for innovation and entrepreneurship. The study highlighted the need for further investigation into the socio-economic effects of equity

crowdfunding, particularly its interaction with traditional equity financing. Yasar emphasized areas for future research, including the dynamics of equity crowdfunding in different regions, understanding funder motivations, and the regulatory effects on success factors. Although valuable for understanding the broader landscape of equity financing, this study did not directly explore the effect of equity financing on the growth of real estate firms within SACCOs in Kenya. The current study fills this gap by focusing on the effect of equity financing on real estate firms' growth within SACCOs in Kenya, utilizing advanced econometric techniques to analyze the relationship, thus providing insights for policymakers and real estate developers.

Tanui (2021) examined the financial performance of construction and manufacturing companies in Kenya, focusing on how corporate governance, asset structure, and capital structure influence financial performance. Using agency and stewardship theories, Tanui found that long-term and short-term assets positively influenced financial performance. Furthermore, the study found that capital structure and corporate governance moderated the relationship between asset structure and financial performance. However, Tanui's study did not directly address how equity financing affects the growth of real estate firms within SACCOs in Kenya. The current study addresses this gap by specifically exploring the effect of equity financing on the expansion of real estate firms within SACCOs, providing valuable insights into the financial dynamics that affect the growth of real estate companies in this context.

Hassan, Aliyu, Saiti, and Halim (2020) conducted an extensive literature review on Islamic investments, focusing on Islamic stock indices, the relationship between Islamic finance and economic growth, and the Islamic real estate investment trust (REIT) market. They

found that Islamic stock indices generally exhibit lower volatility than conventional ones. However, most studies on the link between Islamic finance and economic growth concentrated on the banking sector, leaving other segments of the Islamic financial market underexplored. The review also noted a lack of a standardized framework for Islamic banks in home financing. While this study provides valuable insights into Islamic investments, it does not specifically examine the role of equity financing in the growth of real estate firms within SACCOs in Kenya. The current study addresses this gap by investigating how equity financing influences the expansion of real estate firms in SACCOs in Kenya. By employing advanced statistical techniques, this research contributes to filling the gap in the literature and provides practical insights for policymakers and real estate developers.

2.3.5 Financing Options, SACCO Size, and Growth of Real Estate

Nashipae and Bichanga (2023) assessed the effect of financial accessibility on the growth of real estate investments in Kenya, with a particular focus on Kajiado Township. The research highlighted that financial access is crucial for enabling property investment, yet Kajiado lags behind more prosperous areas such as Nairobi and Nakuru. The study used a mixed-methods approach, incorporating surveys and interviews with property owners, financiers, and institutional managers. Although the study emphasizes financial access, it does not address the effect of Size of real estate firms in SACCOs on the relationship between financing options and real estate expansion within SACCOs in Nairobi City County. The current study fills this gap by focusing on how size of real estate firms in SACCOs affects this relationship, offering tailored insights into the dynamics of SACCOs and real estate development within Nairobi City.

Kalu et al. (2021) explored the influence of mortgage financing and housing affordability on the effectiveness of Public-Private Partnership (PPP) projects in delivering housing. Their quantitative study found that 64.7% of the variation in PPP housing performance could be attributed to housing affordability and mortgage financing accessibility. While housing affordability was positively correlated with PPP housing performance, access to mortgage financing had a negative impact. This suggests that equity financing, often used to acquire PPP housing units, was more affordable for residents. While the study emphasizes the importance of housing affordability and mortgage financing, it does not examine the role of SACCOs in this context, particularly how the scale of real estate within SACCOs affects the relationship between financing options and real estate expansion in Nairobi City. The current study addresses this gap by exploring how the scale of real estate within SACCOs moderates the relationship between financing methods and real estate growth, providing more localized insights for real estate developers and policymakers.

Jones and Stead (2020) examined the challenges of accessing affordable housing loans for low-income urban residents in Africa and Asia, particularly focusing on innovative housing finance models within Reall's international network. The research highlighted successful case studies from Pakistan, India, the Philippines, Mozambique, and Nepal, demonstrating that extending loans to lower-income borrowers can be viable. However, the study did not specifically address the role of SACCOs in financing real estate growth in Nairobi City. The current study addresses this gap by exploring the moderating effect of Size of real estate firms in SACCOs on the relationship between financing options and real estate growth in Nairobi City.

2.4 Summary of Literature and Research Gaps

The compilation of empirical literature and identified research deficiencies are presented succinctly (Table 2.2.).

Table 2.2: Literature Summary and Gaps

Author	Study	Findings	Research Gap	Addressing the Gap
Okuta, Kivaa, Kieti, and Okaka (2023)	To predict housing prices (HPs) in Kenya using both straightforward and intricate regression models.	The housing market's sensitivity to economic indicators underscores the necessity of integrating economic performance in feasibility studies and appraisals.	- Leaving gaps in understanding the dynamics between mortgage financing and the growth of real estate firms, especially within SACCOs in Kenya.	-The current study focused specifically on real estate firms in SACCOs in Kenya, examining the effect of mortgage financing on the growth of real estate firms within this sector.
Kalu et al. (2021)	Mortgage financing and affordability on the performance of Public-Private Partnership (PPP) in housing provision	Regression analysis showed housing affordability positively affected PPP housing provision performance, while access to mortgage finance inversely related to performance, indicating equity was mainly used for affordable PPP	-The study focuses on PPP housing provision and does not directly address the moderating effect of Size of real estate firms in SACCOs on the relationship between financing options and real estate growth in Nairobi City, Kenya	-The current study investigated how the size of SACCOs moderates the relationship between various financing options and the growth rate of real estates in SACCOs in Nairobi City.

		housing acquisition.		
Njoroge, Koori, and Warui (2021)	Financing options and growth rate of real estate development companies in Kenya	Mortgage financing minimally effected real estate development companies' growth rates. Retained earnings significantly reduced growth rates, while private equity and joint ventures had limited but positive effects.	-the study focuses on a limited number of financing options and does not specifically address lease financing, which is a significant source of funding for real estate development, particularly within SACCOs in Kenya.	-The current study focused specifically on the effect of lease financing on the growth of real estate firms within SACCOs in Kenya
Bezemer, Samarina, and Zhang (2020)	Mortgage lending on business credit using a recently disaggregated bank credit dataset.	Show a favourable effect of increased mortgage credit on business credit expansion in developed nations, whereas demonstrate an adverse effect in emerging and developing economies.	leaves gaps in understanding the mechanisms driving these effects, such as the role of regulatory environments, institutional factors, and specific market conditions	The current study incorporated qualitative analysis alongside quantitative methods to explore the contextual factors influencing the effect of mortgage lending on business credit across different economic settings.
Mushi (2020)	Housing price shocks and mortgage credit accessibility in Tanzania	Long-term link: Mortgage credit expansion tied to housing price growth.	It leaves gaps in understanding the implications of these dynamics	The current study extended the analysis to explore how fluctuations in mortgage

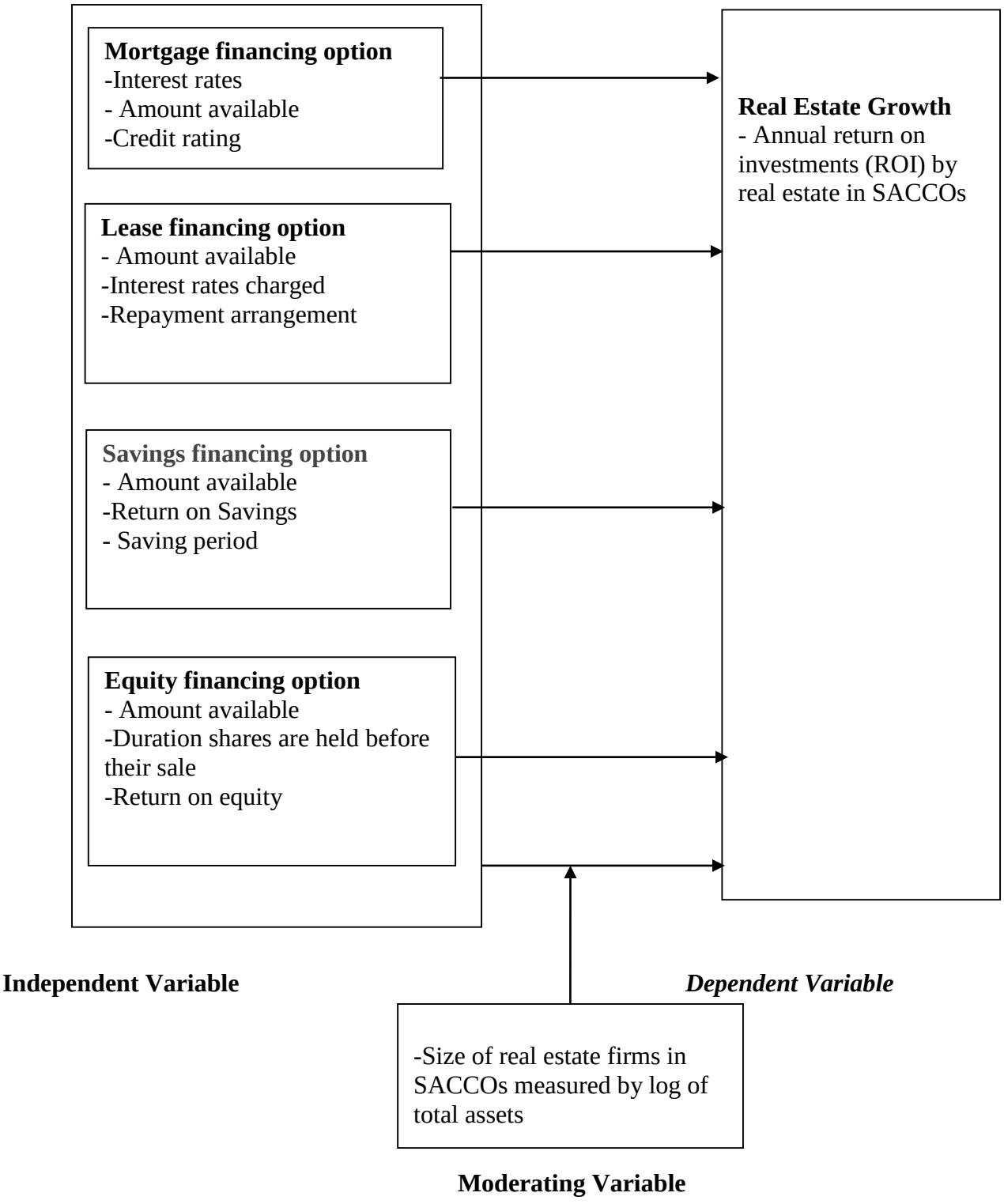
	during the period spanning 2008 to 2018.	Short-term: luxury housing price fluctuations drive mortgage expansion, affecting housing prices variably.	for the growth of real estate firms and the broader economy.	credit availability and housing prices influence the investment decisions and growth strategies of real estate firms in SACCOs in Kenya
Mungai and Mwangi (2020)	Mortgage financing and growth of real estate in Nairobi Metropolis, Kenya.	-Findings revealed that mortgage financing explained only 7.1% of the growth of real estate in Kenya, indicating that other factors outside the scope of the study significantly contribute to real estate growth	-leaves gaps in understanding the broader range of factors driving real estate development, particularly within SACCOs in Kenya	-The current study focused specifically on the effect of lease financing on the growth of real estate firms within real estate firms in SACCOs in Kenya
Muyambiri and Magali (2020)	Dynamic causal relationship and financial development, savings, investment, and economic growth in Tanzania and Kenya from 1990 to 2017.	In Tanzania and Kenya, short-term findings suggest investment precedes financial development, indicating investment's greater effect on economic growth	-it does not specifically focus on the effect of savings financing on the growth of real estate firms within SACCOs in Kenya	-The current study investigated the effect of savings financing on the growth of real estate firms within SACCOs in Kenya.

