

**CAPITAL STRUCTURE AND PROFITABILITY OF DEPOSIT TAKING  
SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN NAIROBI CITY  
COUNTY, KENYA**

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UNIVERSITY**

**OCTOBER, 2025**

## **DECLARATION**

This thesis represents my independent scholarly effort, developed solely with the assistance of the sources explicitly acknowledged herein.

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## **DEDICATION**

I dedicate this work to my family for their moral support throughout my study.

## **ACKNOWLEDGMENT**

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

|                |                         |
|----------------|-------------------------|
| <b>CAPEX:</b>  | Capital Expenditure     |
| <b>CR:</b>     | Current Ratio           |
| <b>DEBT:</b>   | Debt Financing          |
| <b>DR:</b>     | Debt Ratio              |
| <b>EQUITY:</b> | Equity Financing        |
| <b>IRR:</b>    | Internal Rate of Return |
| <b>KYC:</b>    | Know Your Customer      |
| <b>LOANS:</b>  | Loans and Advances      |
| <b>SC:</b>     | Share Capital           |
| <b>SLL:</b>    | Secured Loans and Lines |

## ABSTRACT

The profitability of SACCOs in Kenya has become a growing concern despite their critical role in promoting financial inclusion and economic empowerment. Many SACCOs continue to record fluctuating and, in some cases, declining profitability levels, with increasing financing costs, inefficient capital utilization, and weak liquidity positions undermining their sustainability. The total ROA has significantly decreased from an average of 2.01% in 2017 to 1.01% in 2022. Inefficient management of debt and equity financing has limited operational performance and profitability, yet there is limited empirical evidence on how different capital structure components influence SACCO profitability in Kenya. Adopting a positivist philosophy and an explanatory research design, the study undertakes a census of all 42 formally registered deposit-taking SACCOs in Nairobi City County, analyzing secondary financial data spanning the period 2018–2023. Data analysis involved descriptive statistics to summarize financial performance, correlation and regression analysis to test hypothesized relationships, and moderation analysis to explore the influence of liquidity, all conducted using STATA software. The findings reveal that long-term debt and internal equity have a significant positive effect on SACCO profitability whereas short-term debt and external equity do not exhibit significant effects ( $p > 0.05$ ). Liquidity significantly moderates the, highlighting its critical role in financial stability. The study concludes that SACCOs should adopt a conservative approach to long-term debt financing, prioritize internal equity for sustainable growth, limit reliance on short-term debt, and maintain adequate liquidity to optimize profitability. These findings provide practical insights for SACCO

managers, policymakers, and regulators seeking to strengthen the financial performance and resilience of Kenya's SACCO sector.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Across the globe, SACCOs are universally viewed as very important motors for economic growth. In most cases, many countries that report with registering the growth, there is cooperative sector that is highly dynamic (Olweny & Shipho, 2018). Besides, SACCOs have been at the center of meeting financial needs of consumer and SMEs. These institutions instill the habit of savings to individuals and this instills or accumulates money that grows the economic growth of the country.

There is more than one billion persons who are members of the global cooperatives. It is reported by the International Cooperatives Alliance (2021) at the worldwide level there are over 250 million people living from their membership or within cooperative organizations. The International Co-operative Alliance carried out the 2022 evaluation to find out that the top 300 unions globally have a total earning amount of \$2.5 trillion. Social Savings and Credit cooperatives came into existence during the fooling cooperative movement. The creation of some of these financial institutions arises when individuals join hands to solve a common concern. 240million SACCO members, or one billion in individual cooperative membership, make up the SACCO subsector. World Council of credit Unions 2020 describes the global credit union sector as 60,500 institutions from 109 countries and six continents.

According to Tache (2020), the cooperative movement originated in America, South America, and China between 1900 and 1930, and was thereafter led by a Catholic priest

in Ghana, being incapable of attaining their goals largely because of limitations in their financial framework. In contrast, some parties have implemented processes to make sound decisions about their capital structure, which have played a vital role in their success (Bass & Riggio, 2020).

In Ghana the concept of SACCOS was first proposed and discussed in 1955 (Mumanyi, 2019). The growth of Savings and Credit Cooperative Organizations (Sacco's) in Africa has been documented in two different periods of time: the first period from the post-provincial time in the 1960s through middle 90's and the second from the middle 90's onwards during an economic boom (Develtere & Pollet, 2019). In the early era, the government regulated economic development strictly through the implementation of policy, laws and activities that actively encouraged cooperatives as a way of accelerating national economic advancement. Using a contrast, the subsequent era has been characterized with the process of liberating cooperatives from state supervision in order to be self-sufficient and function as businesses responding to market requirement (Adebayo, 2020).

Lumbwa was the first cooperative group in Kenya formed in 1908 by European farmers whose aim was to increase agricultural production as well as commodities (KUSCCO, 2016). The cooperative movement helped to consolidate exiting resources to bank in and catalyze economic development in the country and contributed substantially 43% to Kenya's GDP (2020 SASRA report). In Kenya, since its inception in 1908, cooperative societies have made massive impacts on industries such as banking, finance, mining and storage, advertising, lodging, transportation, fishing (Bwana, & Mwakujonga 2019). According to WOCCU, Kenya has the highest economic contribution, as a percentage, to

the world GDP that can be credited to cooperative groups. SACCOs' Contributions to Kenya's GDP are at 45% while their contribution is 22 % in New Zealand. Thus, SACCOs play an important role in Kenya's economy. According to SACCO Societies Regulatory Authority (Owen, 2017) there are at least 8 million SACCOs active members in Kenya, and as well another 20 million persons depend on the cooperative indirectly.

The country, to date, has two categories of current classification of Bank SACCOs. (NDTS) (SASRA, 2020). SACCO Societies Act (2008) also requires that DTSs have the ability to accept daily deposits but non-deposit taking SACCOs can only collect non-withdrawable funds for the membership lending purposes (Republic Kenya 2012). SASRA had indicated that as at December 2017 there were 177 DTS in Kenya each of which had a license. Ministry of Industry, Trade, and Cooperatives is the chaired authority on non-deposit taking SACCO while (SASRA) oversees the deposit taking). The common-bond arrangements have levelled off where there has been an increase in presence of Development Trusts (DTSs) (SASRA, 2019). Most of the Debt Trusts (DTs) were originally formed on the basis of some bond lines that served to define the requirements out of the membership and determine who was to be allowed the membership.

Capital structures are said to be reduced leading to increased DTS's (SASRA 2019). Previously most DTS's had been formed or organized in relationship to some capital lineages that spelt out exactly the people that qualify for the group and have rights to join. For example, a SACCO can only comprise financiers, farmers, educators or law enforcement officers. Nevertheless, the traditional bond lines are gradually fading away because most SACCOs are now receptive to adult residents throughout. Current research

examines the impact of capital structure on the return on assets (ROA) based on DT SACCOs in Kenya.

### **1.1.1 Profitability**

The efficiency of management is quantified by the profitability of the firm, where more profitability indicates higher efficiency. A profit is the surplus of output over the input variables, often measured in monetary terms as the surplus of revenue over expenses. Profits serve as a valuable intermediate indicator guiding the allocation of a firm's capital (Toshniwal, 2017). This research places emphasis on the primary variables that will determine the future profitability of the corporation. The scholarly literature has shown that income from assets (IFA) and return on equity (ROE) are two measures often used by researchers to assess the profitability of a corporation (Peters & Bagshaw, 2014). Mujahid and Abdullah (2014) used a range of accounting and financial indicators, including ROA and ROE, to assess the integrity of their clients' portfolios. Flammer used the net profit margin (2013) and (ROA) as key indicators to assess the profitability of state-owned enterprises.

The the profitability of DT-SACCOs using the ROA metric. ROA is a fundamental metric used to assess the financial performance of a firm. It is determined by computing the proportion of its income generated from operations to its gross assets. A wide range of stakeholders, such as management, creditors, tax authorities, and other interested parties, evaluate company performance from distinct perspectives. Stockholders, more precisely, commit their capital to an organization with the anticipation of recovering value from their investment. Hence, it is essential for the management of the institution to efficiently use resources in order to achieve strong profitability.

To determine the profitability of a given firm, there are financial statements which are applied to calculate different ratios which are to be used depending on the user. Profit after Tax (PAT), ROA, ROE, ROI and (ROCE) are among the commonly used indicators for profitability. Under the standards followed by the accounting literature, these financial metrics should be analyzed by comparison of them with historical, current, and forecasted standards (McLeay, 2015; Floyd & List, 2016).

ROE) is to the company in relation with the total shareholder equity invested as indicated on the balance sheet. ROE is used by stockholders as a measure to find out whether their investment making profit or not. A bigger Return on Equity (ROE) value typically means that the companies have better ability to generate cash from internal sources which helps the companies to become more attractive for investors. According to Khrawish (2019), ROE is given by  $\text{Net Income after Taxes} / \text{Total Equity Capital}$ . This metric measures the return obtained by money contributed by shareholders. The greater the return on equity (ROE), the more successful the management is in the use of shareholder's money.

Also, ROA is an important measure which reflects the business profitability of a financial institution. Net revenue to Total Assets ratio is the measure used to assess the capacity of the institution's management to earn money through the competent use of available assets (Khrawish, 2019). More so, an improved ROA will result in better efficiency in utilizing resources to optimize, thus reflecting the competency of the management in creating net income through utilization of the organization's assets (Khrawish, 2019). A higher ROA means a company is using its resources more efficiently in operations (Wen 2021).

It is important to note that materials for financial sustainability are key to the continuation of SACCOs. As Pollet suggests (2019), good financial management is pivotal for

achieving profitable results. The empirical discoveries of Haber and Reichel (2019) set a definite and direct link between financial activities like planning and financial management and effective profitability of SACCOs. Mboniyane (2019) asserts that profitability plays a decisive role for DT-SACCOs as it directly impacts their ability to make decisions about expansion. Therefore, this study uses Return on Assets (ROA) as the main metric for assessing.

### **1.1.2 Capital Structure**

Capital structure evaluation, as explained by Nagakura (2020) is the systematic analysis of the constituent components of a firm's debt and equity financing. The purpose of this study is to determine the appropriate combination of debt and equity to be utilized for the organization. According to Yapa (2019), a firm's capital structure is the exact mix of debt and equity which a firm utilizes to affect its investments and operations. The capital structure concept has a unique relation between debt and equity. Capital Structure is related to the scenario and ratio of different types of financial instruments like equity profits which a company should obtain to make its business operational in a proper way. Capital structure involves the means that a company employs to raise money for its operational activities. Financing could be sourced from the debt, or equity market. Capital structure is the study and appraisal of the financial resources put into the operation and maintenance of a corporate body (Davie & Puca, 2020).

Capital structure includes a combination of the sources of financing such as bank loans, equity, leases, and deferred tax (Brooks & Mukherjee, 2018). The theory of capital structure was developed within the framework of research undertaken by Modigliani and Miller (1959), who viewed capital structure as negligible, while Jensen (1986) brought

the idea of an optimal capital structure. The factors that influence the choice of capital financing include corporate dangers, tax liability, financial flexibility, managerial strategies, rate of expansion, and market condition. Either debt financing or equity financing can be used to represent a capital structure (Yapa, 2019).

The enjoyment of lower cost of capital for debt financing is due to its tax deductibility. However, even this brings a company risks, because it has truly to be fully refunded. Dependent financing can generally be grouped into two main classes: long-term debt and short-term debt. The term “long-term debt” refers to financial indebtedness which often requires a paying-out period which is greater than twelve (12 months) (Ramachandran & Kakani, 2019). Sheikh and Wang (2019) report that long-term debt is very important in the determination of capital structure and negatively related to return on assets. Therefore, it is important to regulate its use to maintain the profitable of the company. Studies that have been undertaken by Chadha and Sharma (2020) showed that long-term debt did not have any effect on a return on assets, but did have a negative relationship to return on equity. The right measure for long term debt will be the log of the total amount of long-term debt.

