

## **CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN KENYA**

**Kirui Cheruiyot Zacchaeus.**

PhD Fellow, Department of Accounting and Finance, Kenyatta University, Kenya.

**Prof Ambrose O. Jagongo (PhD).**

Associate Professor, Accounting and Finance Department, Kenyatta University, Kenya.

©2026

**International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366**

**Received:** 11<sup>th</sup> March 2026

**Published:** 27<sup>th</sup> March 2026

Full Length Research

**Available Online at:** [https://iajournals.org/articles/iajef\\_v5\\_i2\\_353\\_368.pdf](https://iajournals.org/articles/iajef_v5_i2_353_368.pdf)

**Citation:** Kirui, C. Z., Jagongo, A. O. (2026). Capital structure and financial performance of deposit taking savings and credit cooperative societies in Kenya. *International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366*, 5(2), 353-368.

## **ABSTRACT**

The DT-SACCOs are very crucial in financial sector of Kenya in terms of financial inclusion, savings mobilization, and providing credit. Nevertheless, there are still issues of capital adequacy, liquidity management, and financial performance sustainability in the sector that is related to the growing regulatory and competition pressure. Although capital structure choices are very crucial, the existing empirical data on the impacts of individual capital structure variables on financial viability of DT-SACCOs in Kenya is inconclusive and inconsistent with little consideration on moderating effect of the firm size. This study will aim to analyze how capital structure influences the financial wellness of DT SACCOs in Kenya, where the main independent variables will be debt ratio, equity ratio and liquidity and the main dependent variables are the financial performance that is measured by ratio of the return on assets and return on equity ratio. Firm size comes in as a moderating variable used in the connection amongst capital structure and financial wellness. Pecking order theory, trade-off theory and agency theory are the theories anchored in this

study. Positivist research philosophy and longitudinal panel research design are adopted. Secondary data will be obtained from audited financial reports and regulatory reports provided to SASRA in the year 2016 to 2025. The panel data regression techniques, which include random effects, fixed effects and moderated regression analysis are used in analyzing data. Study findings will give empirical support on the importance of capital structure in promoting financial soundness of DT-SACCOs as well as elucidate whether firm size enhances or dilutes the association amongst capital structure and financial soundness of DT-SACCOs. This study enhances the current body of capital structure in cooperative financial institutions and provides useful information to the SACCO management, regulators, and policymakers in crafting strategies geared towards enhancing financial stability and performance in the SACCO segment.

**Key words:** Capital Structure, Debt Ratio, Equity Ratio, Liquidity, Firm Size, Financial Performance.

## **INTRODUCTION**

### **Background to the Study**

The Savings and Credit Cooperative Societies form a significant part of the Kenyan financial system and is of great important in facilitating financial inclusion, mobilizing domestic savings, and credit to households and small enterprises. Deposit-Taking SACCOs are some of them, and they are regulated and licensed by SASRA according to the Sacco Societies Act of 2008.

The DT-SACCOs have the ability to call deposit among the members and provide quasi-banking services, thus risking them to financial losses just like commercial banks (SASRA, 2023).

As of 2024, Kenya has more than 175 registered DT-SACCOs, and its aggregate assets have increased to 1.08 trillion, and its membership has expanded to 7.39 million (SASRA, 2025). The growth of DT-SACCOs has been very high in terms of membership, assets and diversification of products yet they are facing more financial risks and competition within the formal financial system (SASRA, 2023). However, in spite of their expansion, several DT-SACCOs are still experiencing difficulties in maintaining a strong financial performance amid their financing decision-making, liquidity strains and structural drawbacks.