		compared to financial sector development.		
Hassan, Aliyu, Saiti, and Halim (2020)	Performance of Islamic stock indexes, the Islamic finance-growth nexus, and the Islamic real estate investment trust (REIT) market.	Islamic stock indices tend to be less volatile compared to conventional stock indices.	-it does not specifically address the effect of equity financing on the growth of real estate firms within SACCOs in Kenya.	-The current study investigated the effect of equity financing on the growth of real estate firms within SACCOs in Kenya.

Source: *Researcher* (2024)

2.5 Conceptual Framework

The research seeks to investigate the connections between various factors, with some factors hypothesized to affect others. These proposed relationships are illustrated in a conceptual framework. It's essential to acknowledge that research involves different types of variables, broadly categorized into independent variables, also known as predictors or explanatory variables, which exert influence on others, and dependent variables, these variables, which are anticipated to be affected by the independent variables and are also known as regressors. In this study, predictors such as mortgage financing, lease financing, savings financing, and equity financing were treated as the independent variables, while real estate growth rates were designated as the dependent variable. The study introduced the size of SACCOs' real estate developers as a moderating variable. These details are visually depicted in Figure 2.1. The primary objective of the study is to investigate the correlation between financing options and the growth of real estate firms in SACCOs in Nairobi City County.



Source: *Researcher (2024)*

Figure 2.1: *Conceptual Framework*

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This section outlines the research methodology employed in the study, providing a comprehensive overview of the systematic approach used to address the research objectives. It begins by explaining the rationale behind the selection of the research design, followed by a detailed description of how the target population was identified. The section further elaborates on the determination of the sample size, the sampling method employed, and the criteria for selecting the participants. It outlines the data collection process, including the instruments utilized to gather relevant data. Finally, the section specifies the data analysis techniques applied to process and interpret the collected data, ensuring that the findings are valid, reliable, and relevant to the study's aims.

3.2 Research Design

The approach serves as a meticulous and succinct strategy for gathering and analysing data, aiming to provide statistically valid responses to the questions posed by a particular study. It serves as a clearly outlined framework that outlines the methodology for data collection and processing to draw meaningful conclusions (Schindler & Cooper, 2014). This investigation employs a descriptive research approach. A descriptive research methodology aims to characterize the existing connections, or lack thereof, between a particular group of factors or variables under study.

Descriptive research is flexible and adaptable, allowing the researcher to explore a wide range of variables that could impact real estate growth (Kalu et al., 2021). In this study, it facilitates a deeper exploration of financing mechanisms within SACCOs and their effects

on real estate expansion, considering the diversity of SACCOs and their varying sizes and resources. The flexibility of descriptive research ensures that multiple aspects of the relationship can be comprehensively explored. Given the study's objective, which is to provide a comprehensive description of the relationships between variables, the most suitable design is the descriptive research approach.

3.3 Empirical Model

Model specification entails the selection of a suitable model, with particular attention to the endogeneity of explanatory variables. A common test used to identify and address the presence of endogenous predictors is the Hausman Test, developed by Hausman in 1978. Endogenous predictors are those influenced by other variables in the dataset. The assumption of no correlation among predictors is crucial in regression analysis, and the presence of such regressors can undermine the validity of the regression output.

The Hausman Test is pivotal in deciding what to use, for panel data analyses, researchers can utilize either the Random Effects (RE) Model or the Fixed Effects (FE) Model as their analytical approach, especially with a sample size. The RE Model assumes efficient and consistent estimation, using Generalized Least Squares estimation and presuming a random selection of individual entities for within and between estimation (Creswell, Vicki, & Clark, 2011). While the Random Effects (RE) model is computationally efficient and operates under the assumption that at least one set of observations is not fixed, it carries the risk of producing inconsistent results due to the potential omission of relevant variables, resulting in a zero number of unobserved effects (Jaffe & Esarey, 2017). On the other hand, although the Fixed Effects (FE) Model is viewed as computationally inefficient, it is highly regarded for its ability to produce consistent results. The Fixed Effects (FE) Model is the

preferred choice when the slope coefficient, or the rate of change, remains constant across different entities or observations, even if the constant term in the equation varies among them.

To assess whether the chosen model adequately addresses potential issues of endogeneity (where explanatory variables are correlated with the error term), this study performed the Hausman Test, which evaluates the model's suitability. The general guideline is that if there is no correlation between the predictor variables, both the Random Effects (RE) and Fixed Effects (FE) models produce consistent estimates, with the FE model being less efficient, as per Janot, Vandonjon, and Gaitier (2016). If the predictor variables are correlated, the RE model yields inconsistent results, whereas the FE model remains consistent. Consequently, the Hausman Test involves evaluating the null hypothesis by comparing the p-value of the test statistic against the chosen significance level (alpha). For this study, conducted at a 95% confidence level with a 5% margin of error (0.05), a Hausman Test statistic p-value less than 0.05 indicates that the Fixed Effects Model should be employed. Conversely, if the p-value exceeds 0.05, the Random Effects estimation is more appropriate (Creswell, Vicki, & Clark, 2011). An analytical model represents a proposed mathematical relationship that links the predictor variables to the outcome variable of interest. This functional relationship is formulated as:

$GR_{it} = \beta_0 + \beta_1 MF_{it} + \beta_2 LF_{it} + \beta_3 SF_{it} + \beta_4 EF_{it} + \varepsilon it$ ---------- (i)

Where: GR = Growth rate; ROI

MF = Mortgage financing

LF = Lease financing

SF= Savings Financing

EF = Equity Financing

i = individual real estate firm

t = time

B_o = the constant

B_1, B_2, B_3, B_4 = the coefficients

ε = the error term

3.4 Testing Moderating Effect of SACCO Size

To assess the potential moderating influence, this study used the approach outlined by Baron and Kenny (1986). This two-step process involved examining how the size of the SACCOs moderates the relationship between available financing options and the growth experienced in the real estate sector. In the initial first step, the moderating variable of Size of real estate firms in SACCOs were included as an independent predictor variable within the regression model, as depicted in equation ii:

$$\mathbf{GR_{it}} = = \beta_0 + \beta_1 MF_{it} + \beta_2 LF_{it} + \beta_3 SF_{it} + \beta_4 EF_{it} + \beta_5 SS_t\ \varepsilon_{it} \quad \textbf{(ii)}$$

In the second step, the significance of the p-value associated with the Size of real estate firms in SACCOs variable was evaluated. A significant p-value indicates that the size of real estate firms in Seacoasts as an independent variable affecting the association between financing options and real estate growth. If the p-value is significant, subsequent analysis can proceed based on these findings. Nonetheless, if the p-value for size of real estate firms in SACCOs is found to be insignificant, it would indicate that the size of the SACCO does not directly influence the link between financing options and real estate growth. In such cases, the interaction effect between size of real estate firms in SACCOs and the various financing options were further explored. This interaction effect provides deeper insights

into how the size of real estate firms in SACCOs moderates the relationship between financing options and real estate growth.

$$GR_t = \beta_0 + \beta_1 MF_{it} + \beta_2 LF_{it} + \beta_3 SF_{it} + \beta_4 EF_{it} + \beta_1 MF_{it} * SS_t + \beta_2 LF_{it} * SS_t + \beta_3 SF_{it} * SS_t + \beta_4 SF_{it} * SS_t + \varepsilon_{it} \ldots\ldots \textbf{(iii)}$$

Where:

SS = SACCO Size

Table 3.1: Decision Criteria

Model 3.3		Model 3.4	Total Effect	Conclusion
B31 ; (p>0.05)		-	-	No overall effect to Moderate
B31 ; (p≤0.05)	B42	; (p>0.05)	-	Moderating variable is an explanatory variable
B31 ; (p≤0.05)	B42	; (p≤ 0.05)	B43	Moderating variable has a moderating effect

Source: Baron and Kenny (1986)

3.5 Target Population

The study targeted all real companies that are in SACCOs. As of December 2023, there were 72 real estate firms in SACCOS in NCC registered across various member categories (KPDA, 2024). Choosing Nairobi City County for the study on real estate firms within SACCOs in Kenya is justified due to its economic significance, concentration of SACCOs, diverse real estate market, availability of data, policy implications, and urban dynamics.

3.6 Sample and Sampling Design

The study will apply a **census approach** targeting all 72 real estate firms in SACCOs in Nairobi City County (NCC), as the total number of firms is relatively small. A census is appropriate when the population is under 100, which allows for a comprehensive and accurate representation of the entire population (Mungai & Mwangi, 2020). Given that there are only 72 real estate firms in SACCOs in NCC, it is both practical and efficient to include all of them in the study to minimize sampling error and capture all relevant perspectives.