Short term debt is used to describe the financial liabilities that are not repaid in the specified period (less than 12 months). The advantage of short-term loans is that they enhance business liquidity and allow proper implementation of company operations. In undertaking their research Maina and Ishmail (2020) found an inverse relationship between short-term debt and financial success. Furthermore, most of the mentioned organizations decided to get short-term loans rather than long-term indebtedness. Birundu (2019) asserts that the choice of source of finance for SMEs is insignificant because there

is no way it can impact on the financial performance of such firms. Highly leveraged firms are those firms that use more debt to finance their operations. The long-term debt measure was calculated based on the log of the total short-term debt.

Equity financing refers to unpaid capital acquired from the owners or prospective owners of a business, as well as from internal sources via reinvested earnings (Nagakura, 2020). Equity financing may be classified into two broad categories: internal equity and external equity. Internal equity refers to the act of reinvesting internal funds derived from retained earnings or profits into the business. The retained earnings provide a more economical method of financing since they do not need any negotiation for acquisition. Based on its lack of cost structure, the pecking order theory suggests that internal financing is the most preferred kind of funding. Nguyen and Rugman (2019) argue that internal equity has a substantial influence on the performance of firms, thereby leading to improved financial performance. In order to quantify internal equity, the ratio of retained earnings to total income was computed.

External equity refers to the acquisition of financial resources from individuals external to the company, who thereafter participate as shareholders upon providing these money (Yapa, 2019). This may be accomplished either by an initial public offering (IPO) or by a second public placing. Utilising external funding may not be particularly suitable since it results in the diluting of ownership. A conservative capital structure is characterized by a business adopting a higher proportion of equity financing in comparison to debt financing (Nagakura, 2020). Internal equity was quantified by dividing ordinary shares by total assets.

### **1.1.3 Liquidity Position**

Asset liquidity is the degree of ease with which assets may be transformed into cash. Given its ease of use and instant availability, cash is regarded as the most liquid asset. During crises or emergencies, liquid assets are indispensably important since they may be promptly transformed into cash. In the absence of adequate liquidity, monies may get immobilised in assets that are challenging to convert into cash or evaluate for their true cash worth. Under times of crises, major financial institutions may cease operations, therefore presenting difficulties for people in obtaining funds for necessary expenditures such as food, fuel, and other commodities (Chaplin, Emblow & Michael, 2000).

Furthermore, liquidity is a critical determinant in evaluating the financial health of a corporation or individual investment portfolio. To accomplish this goal, three primary liquidity metrics are used. The aforementioned ratios play a crucial role in ensuring a steady cash flow for households or enterprises and serve as efficient tools for assessing the financial viability of forthcoming initiatives (Clementi, 2001). When assessing the financial health of a firm, analysts use four metrics, with liquidity ratios being a vital component. Core liquidity ratios consist of accounts receivable. According to Chaplin et al. (2000), the ratios of serve as specific measures that show how easily a company can convert its outstanding customer debts into cash. These indicators help assess the liquidity of receivables and the efficiency with which a firm manages and collects its credit sales. The current study utilizes liquidity as a moderating variable.

### **1.1.4 Deposit Taking Savings Credit Co-Operative**

Kenya's SACCO sector is globally acknowledged as one of the strongest in the world (Gamba & Komo, 2019). A report published in July 2023 by the WOCCU highlights that

Kenya's SACCO industry contributes approximately 45% to the national GDP and is considered the fastest-growing SACCO market worldwide. The International Cooperative Alliance ranks Kenya's DT-SACCOs first in Africa and ninth globally. As noted by Bwana and Mwakujonga (2021), this industry directly employs nearly half a million people and supports the livelihoods of an additional two million through indirect jobs. Data from the (SASRA) also reveals that the sector has been expanding at an average annual rate of 30%.

The major aim of this study is to investigate DT-SACCOs, which account for 78 percent of the overall assets and deposits in and 82 percent of the entire membership (SASRA, 2022). However, from 2014 to 2022, SASRA implemented restrictions on many SACCOs in Kenya, leading to the withdrawal of their DT-SACCO licences for a significant number of others. The licenses of many SACCOs), including Nandi Hekima, and Mumias 3 Miliki SACCO, have been confiscated (SASRA, 2022).

DT-SACCOs have challenges related to management efficiency, capital structure, risk management, customer communication, business differentiation strategies, and cost control. Nonetheless, research evidence shows that how a firm structures its capital significantly influences the overall performance of financial institutions, shaping their profitability, stability, and growth potential. While empirical studies in other sectors in Kenya have shown the importance on the savings and credit cooperative sector (DT-SACCOs) remains ambiguous due to the little empirical study in this area.

Due to limited liquidity, SACCOs in Kenya are compelled to pursue loans to maintain their customer base (Simeyo, 2018). The financial viability of SACCOs is significantly

impacted by the investment returns generated from these loaned funds. According to data from James, Alala, and Douglas (2019), 6% of legal members decline to continue their membership year due to insufficient investment returns. Thus, the alarming decline in the number of SACCOs is a cause for great concern. The total number of SACCOs in 2014 was 184. The aforementioned number then decreased to 177 in 2015, 175 in 2016, 174 in 2017, and once again dropped to 166 by 2022.

## **1.2 Statement of the Problem**

SACCOs greatly contribute to enhancing the quality of life in local communities by actively promoting financial inclusion. Hence, the cooperative assumes a pivotal function in enabling the labor and accumulation of wealth among its members, thereby fostering the alleviation of poverty (Dana, 2019). Notwithstanding the substantial contribution of the sector to the economy, data indicates that 2 percent of the cooperatives face financial difficulties and go into bankruptcy annually (SASRA, 2020). The Sacco Associations have had difficulties in repaying borrowed loans from external sources due to financial constraints (Mwende & Kalio, 2020; Onyango, 2021). Annually, 6% of the members voluntarily terminate their membership owing to underperformance in terms of investment returns and decreased return on assets (James, Alala & Douglas, 2019; Kirimi et al., 2022). A significant number of these Sacco's have been deregistered by non-compliance with SASRA laws (Sasra, 2022). Notable underperforming DT SACCOs in the financial year 2022 were.

The capital structure has a crucial role in the development of all organizations, including savings and cooperative institutions. The funding methods used by a savings and credit institution may significantly impact the attainment of the firm's aims and ambitions. It is

contended that some sources of funding have lower levels of risk compared to others (Odera 2022). Nevertheless, the level of risk should not be the exclusive determinant for chosen funding sources. Numerous cooperatives still have obstacles in achieving the necessary capital level as mandated by SASRA, the regulatory authority in Kenya. The issue at hand is of utmost importance as insufficient capitalization not only undermines the financial functioning of SACCOs but also potentially violates the requirements set out by SASRA (SASE). The ramifications of the aforementioned are extensive since both members and staff are inevitably impacted. Given that the number of SACCO members in Kenya reaches millions, the national economy is also expected to be impacted (Matumo, 2019).

Analysis of empirical research reveals contextual, conceptual, and methodological shortcomings. An empirical study undertaken by Yegon et al. (2019) focused on investigating the correlation between capital structure and profitability within the banking sector of Kenya. In accordance with the Modigliani-Miller Irrelevance Theorem, the findings suggested profitability. Inconsistencies are seen since the results deviate from prior studies, such as Koech (2018), which shown a substantial adverse effect of debt on financial performance. Moreover, it contradicts other concepts, such as the trade-off theory, which suggest that debt may improve performance up to a certain maximum threshold. A study undertaken by Ranabhat (2019) investigated the influence of debt financing debt elements of capital had an adverse effect on financial performance. Within the given context, gaps become apparent since the bulk of research on the subject matter originates from foreign sources.

An empirical identification of gaps is derived from the results of prior analysis and the theoretical foundations developed by Modigliani and Miller (1963). An investigation carried out by Koech (2018) analysed the influence of capital structure on profitability and discovered that the debt element of capital structure had an inverse relationship with performance. There are notable conceptual lacunae on the need of include other capital structure elements in the analysis, beyond just debt. In order to streamline a more comprehensive examination, it was essential to partition the constituents of debt and equity into subcategories. Thus, the objective of this study was to investigate the impact of the capital structure of deposit-taking savings and credit cooperative societies in Nairobi City County, Kenya on their profitability.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

To establish the effect of capital structure on profitability of Savings and credit cooperative societies in Nairobi City County, Kenya.

#### **1.3.2 Specific Objectives**

- (i) To examine the effect of long-term debt on profitability of SACCOs in Nairobi City County, Kenya.
- (ii) To determine the effect of short-term debt on profitability of SACCOs in Nairobi City County, Kenya.
- (iii) To examine the effect of internal equity on profitability of SACCOs in Nairobi City County, Kenya.

- (iv) To examine the effect of external equity on profitability of SACCOs in Nairobi City County, Kenya.
- (v) To determine the moderating effect of liquidity on the relationship between capital structure and profitability of SACCOs in Nairobi City County, Kenya.

#### **1.4 Research Hypotheses**

**H<sub>01</sub>:** Long-term debt capital has no significant effect on profitability of SACCOs in Nairobi City County, Kenya.

**H<sub>02</sub>:** Short-term debt capital has no significant effect on profitability of SACCOs in Nairobi City County, Kenya.

**H<sub>03</sub>:** Internal equity has no significant effect on profitability of SACCOs in Nairobi City County, Kenya.

**H<sub>04</sub>:** External equity has no significant effect on profitability of SACCOs in Nairobi City County, Kenya.

#### **1.5 Significance of the Study**

The findings of this research had great importance for many parties. Primarily, the management of the SACCO saw it beneficial as it highlighted the significance of capital structure in determining the financial performance of the institutions. Consequently, this information may provide valuable direction in the development of policies. In addition, investors in the SACCO industry acquired understanding of the need of structuring the capital structure to facilitate investment and promote organizational expansion. The

management boards of SASRA deemed the research results to be of great value as they establish policies that govern sustainable cooperative services for SACCOs. The suggestions of this research were deemed important by future academics and scholars as they expanded the existing information development for SACCOs located in Kenya. Moreover, the study proposed domains for future investigation.

### **1.6 Scope of the Study**

To achieve this, the study utilized a review of existing literature along with various research instruments to evaluate the effects of multiple independent variables on SACCO profitability in the region. An explanatory research design was adopted for the study. The target group consisted of management staff from DT-SACCOs that are both registered and operational. The research covered a five-year period, from 2019 to 2023, selected due to the noticeable decline in the number of active SACCOs in the area during this timeframe.

### **1.7 Limitations of the Study**

First, the study focuses exclusively on DT-SACCOs, which may limit the generalizability of the findings to SACCOs in other counties or rural areas with different operational dynamics. Second, the study relies on secondary financial data obtained from SACCO financial statements. While this data is accurate and reliable, it may not capture qualitative factors such as management practices, member behavior, or informal financial arrangements that could influence profitability. Third, the study adopts a census approach covering 42 SACCOs, which, while comprehensive within Nairobi, may not account for smaller or unregistered SACCOs that contribute to the broader sector. Fourth, the study considers only—without examining other potential determinants of profitability such as

macroeconomic conditions, regulatory changes, or technological adoption. Finally, the study uses a cross-sectional approach based on historical financial data, which restricts the ability to infer long-term causal relationships.

### **1.8 Organization of the Study**

A systematic arrangement of analysis thoroughly clarifies the objectives and findings of the investigation. This work is presented in Chapter One, which offers a comprehensive outline. Chapter Two presents an extensive literature review on how capital structure affects the profitability of SACCOs in Nairobi City County, Kenya. Furthermore, employed, encompassing the study design, data gathering procedures, and analytical treatments employed to examine the research problems. The report's Fourth chapter presents a summary of the study's results, including descriptive statistics and analysis of key financial performance metrics such as ROA, long-term debt, short-term debt, internal equity, external equity, and liquidity ratio. Furthermore, it analyses the impact of these measures on the profitability of SACCOs. In conclusion, Chapter Five reports the findings, draws conclusions from the data, and provides recommendations for SACCOs to enhance their financial performance and operational efficiency.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter is outlining the findings of other researchers who are investigating the same field. It is discussing key topics, including debates on theoretical perspectives, empirical studies, and a brief review of the literature to identify gaps in knowledge. The objective of this chapter is to evaluate and present relevant empirical information on the capital structures and profitability of SACCOs. A conceptual framework is also being used to guide the study and illustrate the relationships between the key variables under investigation.