One of the primary determining factors of financial performance and institutional stability is the capital structure that is a amalgamation of debt, equity, retained earnings, and deposits made by the members and used to finance operations (Modigliani & Miller, 1958; Myers, 1984). Capital structure under DT-SACCOs, special features of cooperation, such as membership ownership, restricted access to capital markets, capital regulatory requirements, and dependency on member deposits as a major source of capital are factors that affect decisions of capital structure (Cuevas & Fischer, 2006). Debt ratio, equity ratio, and liquidity are the measures that determine leverage, ownership financing, and short-term solvency, respectively, which are vital in the sustainability of SACCO (Kuya & Oima, 2024). These relationships are moderated by firm size, which is typically used to measure the business by total assets, because of economies of scale and a large range of financing options (Gachenga et al., 2025).

Financial soundness of DT-SACCOs, that is measured by ROA and ROE, has not been consistent over time, and they face problems with profitability and liquidity in a volatile economic environment (Maina & Jagongo, 2022).

Empirical research in Kenya recently has emphasized the significance of capital structure and financial practices in describing differences in performance between SACCOs. According to Kuya and Oima (2024), capital structure positively and significantly influences on financial wellness, which implies that SACCOs that made good financing decisions could improve their earnings better. Equally, a study on small-tiered DT-SACCOs in County of Nairobi says that empirical data on the capital structure-performance nexus is inconclusive, indicating a gap in context and requiring further investigation (Maina & Jagongo, 2022). Wanjiru and Waweru (2025) focused on liquidity and profitability in Kiambu County and discovered that greater liquidity position related to resilience of SACCO and operational stability, highlighting the vital importance of liquidity management in the process of achieving sustainable performance. Aspects of capital structure involving debt levels and equity financing have both positive and negative associations with profitability based on institutional properties and risk management behaviors (Gichuru, 2025; Mirichii et al., 2025). The results specifies the persistence of contemporary applicability of the analysis of capital structure, liquidity, and moderating

variables like firm size to enhance insight into the financial viability results of Kenyan DT-SACCOs.

The empirical data concerning the connection amongst capital structure and financial viability is unsatisfying, with research studies indicating positive, negative, and non-linear impacts contingent on institutional settings. Studies carried out in Kenya have concentrated mainly on commercial banks, with SACCOs underexplored even though they are systemically significant. This research aims at filling this gap by analyzing capital structure's influence on the financial viability of DT-SACCOs in Kenya.

### **Statement of the Problem**

Although the Deposit-Taking SACCOs in Kenya have experienced tremendous growth in their assets, membership and outreach, their financial performance has not been steady with significant differences in their profitability, liquidity positions, and capital adequacy. According to the latest supervisory reports, the percentage of DT-SACCOs still reports falling returns on assets and equity, ongoing liquidity strains, and increased cost inefficiencies even when they are regulated through a harmonized regulatory framework (SASRA, 2021; SASRA, 2023).

Previous studies indicated mixed and even conflicting association among capital structure and profitability of SACCOs. Gichuru, Kungu and Gakobo (2025) discovered that the more the debt ratios, the lesser the productivity of the government-based DT-SACCOs. Masika and Simiyu (2025) found that leverage and firm size have a positive outcome on the financial soundness of DT-SACCOs in the Nairobi County. The results of the studies on liquidity management revealed that sufficient liquidity levels enhance stability and performance of SACCOs (Wanjiru & Waweru, 2025), and excess liquidity holdings could lower the profitability through opportunity costs (Mirichii, Akims, & Nyachae, 2025). High debt ratios among SACCOs are linked to the deterioration of financial viability, especially when it is combined with the poor liquidity management practices (Mugo & Omagwa, 2020; Waweru & Kalani, 2022).

Financial performance and liquidity to economic shocks are more likely to be favorable in well capitalized entities with high equity base (Githaiga & Kabiru, 2018). Majority of the literature focuses on the commercial banks, microfinance institutions or listed companies thus restricting their usage in DT-SACCOs which are cooperative based institutions and have different capital constraints.