3.7 Data Collection Instruments

The research used quantitative secondary data sourced from various real estate firms in SACCOs. The dataset encompassed the timeframe from 2019 to 2023. To ensure a methodical gathering of pertinent information, a data collection sheet was used, detailed in the study's appendix (Appendix I). This data collection sheet served as a structured tool to ensure consistency and accuracy in gathering the necessary information from the identified sources. By leveraging secondary data sources, the study aims to analyse trends and patterns in real estate development within SACCOs in NCC over the specified timeframe. This quantitative approach allows for rigorous analysis and interpretation of the data to draw meaningful conclusions regarding the connection between the available financing choices and the expansion experienced within the real estate sector over the specified geographic region and timeframe under investigation.

The researcher defined and assessed the study variables by drawing upon insights gleaned from a review of relevant literature. The independent variable of financing options was operationalized using indicators such as mortgage, lease, savings, and equity financing

options. Indicators of real estate growth comprised the annual return on investment (ROI). size of real estate firms in SACCOs was gauged by logarithm of total assets.

Table 3.2 provides a comprehensive list of variables and their measurements.

Table 3.2: Operationalization and Measurement

Variable	**Operationalization**	**Indicator**	**Measurement**	**Level of Measurement**
SACCO growth (Dependent)	The expansion and development of properties within the SACCOs' portfolio	Return on Investment (ROI)	ROI = net income ÷ cost of investment × 100	Ratio
Mortgage Financing (Independent variable)	A loan secured by real estate property	-Interest rates - Amount available -Credit rating	-Annual interest rate	Interval (interest rate), Ratio (amount), Ordinal (credit rating)
Lease financing (independent variable)	Use of leased assets, such as equipment, vehicles, or real estate, in exchange for periodic	-Amount available -Repayment arrangement	-Amount available for leasing The prevailing rates as	Ratio (amount), Ordinal (repayment arrangement),

	payments over a predetermined period	-Interest rates charged	determined by the lender	Interval (interest rates)
Savings financing (independent variable)	The use of personal or corporate savings as a source of funds for various purposes, such as investments, purchases, or emergencies	- Amount available -Return on Savings - Saving period	-Sum of money saved -Interest earned on savings -Duration taken to save	Ratio (amount), Ratio (return), Ratio (duration)
Equity Financing (independent variable)	- Obtaining funding for a business venture or undertaking by offering and selling partial ownership stakes in the form of stocks, shares, or partnership interests	- Amount available -Duration shares are held -Return on equity (ROE)	-ROE = (Earnings Before Tax ÷ Sales) x (Sales ÷ Assets) x (Assets ÷ Equity) x (1 - Tax Rate)	Ratio (amount), Ratio (duration), Ratio (ROE)

Size of real estate firms in SACCOs (moderating variable)	-The scale or magnitude of a Savings and Credit Cooperative Organization (SACCO)	Logarithm of total assets	(Log $Size_{it}$ = log (A i, t))	Ratio (logarithmic scale)

Source: Researcher (2024)

3.8 Data Collection Procedure

The research used secondary data gathered from various outlets, including the audited annual reports, financial statements, and publications of the pertinent companies. This method of data collection is intended to furnish the study with thorough and dependable insights into the financial performance and operational endeavours of the companies under scrutiny.

The data collection phase spanned from 2019 to 2023, encompassing a five-year period. This duration has been chosen to provide a substantial dataset conducive to panel data analysis, facilitating a robust exploration of trends and patterns over time. The reliance on secondary data from credible sources ensured the precision and reliability of the gathered data. This approach affords the advantage of accessing historical data, enabling longitudinal trend analysis and comparative assessments across different timeframes.

The use of panel data offers distinct advantages, allowing for both individual and group-level analyses. It provides a richer source of statistical information, enhancing the ability to deduce more variability and attain more efficient results. Panel data is particularly advantageous as it allows for the examination of changes within individual entities as well as across groups. The use of secondary data facilitates nuanced generalizations, as observations are derived from past events, minimizing the subjective influence that may be associated with first-hand methods of gathering data.

3.9 Data Analysis

This is a systematic process crucial for deriving meaningful insights from raw data, which is essential for drawing valid conclusions in research. The analytical approach selected for examining the data must be compatible with and well-suited to the overarching research design and aims of the investigation. Panel data analysis offers numerous advantages that are in line with the study's objectives. It allows for the examination of both individual and time-specific effects, making it well-suited for analysing trends and relationships over time. Panel data analysis enables the selection of appropriate models for presenting findings, thereby enhancing the clarity and comprehensiveness of the results.

Panel data analysis also facilitates thorough diagnostics, ensuring the robustness and reliability of the conclusions drawn from the data. By accounting for individual-specific and time-specific variations, panel data analysis helps mitigate potential biases and confounding factors, thereby enhancing the validity of the study findings. To implement panel data analysis, the study applied SPSS Version 26. The SPSS is a commonly utilized statistical software program renowned for its intuitive interface and comprehensive analytical features. Leveraging SPSS enabled efficient data management, exploration, and modelling, facilitating the rigorous analysis required to effectively address the research objectives.

3.10 Diagnostic Tests

It is essential to maintain adherence to Classical Linear Regression Model's (CLRM) assumptions. This importance stems from the fact that if these assumptions are breached, the estimation of equations 3.2, 3.3, and 3.4 yields biased, inefficient, and inconsistent estimates, deviating from the ideal of being the best linear unbiased estimator (BLUE). To tackle this concern, various tests including the normality, heteroskedasticity, multicollinearity, stationarity, and test for fixed/ random effect was conducted.

3.10.1 Normality

Jarque-Bera statistic, which relies on skewness and kurtosis to assess normality of variables, were employed in this study. To deem data as normally distributed, skewness, representing the tilt of the distribution, should range from -2 to +2. Kurtosis; the kurtosis value, which measures the degree of peakedness in the data distribution, should ideally fall within the range of -3 to +3. The Jarque-Bera statistic should exceed the predetermined

significance level for the data to be considered normally distributed (Baron & Kenny, 1986). The null hypothesis for this investigation was the normal distribution of the data.

3.10.2 Heteroskedasticity

The study used the Modified Wald test, as outlined by Cooper & Schindler (2014), to ascertain the presence of heteroskedasticity. Heteroskedasticity implies that the variability of error terms fluctuates across different levels of financial inclusion. Under the alternative hypothesis, the error term exhibits heteroskedasticity, while under the null hypothesis, it demonstrates homoscedasticity.

Heteroskedasticity denotes variability of error terms in a regression model is not uniform in all observations. Detecting and addressing heteroskedasticity is crucial in regression analysis as it can result in biased and inefficient estimates of regression coefficients. To assess heteroskedasticity, the study applied the Modified Wald test, which evaluates the hypothesis that error terms possess constant variance, indicative of homoskedasticity. Rejecting the null hypothesis implies the existence of heteroskedasticity within the dataset.

If the null hypothesis is not rejected, implying that the observed p-value is below the critical value (typically 0.05), it suggests either constant variance in the data or the absence of heteroskedasticity. In such cases, the regression outcomes are deemed reliable, and no corrective measures are required to address heteroskedasticity. If the null hypothesis is rejected, signifying the presence of heteroskedasticity, further diagnostic assessments and corrective actions may be warranted. These actions might involve utilizing robust standard errors or employing alternative estimation methods, such as weighted least squares, that are robust to heteroskedasticity.

3.10.3 Multicollinearity

Multicollinearity arises in multiple regression analysis, when two or more predictor variables are involved, displaying high correlations with each other. This phenomenon can complicate the interpretation of regression coefficients and undermine the accuracy of estimates. To detect multicollinearity, this study utilized the correlation matrix to examine the relationships among predictor variables. Typically, a correlation coefficient of 0.8 or higher is considered indicative of severe multicollinearity. Such high correlations imply that one predictor variable can be accurately predicted from the others, signalling multicollinearity.

To quantify the extent of multicollinearity, the study applied Variance Inflation Factor (VIF) quantifies the degree to which multicollinearity inflates the variance of a regression coefficient. A VIF value exceeding 10 is often regarded as evidence of severe multicollinearity. It is important to recognize that multicollinearity can manifest in varying degrees of severity. While imperfect multicollinearity inflates standard errors, compromising hypothesis testing precision, perfect multicollinearity renders regression coefficients indeterminate, resulting in infinite standard errors. Although multicollinearity does not necessarily invalidate regression results, it does necessitate caution when interpreting coefficients. By assessing the magnitude of multicollinearity and its potential effect on regression outcomes, the study ensures the reliability and validity of its findings.

Variables demonstrating multicollinearity were eliminated from the analysis. The linear regression model was employed for investigation. A tolerance level of less than 0.1 further

confirms the absence of severe multicollinearity, as indicated by the research variables' tolerance levels.

3.10.4 Stationary Test

In the assessment, the Augmented Dickey Fuller (ADF) test is utilized to assess stationarity. Stationarity refers to the statistical properties of a time series, like its mean/variance, remaining stable over time. The series is deemed stationary if these characteristics remain stable, indicating the absence of both a random walk and a unit root. Conversely, if these characteristics fluctuate, the series is identified as a random walk with a unit root, indicating a non-stationary process. The notation "I (0)" signifies a stationary series requiring no differencing, while "I (1)" indicates a series with stationary differences post initial differencing.

Regression analysis conducted on non-stationary data can produce erroneous outcomes due to the existence of the unit root, indicating non-stationarity. The ADF test's null hypothesis is that each data point possesses a unit root. As proposed by Cai, Liu, and Cao (2020), not all data may exhibit unit roots. The researcher differentiated variables with unit roots and subsequently utilize differenced variables in the regression analysis. This approach ensures the stationarity of the data, thereby enhancing the reliability and accuracy of the regression results.

3.10.5 Test for Fixed/Random Effects

When choosing between a random effect model and a fixed effect model, researchers must consider various factors, as discussed by Creswell, Vicki, & Clark (2011). A key consideration is the Hausman specification test evaluates the dependability and efficiency

of both fixed effect (FE) and random effect (RE) estimators, along with the correlation between the regressors and individual effects.

The goal of the Hausman test is to detect a notable correlation between the regressors and the unobserved real estates'-specific random effects. If the correlation is undetected, suggesting that the random effect model is appropriate, then the fixed effect model is favoured. If there is a correlation, the fixed effect model is favoured. If the Hausman test indicates that the fixed effect model is suitable, researchers may consider incorporating time fixed effects into the estimation process. This involves examining whether adding dummy variables for each year results in a coefficient of zero. If so, it indicates that time does not serve as a fixed effect in the model specification requiring estimation. By carefully considering these factors and conducting the necessary tests, researchers can make informed decisions about selecting between random effect and fixed effect models, ensuring the appropriateness and accuracy of their statistical analyses.