#### **2.2 Theoretical Review**

##### **2.2.1 Profit Maximization Theory**

The concept of profit maximization, first proposed by economist Milton Friedman in 1970, has been a fundamental principle in economic philosophy. Friedman postulated that the principal obligation of a corporation is to optimize financial gains for its stockholders while adhering to legal constraints (Friedman, 1970). According to this theory, businesses should allocate resources and make decisions solely with the goal of increasing shareholder wealth.

One relevant proposal of this theory is the emphasis on cost-cutting measures and efficiency improvements to boost profits. Friedman argues that companies should focus on their core competencies and streamline operations to enhance overall profitability (Friedman, 1970). This implies that decisions such as resource allocation, pricing

strategies, and investment choices should be geared towards maximizing returns to shareholders.

Assumptions underlying profit maximization theory include the belief that markets are efficient, individuals act rationally to maximize their self-interest, and there are no externalities or market failures (Friedman, 1970). These assumptions provide the foundation for the argument that pursuing profit maximization aligns with the broader goal of economic efficiency.

Despite its widespread acceptance, profit maximization theory has faced criticism. Detractors argue that it oversimplifies the complexities of business operations and ignores the broader societal impact of corporate actions (Jones & Wicks, 1999). Critics contend that an exclusive focus on profits may lead to unethical practices and exploitation of stakeholders.

Applying the profit maximization theory to the study on the profitability of DT SACCOs in Kenya involves analyzing how well these organizations align with the principles outlined by Friedman. Researchers would assess the decision-making processes within DT SACCOs, evaluating whether capital structure decisions are geared towards maximizing shareholder wealth. Additionally, the study would explore how well the assumptions of profit maximization theory hold in the context of the SACCOs' operations in the Kenyan market. Understanding the applicability of this theory to DT SACCOs can provide insights into their financial performance and guide future financial strategic decisions.

### **2.2.2 Pecking Order Theory**

This theory clarified the rationale behind the strong emphasis on internal finance over external finance and the categorization of debt as the most attractive option for external financing. The pecking order is a financially hierarchical structure consisting of retained earnings at the top, (Castagnolo & Ferro, 2014). The theory proposed that SACCOs with high profitability may require reduced amounts of debt in comparison to other SACCOs. This might be attributed to their decreased need to pursue external financing and the belief that debt is the most economical and attractive external option for generating cash. Donaldson (1991), later followed by Myers, suggested that management employed a preference ordering strategy when it came to allocating funds.

Firstly, the preference for internal financing of investment opportunities stemmed from its capacity to circumvent external scrutiny by capital sources and the lack of flotation costs associated with the use of retained earnings (Peace, 2011). Furthermore, direct debt was preferred. Deploying debt resulted in reduced intervention from capital sources in managerial decision-making, and the costs related to flotation were lower in comparison to alternative types of external financing. Furthermore, the theory of asymmetric information and the challenges related to financial signalling become pertinent (Pandey, 2010). According to the hierarchy of desire, preferred stock is positioned at the third level and displays certain attributes of debt. This was followed by a variety of hybrid financial instruments, such as convertible bonds. Straight stock was defined as the least optimal financial instrument to issue due to its significant amount of investor interference, substantial flotation costs, and the possibility of negative signalling effect (Trong, 2012).

This hypothesis was empirically significant in the study as it revealed that companies did not possess a well-designed capital structure. Alternatively, a company acquired funding incrementally by adopting a strategy that provided minimal resistance to management, with minimal supervision from the capital market on management behavior. The resulting capital structure is prone to undergo changes whenever there is an imbalance between cash flows and capital investments.

### **2.2.3 Modigliani and Miller (1958) Capital Structure Irrelevance Theory**

There had been no popular theory of Financial Structure; until the day of The selection of a particular debt-to-equity ratio, the firm makes to finance its assets, only necessitates cash flow distribution between the investors. Small Stocks (2008) report that investors and enterprise enjoy equal access of financial markets, making the practice of homemade leverage possible.

Flannery & Hankins (2007) note and add that investors can ensure they have leverage that was not being provided or eliminate any leverages that the firm has taken on, but is not interested in. As a result, the extent to which the company in incurs debt is essentially immaterial to its value in the market (Flannery & Hankins, 2007; Small Stocks, 2008). A firm' value is not based on where the funds come from, the hypothesis assumes. taxes, bankruptcies and asymmetric information do not influence an efficient market. This means that value of the firm remains the same regardless of the source of financing employed by SACCOs, whether equity or retained or debt (Ombado, 2010).

Examples of appropriate application of this theory include; a perfect and efficient market, no presence of transaction costs, no occurrence of default risks and a non-taxing

environment. The M-M theory does not recommend a superior capitalization ratio between equity and loan capital. Rather, it confirms that the source of funds is not critical in the above context (Pandey, 2010). The applicability of the M-M theorem to this study is anchored on its assertion that the value of a company does not vary according to the way financing is carried out, thus being independent of the Financial Structure.

#### **2.2.4 Trade-off Theory**

In essence, trade-off theory of capital structure explains that an organization chooses the most appropriate combination of debt and equity capital according to the careful examination of benefits and costs of each (Nicodano & Regis, 2019). The hypothesis suggests that the application of both debt and/or equity to a company's structure of financing is not per se adverse and states that there exist definite optimal levels of both. The classic explanation of the tradeoff theory was laid down on the parity of bankruptcy costs and the agency cost on one hand and tax savings benefits on debt on the other hand.

From static trade-off hypothesis, due to the tax deductibility of debt payments and based on the risk involved in preference over debt versus equity, debt is considered (Izhakian, et al 2016). That is, a company can manage its weighted average cost of capital by varying its capital structure in terms of a higher proportion of debt to equity. However, if the magnitude of debt incurred increases, then, the level of risk exposure of the company also increases consequently cancelling the downward shift to weighted average cost of capital. In accordance, static trade off theory recommends a combination of debt and equity in which the firm is able to suffer the increasing financial risk as a result of internal growth with the help of declining weighted average cost of capital (WACC).

As per Bender (2013), the incremental advantage of further debt consumption decreases as the amount of debt rises, as the incremental cost also grows. Therefore, firms aiming to increase the value attributable to shareholders must accurately ascertain an ideal debt to equity ratio that maximizes the returns on debt and equity (Ahmadimousaabad et al., 2013). The paradigm questions the pecking order hypothesis, which posits an efficiency hierarchy for the different financing alternatives and rationalizes the use of both debt and equity components until reaching an optimal level that maximizes shareholder wealth. Additionally, the theorist questions the Modigliani and Miller theoretical underpinnings by showing that the decisions about debt and equity are not as inconsequential as proposed. Hence, the theory proves valuable in the present examination.

### **2.2.5 Liquidity Preference Theory**

The theory of liquidity preference, established by John Maynard Keynes in 1936, is a fundamental element of Keynesian economics that elucidates the inclination of individuals and corporations to hold liquid assets, namely money, rather than other interest-bearing instruments (Keynes, 1936). Keynes theorised that the demand for money is determined by the necessity for transactional, precautionary, and speculative purposes. The hypothesis suggests that individuals and organizations retain money for immediate transactional requirements, as a preventive mechanism against unexpected costs, and for speculative reasons, in anticipation of future fluctuations in interest rates.

One of the key propositions of liquidity preference theory is that interest rates serve as a counterbalance between the supply and demand for money. In his 1936 work, Keynes contended that at high interest rates, both individuals and corporations tend to choose to

maintain fewer liquid assets. This preference is driven by the opportunity cost of losing out on potential interest profits from other investments. Alternatively, in the case of low interest rates, the demand for money rises as the opportunity cost decreases.

The assumptions underlying liquidity preference theory are that individuals and firms are risk-averse and aim to preserve liquidity as a means of mitigating uncertainty (Keynes, 1936). Furthermore, the theory posits that money is the most easily convertible asset and that individuals can readily switch between money and other assets that generate interest, depending on fluctuations in interest rates.

Critiques of liquidity preference theory mostly focus on its simplicity and the underlying premise that interest rates are the exclusive factor influencing the demand for money. Certain economists contend that liquidity choices are significantly influenced by considerations such as expectations and psychological factors (Laidler, 1980). Integrating liquidity preference theory into the analysis of the moderating impact of liquidity on the correlation between capital structure and influence of the liquidity position of these SACCOs on their capital structure choices and, consequently, their profitability. of DT SACCOs' liquidity preferences on their capital structure decisions, and how these decisions may either improve or compromise their overall financial performance. Gaining a comprehensive understanding of how liquidity moderates the relationship between financial management actions and organizational profitability can offer invaluable insights for SACCO management and contribute to the wider discussion on this topic.

## **2.3 Empirical review**

This part contains a review of past studies on the subject matter. The aim of the empirical review is to provide evidence on what has already been covered and what has not been adequately covered. The knowledge gaps identified then form the basis of the current analysis.

### **2.3.1 Short Term Debt and Profitability**

Regression analysis was applied as the primary inferential technique to draw conclusions regarding the broader firm population. The findings revealed a negative association between debt financing and profitability, with short term debt exerting the most harmful effect on corporate earnings. The authors highlighted that the study left out other key financing components such as internal and external equity sources, which presents an important conceptual gap for further research.

The study used panel research approach and concentrated on a sample of eleven (11) commercial banks that are listed in Kenya. The analysis considered 2015-2019 period. The results revealed a favorable, but not statistically significant, effect as regards to short-term debt. To a large extent however, the existing research in this area has centered largely on the banking world with relatively little attention to the DT SACCOs and their capital structure despite their being of great importance in the economy as a leading source of foreign exchange revenue.

Suardi and Noor (2018) explored how capital structure influences the financial performance of agricultural firms listed on the Indonesia Stock Exchange. The study focused on 16 companies over the period 2010 to 2014 and analyzed performance using

return on equity and return on assets. Their results showed that both short term and long term debt negatively impact firm profitability within the agricultural sector. However, the study did not fully account for all components of capital structure, particularly equity financing, indicating a gap in the conceptual scope.

### **2.3.2 Long Term Debt and Profitability**

Feng *et al.* (2022) examined how debt financing influences the financial performance of firms listed on China's A-share market. The research was based on secondary data covering the years 2016 to 2020, and regression analysis served as the primary method for drawing inferences about the entire firm population. The study established a negative relationship between debt financing and performance, with long term debt particularly reducing profitability. From a theoretical perspective, the authors noted a limitation in that the analysis did not incorporate other important financing elements, such as internal and external equity, which limits the breadth of the financial structure evaluation.

Nazir *et al.* (2021) examined the correlation between debt financing and corporate performance situation in Pakistan share market. An analysis was conducted to establish the relationship existing in the levels of long term and short-term debt against the firm performance. We used pooled ordinary least squares regressions and fixed and random effects models as choice analysis methods. Cross-sectional data drawn from a sample of 30 commercial firms in Pakistan were used for research. The corporations were selected from three leading industries of the economy; automotive, cement, and sugar. The time frame for the dataset was 2013 – 2017. The outcome showed that the long-term debt component was averse to financial performance. The study recognizes the existing literature (as most other studies done on the topic have done) as being characterized by

gaps as the studies are mostly carried out in foreign settings and the empirics are therefore not local.