3.11 Ethical Considerations

Conducting research demands a commitment to ethical principles, wherein ethics refers to the norms or expected standards of actions (Mugenda & Mugenda, 2012). In this study, data collection proceeded only after obtaining consent from the firms' owners, and the researcher adhered to strict confidentiality measures as required. Ethical approval for the research was sought and granted from the National Commission for Science, Technology, and Innovation (NACOSTI). Adhering to ethical guidelines is crucial, as research findings conducted in such a manner can serve as a foundation for policymaking and theory development (Creswell, Vicki, & Clark, 2011). The utmost confidentiality of data and information collected during the study was maintained, reflecting a fundamental ethical

principle aimed at safeguarding the privacy of research participants (Adrianna, 2018). This commitment ensures that participants remain protected from potential misuse or abuse of data in the wrong hands, with the data being exclusively utilized for the purposes outlined within the study's scope.

CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents a comprehensive exposition of the research outcomes, culled from an exhaustive examination of the data. It encompasses a meticulous review of the descriptive statistics, providing a sweeping overview of the data and identifying nascent patterns. Furthermore, this chapter delves into the results of diagnostic tests and presents the findings from inferential statistical analyses, including correlation analysis, regression, and hypothesis testing. The results are scrupulously discussed in relation to the research objectives and the null hypothesis, offering a nuanced understanding of the study's outcomes.

4.2 Descriptive Statistics

This section of the research undertakes an analysis of the response rate and demographic profiles of the respondents and participating organizations. A detailed synopsis is provided using percentages, means, and standard deviations as statistical measures. Moreover, this section elaborates on the descriptive statistics for all thematic areas, with particular attention to the variables pertinent to the study.

4.2.1 Response Rate

The study engaged 72 real estate firms within SACCOs located in Nairobi City County, with an invitation extended to participate in the research. Secondary data was collected via data collection sheets, and a total of 72 completed data collection sheets were received. Table 4.1 provides a comprehensive overview of the response rate, offering a snapshot of the participation rates in the study. This section provides a quantitative analysis of the response rate, shedding light on the level of engagement and participation among the target population.

Table: 4.1: Response Rate

Data collection sheet distributed	Successfully completed	Not completed
72 (100%)	72 (100%)	0 (0%)

Source: Research data (2024)

Table 4.1 presents the response rate outcomes, revealing a remarkable 100% completion and return rate of the data collection instruments by all participating respondents. Notably, as per the guidelines established by Mugenda and Mugenda (2003), a response rate of over 50% is considered acceptable, and a rate exceeding 70% is deemed satisfactory and sufficient for making inferences and drawing conclusions based on the study's findings. In this context, the achieved response rate of 100% significantly surpasses the satisfactory threshold, thereby lending robustness to the study's results.

4.2.2 Descriptive Statistics of Study Variables

This section presents a comprehensive overview of the descriptive statistics for the variables employed in the study, encompassing mortgage financing, lease financing, savings financing, and equity financing options, SACCO size, and real estate growth. The descriptive statistics provide a concise summary of the characteristics of these variables. As noted by Nguyen, Nguyen, and Dang (2017), descriptive statistics play a crucial role in understanding the distribution of data in relation to the normal distribution. To gain the insight of the data, this study calculated the mean, median, maximum, minimum, standard deviation, skewness, as well as kurtosis. The mean was selected as the preferred measure due to its robustness, representativeness, and ability to utilize all values, which enables a closer association with standard deviations and variance. Furthermore, standard deviations were employed as a stable measure of dispersion, as suggested by Chen, Michaux, and

Roussanov (2020). The results of the descriptive statistics are presented in Table 4.2, providing a detailed summary of the data characteristics.

Table 4.2: Descriptive Statistics

	Mortgage Financing option	**Lease Financing option**	**Savings financing option**	**Equity financing option**	**Size of real estate firms in SACCOs (Log of Total assets)**	**ROI**
Mean	KES 257.2 bn	KES 162.3 bn	KES 201.7 bn	KES 96.4 bn	18.67	6.23
Median	KES 198.2 bn	KES 144.9 bn	KES 165.3 bn	KES 77.6 bn	19.218	4.02
Maximum	KES 302.7 bn	KES 186.4 bn	KES 263.2 bn	KES 114.4 bn	28.072	7.51
Minimum	KES 162.5 bn	KES 99.8 bn	KES 117.2 bn	KES 45.1 bn	6.236	-1.42
Std. deviation	1.642 bn	7.148 bn	3.562 bn.	4.684 bn	0.923	0.754
Skewness	4.256	3.847	4.084	1.102	2.321	2.873
Kurtosis	12.109	8.142	11.831	3.106	5.997	6.127
Obs	72	72	72	72	72	72

Source: Study data (2024)

Table 4.2 presented the overall mean Return on Investment (ROI) for the period 2019-1.4223 was 6.23%, accompanied by a substantial standard deviation of 0.754%. This suggests that there was significant variability in ROI over time, with most real estate firms in SACCOs experiencing positive returns on their investments, while others incurred

negative returns. The range of ROI values was considerable, with a minimum of -1.42% and a maximum of 7.51%.

The results indicate that mortgage financing option exhibited a mean value of KES 257.2 bn, with a standard deviation of KES 1.642 bn, indicating a high level of mortgage financing of option of real estate firms in SACCOs during the period 2019-2023. As Nashipae and Bichanga (2023) denote large standard deviation suggests that there was significant variation in mortgage financing, with some years experiencing high levels of mortgage financing, and others experiencing lower levels.

In comparison to other variables, lease financing displayed the largest dispersion of KES 7.148 bn from the mean of KES 162.3 bn. The mean value of savings financing option was KES 201.7 bn, with a range of KES 117.2 bn to KES 263.2 bn maximum. Equity financing option had a mean value of KES 96.4 bn, with a range of KES 45.1 bn (minimum) to KES 114.4 bn maximum. The size of real estate firms in SACCOs measured as log of total assets revealed an overall mean value of 18.67 for the period between 2019-2023, with a considerable range of values, from a minimum of 6.236 to a maximum of 28.072. The standard deviation of 0.923 suggests a moderate level of dispersion around the mean.

4.3 Diagnostic Tests Results

Prior to executing regression analysis, a series of diagnostic tests were performed to verify compliance with the fundamental assumptions of the Classical Linear Regression Model (CLRM). This precautionary measure was taken to guarantee the reliability and unbiasedness of the regression estimates. The diagnostic tests encompassed an examination of normality, heteroskedasticity, multicollinearity, stationarity, and test for fixed/random

effects. The results of these diagnostic tests are presented and elaborated upon in the subsequent sections.

4.3.1 Normality Test

The Shapiro-Wilk test was employed to ascertain whether the data conformed to a normal distribution. It is essential to verify normality, as deviations from it can compromise the validity, interpretation, and reliability of the findings. The normality test results (Table 4.3) provides insight into the distributional characteristics of the data.

Table 4.3: Normality test for mortgage financing, lease financing, savings financing, equity financing options, and Moderating variable of Size of real estate firms in SACCOs

Variable	Obs	W	V	Z	Prob>Z
Mortgage financing	72	0.7418	17.358	5.147	0.6214
Lease financing	72	0.2851	34.277	6.229	0.4821
Savings financing	72	0.4472	42.187	4.271	0.2954
Equity financing	72	0.6614	9.3340	7.015	0.7124
SACCO size	72	0.7217	19.0217	4.824	0.6312

Source: Survey data (2024)

As illustrated in Table 4.3, the Shapiro-Wilk test results indicate that the residuals for the variables under examination conform to a normal distribution. The test's null hypothesis posits normality, while the alternative hypothesis suggests non-normality. According to the test's criteria, a p-value of 0.05 or less would imply a null hypothesis' rejection, indicating that the data deviates from normality (Schindler & Cooper, 2014). However, the test results reveal that the p-values for mortgage financing, lease financing, savings financing, equity financing options, and size of real estate firms in SACCOs all exceed 0.05. The null

hypothesis cannot be rejected, and it is concluded that the data exhibits normality, thereby meeting the necessary condition for panel multiple regression analysis.

4.3.2 Heteroskedasticity

The study employed the Breusch-Pagan (1979) test to examine whether the error term variance remains constant across different financing options. The test results are presented in Table 4.4.

Table 4.4: Heteroscedasticity Test Results

Variable	Chi-sq	df	P-value
Mortgage financing	5.47	1	0.0729
Lease financing	2.92	1	0.8824
Savings financing	4.32	1	0.4928
Equity financing	2.14	1	0.9457
Moderating (SACCO Size)	1.51	1	0.6512
Simultaneous	6.14	5	0.6612

Source: Survey data (2024)

The null hypothesis assumes homoscedasticity, while the alternative hypothesis posits heteroscedasticity. As noted by Baum and Schaffer (2013), heteroscedasticity can lead to inaccurate standard error estimates. The test's decision rule dictates that if the p-value is below the 0.05 significance level, the null hypothesis should be rejected. The p-value exceeding 0.05 indicates acceptance of the null hypothesis, implying homoscedasticity (Janot, Vandonjon, & Gaitier, 2016). The test result yielded a p-value of 0.6612, which is greater than 0.05, leading to the acceptance of the null hypothesis. This suggests the absence of heteroscedasticity, indicating that the error term variance remains constant across different financing options. This homoscedasticity ensures that the regression model produced efficient results.

4.3.3 Multicollinearity

The study employed the variance inflation factor (VIF) and tolerance levels to assess the presence of multicollinearity. The test results are presented in Table 4.5.

Table 4.5: Test for Multicollinearity Result

Variable	VIF	Tolerance
Mortgage financing	2.97	0.619
Lease financing	4.74	0.445
Savings financing	1.98	0.523
Equity financing	3.22	0.702
Mean	**2.58**	

Source: Study data (2024)

As per Table 4.5, VIF values for the financing options, namely mortgage financing, lease financing, savings financing, and equity financing, were found to be 2.97, 4.74, 1.98, and 3.22, respectively, with a mean VIF of 2.58. The VIF value less than 10 indicates the absence of multicollinearity, as recommended by Cooper and Schindler (2014). Therefore, the mean VIF of 1.697 suggests that multicollinearity is not present, and the model is suitable for regression analysis.

Multicollinearity can lead to inflated standard errors and confidence intervals, resulting in unstable estimates of individual predictor coefficients (William, 2015). The tolerance values, which range from 0 to 1, were found to exceed 0.50, significantly above the thresholds of 0.20 and 0.40 suggested by Creswell, Vicki, and Clark (2011); and Jaffe and Esarey (2017), respectively. This indicates that multicollinearity is not present between the

variables, including mortgage financing, lease financing, savings financing, and equity financing options.

4.3.4 Stationarity Test

The analysis was carried out at 5% critical statistics, to determine whether the panel data contained unit roots, a stationarity test was necessary. The null hypothesis posited that the variables had unit roots, while the alternative hypothesis suggested they did not. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were employed to assess the stationarity of the study variables (Table 4.6).

Table 4.6: Stationarity Test Results

Test	Statistic	Probability
ADF-Fisher Chi-Square	15.1127	0.0214
PP-Fisher Chi-Square	15.6931	0.0347

Source: Study data (2024)

Table 4.6 denotes the p-value below 0.05, leading to the null hypothesis' rejection. Consequently, it was concluded that mortgage financing, lease financing, savings financing, equity financing options, and Size of real estate firms in SACCOs were free of unit roots. This indicates that regressions can be conducted with the variables at all levels without concern for spurious results.

4.3.5 Test for Fixed/Random Effects

Hausman test necessitated a model specification test to decide whether to use the fixed effects model or the random effects model. The null hypothesis stated that the random

effects model was preferable, while the alternative hypothesis suggested that the fixed effects model was better (Greene, 2008). Table 4.7 shows the results.

Table 4.7: Hausman Test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	2.145112	1.092485	7.147525	0.002
Mortgage	4.524671	2.082415	2.092451	0.021
Lease	2.983241	3.124509	6.132457	0.001
Savings	4.082473	4.125124	7.724682	0.020
Equity	2.772485	2.112457	5.923578	0.002
SACCOs Size	3.880214	1.902353	8.587214	0.002
	Weighted Statistics			
R-squared	0.52214	Mean dependent var	1.21457	
Adjusted R-squared	0.38245	S.D. dependent var	2.99218	
S.E. of regression	2.88245	Sum squared resid	4201.254	
F-statistic	23.7702	Durbin-Watson stat	1.20345	
Prob (F-statistic)	0.1524			

Source: Survey data (2021)

According to Table 4.7, the test result at a 5% significance level yielded a p-value of 0.1524. As a result, the study did not reject the null hypothesis and determined that the random effects model was preferred over the fixed effects model.

4.4 Correlation Analysis

The assessment utilized Spearman's rank correlation matrix to determine the strength of the relationships between the study variables. The results are shown in Table 4.8 below.

Table 4.8: Correlation Matrix indicating the association between real estate firms' growth (ROI), and mortgage financing, lease financing, savings financing, equity financing options, Size of real estate firms in SACCOs

	ROI	Mortgage	Lease	Savings	Equity	SACCO Size
ROI	1.0000					
mortgage	0.7209 0.0273	1.0000				
Lease	0.4872 0.0401	0.4473 0.0010	1.0000			
Savings	0.8236 0.0319	0.2208 0.0209	0.0214 0.7412	1.0000		
Equity	0.4260 0.0462	0.2017 0.1921	0.3901 0.0020	0.4415 0.0246	1.0000	
SACCO Size	0.6904 0.0428	0.5524 0.2172	0.0398 0.0371	0.8812 0.0010	0.5829 0.0415	1.0000

Source: *Research Data (2019-23)*

Table 4.8 results indicated that real estate firm growth, measured by return on investment (ROI), was significantly positively influenced by mortgage financing ($r = 0.7209$, $P = 0.0273$). This finding aligns with The Lien Theory of Mortgage (Lloyd (1923); and Harris (2017) re-affirming that through mortgage financing, by allowing buyers to purchase property through liens, plays a crucial role in increasing the appeal of real estate properties provided by developers, thereby supporting their growth. Mushi (2020) discovered a long-term relationship between the expansion of mortgage credit and the growth of housing prices. This finding suggests that changes in the availability of mortgage credit significantly influence housing prices over time, highlighting an important link between

financial conditions and real estate market dynamics. However, Mungai and Mwangi's (2020) found that since mortgage financing accounts for only 7.1% of real estate growth in Kenya emphasizes the importance of considering other significant factors that contribute to real estate development.

The results also revealed that lease financing significantly and positively affects the growth of real estates in SACCOs (ROI) ($r = 0.4872$, $P = 0.0401$), as analysed using Spearman's rank correlation. The findings conform to the Housing Cycle Theory (1965) that considers macroeconomic factors like housing prices, vacancies, economic growth, disposable income, and interest rates. The theory sheds light on the cyclical patterns and fluctuations within the real estate sector. It serves as a valuable framework for analysing lease financing options and real estate development. On the contrary, Njoroge, Koori, and Warui (2021) found that different financing options have diverse effects on the growth rates of real estate development companies in Kenya. Mortgage financing and retained earnings both have a positive but minimal effect on growth rates. Private equity, on the other hand, has a significant positive effect on growth rates, whereas joint ventures have a positive but insignificant influence.

Savings financing had a positive but insignificant effect on ROI ($r = 0.8236$, $P = 0.0319$). These findings are pertinent to those by Katiti, Omanwa, Mwaniki, and James (2022), indicating that most commercial real estate projects in the county are funded through personal savings and equity loans from banks. It is recommended to mobilize significant amounts of private capital to meet the unmet housing demand. Similarly, Huang, Luo, and Peng (2021) established a complex relationship, concluding that corporate financial asset holdings can be seen as a form of precautionary savings.

The equity financing option showed a positive and significant effect on growth of real estate firms in SACCOs (r = 0.4260, P = 0.0462). The findings contradict those by Ngoc, Tien, Chau, and Le Khuyen (2021) that revealed a negative relationship between capital structure and business performance, whereas tangible assets had a positive effect on performance in all regression models.

The moderating variable of SACCOs size had a significant positive effect on the relationship between financing options and growth of real estate firms in SACCOs (r = 0.6904, P = 0.0428). The findings re-affirm Transaction Cost Theory by Williamson in 1975, which emphasizes how firms can strategically select financing methods to reduce transaction costs and improve performance, thereby effecting the growth trajectory of real estate within SACCOs.

4.5 Regression Analysis

The evaluation sought to explore the relationship between financing options and the growth of real estate in Sacco's in Nairobi City County, Kenya with SACCOs Size serving as a moderating factor. The analysis revealed that mortgage financing, lease financing, savings financing, equity financing options directly affect the growth of real estate firms. Regression analysis was conducted at a 5 percent confidence level to assess the statistical significance of these relationships.

The results from the regression analysis were used to evaluate the hypotheses. A discussion was held to interpret the findings by comparing them with theoretical frameworks and examining relevant literature on financing options and the growth of real estate. This

discussion emphasized the main conclusions of the analysis and was structured to meet the objectives of the assessment.

4.5.1 Test of Direct Effects

The initial three objectives were to determine the direct effect of mortgage financing, lease financing, savings financings, and equity financing options on the growth of real estate firms in SACCOs. To compute these direct effects, the following regression model was utilized:

$GR_{it} = \beta_0 + \beta_1 MF_{it} + \beta_2 LF_{it} + \beta_3 SF_{it} + \beta_4 EF_{it} + \varepsilon it$ ---------- (i)

Where: GR = Growth rate; ROI

MF = Mortgage financing

LF = Lease financing

SF= Savings Financing

EF = Equity Financing

i = individual real estate firm

t = time

B_o = the constant

B_1, B_2, B_3, B_4 = the coefficients

ε = the error term

A comprehensive multivariate regression model was employed to scrutinize the intricate relationships among the various study variables, with a specific focus on the effect of diverse financing options on the growth of real estate firms within Savings and Credit Cooperatives (SACCOs). This analytical approach was chosen due to its aptitude in examining the collective influence of multiple independent variables – mortgage financing,

lease financing, savings financing, and equity financing – on a single dependent variable, namely the Return on Investment (ROI) of real estate firms. The underlying rationale behind selecting multivariate regression was the hypothesis that the growth of real estate firms is shaped by the cumulative effects of various financing options rather than any single source.

The results of the regression analysis are presented in a detailed coefficient table (Table 4.9), which provides a wealth of information on the relationships between the independent and dependent variables. This table comprises several key components, including unstandardized coefficients (encompassing beta values and standard error values), standardized coefficients (beta values), t-values, and significance values. The unstandardized beta value serves as an indicator of the magnitude of the effect each independent variable exerts on the dependent variable, with higher beta values signifying a more pronounced influence of that particular independent variable on the growth of real estate firms. The t-values and significance values offer additional insights into the statistical significance of each independent variable's effect on the dependent variable, with higher t-values denoting a stronger relationship and lower significance values indicating higher statistical relevance.

The beta value correlates with growth (ROI), the dependent variable representing financial performance. A one-unit change in the independent variables (mortgage financing, lease financing, savings financings, and equity financing options) results in a corresponding change in ROI. In this study, the t-value is considered significant at a 5% confidence level, confirming that growth (ROI) is indeed influenced by the examined independent variables.

Table 4.9: Regression Results for the Independent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	R^2	T	Sig.
	Beta	Std. Error	Beta			
Constant	2.962	.118			3.005	.002
Mortgage financing	1.802	.109	1.671		6.993	.023
Lease financing	0.497	.134	.392		8.812	.004
Savings financing	2.402	.109	2.311		5.882	.001
Equity financing	0.403	.142	.386	.7225	9.102	.015

Source: Research data (2024)

The findings presented in Table 4.9 summarize the regression analysis, highlighting the influence of financing options drivers on growth (ROI). As per the study objectives, the results show that all independent variables have a positive effect on the dependent variable (growth). Based on the first objective, mortgage financing has an unstandardized coefficient of ß=1.802 with a significance level of p=0.023;

As per the second objective, lease financing has a coefficient of ß=0.497 with a significance level of p=0.004. On the third objective, savings financing has an unstandardized coefficient of ß=2.402 with a significance level of p=0.001. On the fourth objective, equity financing has unstandardized coefficient of ß=0.403 with a significance level of p=0.015.