Abuga (2020) conducted examined the effect of capital structure decisions on the profitability of public sugar producing companies that operate in western Kenya. This research examined the effect of short/long term debt financing and external/internal equity (retained earnings) on operational profitability. More specifically, the study focused on publicly traded sugar-processing firms. The outcome shows positive and statistically significant external equity funding contribution to profitability. From the research, retained earnings form of internal equity negatively had impacts on the financial performance of the sugar processing companies. Other than that, the application of short-term debt and long-term debt financing exhibited an adverse effect on financial performance.

Njagi (2018) examined short-term loan and long-term debt to the profitability of the publicly traded agricultural companies listed on the Nairobi Securities Exchange. The study targeted 7 companies in the Agricultural industry category listed in Nairobi Securities Exchange and the companies were publicly traded. The data used was either INRE (1965), secondary data collected from official NSE publications. Quantitative method was used in the study; in both descriptive/analytic and inferential analytics. The analysis revealed that long-term debt was an important downside sign of profitability. Conceptually, the study reveals weaknesses since it lacks to address important features of capital structure hence internal and external equity.

### **2.3.3 Internal Equity and Profitability**

Mwangi (2021) conducted a study to assess how capital structure influences the profitability of small and medium enterprises within Kenya's ICT sector. A descriptive survey design was applied to a target population of 1,048 ICT SMEs, and both quantitative and qualitative analytical techniques were used. The findings indicated that internal and external equity components positively contribute to the operational profitability of SMEs. However, despite the attention given to financing models for SMEs, the role of SACCOs in this context remains underexplored despite their growing economic significance.

Nduati and Wepukhulu (2020) focused on the relationship between. They followed the descriptive survey study approach and their target sample was 29 Deposit-Taking SACCOs. Quantitative method of data analysis (descriptive statistic such as means and standard deviations and inferential statistics in relation to regression analysis) was the major data analysis method. The results showed that such internal equity similar to retained earnings, was always predicting positive success in relation to financial terms. However, the study exposed weaknesses in conceptual understanding since the analysis lacked capital structure components.

### **2.3.4 External Equity and Profitability**

Okafor and Adebayo (2020) examined the effect of external equity financing on the profitability of listed deposit money banks in Nigeria. The study applied a panel regression model on financial data collected from twelve banks for the period 2014–2018. The indicators included both ROA and ROE, implying that increased share capital enhances the financial resilience and profitability of banks. The findings further revealed

that while internal equity (retained earnings) supported profitability, overreliance on debt financing negatively affected performance due to rising interest expenses. The study concluded that external equity remains an important tool for sustaining profitability and competitiveness in the Nigerian banking sector.

Nabwire and Wanyama (2021) explored the effect of external equity financing on the profitability of SACCOs operating in Uganda. Their study applied both descriptive and correlational research designs and included forty regulated SACCOs located in Kampala and Wakiso districts. Audited financial data spanning 2016 to 2020 was used to assess performance, with profitability measured through net profit margins and equity financing evaluated based on member share contributions and retained surpluses. The findings showed a significant positive relationship between external equity and financial performance, highlighting that SACCOs with stronger share capital foundations demonstrated greater financial resilience and increased lending activity, which ultimately improved profitability. They suggested that SACCOs should prioritize strategies that encourage members to increase their shareholding so as to reinforce equity levels and promote long term financial growth.

Harrison *et al.* (2021) investigated how key financing components influence the financial performance of listed commercial banks in Kenya. Their analysis considered several elements of financial structure, including external equity in the form of share capital, internal equity represented by retained earnings, and both short term and long term debt. Using a panel research design, the study examined eleven publicly listed banks from 2015 to 2019. External equity was also found to meaningfully enhance profitability. The researchers noted that while extensive studies have focused on the banking sector,

limited scholarly attention has been directed toward SACCOs, despite their crucial economic contribution and role as a major financial resource for communities.

Njeru and Muturi (2020) conducted a study to determine how external equity resources contribute to the financial outcomes of microfinance institutions in Nairobi County. Using both descriptive and correlational methods, the researchers obtained data from 28 legally registered MFIs. Their results indicated that increased reliance on equity financing boosts key profitability indicators such as return on assets and return on equity. The study emphasized that microfinance institutions with a stronger equity base were more financially stable and better positioned for growth than those that relied predominantly on short term debt. It was also noted that equity plays a more crucial role in strengthening the financial health of MFIs than it does for commercial banks. However, the researchers did not extend their investigation to SACCOs, which, despite having comparable operational goals, function within distinct governance arrangements and regulatory structures.

Otieno (2019) examined how capital structure shapes the profitability of deposit-taking cooperatives in Kenya and reported that external equity, mainly through member share capital, plays a vital role in boosting financial performance. The study relied on regression analysis using data from 35 authorized cooperatives covering the years 2014 to 2018. The results indicated that cooperatives with stronger equity bases were better positioned to expand their assets, broaden their investment activities, and mitigate liquidity pressures. Unlike commercial banks that significantly benefit from long term borrowing, cooperatives largely depend on member equity to sustain profitability. The researcher concluded that enhancing member share capital is essential for maintaining

financial strength and improving returns in cooperative institutions since they operate on a member-owned governance model.

## 2.4 Summary of Knowledge Gaps

| Author              | Focus of the Study                                               | Findings                                                                              | Research Gaps                                                                                                        | Focus of the Current Study                                                              |
|---------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Feng et al. (2022)  | Chinese A-share listed companies (2016–2020)                     | Long-term debt negatively affects profitability.                                      | Focused only on debt financing; excluded internal and external equity; conducted in China, limiting local relevance. | Examine on profitability of DT-SACCOs in Kenya.                                         |
| Nazir et al. (2021) | automotive, cement, and sugar industries in Pakistan (2013–2017) | Long-term debt negatively associated with profitability.                              | Context limited to manufacturing sector in Pakistan; overlooked equity financing aspects.                            | Investigate capital structure dynamics (debt and equity) in Kenya's cooperative sector. |
| Abuga (2020)        | publicly listed sugar-producing companies in western Kenya       | External equity positively influenced profitability; internal equity, debt negatively | Focused on listed sugar firms only; findings may not apply to cooperative financial                                  | Determine how of DT-SACCOs in Kenya.                                                    |

|                        |                                                                                  |                                                                                                  |                                                                                                             |                                                                                                    |
|------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                        |                                                                                  | affected performance.                                                                            | institutions.                                                                                               |                                                                                                    |
| Njagi (2018)           | Influence of long-term debt on profitability of agricultural firms listed on NSE | Long-term debt negatively predicted profitability.                                               | Examined only long-term debt; did not include internal or external equity financing.                        | Assess how multiple components of capital structure affect profitability of SACCOs.                |
| Harrison et al. (2019) | Australia (2009–2018)                                                            | Higher reliance on equity financing enhanced profitability; debt financing showed mixed effects. | Findings drawn from developed economies; limited generalizability to developing cooperative sectors.        | Explore equity vs. debt financing impacts on profitability within SACCOs in Kenya.                 |
| Suardi et al. (2020)   | Debt structure and profitability of Indonesian manufacturing firms               | debt negatively influenced profitability.                                                        | Narrow industry focus (manufacturing) in Indonesia; limited consideration of cooperative financial systems. | Extend the analysis to financial cooperatives (SACCOs) in Kenya where financing structures differ. |
| Mwangi (2021)          | profitability of SMEs in the ICT industry of                                     | Both of SMEs positively influence                                                                | Focused on SMEs in the ICT sector; did not address                                                          | Investigate how capital structure influences the                                                   |

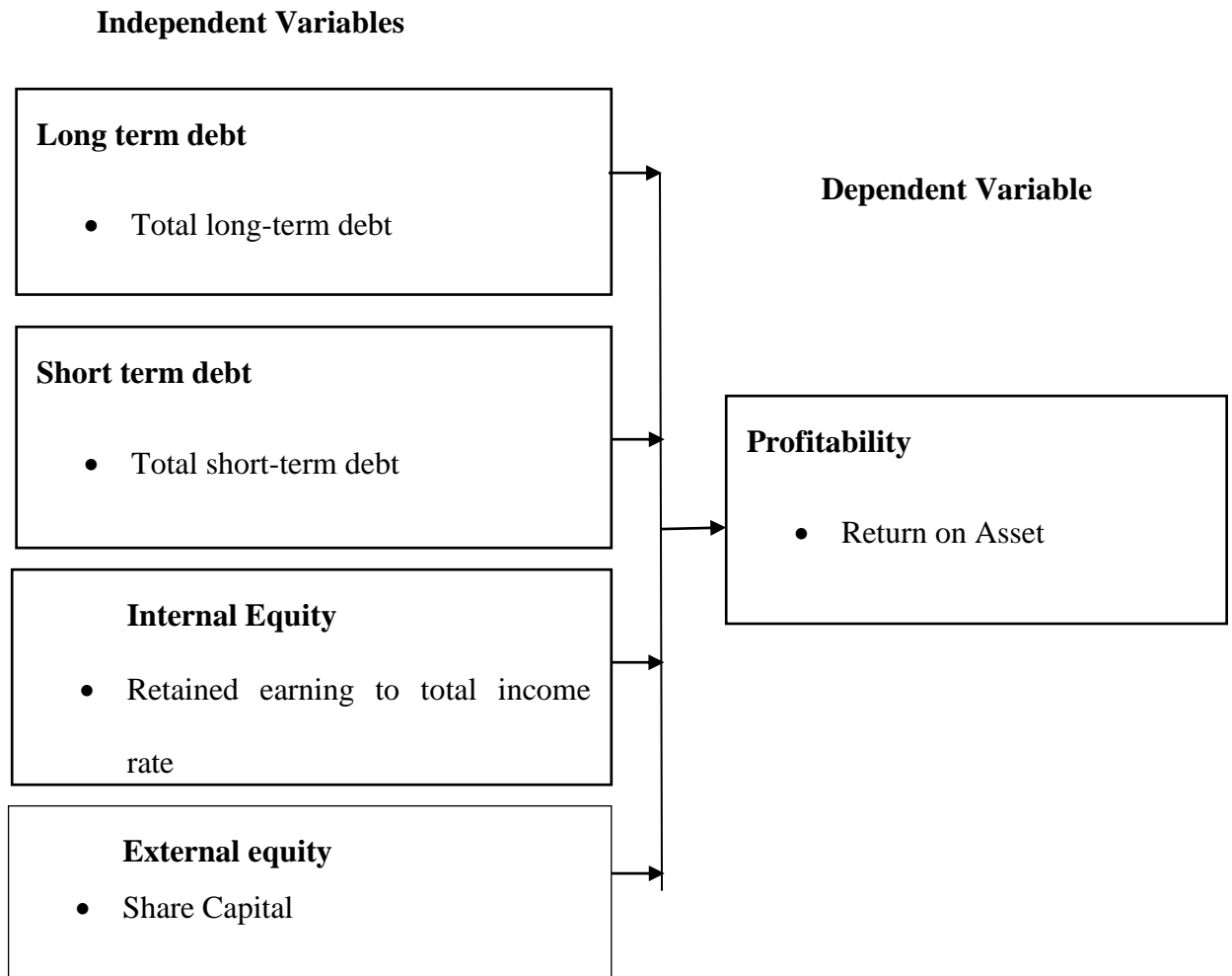
|                           |                                                    |                                                                                                                              |                                                                                                                        |                                                                                                                     |
|---------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|                           | Kenya                                              | profitability.                                                                                                               | financial structures of cooperatives despite their economic importance.                                                | financial performance of cooperatives, focusing financing.                                                          |
| Nduati & Wepukhulu (2020) | Relationship between retained equity and financial | Retained earnings positively predict financial success in cooperatives.                                                      | Narrow scope since the study focused only on retained equity without incorporating other capital structure components. | Assess the role of various capital structure components—in influencing the financial performance of cooperatives.   |
| Okafor & Adebayo (2020)   | Effect of external equity financing on             | profitability (ROA & ROE), while debt financing negatively affected performance.                                             | Focused on commercial banks; findings may not be generalizable to cooperative institutions.                            | Examine how external equity affects profitability of                                                                |
| Nabwire & Wanyama (2021)  | SACCOs in Uganda                                   | External equity (share capital) had a strong positive correlation with profitability; higher member shares boosted financial | Conducted in Uganda; contextual differences in regulation and member dynamics limit applicability to Kenya.            | Investigate how external equity influences profitability of Kenyan SACCOs, considering local regulatory frameworks. |

|                        |                                                                                               |                                                                                                                                 |                                                                                                         |                                                                                                            |
|------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|                        |                                                                                               | stability.                                                                                                                      |                                                                                                         |                                                                                                            |
| Harrison et al. (2021) | Financial structure and financial                                                             | positively influenced profitability; short-term debt was positive but insignificant; long-term debt had strong positive effect. | Focused on publicly traded banks; limited insights into cooperatives despite their importance in Kenya. | Assess impact of financing on profitability of SACCOs.                                                     |
| Njeru & Muturi (2020)  | Influence of external equity financing on performance of microfinance institutions in Nairobi | External equity positively influenced ROA and ROE; institutions with higher equity funding were more financially sustainable.   | Focused on microfinance institutions; did not examine SACCOs which operate under different models.      | Analyze the role of external equity in strengthening financial sustainability and profitability of SACCOs. |
| Otieno (2019)          | cooperatives in Kenya                                                                         | External equity (share capital) significantly improved profitability by financing growth and cushioning                         | Did not comprehensively address other capital structure components like short-term and long-term debt.  | Investigate the combined effects of debt,.                                                                 |

|  |  |                  |  |  |
|--|--|------------------|--|--|
|  |  | liquidity risks. |  |  |
|--|--|------------------|--|--|