The model's R-squared (R^2) value, which represents the multiple determination coefficient, is 0.7225. This indicates that approximately 72.25% of the variance in growth (ROI) is explained by the collective variations of the independent variables. This suggests a strong fit of the data to the multiple regression model, better than the fit achieved by any individual independent variable.

The results confirm that all independent variables in the study have a significant positive relationship with the dependent variable, implying that mortgage financing, lease

financing, savings financing and equity financing have significant effect on real estate firms in SACCOs growth in Nairobi City County, as they have p-values below 0.05. This means that an increase in any of the independent variables will lead to an improvement in growth (ROI). Further, the findings denote that all the first four objectives of the study have been met. The summary Table 4.9 also shows that the constant parameter's value is 2.962, indicating that growth would be 2.962 if all explanatory (independent) variables were held constant. This suggests that growth would increase by 29.62% if all other factors remain constant.

Based on the regression results in Table 4.9, the direct effect regression model depicting the relationship between the independent variables and the dependent variable can be expressed as follows:

$GR_{it} = 2.962 + 1.802MF_{it} + 0.497LF_{it} + 2.402SF_{it} + 0.403EF_{it} + \varepsilon it$ ---------- (i)

Where: GR = Growth rate; ROI

MF = Mortgage financing

LF = Lease financing

SF= Savings Financing

EF = Equity Financing

i = individual real estate firm

t = time

B_o = the constant

B_1, B_2, B_3, B_4 = the coefficients

ε = the error term

The values 1.802, 0.497, 2.402, and 0.403 represent the unstandardized coefficients of the independent variables. The study standardized all variables within the regression. This standardization was done to place all variables on a consistent scale, enabling a comparison of the magnitude of the coefficients of the independent variables to determine which had the greatest influence on growth (ROI).

Higher beta values correspond to larger t-values and lower p-values. The initial variable constant of 2.962 indicates the predicted value of growth when all other variables are held at zero. When all other factors (variables) are maintained at zero, the unstandardized coefficients of the independent variables can be used to interpret the relationship as percentage changes in the dependent variable per unit change in the respective independent variable. A unit increase in mortgage financing, lease financing, savings financings, and equity financing options significantly predicted increases in financial performance of 18.02%, 4.97%, 24.02%, and 4.03%, respectively. In terms of influence, savings financing option had the greatest effect on growth of real estate firms in SACCOs, followed by mortgage financing option, lease financing, and lastly, equity financing option.

As per the above findings, the positive relation between financing options and growth conform to the study by Mungai and Mwangi's (2020) that mortgage financing contributes only 7.1% to real estate growth in Kenya, highlighting the need to consider other major factors driving real estate development. Similarly, Njoroge, Koori, and Warui's (2021) those different financing options have varying effects on the growth rates of real estate development companies in Kenya. Mortgage financing and retained earnings have a positive but minimal effect on growth rates. Private equity positively influences growth rates, whereas joint ventures have a positive but insignificant effect. However, the study

contradicts the current findings that firm size does not moderate and significantly impairs growth rates (Njoroge, Koori, & Warui's, 2021). A study by Amuyunzu et al.'s study (2023) concurs that utilizing a mix of financing options plays a role in tackling the complexities of the affordable housing challenge.

4.5.2 Test of Moderating Effects

The fifth objective of the analysis was to establish the moderating effect of firm size on the relationship between financing options and growth of real estates in SACCOs. The study hypothesized that firm lacks a significant moderating effect on this relationship. The study utilized Baron and Kenny's (1986) approach for testing this moderation. Initially, firm size was considered an independent variable and analysed using equation (ii), with Table 4.10 indicating the results.

Table 4.10: Regression Results for the Moderating Effects

Equation	**Obs**	**Parns**	**RMSE**	**R-sq**		**F**	**P**
ROI	72	8	4.02457	0.4225		3.9351447	0.0341
ROI	**Coef.**		**Std. Error**	**t**	**p >|t |**	**95% Conf.**	**Interval**
Moderating	.094128		2.27513	1.66	0.602	.0248712	4.123371
Mortgage fin.	3.74234		5.07214	3.04	0.440	.9912453	9.459122
Lease fin.	.08824		2.77421	2.58	0.302	2.251341	.8814457s
Savings fin.	4.30245		4.32418	1.78	0.771	4.882462	.5128814
Equity fin.	.062514		3.84265	3.14	0.587	1.213451	8.544702
Cons	2.89241		2.77124	2.77	0.385	.6612410	3.991204

Source: Research data (2024)

Table 4.10 shows that SACCOs size was initially assessed as an independent variable. Equation (ii) was derived from the coefficients listed in the table. The R^2 value was 0.4225, indicating that about 42.25% of the variance in growth could be explained by SACCO size, along mortgage financing, lease financing, savings financings, and equity financing options. The p-value for size of real estate firms in SACCOs was 0.602, exceeding the 0.05

threshold. This suggests that there is no significant overall moderating effect, as proposed by Baron and Kenny (1986). Due to the insignificance of the p-value, the interaction component of the model was analysed, with the findings presented in table 4.11 based on equation (iii).

Table 4.11: Regression Results for the Moderating Effects

Equation	**Obs**	**Parns**	**RMSE**	**R-sq**		**F**	**P**
Moderating	54	5	7.12452	0.5776		3.9351447	0.00122
Moderating	**Coef.**		**Std. Error**	**t**	**p >|t |**	**95% Conf.**	**Interval**
Mortgage fin.	2.66241		3.55149	2.84	0.374	.5582452	10.25411
Lease fin.	.05147		4.11487	2.79	0.299	.4412473	13.21452
Savings fin.	3.02141		4.99854	1.87	0.370	.8824572	7.712473
Equity fin.	1.57148		3.52417	2.44	0.608	.9427832	7.245715
Cons	3.02142		3.88214	1.77	0.225	.6624573	3.347816

Source: Research data (2024)

The findings show that there is interaction according to R^2; Table 4.10 is 42.25% and table 4.11 is 57.76% indicating that size of real estate firms in SACCOs has a moderating effect on the relationship between financing options and the growth of Real estate. As per Table 4.11, based on the second step of model (iii), where Size of real estate firms in SACCOs serves as a moderator, the results show a significant moderating effect with a p-value of 0.001, which is below the 0.05 threshold ($p \leq 0.05$) as per Baron and Kenny's (1986) criteria. This supports the alternative hypothesis, confirming that firm size significantly moderates the relationship between financing options and growth (ROI). The null hypothesis (H_{ov}): Moderating effect does not have significant relationship between financing options and growth rate of real estates on SACCOs in Nairobi City County, is rejected at the 5% level of significance.

The findings confirm the results by Kalu et al. (2021) revealed that 64.7% of the variations in the performance of Public-Private Partnership (PPP) housing schemes could be attributed to housing affordability and the availability of mortgage financing. Regression analysis further showed that housing affordability positively affected the effectiveness of PPP housing delivery. Conversely, the study identified a negative correlation between access to mortgage financing and performance, indicating that equity was primarily used for acquiring PPP housing units due to their affordability for residents. Nashipae and Bichanga's (2023) findings emphasized the crucial role of financial access in enabling property investment for both individuals and businesses. However, the findings contradict the findings by Njoroge, Koori, and Warui's (2021), which reported insignificant link between Size of real estate firms in SACCOs and real estate growth.

4.5.3 Hypothesis Testing

The hypotheses were assessed through correlation analysis, as shown in Table 4.9, 4.10, and Table 4.11. The tests for the proposed hypotheses were performed, and the results were summarized in Table 4.12.

Table 4.12: Hypothesis Tests Results

	Hypotheses	**Results**	**Decision**
H_{oi}:	Mortgage financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.	p = 0.023 <0.05	Rejected **H_{0i}**
H_{oii}:	Lease financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.	p = 0.004 <0.05	Rejected **H_{0ii}**
H_{oiii}:	Savings financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.	p = 0.001 <0.05	Rejected **H_{0iii}**
H_{oiv}:	Equity financing option does not significantly affect the growth real estate firms in SACCOs growth in Nairobi City County.	p = 0.015 <0.05	Rejected **H_{0iv}**

H_{ov}:	The moderating effect of Size of real estate firms in SACCOs does not significantly affect the relationship between financing options and growth rate of real estates in SACCOs in Nairobi City County.	Table 4.10: R^2 = 42.25% Table 4.11: R^2 =57.76%	Rejected **H_{0v}**

Source: Research data (2024)

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a synthesis of the study's primary findings, encompassing the conclusions drawn, the recommendations proffered, and the proposed avenues for future investigation. The recommendations are grounded in the insights gleaned from the data analysis, which provided a rich tapestry of information. The suggestions for future research endeavours address the study's limitations and build upon its empirical results, thereby paving the way for further exploration. A comparative analysis was undertaken to juxtapose the current findings with the existing scholarly works discussed in the literature review, thereby facilitating a nuanced understanding of the research landscape. This comparative analysis is congruent with the broader research objectives that guided the study's focus, ensuring a cohesive and comprehensive approach. The chapter seeks to distil the results and provide a panoramic understanding of the study's contributions to the existing corpus of knowledge, thereby illuminating the research terrain and informing future scholarly pursuits.

5.2 Summary

The real estate sector focused on properties and buildings for residential, commercial, or industrial use consistently attracted new investors, driven mainly by the anticipated increase in demand for housing units. This trend is often associated with population growth and urbanization, as people move from rural areas to cities. Real estate development emerged as a highly promising and lucrative investment, offering returns and capital appreciation of approximately 20–23%, which includes rental yield, capital gains, and appreciation over construction. This has drawn interest from both local and international

investors looking to develop apartments and other real estate products. However, real estate developers face significant challenges related to financing, with high costs for registration, land acquisition and transfers, approvals, construction materials, and quality furnishings due to inflation.

In Nairobi City County, the real estate sector experienced a notable increase in registered developers, rising by 6.3% from 2009 to 2019. This growth rate outpaces that of neighbouring countries such as Uganda (5.6%) and Tanzania (6.0%). Despite this increase in developer numbers, the industry's growth rate remains moderate at 6.0% per year, falling short of the government's target of a 10% annual growth rate necessary to deliver 500,000 housing units by 2022, as outlined by the Housing and Housing Kenya (HHK) initiative in 2019. Nationally, Kenya faces a housing deficit of approximately 1.9 million units, projected to exceed 2.2 million units by 2022. It is anticipated that over 60% of Kenya's projected population of around 60 million by 2030 will reside in urban areas. Recognizing the crucial role of real estate activities as drivers of economic development. Addressing challenges and maximizing financing opportunities within this sector is essential for sustainable growth.

Based on the reviewed studies, a mixed result is evident. Empirical studies have identified conceptual gaps regarding the relationship between fluctuations in housing prices and the accessibility of mortgage financing. It has been suggested that there is a persistent correlation between the expansion of mortgage credit and housing price growth, though the implications for real estate firm growth and the broader economy are inadequately explored. Furthermore, some studies focus on a limited range of financing options,

overlooking significant sources such as lease financing within SACCOs, which leaves gaps in understanding the full effect of financing options on real estate growth.

Methodological gaps are also noted in existing literature, underscoring the need for more comprehensive qualitative and quantitative analyses to explore contextual factors affecting the effect of mortgage lending on business credit in various economic contexts. Research focusing on PPP housing provision has not directly addressed the moderating effect of size of real estate firms in SACCOs on the relationship between financing choices and real estate expansion, leaving gaps in understanding the dynamics within SACCOs.

The pursuit of financing for real estate development projects through Savings and Credit Cooperative Societies (SACCOs) in Nairobi City County is fraught with formidable challenges, which can be attributed to a confluence of factors, including sluggish economic performance, market volatility, and the stringent regulatory requirements imposed by financial institutions. Furthermore, the exorbitant interest rates prevalent in the market serve to exacerbate the already limited availability of funds for real estate ventures.

The stark disparity between the annual demand for housing and the actual supply underscores the pressing need for innovative and effective financing mechanisms to support the growth and expansion of the industry. This study undertakes an in-depth examination of the diverse financing options proffered by SACCOs in Nairobi City County, highlighting their pivotal role in providing financial services to their members. By evaluating the effect of mortgage financing, lease financing, savings financing, and equity financing on real estate expansion, this research offers valuable insights into the feasibility and efficacy of these funding avenues. The analysis is further enriched by considering the

moderating effect of real estate firm size on the relationship between financing options and growth rates, recognizing that the size and scale of firms exert a significant influence on their financing strategies and growth trajectories.

The study is grounded in a robust theoretical framework, incorporating the lien theory of mortgage financing, resource dependency theory, transaction cost theory, and housing cycle theory, which provide a comprehensive understanding of the dynamics of financing and growth within the real estate sector. Adopting a descriptive research design and employing panel data analysis over a five-year period enables a thorough examination of trends and patterns among real estate firms within SACCOs in Nairobi City County. By utilizing a census approach to gather data from the entire population of 72 real estate companies, the study ensures a representative sample, thereby enhancing the reliability and validity of its findings. This methodological rigor ensures that the study's conclusions are well-supported and applicable to the broader context of real estate development financing in Nairobi City County, providing actionable recommendations for stakeholders and policymakers seeking to foster a more conducive environment for real estate growth and development.

Descriptive results revealed a significant degree of variability in the Return on Investment (ROI) for real estate firms over the period of 2019 to 2023. While most firms experienced positive returns, there were instances of negative returns, indicating a diverse range of performance outcomes. The variability in ROI was notable, reflecting differences in investment outcomes among firms. Mortgage financing for real estate firms showed considerable variation, with some years witnessing high levels and others lower levels of financing. This variability is highlighted by a large standard deviation. Lease financing

exhibited the greatest variability, followed by savings and equity financing, each showing their own range of financial activity. The data on SACCO size, as measured by logarithm of total assets, indicated a broad range of values, suggesting differences in financial performance among SACCOs. The variability around the logarithm total assets value was moderate, indicating some consistency in performance among SACCOs while still reflecting notable differences.

The correlation results indicate that growth in real estate firms, as measured by return on investment (ROI), is significantly positively influenced by mortgage financing. This supports the notion that mortgage financing, through the use of liens, enhances the attractiveness of real estate properties and contributes to their growth. Similarly, lease financing also shows a significant positive effect on real estate growth in SACCOs, aligning with theories that address macroeconomic factors influencing the real estate sector.

Savings financing, while positively related to ROI, shows an insignificant effect, suggesting that it contributes to real estate development to a limited extent. Equity financing, on the other hand, has a positive and significant effect on real estate firm growth, contradicting some previous findings that suggest a negative relationship between capital structure and business performance. The size of SACCOs plays a significant moderating role, positively affecting the relationship between financing options and real estate growth. This underscores the importance of strategic financing decisions in reducing transaction costs and enhancing growth.

The regression analysis results reveal that all examined financing options positively influence real estate growth, measured by return on investment (ROI). Mortgage financing, lease financing, savings financing, and equity financing all contribute to growth, with each having a statistically significant positive effect. The overall model effectively explains a substantial portion of the variance in growth, indicating that the combined influence of the financing options provides a strong fit for the data. Among the financing options, savings financing exhibits the most significant effect on growth, followed by mortgage financing, lease financing, and equity financing. When other factors are held constant, the analysis shows that each type of financing option predicts a notable increase in ROI, with savings financing having the greatest effect. The results underscore that increased financing from these sources generally leads to improved financial performance for real estate firms in SACCOs.

Based on the moderating effect result, Size of real estate firms in SACCOs was first evaluated as an independent variable, with the analysis revealing that it, along with various financing options, accounted for a significant portion of the variance in growth. Size of real estate firms in SACCOs also showed a significant overall moderating effect based on its p-value. When Size of real estate firms in SACCOs was examined as a moderator, the results indicated a significant moderating effect, suggesting that Size of real estate firms in SACCOs plays an important role in influencing the relationship between financing options and growth. This finding supports the idea that Size of real estate firms in SACCOs significantly effects how financing options affect real estate growth, leading to the null hypothesis' rejection that there is no significant moderating effect.

As per the first objective: To determine the effect of mortgage financing option on real estate firms in SACCOs growth in Nairobi City County, mortgage financing has a significant positive effect on the growth of real estate firms, as measured by ROI. The use of liens in mortgage financing enhances the attractiveness of real estate properties, contributing to their growth.

Based on the second objective: To establish the effect of lease financing option on real estate firms in SACCOs growth in Nairobi City County, lease financing also positively effects real estate growth in SACCOs. The variability in lease financing was the greatest among the different financing options, but it significantly contributes to the growth of real estate firms.

On the third objective: To examine the effect of savings financing option on real estate firms in SACCOs growth in Nairobi City County, savings financing, while positively related to ROI, shows an insignificant effect on real estate growth. This suggests that savings financing contributes to real estate development but to a limited extent compared to other financing options.

Based on the fourth objective: To establish the effect of equity financing option on real estate firms in SACCOs growth in Nairobi City County, equity financing has a positive and significant effect on real estate firm growth, contradicting some previous findings that suggested a negative relationship between capital structure and business performance. This highlights the beneficial role of equity financing in real estate growth.

On the fifth objective: To establish the moderating effect of Size of real estate firms in SACCOs on the relationship between financing options and growth of real estates in

SACCOs in Nairobi City County, Size of real estate firms in SACCOs plays a significant moderating role, positively affecting the relationship between financing options and real estate growth. The analysis reveals that SACCO size, along with various financing options, accounts for a significant portion of the variance in growth, indicating its importance in strategic financing decisions.

5.3 Conclusions

The real estate sector requires robust financing options and strategic decision-making to effectively drive growth and meet increasing housing demands. It relies on a comprehensive understanding of financing mechanisms and the influence of firm size to optimize resource allocation and enhance financial performance. These financing decisions encompass critical areas such as mortgage financing, lease financing, savings financing, and equity financing, all of which play a pivotal role in shaping the sector's growth trajectory.

On the first objective, the study concluded that effective mortgage financing involves utilizing liens to enhance the attractiveness of real estate properties and ensuring optimal utilization of available resources. Based on the second object, it was concluded that lease financing is essential for providing flexible funding solutions, thereby improving operational efficiency and profitability. In line with the third objective, the analysis concluded that savings financing, while contributing to a lesser extent, offers a foundation for stable financial planning.

As per the fourth objective, equity financing provides necessary capital for expansion and growth, ensuring the competitiveness and sustainability of real estate firms. Based on the fifth objective, as Size of real estate firms in SACCOs significantly moderates the

relationship between financing options and real estate growth. Larger SACCOs provide a more conducive environment for real estate firms to thrive by offering greater resources, better risk management, increased access to financing, strategic influence, and comprehensive support infrastructure.

The study findings ascertain that mortgage financing, lease financing, savings financing, and equity finance significantly influence the growth of real estate firms within SACCOs in Nairobi City County. These financing indicators exhibited a positive and statistically significant correlation with the Return on Investment (ROI) of real estate firms. On the regression analysis, savings financing demonstrated the greatest and significant positive effect on ROI, followed by mortgage, lease, and equity financing. Size of real estate firms in SACCOs played a significant moderating role, highlighting the importance of firm size in optimizing financing strategies.

Regarding the first hypothesis ($H_{oi:}$ Mortgage financing option does not significantly affect real estate firms in SACCOs growth in Nairobi City County, the study established a significant association between mortgage financing and real estate firm growth, consistent with existing theories and studies. The study inferred that strategic mortgage financing plays a pivotal role in determining the financial performance of real estate firms within the Nairobi City County context. Concerning the second, third, and fourth hypotheses (H_{oii}: Lease financing option does not significantly affect real estate firms in SACCOs growth in Nairobi City County; H_{oiii}: Savings financing option does not significantly affect real estate firms in SACCOs growth in Nairobi City County; and H_{oiv}: Equity financing option does not significantly affect real estate firms in SACCOs growth on Nairobi City County), the

investigation revealed a significant association between lease financing, savings financing, equity financing, and real estate firm growth.

Other studies have established that the size of SACCOs moderates the link between financing options and real estate growth. The fifth hypothesis (H_{ov}: Moderating effect of Size of real estate firms in SACCOs does not have significant relationship between financing options and growth rate of real estates on SACCOs in Nairobi City County) was tested, and the results showed a significant moderating effect of Size of real estate firms in SACCOs on the relationship between financing options and real estate growth. The findings confirm what had been established by previous studies. Therefore, the study concludes that the examined financing indicators play a significant role in enhancing the link between financing decisions and the growth of real estate firms in Nairobi City County.