**Source: (Researcher, 2025)**

## 2.5 Conceptual Framework



**Figure 2.1 Conceptual Framework**

**Source: Researcher (2025)**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This section details the methodological framework employed to examine the connection between capital structure and profitability. It elaborates on the underlying research philosophy, the chosen design, the defined population of interest, the determination of sample size, and the sampling strategies utilized. Additionally, it highlights the tools used for data collection, the procedures followed during data gathering, and the approaches adopted to verify the accuracy and consistency of the research instruments. Additionally, it is explaining the data analysis techniques that are being applied to examine the relationships between the study variables.

#### **3.1 Research Philosophy**

A research philosophy refers to the underlying beliefs and assumptions that guide the researcher in understanding how knowledge about a phenomenon is gathered, interpreted, and applied. It shapes the entire research process, including the formulation of the problem, the design of the study, the choice of methodology, and the interpretation of findings. The four broad types of research philosophies are positivism, interpretivism, critical realism, and pragmatism. Positivism emphasizes objectivity and scientific measurement; interpretivism focuses on understanding human behavior through subjective meanings; critical realism acknowledges an external reality but emphasizes the role of social structures and interpretation.

The present study adopted the philosophy of positivism. According to Urquhart (2008), positivism is rooted in the belief that reality exists independently of the researcher and can be observed objectively. Positivist researchers view the world as governed by fixed laws of causation and rely on empirical evidence that is measurable and verifiable. As noted by Griffin (2006), this approach assumes that truth can be discovered through systematic observation and logical analysis. The study therefore employed a reductionist approach to break down complex relationships between capital structure and profitability. It prioritized impartiality, repeatability, and the use of quantifiable data, as advocated by Ogilvy (2006) and Venkatesh (2006), making positivism the most appropriate paradigm for investigating causal relationships in this context.

### **3.2 Research Design**

The study adopted a causal research design. According to Kothari (2009), causal research enables scholars to identify and analyze relationships among variables to understand how one factor influences another, thereby clarifying underlying phenomena. This design was deemed suitable given the study's aim—to explore the cause-and-effect linkage between capital structure and the profitability of DT SACCOs. It provided a framework that extended beyond mere description of financial indicators, allowing for an in-depth examination of the mechanisms and rationale connecting the variables. As emphasized by Kothari (2009) and Grey (2014), causal research is particularly well-suited for hypothesis testing and for revealing how changes in financial structuring can affect organizational performance.

### 3.3 Empirical Model

To elucidate the relationship between independent factors and dependent variable, as well as to determine the amount to which a moderating variable influences this relationship, this work employs both a general model and a moderator effects model.

#### 3.3.1 General Model

It is the research aim to review the impact that capital structure of savings and credit co-operative societies in Nairobi City County Kenya has on the profitability. The purpose of this research was an attempt to specify the effect of the independent variables on the dependent variable in application of a multivariate regression model. A statistical means of analysis of data, multiple regression analysis, is applied in examining the relationship between one dependent variable and any number of independent variables. Multiple regression analysis is meant to estimate the value of the sole dependent variable but on a basis of witnessed values of the independent variables (Hsu, Wang & Hsu, 2012). The hypothesis advanced was that profitability of SACCO the dependent variable, would be influenced by four independent variables. long term and short-term loan capital, internal equity capital and external equity capital.

In line with the multiple regression model applied in this work, the following general model is developed:

$$\text{Profitability} = f(\text{LTD}, \text{STD}, \text{IE}, \text{EE}) \dots\dots\dots 3.1$$

where LTD represents long term debt capital; STD represents short term debt, and IE represents internal equity capital and EE represents External Equity; and f is a functional

relationship. However, the econometric form of model 3.1 is simply expressed as follows:

$$Y = \beta_0 t + \beta_1 X_1 t + \beta_2 X_2 t + \beta_3 X_3 t + \beta_4 X_4 t + \varepsilon \dots \dots \dots 3.2$$

Where:

**Y** = Profitability (measured by Return on Assets)

**$\beta_0$**  = Constant (estimated value for the intercept in the model)

**$\beta_1$ -  $\beta_3$**  = Coefficient (of each independent or exploratory)

**X1** = Long Term Debt of firm

**X2** = Short Term Debt of firm

**X3** = Internal Equity of firm

**X4** = External Equity of firm

**t** = Year/Time

**$\varepsilon$**  = Error

### **3.3.2 Moderator Effects Model**

This study proposed that liquidity would serve as a moderating factor in the association between the explanatory variables and the outcome variable. Moderation refers to a mechanism through which a third variable influences the magnitude and/or orientation of the relationship between a predictor and the response variable under investigation. The role of liquidity as a moderator in the link between financial structure components and

SACCO profitability has previously been examined by Hsu, Wang, and Hsu (2012). The analytical equations representing the moderation framework are outlined below:

$$Y = \beta_0 + \beta_1 LTD + \beta_2 STD + \beta_3 IE + \beta_4 EE \dots\dots\dots (1)$$

$$Y = \beta_0 + \beta_1 LTD + \beta_2 STD + \beta_3 IE + \beta_4 EE + \beta_5 L \dots\dots\dots (2)$$

$$Y = \beta_0 + \beta_1 LTD + \beta_2 STD + \beta_3 IE + \beta_4 EE + \beta_5 L + \beta_5 LTD * L + \beta_6 STD * L + \beta_7 E * L. (3)$$

In these models, Y it represents the profitability of SACCOs, while ROA serves as a metric for profitability but should not replace the variable Y.

### 3.3.3 Operationalization and Measurement of Variables

In Table 3.2, external and internal equity, the moderator liquidity, are operationalized.

**Table 3.2 Operationalization and Measurement of Study variables**

| Variable        | Type of Variable | Operationalization                  | Measurement                            | Scale of Measurement |
|-----------------|------------------|-------------------------------------|----------------------------------------|----------------------|
| Long Term Debt  | Independent      | The ratio between retained earnings | Log of the aggregate long-term debt    | Ratio                |
| Short Term Debt | Independent      | The ratio between retained earnings | Statement of Aggregate Short-Term Debt | Ratio                |

|                         |             |                                                                                                     |                                     |       |
|-------------------------|-------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|-------|
| Internal Equity Capital | Independent | The ratio between retained earnings and total income                                                | The ratio between retained earnings | Ratio |
| External Equity Capital | Independent | The ratio between retained earnings                                                                 | The ratio between retained earnings | Ratio |
| Liquidity               | Moderator   | The liquidity ratio quantifies the SACCO's capacity to fulfil its short-term financial commitments. | Liquidity ratio                     | Ratio |
| Profitability           | Dependent   | The average return on the assets invested in the firm                                               | Earnings after Tax/ Total Assets    | Ratio |

**Source: Author (2025)**

This version ensures that each variable's operationalization is described concisely, including the metric used for measurement.

### **3.3 Target Population**

The target population in the words of Oso and Onen (2005) refer to all the elements, units, objects, or people that have similar characteristics based on sampling parameters.

The target population in the definition by Mugenda and Mugenda (2013) is a specific set of persons who possess identifiable characteristics that the research seeks to generalize the findings to, Kenasa were available as the study sample in this research, with the focus of analysis being on the principal (SASRA Report, 2022). Appendix iii gives a list of the

specific SACCOs targeted. Statistical Information for the census research was drawn from all 42 legally registered DT SACCOs. Considering the nature of the chosen units of analysis that are quite easy to manage, this study did not need a sample design.

### **3.5 Data Collection Instruments**

This project used a structured secondary data collecting schedule as the data collecting instrument. This schedule was purposely developed to acquire relevant financial information of each input defined in the conceptual framework (see Figure 2.1). The instrument was designed specifically to capture the essential data points necessary for computing the required financial ratios, based on the variables presented in the conceptual framework. This methodology ensured systematic gathering of all elements that were used in computing the ratios, including capital structure and liquidity. This allowed complete analysis of the correlations reported in the study. In addition, secondary data gathering time plan indicated the systematic collection of relevant financial data from existing sources to support the research aims.

### **3.6 Data Collection Instruments**

This project used a structured secondary data collecting schedule as the data collecting instrument. This schedule was purposely developed to acquire relevant financial information of each input defined in the conceptual framework (see Figure 2.1). The instrument was designed specifically to capture the essential data points necessary for computing the required financial ratios, based on the variables presented in the conceptual framework. This methodology ensures systematic gathering of all elements that are used in getting the ratios including capital structure and liquidity. This allows complete analysis of the correlations reported in the study. In addition, Appendix I's

secondary data gathering time plan indicated the systematic collection of relevant financial data from existing sources to support the research aims.

### **3.7 Data Collection Procedure**

A formal letter of introduction from Kenyatta University Graduate School was requested in order to facilitate the process of data gathering. Following the submission of the introductory letter to the NACOSTI, the researcher acquired official clearance to conduct data collection in the field.

### **3.8 Data Analysis and Presentation**

Before doing the initial analysis, the data underwent a comprehensive data cleansing process to ensure accuracy and reliability. Mugenda & Mugenda (2013) define data cleaning as the methodical procedure of identifying and correcting errors or inconsistencies in data sets, therefore guaranteeing the maintenance of data integrity. After the cleaning procedure, the data sets were categorized according to the criteria specified in the conceptual framework.

The main analysis employed both descriptive and inferential statistical methods. The inferential statistics were conducted using panel regression analysis, a data analysis method particularly suitable for analyzing data collected over time from multiple entities (Baltagi, 2005). The inclusion of individual-specific effects in panel regression allows for the effective handling of unobserved heterogeneity (Greene, 2012).

In order to account for the variability of data across both entities (SACCOs) and time periods, the panel regression model was employed. Incorporating individual-specific variables that may affect profitability enables more accurate projections (Wooldridge,

2010). The data was analysed using STATA software, a very proficient tool for conducting advanced panel data analysis.

### **3.9 Diagnostic Tests**

Various diagnostics tests (pre and post estimation tests) were carried out in the course of the analysis of data. The tests include that for normality, multicollinearity, and heteroskedasticity.

#### **3.9.1 Multicollinearity Test**

When this occurs, the estimated coefficients can become unreliable and the p values may appear higher than they should be, making it difficult to draw accurate conclusions. In this study, multicollinearity will be assessed using the Variance Inflation Factor. A VIF value below 10 is generally viewed as acceptable. If strong correlations are detected among independent variables, the affected variables will either be adjusted through ratio transformation or removed from the model to ensure valid regression results.