5.4 Policy Recommendations

Based on the findings from the study on the real estate sector in Nairobi City County, several strategic policy recommendations are proposed to address the existing challenges and leverage opportunities for sustainable growth. On the first objective, the study recommends enhancing access to mortgage financing is crucial. This can be achieved by implementing government subsidies and tax incentives specifically aimed at reducing the costs associated with mortgage financing. The goal is to reduce mortgage-related costs by 20% over the next three years. Streamlining regulatory processes to reduce bureaucratic delays in mortgage approvals will also make the system more efficient and cost-effective. Achieving these regulatory reforms and subsidy implementations within the next two years will make mortgage financing more accessible to both developers and potential homeowners.

On the second objective, promoting lease financing should involve developing innovative lease financing structures and fostering public-private partnerships (PPPs) to provide flexible funding solutions. The aim is to increase the availability of lease financing options by 30% within the next three years. Encouraging collaboration between government entities and private developers to create and promote new lease financing models can enhance operational efficiency and profitability for developers, addressing the need for alternative financing options. Establishing new lease financing programs and PPP agreements within the next 18 months is essential.

Based on the third objective, strengthening savings financing mechanisms can be achieved by implementing savings mobilization programs and reviewing interest rates on savings to make them more attractive. The objective is to increase savings rates by 25% among potential homeowners and developers over the next three years. Launching targeted campaigns and programs through Savings and Credit Cooperative Societies (SACCOs) and financial institutions to promote savings will provide a stable foundation for financial planning and support real estate development. These programs and interest rate adjustments should be rolled out within the next 12 months.

As per the fourth objective, facilitating equity financing is another significant recommendation. This involves developing a robust equity market and encouraging the establishment of venture capital and private equity funds focused on real estate development. The target is to increase the number of equity financing deals by 40% over the next five years. Improving market transparency, regulatory frameworks, and investor protection mechanisms will attract more investors. Implementing these regulatory improvements and attracting new equity funds within the next 24 months is necessary for

providing the necessary capital for expansion and growth, ensuring the competitiveness and sustainability of real estate firms.

Based on the fifth objective, optimizing Size of real estate firms in SACCOs and performance is also crucial. Enhancing the capacity of SACCOs through training programs focused on financial management, strategic planning, and governance can increase the total assets for SACCOs by 15% over the next three years. Conducting regular training sessions and workshops for SACCO management and members will ensure well-managed SACCOs that can better support real estate financing and contribute to sector growth. These initial training programs should be launched and completed within the next 12 months.

5.5 Contribution to Knowledge

The findings from this study provide substantial contributions to the understanding of financing mechanisms and their effect on the growth of the real estate sector in Nairobi City County. This research addresses critical theoretical, practical, and policy dimensions, thereby enriching the existing body of knowledge in several significant ways. The study underscores the importance of various financing options, mortgage, lease, savings, and equity financing, in driving the growth of real estate firms within Savings and Credit Cooperative Societies (SACCOs) in Nairobi City County. By highlighting the positive and statistically significant correlation between these financing mechanisms and the Return on Investment (ROI) for real estate firms, the study provides empirical evidence supporting the strategic role of diverse financing avenues. Mortgage financing, utilizing liens to enhance property attractiveness, and lease financing, offering flexible funding solutions, are particularly crucial for operational efficiency and profitability. Savings financing, while

less effectful, provides a stable foundation for financial planning, and equity financing is essential for capital expansion and sustainability.

The research advances theoretical frameworks such as lien theory of mortgage financing, resource dependency theory, transaction costs theory, and housing cycle theory. By integrating these frameworks, the study offers a comprehensive understanding of the dynamics influencing financing and growth in the real estate sector. The use of a descriptive research design and panel data analysis over five years enables a robust examination of trends and patterns among real estate firms within SACCOs, ensuring a reliable and valid representation of the sector.

Methodologically, the study addresses gaps in existing literature by employing both qualitative and quantitative analyses to explore contextual factors affecting mortgage lending are effect on business credit. It also evaluates the moderating effect of Size of real estate firms in SACCOs on the relationship between financing options and real estate growth, an area previously underexplored. This analysis reveals that Size of real estate firms in SACCOs significantly influences how financing options affect real estate growth, providing valuable insights into the strategic decisions needed to optimize financing strategies based on firm size.

The practical implications of the study are profound. By demonstrating that increased financing from various sources leads to improved financial performance for real estate firms in SACCOs, the research informs developers and policymakers about the most effective financing strategies. The findings highlight the importance of enhancing access

to mortgage financing, promoting lease financing, strengthening savings financing mechanisms, and facilitating equity financing to support the sector's expansion.

Policy-wise, the study's recommendations align with the government's housing development goals, emphasizing the need for regulatory reforms and innovative financing models to bridge the housing deficit gap. By achieving targeted reductions in mortgage-related costs, simplifying procedures, and fostering public-private partnerships, the study's recommendations provide a roadmap for sustainable development in the real estate sector.

5.6 Suggestion for Further Research

Based on the insights gained from this study, there are some key areas warrant further exploration to enhance understanding of financing mechanisms and their effect on the growth of the real estate sector in Nairobi City County. There is a need to explore a broader range of financing options beyond the traditional methods of mortgage, lease, savings, and equity financing. Investigating innovative financing mechanisms such as crowd-funding, real estate investment trusts (REITs), and green financing could offer new strategies for overcoming the high costs and barriers associated with real estate development. By examining the feasibility and effect of these alternative financing avenues, future research could provide valuable insights into how these mechanisms can support real estate growth and address the challenges faced by developers.

Examining the regulatory environment's effect on real estate financing and development is crucial. Future studies should focus on how various regulatory policies, land acquisition processes, and approval procedures influence the accessibility and cost of financing for real estate projects. Comparative analyses between Nairobi City County and other regions

with different regulatory frameworks could offer valuable lessons and best practices for improving the financing environment in Nairobi.

Further, conducting longitudinal studies to track the effect of different financing options on real estate firm growth over extended periods could provide insight of the long-term effects and sustainability of various financing strategies. Such research would help reveal trends and patterns that short-term analyses might miss, offering a more comprehensive view of how financing mechanisms influence real estate development over time.

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APPENDICES

Appendix I: Data Collection Sheet

Name of the Real Estate Firm……..

Year/Variable	**2019**	**2020**	**2021**	**2022**	**2023**
SACCO growth: Return on Investment (ROI)					
Mortgage Financing:					
- Interest rates					
-Amount Available					
-Credit Rating					
Lease Financing:					
-Amount available					

-Repayment arrangement					
Interest rates charged					
Savings **Financing:**					
- Amount available					
-Return on Savings					
-Savings Period					
Equity **Financing:**					
-Amount available					
-Duration shares held before sale					
-Return on equity (ROE)					
SACCO Size:					

-Logarithm of total assets					

Appendix II: List of Real Estate Firms in SACCOs in Nairobi City County

No. Real Estate Firm Name

1 Camelot Consultants Ltd

2 Acorn Management Services Ltd

3 Century City Property Ltd

4 Jabez Properties

5 Cheriez Properties Ltd

6 Enkavilla Properties Ltd

7 Sayani Investments Ltd

8 HF Development and Investments Ltd

9 Nanyuki Mall Ltd

10 Rozana Properties Ltd

11 Heri Homes Properties Ltd

12 Urban Nirvana Property Solutions Ltd

13 Resort

14 AKARORA Ltd

15 Natureville Homes

16 Amboseli Court Ltd

17 National Cooperative Housing Union (NACHU)

18 Spartan Developers Ltd

19 Endless Africa Ltd

20 Shreeji Development Ltd

21 Fedha (Management) Ltd

22 Sigimo Entreprises Ltd

23 Mlima Construction Company Ltd

24 AHCOF Investments (Kenya) Ltd

25 Blueline Properties Ltd

26 Elm Ridge Ltd

27 Ijenga Ventures Ltd

28 HMS Properties Ltd

29 Optiven Ltd

30 Boleyn Magic Wall Panel Ltd

31 VAAL Real Estate

32 Golden Compass Ltd

33 Manrik Holdings Ltd

34 Tecnofin Kenya Ltd

35 Superior Homes Kenya Ltd

36 Amazon Projects Ltd

37 HF Development and Investments Ltd

38 JAMBO Holdings Ltd

39 Daykio Plantations Ltd

40 Camelot Consultants Ltd

41 INFPAC Ltd

42 Tatu City Ltd

43 Lordship Africa

44 Jambo Holdings Ltd

45 Meera Construction Ltd

46 MML Turner & Townsend

47 Sherry Blue Properties Ltd

48 PDM (Kenya) Ltd

49 Kzanaka Ltd

50 Resort

51 Leo Capital Holdings Ltd

52 Ijenga Ventures Ltd

53 Oakpark Properties Ltd

54 Urban Nirvana Property Solutions Ltd

55 HF Development and Investments Ltd

56 Fedha (Management) Ltd

57 Endless Africa Ltd

58 Tatu City Ltd

59 Rozana Properties Ltd

60 Username Investments Ltd

61 AHCOF Investments (Kenya) Ltd

62 Laser Property Services Ltd

63 Century City Property Ltd

64 Tatu City Ltd

65 Meera Construction Ltd

66 Daykio Plantations Ltd

67 Urban Nirvana Property Solutions Ltd

68 Home Afrika Ltd

69 Akarora Ltd

70 Shreeji Development Ltd

71 Camelot Consultants Ltd

72 Enkavilla Properties Ltd

*Source***:** Kenya Property Developers Association (KPDA, 2024):

https://www.kpda.or.ke/industry-reports

APPENDIX III: RESEARCH PERMIT

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NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **836235**

Date of Issue: **12/July/2024**

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This is to Certify that Ms.. ROSELYNE AUMA SANGORI of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: FINANCING OPTIONS AND GROWTH OF REAL ESTATE IN SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN NAIROBI CITY COUNTY ,KENYA for the period ending : 12/July/2025.

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Our Ref: D53/CTY/PT/21647/2022

DATE: 3rd July, 2024

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR ROSELYNE AUMA SANGORI - REG. NO. D53/CTY/PT/21647/2022

I write to introduce **Roselyne Auma Sangori** who is a Postgraduate Student of this University. The student is registered for M.B.A degree programme in the **Department of Accounting and Finance.**

Roselyne intends to conduct research for a M.B.A Project Proposal entitled, **"Financing Options and Growth of Real Estate in Savings and Credit Cooperative Societies in Nairobi City County, Kenya."**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELIUD NJAGI
EXECUTIVE DEAN, GRADUATE SCHOOL

AM/mo