#### **3.9.2 Normality Test**

Wooldridge (2013) notes that researchers must verify whether the variables in a dataset follow a normal distribution before applying certain statistical procedures. The decision rule involved comparing the calculated probability value at a five percent significance level, where the null hypothesis assumes normal distribution and the alternative suggests otherwise. If the null hypothesis was not supported, meaning the data were found to be non-normal, the analysis proceeded using techniques that do not require normality.

### **3.9.3 Heteroscedasticity Test**

To confirm that the error variance in the regression model remained uniform across observations, heteroscedasticity was examined. The Breusch Pagan Godfrey test served as the diagnostic tool for identifying any irregular variance patterns in the residuals. The decision criteria were based on a five percent significance level, indicating that the model satisfied this key assumption. However, where the test showed evidence of heteroscedasticity, steps were taken to correct it, including transforming variables into logarithmic form. If variance instability persisted, generalized least squares estimation was considered as a more appropriate modeling approach.

### **3.9.4 Autocorrelation Test**

Detecting autocorrelation is important in regression because relationships among residuals can distort statistical estimates. In this study, the Durbin Watson test was applied to identify whether such correlation existed. The test value was interpreted relative to the benchmark of 2. A statistic below 2 would imply positive autocorrelation, while a value above 2 would signal negative autocorrelation. Since the results showed no meaningful departure from this benchmark, the residuals were considered free from serial correlation. In situations where autocorrelation is present, corrective strategies could include introducing lagged terms or using autoregressive modeling techniques to stabilize the estimates.

### **3.9.5 Stationarity Test**

Time series models require the underlying data to have stable statistical characteristics over time for regression results to remain valid. To verify this condition, the Augmented

Dickey Fuller test was used in the present study. The decision rule relied on a five percent significance level. When the test produced a p value below this threshold, the variable was considered stationary, meaning its mean and variance did not shift across periods. If the test indicated that a variable was non stationary, then the data were modified through differencing or other transformation techniques so that stationarity could be attained before carrying out further analysis.

### **3.9.6 Model Specification Test**

Model specification testing was performed to ensure that the regression model correctly represented the underlying relationships in the data. The RESET test was applied to detect whether important variables had been excluded or if the functional form had been incorrectly defined. If the test produced a statistically significant p value, it suggested that the model might be misspecified, prompting the need to modify the model structure, possibly by introducing omitted predictors or altering the functional relationship among variables.

### **3.10 Ethical Considerations**

The study was directed by the many ethical issues that Kenyatta University has with its research. These involve avoiding fabrication and falsification, but were not limited to it. The research also abided by other Kenyan ethical requirements. NACOSTI provided a research permission, which made it easier to gather research data.



## CHAPTER FOUR

### DATA ANALYSIS, INTERPRETATION AND DISCUSSION

#### 4.1 Introduction

This current chapter provides detailed review and analysis of the data from an empirical study in SACCOs. Analyzing the operationalized variables including long-term debt, short-term debt, internal equity capital, external equity capital, liquidity and return on investment is done in this first chapter, followed by the others.

#### 4.2 Descriptive Statistics

In this case descriptive results of the analysis for the study variables are presented. The collection of such data took place in 2024 as a research which had a conscious interest in SACCOs. In the variable column the six variables that have been considered are outlined. In the “Obs” column, we have the counts of valid (i.e. not missing) observations per attribute, 210 observations reported for each of the six variables in total. While the Min column is presented to indicate the minimum values of any given variable, the Max column is depicted in order to illustrate the maximum values of the variable under consideration.

**Table 4.1 Descriptive Summary**

| <b>Variable</b> | <b>Obs</b> | <b>Mean</b> | <b>Std. Dev.</b> | <b>Min</b> | <b>Max</b> |
|-----------------|------------|-------------|------------------|------------|------------|
| ROA             | 210        | .134214     | .134214          | .0120      | .4098      |
| LongTerm Debt   | 210        | 8.223000    | 8.223000         | 5.9800     | 9.9800     |
| ShortTerm Debt  | 210        | 7.069282    | 7.069282         | 3.4568     | 5.9870     |
| InternalEquity  | 210        | .103240     | .103240          | .0234      | .3098      |
| ExternalEquity  | 210        | .154223     | .154223          | .0321      | .3897      |
| Liquidity Ratio | 210        | 2.381       | 2.381            | 1.2        | 4.3        |

**Source: Survey Data (2021)**

The average ROA was 0.134, with a standard deviation of 0.134, and ranged from 0.012 to 0.409. ROA serves as a measure of the efficiency with which SACCOs in Nairobi City County utilize their assets to generate profits. The observed average indicates a moderate level of profitability, suggesting that while SACCOs are generating returns, there is room for improved asset utilization. This finding aligns with the study by Feng et al. (2022), who observed that increased debt financing—especially short-term debt—tends to exert a negative influence on profitability, supporting the moderate ROA levels found in this study.

With regard to Long-Term Debt, the study recorded 5.980 to 9.980. These values, expressed in financial units spanning from hundreds of thousands to millions, underscore the significant role of long-term financing in the capital structure of SACCOs. The results suggest that long-term debt comprises a substantial portion of the financing mix. Empirical evidence from Harrison et al. (2021) supports this assertion, having found a positive correlation in listed. However, this finding diverges from global studies by Nazir et al. (2021) and Suardi and Noor (2018), which reported a negative association between long-term debt and profitability, highlighting the potential influence of contextual financial dynamics.

The analysis of Short-Term Debt revealed a wide range, from 3.4568 (thousands) to 5.9870 (hundreds of thousands), with an average of 7.069 (tens of millions) and a standard deviation of 7.069. These results indicate that short-term liabilities form a significant component of SACCOs' financing structures. Consistent with findings by Njagi (2018) on agricultural reliance—particularly on short-term debt—can increase financial risk and reduce profitability. Nevertheless, inconsistencies with global findings,

such as those by Feng et al. (2022), emphasize the need for context-specific studies to account for the unique financial environments within SACCOs.

The study also examined Internal Equity, with values ranging from 0.0234 to 0.3098, a mean of 0.103, and a standard deviation of 0.103. Internal equity, primarily comprised of retained earnings, was found to have a positive effect on SACCO profitability. This outcome corroborates the findings of Abuga (2020), who noted a significant positive correlation between retained earnings and financial performance in Kenya's public sugar manufacturing sector. Despite this, empirical evidence within the SACCO sector remains limited. Nduati and Wepukhulu (2020) noted a gap in literature, pointing to the need for further investigation into the contribution of internal equity to the financial sustainability of cooperative financial institutions.

For External Equity, the observed values ranged from 0.0321 to 0.3897, with a mean of 0.154 and a standard deviation of 0.154. This metric, which includes share capital contributions, also demonstrated. The findings align with Mwangi (2021), who reported that external equity is a vital driver of financial performance in Kenyan SMEs. However, contrasting evidence from global research, such as that by Suardi and Noor (2018), suggests that the effectiveness of external equity is highly dependent on specific business contexts, further reinforcing the importance of localized financial analysis.

Lastly, the study assessed the Liquidity Ratio, which averaged 2.381, with a standard deviation of 2.381 and values ranging from 1.2 to 4.3. Liquidity is a critical moderating variable that reflects how efficiently SACCOs manage their short-term obligations while maintaining operational effectiveness. Although there is limited empirical research focused specifically on SACCOs, theoretical models suggest that optimal maintaining

adequate liquidity levels as part of broader financial management strategies essential for the sustainability of cooperative financial institutions.

### 4.3 Diagnostic Testing

In order to validate the precision of the regression models and the dependability of the results, several diagnostic tests were conducted. Furthermore, apart from the Hausman test, these analyses also evaluate multicollinearity, normality, heteroskedasticity, and autocorrelation.

#### 4.3.1 Testing on Multicollinearity

Statistical multicollinearity refers to a scenario within a regression framework exhibit a high degree of interrelationship, resulting in. The outcomes of the multicollinearity assessment, performed using the VIF technique, are presented in Table 4.2.

**Table 4.2: Multicollinearity test**

| Variable        | VIF  | 1/VIF    |
|-----------------|------|----------|
| Long Term Debt  | 8.94 | 0.111857 |
| ShortTerm Debt  | 7.16 | 0.139665 |
| InternalEquity  | 4.4  | 0.227273 |
| ExternalEquity  | 6.12 | 0.163399 |
| Liquidity Ratio | 5.89 | 0.169779 |
| Mean VIF        | 6.50 |          |

**Source: Research Data (2024)**

In regression analysis, a commonly accepted guideline is that a VIF value above 10 signals a critical multicollinearity concern (Gujarati & Porter, 2020). As shown in the table, all predictor variables exhibit VIF scores below this threshold, with the highest recorded value being 8.94 for long-term debt. Although this reflects a notable association with other explanatory variables, it remains within permissible bounds.

The results affirm that multicollinearity does not pose a substantial threat to the accuracy of the regression coefficients. Consequently, the model retains statistical integrity and is suitable for further empirical evaluation. Nonetheless, the relatively elevated VIF for long-term debt suggests a pronounced linear linkage with other independent variables possibly external equity or the liquidity ratio which warrants careful consideration during coefficient interpretation. No variable was excluded from the analysis, as none surpassed the critical multicollinearity limit.

This diagnostic reinforces the model's validity and enhances confidence in the subsequent regression outcomes, especially in assessing the effects of financial structure elements and liquidity on the profitability of SACCOs.

### 4.3.2 Normality Test

The normality test evaluates the normal distribution of the residuals in the model, a fundamental assumption to many statistical tests. The Kolmogorov-Smirnov test was employed for this purpose, and the results are presented in Table 4.3.

**Table 4.3 Normality Tests**

|                 | <b>KolmogorovSmirnov<sup>a</sup></b> |           |             |
|-----------------|--------------------------------------|-----------|-------------|
|                 | <b>Statistic</b>                     | <b>df</b> | <b>Sig.</b> |
| ROA             | .100                                 | 209       | .200*       |
| Long TermDebt   | .116                                 | 209       | .150        |
| Short Term Debt | .128                                 | 209       | .064        |
| InternalEquity  | .101                                 | 209       | .200*       |
| ExternalEquity  | .108                                 | 209       | .200*       |
| Liquidity Ratio | .112                                 | 209       | .211*       |

**Source: Research Data (2024)**

The results indicate that the p-values for all variables are greater than 0.05, suggesting that the residuals are normally distributed

### 4.3.3 Tests of Heteroskedasticity

The condition of heteroskedasticity error component of a regression model displays non-constant variance. To detect heteroskedasticity, the Breusch-Pagan / Cook-Weisberg test was employed, and the results are presented in Table 4.4.

**Table-4.4-Heteroscedasticity- Test**

|                                 |
|---------------------------------|
| H0: Constant variance           |
| Variables: fitted values of ROA |
| Chi (1) = 195                   |
| Prob Chi 2 = 0.16412            |

**Source: Research Data (2024)**

The p-value is greater than 0.05, indicating that there is no evidence of heteroskedasticity in the model

#### 4.3.4 Autocorrelation Tests

Autoregressive correlation refers to the relationship which exists between a time series and its own past and future values. A Wooldridge test was used to evaluate the autocorrelation in panel data, and the results are presented in Table 4.5.

**Table 4.5: Autocorrelation**

| Wooldridge test for autocorrelation in panel data |        |
|---------------------------------------------------|--------|
| F (1, 6)                                          | 2.543  |
| Prob > F                                          | 0.1655 |

**Source: Research Data (2024)**

#### 4.3.5 Hausman Test

The researcher performed two separate panel data regressions, analyzing both to ascertain which of these regressions had a superior fit for the data. Presented below are the hypotheses for the test:

*Ho: Accept Random Effect*

*Ha: Accept Fixed Effect*

**Table 4.6 Hausman Test**

|                | (b)    | (B)    | (b-B)      | Sqrt (diag (Vb-V_B)) |
|----------------|--------|--------|------------|----------------------|
|                | Fixed  | Random | Difference | S.E.                 |
| LongTerm Debt  | 4.14   | 4.50   | -3.51      | 2.43                 |
| ShortTerm Debt | 3.49   | 3.72   | -2.27      | 1.85                 |
| InternalEquity | 1.41   | 1.46   | -5.13      | 8.60                 |
| ExternalEquity | 1.41   | 1.46   | -5.13      | 8.60                 |
| chi2(3)        | 3.00   |        |            |                      |
| Prob>chi2      | 0.9988 |        |            |                      |

**Source: Research Data (2024)**

The Hausman test results give strong evidence in favour of selecting the random effects model. Consequently, the following section will only present and analyse the results obtained from the random effects model. The analysis revealed a Prob>chi2 value of 0.9988, (H0) is valid and not rejected. These findings suggest that the random effects panel data model is the most appropriate choice for the given data.

**4.4 Random-Effect Regression Analysis**

Statistical study of regression yields the coefficients (coef) and P values, which clarify the relationship between variables. Denominated in units, the coefficients quantify the effect of fluctuations of a certain variable are below 5% within a 95% confidence interval or below 10% within a 90% confidence interval, then that variable is considered statistically significant in explaining fluctuations in the dependent variable.

**Table 4.8 Random-effects Regression Model**

| <b>ROA</b>      | <b>Coef.</b> | <b>Std. Err.</b> | <b>Z</b> | <b>P&gt; z </b> | <b>[95%]<br/>Conf.</b> | <b>Interval]</b> |
|-----------------|--------------|------------------|----------|-----------------|------------------------|------------------|
| Long Term Debt  | 2.53         | 6.00             | 4.22     | 0               | 1.36                   | 3.71             |
| Short Term Debt | 5.16         | 2.94             | 1.76     | 0.009           | -5.99                  | 1.09             |
| Internal Equity | -1.10        | 4.32             | -0.25    | 0.8             | -9.57                  | 7.38             |
| External Equity | 4.223        | 2.78             | 1.34     | 0.007           | -3.67                  | 1.01             |
| Cons            | 0.068575     | 0.1207869        | 0.57     | 0.57            | -0.1681632             | 0.3053126        |
| R squared       | 0.61         |                  |          |                 |                        |                  |
| F statistics    | .529         |                  |          |                 |                        |                  |
| Prob > chi2     | 0.000        |                  |          |                 |                        |                  |

**Source: Researcher Data (2024)**

The Model;  $ROA = 0.068575 + 2.53X_1 + 5.16X_2 + 4.223X_4 + \varepsilon$

## **4.5 Hypothesis Testing and Interpretation**

### **Hypothesis H01:**

Results derived from the random-effects regression approach reveal that long-term loan financing exerts a statistically meaningful and favorable influence on profitability. The associated coefficient stands at 2.53, with a p-value of 0.000. Since the p-value is substantially below the conventional threshold of 0.05, the null hypothesis H01 is decisively rejected. These findings are in agreement with those reported by Harrison et al. (2021), who similarly identified a strong positive linkage between long-term debt and financial outcomes among Kenyan commercial banks. In contrast, Feng et al. (2022) documented a negative association between long-term borrowing and firm performance in Chinese corporations. Consequently, it can be inferred that the prudent use of long-term loan capital contributes significantly to enhancing the profitability of SACCOs operating within Nairobi City County.

### **Hypothesis H02:**

Empirical evidence indicates that short-term debt has a statistically significant impact on profitability, reflected by a coefficient of 5.16 and a p-value of 0.009. H02 is rejected. This outcome diverges from the findings of Harrison et al. (2021), who reported a positive yet statistically insignificant effect of short-term borrowing on the profitability of Kenyan commercial banks. Moreover, the current results contradict those of Feng et al. (2022), Njagi (2018), and Nazir et al. (2021), who observed a negative relationship between short-term liabilities and profitability in various contexts, including Chinese firms and Pakistani enterprises. Within the SACCO framework in Nairobi City County,

the use of short-term borrowed funds appears to play a substantial role in boosting financial performance.

**Hypothesis H03:**

The regression output, showing a coefficient of -1.10 and a p-value of 0.800, suggests that internal equity does not exert a statistically significant effect on profitability. Since the p-value exceeds the 0.05 significance level, there is insufficient evidence to reject the null hypothesis H03. This observation is consistent with Mwangi (2021), who found that internal equity had a positive but statistically negligible influence on profitability in Kenya's ICT sector. However, it contrasts with the conclusions of Harrison et al. (2021) and Abuga (2020), who reported a positive and significant contribution of internal equity to financial performance. Therefore, in the context of SACCOs within Nairobi City County, internal equity does not appear to have a notable impact on profitability.

**Hypothesis H04:**

Quantitative findings confirm that external equity significantly affects profitability, as indicated by a coefficient of 4.22 and a p-value of 0.007. Since the p-value is below the 0.05 threshold, the null hypothesis H04 is rejected. These results align with the studies conducted by Harrison et al. (2021) and Abuga (2020), both of which demonstrated that external equity positively and significantly influences financial outcomes. This underscores the strategic importance of external equity in SACCOs' capital structure, affirming that equity-based financing can substantially enhance profitability. Thus, external equity emerges as a vital component in strengthening the financial performance of SACCOs.

#### 4.5 Liquidity Ratio Moderating Effect on the Effect of Capital Structure on ROA

**Table 4.9 Summary Table for Moderation effect of Liquidity Ratio**

| <b>Variable</b> | <b>Coefficient</b> | <b>Std. Error</b> | <b>t-Statistic</b> | <b>Prob.</b> |
|-----------------|--------------------|-------------------|--------------------|--------------|
| LongTerm Debt   | 0.160536           | 0.15314           | 1.04711            | 0.000        |
| ShortTerm Debt  | -0.029142          | 0.00721           | 3.6791             | 0.000        |
| Internal Equity | 8.482396           | 1.58693           | 5.34662            | 0.296        |
| External Equity | 19.23815           | 5.467544          | 3.5181             | 0.001        |
| Liquidity Ratio | 0.380248           | 0.037635          | 10.10351           | 0.060        |
| LTD*LR          | 0.076905           | 0.013052          | 5.89227            | 0.000        |
| STD*LR          | 0.374421           | 0.115381          | 3.245087           | 0.001        |
| II*LR           | 1.628879           | 0.428944          | 3.797413           | 0.000        |
| EE*LR           | 0.223566           | 0.015509          | 14.41517           | 0.000        |

#### Weighted Statistics

| <b>Statistic</b>   | <b>Value</b> | <b>Statistic</b>   | <b>Value</b> |
|--------------------|--------------|--------------------|--------------|
| R-squared          | 0.681338     | Mean dependent var | 3.459074     |
| Adjusted R-squared | 0.663024     | S.D. dependent var | 8.210936     |
| S.E. of regression | 2.850316     | Sum squared resid  | 2526.657     |
| F-statistic        | 48.12279     | Durbin-Watson stat | 1.302447     |
| Prob(F-statistic)  | 0.00000      |                    |              |

**Source: Research Data (2024)**

This part of the analysis focused on determining whether liquidity alters the relationship between different components of capital structure and the financial performance of SACCOs, measured using ROA. A Random Effects Regression Model was applied, and the outcomes are summarised in Table 4.9. The overall results indicated that liquidity significantly moderated the influence of long term debt, short term debt, internal equity, and external equity on ROA.

Long term debt recorded a positive coefficient of 0.1605, and the interaction between long term debt and liquidity (LTD\*LR) was statistically significant at 0.0769 ( $p < 0.001$ ).

This demonstrated that SACCOs with stronger liquidity levels were better positioned to take advantage of long-term financing to improve their asset returns. This finding reinforces the trade-off theory by showing that the benefits of debt, particularly tax shields, outweigh financial distress costs when liquidity buffers are sufficient.

For short term debt, the direct effect on ROA was negative (-0.0291). However, when combined with liquidity (STD\*LR), the effect became positive and significant (0.3744,  $p < 0.001$ ). This reveals that while short-term borrowing might strain profitability on its own, SACCOs with higher liquidity can productively manage short-term financial obligations. The result aligned with the pecking order theory, which maintains that firms rely on short-term financing when internal funds are insufficient, but require liquidity to avoid heightened risk.

Internal equity displayed a positive but statistically insignificant coefficient (8.4824,  $p = 0.296$ ). In contrast, the interaction with liquidity (II\*LR) produced a strong positive effect (1.6289,  $p < 0.001$ ). This implies that internal equity contributes meaningfully to profitability only when supported by adequate liquidity reserves, which allows SACCOs to deploy member contributions and retained earnings more efficiently.

External equity was found to significantly improve ROA (19.2382,  $p = 0.001$ ). When paired with liquidity (EE\*LR), the coefficient remained positive and significant (0.2236,  $p < 0.001$ ). This outcome suggests that maintaining a healthy liquidity position enhances the beneficial effect of external funding sources by reducing potential operational or financial strain and improving investment flexibility.

The liquidity ratio itself returned a positive coefficient of 0.3802. Although the  $p$  value of 0.060 was slightly above the conventional significance level, the collective significance

of the interaction terms confirmed liquidity's pivotal moderating role. The regression model demonstrated strong explanatory power, with an R squared value of 0.6813 and an adjusted R squared of 0.6630. The F statistic was also significant at  $p < 0.0000$ , indicating a robust model fit.

Overall, the findings clearly demonstrated that liquidity strengthens the positive contribution of both debt and equity financing to financial performance in SACCOs. Adequate liquidity cushions the risks linked to debt while amplifying the financial benefits associated with equity financing. These observations are in agreement with previous empirical studies that emphasize liquidity (Abor, 2005; Wasiu and Temitope, 2015). Given the operational realities of SACCOs, where financial stability and member confidence are paramount, ensuring a sound liquidity position stands out as essential for capital structure strategies to yield tangible performance improvements.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### 5.1 Introduction

The from the study, describing the relationships between, liquidity, and profitability. It then draws conclusions from the analysis to link these results to the study objectives and the literature. The chapter ends with recommendations for improving financial performance of SACCOs, policy, practice, and theoretical implications with a view to informing decision-making and future research direction in the sector.

#### 5.2. Summary

This investigation sought to assess how distinct elements of financial structuring influence the earnings performance of DT-SACCOs. Specifically, it explored the effects of long-term liabilities, short-term borrowings, internally generated funds, and externally sourced equity on SACCO profitability. Additionally, the study evaluated. A quantitative research design was employed, utilizing five years of financial statement data (2019–2023) from selected SACCOs, which were analyzed using both descriptive and inferential statistical techniques.

##### 5.2.1 Effect of Long-Term Debt on Profitability

Deposit-Taking SACCOs, particularly as measured by ROA. This would imply that SACCOs were able to utilize long-term loans efficiently to finance productive investments such as expansion of infrastructure, fixed asset purchase, and other development-oriented projects that realized returns over the time horizon. The favorable outcome reflects some financial discipline and strategic planning on the part of SACCOs

in leveraging long-term liabilities to drive profitability. This finding is in line with capital structure theory, which contends that the ideal use of long-term debt can be a driver of better financial performance through tax benefit exploitation and matching long-term financing with long-term assets.

### **5.2.2 Effect of Short-Term Debt on Profitability**

Unlike statistically significant effect on SACCO profitability. Although short-term borrowing gives prompt access to liquidity, it increased the financial cost of SACCOs by frequent repayment obligations, interest expenses, and possible refinancing risks. All these potentially negate any short-term benefits, especially if the funds are not invested in high-yielding or quick-returning investments. The findings show that SACCOs that have high reliance on short-term debt are subject to higher financial risk that undermines their capacity to be profitable in the long run. SACCOs, therefore, to avoid liquidity strain and performance degradation.

### **5.2.3 Role of Internal Equity in Profitability**

Internal equity, in the form of retained earnings, positively and significantly impacted SACCO profitability. SACCOs that consistently reinvested their earnings in core operations, loan portfolios, and member services registered better financial performance. It promotes self-sufficiency, reduces dependence on external financing, and saves on interest charges. Reinvestment of profits is also a sign of good financial management and long-term growth orientation. The findings reaffirm the reality that internal equity is a long-term financing strategy that propels operating effectiveness, competitiveness, and profitability and is therefore an important constituent of capital structure for SACCOs that aspire to stability and expansion.

#### **5.2.4 Role of External Equity in Profitability**

The study mainly share capital subscribed by members positively affected SACCO profitability. This form of equity provides a long-term capital foundation upon which SACCOs develop services and expand their lending capacity. That, however, notwithstanding, the effectiveness of external equity was contingent on the degree to which it was aligned with strategic goals, governance, and operational effectiveness. When managed prudently, external equity raises confidence among members and improves financial stability. The study emphasizes the importance of continued training and member participation to facilitate share capital contributions to translate into substantial investments and improved financial performance.

#### **5.2.5 Moderating Role of Liquidity**

Liquidity exerted association between financial structuring components and the profitability. In particular, elevated liquidity levels enhanced the favorable influence of long-term financing and equity—both internally retained and externally sourced—on overall financial outcomes. This underscores that liquidity functions not merely as an isolated financial indicator but as a critical facilitator in optimizing the deployment of financial resources. Sufficient liquidity equips SACCOs with the ability to fulfill immediate financial commitments, seize viable investment prospects, and buffer against economic instability. These insights emphasize the importance of implementing robust liquidity management systems to maximize the effectiveness of capital structure decisions and preserve profitability across both predictable and volatile financial conditions.

### **5.3 Conclusions**

DT-SACCO profitability. Four specific objectives guided the research: internal equity, and external equity on DT-SACCO profitability. The research sought to assess the moderating role of liquidity in the capital structure-profitability link.

It was established from the analysis that long-term debt of DT-SACCOs. The findings suggested that when SACCOs used long-term debt in acquiring assets and funding long-term investments, they paid back over a longer period, thus decreasing financial pressure and stability in operations. Long-term loans enabled SACCOs to fund strategic projects without imposing immediate pressure on cash flows, which effectively improved financial performance. The implication of this observation was that SACCOs that prioritized structured and well-organized long-term debt financing were likely to achieve sustainable profitability if the debt was channeled to productive purposes rather than funding operating deficits.

Short-term debt exerted a statistically significant negative effect on profitability. This meant that SACCOs that relied heavily on short-term borrowing were more exposed to frequent repayment demands and interest payments, which undermined their liquidity and reduced their ability to reinvest earnings in growth-inducing activities. The short repayment period, especially under high-interest rates, curtailed operating flexibility and increased the likelihood of financial distress. This led to the conclusion that short-term debt, however convenient it is in managing short-term cash flow shortages, needs to be used carefully and strategically in a way that will not erode the financial performance of SACCOs.

Internal equity, which largely consists of member contributions, retained earnings, and reserves, was found to be a stable and cheap source of finance. Since it did not attract repayment obligations or interest charges, internal equity eased liquidity and allowed SACCOs to finance operations and expansion proposals without incurring additional liabilities. This made it necessary to convince members to increase savings and reinvest profits for building institutional capacities. The researcher concluded that a good internal equity base not only increased profitability but also reduced the dependence on debt financing and thus lowered financial risk.

External equity positively but statistically less significant effect on profitability. This implied that though external equity could improve performance, its low utilization among SACCOs reduced its overall impact. Where external capital had been acquired such as from donors, investors, or government grants—it resulted in high financial performance. However, due to governance concerns and reluctance to dilute member ownership, most SACCOs did not want to access external equity. The finding was that external equity has a supportive function but requires good governance frameworks and strategic alignment with SACCO objectives to be leveraged.

The study also found that liquidity played a moderating role in the capital structure-profitability link. Specifically, liquidity magnified the positive impacts of long-term debt and internal equity but moderated the negative impact of short-term debt. SACCOs with high liquidity levels were better able to meet their financial obligations, seize investment opportunities, and withstand operating shocks. Low liquidity levels, on the other hand, exacerbated financial vulnerability, especially among SACCOs that rely on short-term debt. The moderating effect was not uniformly high across all the factors of capital

structure but highlighted the overarching role played by liquidity management in seeing to it that the capital structure decisions were translated into increased profitability.

The study added value through the provision of empirical evidence on the degree to which the different factors of capital structure influenced profitability in SACCOs. As opposed to most previous studies, which have concentrated on commercial banks, this study highlighted the special context of cooperative financial institutions and their member-oriented financing models. The researcher provided value addition by discussing the findings within the operational realities of SACCOs, and indicating how financing decisions have to conform to institutional objectives, liquidity situations, and member interests. The study's findings had implications for the SACCO managers to embark on prudent financial management practices, diversify sources of funds, and emphasize liquidity management with a view to fund profitability and long-term sustainability. The findings may be utilized to inform policy formulation, regulatory framework, and capacity development interventions for the SACCO sector towards financial health and performance improvement.

## **5.4 Recommendations of the Study**

### **5.4.1 Recommendations to Policy**

Based on the study's results, policymakers are encouraged to formulate regulatory frameworks that require SACCOs to sustain a balanced capital structure. Such policies should promote the strategic use of both long-term and short-term financing to boost profitability while keeping financial risk at manageable levels. Policies should also allow for the introduction of liquidity management standards so that SACCOs can maintain adequate reserves without compromising growth initiatives. In addition, policymakers

can give incentives to SACCOs in order to develop internal equity, thus doing away with over-reliance on external sources of funds and enhancing financial sustainability.

#### **5.4.2 Recommendations to Practice**

To SACCO managers and practitioners, the study suggests that they should emphasize internal equity financing in order to reduce the cost of capital and enhance profitability. Carefully monitored and controlled by managers to avoid over-leverage that can negatively affect financial performance. Also important are good liquidity management practices because liquidity was found to moderate the capital structure and profitability nexus. Regular financial audits and capacity-building training can enable informed decision-making to the effect that capital structure strategies are aligned to the SACCO's strategic objectives and long-term financial health.

#### **5.4.3 Recommendations to Theory**

Theoretically, the study contributes empirical evidence to the above reviewed theories in the context. The findings suggest that firm-specific determinants such as liquidity have a moderating impact to a large extent in determining profitability, and this demands the incorporation of these variables into the current models. Subsequent research can examine additional moderating and mediating factors, e.g., managerial capability and macroeconomic conditions, to build theoretical foundations linking financial performance and capital structure. The study also confirms the applicability of capital structure theories to informal and semi-formal financial institutions, which increases their generalizability to non-traditional corporate settings.

## **5.5 Contribution to Knowledge**

This study presents important contributions to financial management literature, especially within the cooperative sector. It presents empirical evidence on how capital structure affect the profitability of deposit-taking SACCOs. By highlighting how these financing options shape financial outcomes in organizations that prioritize member welfare over profit maximization, the study enriches the understanding of financial performance dynamics in the SACCO context. Second, the study introduces liquidity as a moderating variable, offering a more explanatory account of how a SACCO's ability to manage its cash flows and maintain sufficient reserves influences the capital structure-profitability relationship. This theoretical framework adds depth to the understanding of capital structure dynamics by emphasizing the importance of internal financial flexibility.

This research is unique in that it is embedded in the special regulatory, economic, and operating environment of SACCOs. In contrast to earlier studies that had concentrated on more generic financial institutions or foreign contexts, this research closes an important gap in localized literature. It puts theoretical finance ideas in the cooperative setting, thus making them more practical and useful in real life. In this manner, it provides SACCO managers, regulators such as SASRA, and policymakers with actionable, evidence-based insights to inform capital planning, financial management, and regulatory design. The findings do not only add to the body of academic research but also guide strategic decision-making aimed at improving the financial sustainability and service delivery of SACCOs in Kenya.

## **5.6 Recommendations**

Drawing upon the insights and constraints identified in this investigation, multiple avenues are recommended for future inquiry to enhance scholarly understanding of the relationship between capital composition and the financial outcomes of SACCOs. One such direction involves undertaking a longitudinal analysis to assess how variations in capital structure influence profitability across an extended timeframe, say a decade. This would help in identifying long-term trends and dynamics that may not be captured with a cross-sectional study. Second, future research can attempt to explore the application of macroeconomic variables such as inflation, interest rates, and GDP growth—in SACCO capital structure decisions and their subsequent impact on profitability.

Since financial technology is developing rapidly, it would be worthwhile to investigate SACCOs with a special regard to increased utilization of fintech innovations in the cooperative financial institutions. Another potential area for research could be the comparative analysis of different governance models in SACCOs and the effects of these models on financial decision-making and performance. Lastly, cross-county or regional studies can be carried out in order to ascertain the way geographic and demographic diversity affect capital structure strategies and financial sustainability, yielding broader insights that apply beyond Nairobi City County.

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## APPENDICES

### APPENDIX I: DATA COLLECTION SCHEDULE

| Year | ROA | LTD | STD | RE | Total<br>Income | Share<br>Capital | Total<br>Assets | Liquidity<br>Ratio |
|------|-----|-----|-----|----|-----------------|------------------|-----------------|--------------------|
| 2017 |     |     |     |    |                 |                  |                 |                    |
| 2018 |     |     |     |    |                 |                  |                 |                    |
| 2019 |     |     |     |    |                 |                  |                 |                    |
| 2020 |     |     |     |    |                 |                  |                 |                    |
| 2021 |     |     |     |    |                 |                  |                 |                    |
| 2022 |     |     |     |    |                 |                  |                 |                    |



## APPENDIX II: LIST OF DT SACCOS

1. AFYA SACCO SOCIETY LTD
2. ARDHI SACCO SOCIETY LTD
3. ASILI SACCO SOCIETY LTD
4. CHAI SACCO SOCIETY LTD
5. CHUNA SACCO SOCIETY LTD
6. ELIMU SACCO SOCIETY LTD
7. FUNDILIMA SACCO SOCIETY LTD
8. HARAMBEE SACCO SOCIETY LTD
9. HAZINA SACCO SOCIETY LTD
10. JAMII SACCO SOCIETY LTD
11. KENPIPE SACCO SOCIETY LTD
12. KENVERSITY SACCO SOCIETY LTD
13. KENYA BANKERS SACCO SOCIETY LTD
14. KENYA POLICE SACCO SOCIETY LTD
15. KINGDOM SACCO SOCIETY LTD
16. MAGEREZA SACCO SOCIETY LTD
17. MAISHA BORA SACCO SOCIETY LTD
18. MILIKI SACCO SOCIETY LTD
19. MWALIMU NATIONAL SACCO SOCIETY LTD
20. MWITO SACCO SOCIETY LTD
21. NACICO SACCO SOCIETY LTD
22. NAFAKA SACCO SOCIETY LTD
23. NASSEFU SACCO SOCIETY LTD
24. NATION SACCO SOCIETY LTD
25. NYATI SACCO SOCIETY LTD
26. SAFARICOM SACCO SOCIETY LTD
27. SHERIA SACCO SOCIETY LTD
28. SHIRIKA SACCO SOCIETY LTD
29. SHOPPERS SACCO SOCIETY LTD
30. STIMA SACCO SOCIETY LTD
31. TEMBO SACCO SOCIETY LTD
32. UFANISI SACCO SOCIETY LTD
33. UKRISTO NA UFANISI WA ANGALICANA SACCO SOCIETY LTD
34. UKULIMA SACO SOCIETY LTD
35. UNAITAS SACCO SOCIETY LTD
36. UNITED NATIONS SACCO SOCIETY LTD
37. WANAANGA SACCO SOCIETY LTD
38. WANANDEGE SACCO SOCIETY LTD
39. WAUMINI SACCO SOCIETY LTD
40. ENEA SACCO
41. FARIDI SACCO
42. FARJI SACCO

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