Maina & Jagongo (2022) assert that capital structure and viability of DT SACCOs have a positive association. High leverage and liquidity issues contribute to declines in performance (Kuya & Oima, 2024). A continued lack of capital and liquidity risks exist as 35% of DT SACCOs are at risk of going out of business (Gachenga et al., 2025).

Recent financial literature identifies the firm size as a crucial determinant of the financing decisions as well as the performance outcomes and its moderating role in the association with

respect to capital structure and financial wellness is mostly unexplored in the SACCO sector (Ozili, 2020). It is usually assumed that larger institutions enjoy economies of scale, better access to capital, and increased risk diversification, but inadequate empirical evidence exist on these assertions in the DT-SACCO subsector of Kenya.

Most of the past research is a cross-sectional or short-panel study that uses non-dynamic estimation methods, which restricts the research from capturing dynamic effects and endogeneity issues.

Little empirical data exists regarding the impact of capital structure as a factor affecting the financial wellness of DT-SACCOs in Kenya, whether these correlations depend on the size of SACCOs. This knowledge gap limits the capacity of the SACCO management, regulators and policymakers to develop the best financing policies and evidence-based prudential policies.

### 1.3 Objectives of the Study

Research will be guided by the objectives as follows.

#### **General Objective**

Overall objective of the study will be to investigate the effect of capital structure on performance of deposit taking SACCOs in Kenya.

#### **Specific Objectives**

Study will pursue specific objectives as shown below:

- i. To establish effect of debt ratio on financial performance of DT-SACCOs in Kenya.
- ii. To determine effect of equity ratio on financial performance of DT-SACCOs in Kenya.
- iii. To establish the effect of liquidity on financial performance of DT-SACCOs in Kenya.
- iv. To determine the moderating effect of firm size on association between capital structure and financial performance of DT-SACCOs in Kenya.

#### **Hypotheses**

**H<sub>01</sub>:** Debt ratio has no significant effect on the financial performance of DT-SACCOs in Kenya.

**H<sub>02</sub>:** Equity ratio has no significant effect on financial performance of DT-SACCOs in Kenya.

**H<sub>03</sub>:** Liquidity has no significant effect on financial performance of DT-SACCOs in Kenya.

**H<sub>04</sub>:** Firm size has no significant moderating effect on relationship between capital structure and financial performance of DT-SACCOs in Kenya.

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

This study's results will be valuable to SACCO management in streamlining its financing decisions, regulators such as SASRA on the other hand will use the findings in developing evidence-based prudential rules and to policymakers in enhancing the collaborative financial sector. The academic part of the study will apply capital structure theory to developing economy cooperative financial establishments.

### **Scope of the Study**

This study will concentrate on all DT-SACCOs in Kenya licensed by SASRA and will cover a period of ten years. The analysis will be limited to financial performance and capital structure variables derived from audited financial statements.

### **Limitations of the Study**

The analysis is based solely on secondary data which is provided by audited financial statements and SASRA supervision report. Although such data can be viewed as credible and reliable, they may not be applicable or represent all the qualitative aspects, including managerial competence, governance quality, and processes of strategic decision-making, which might additionally affect financial performance of DT-SACCOs.

The research does not target any other SACCOs other than the DT SACCOs that are licensed by SASRA. Therefore, the results could not be extrapolated to non-deposit taking SACCOs and other cooperative financial institutions that are not under the SASRA regulatory framework.

Accounting-based financial pointers, ROA and ROE are used to determine financial viability. Despite the common application of these measures to empirical finance literature, it can be argued that it does not fully capture long term sustainability, welfare of the members, and social goals that are the main focus of cooperative institutions.

Although firm's size is counted in as a moderating variable, other potentially significant moderating or mediating variables, including corporate governance systems, macroeconomic factors, technological adoption and regulatory developments, are not directly studied on the basis of data availability and scope.

Even though the paper uses both sophisticated methods of panel and dynamic panel estimation to solve the problem of unobserved heterogeneity and endogeneity, the fact that residual endogeneity may occur due to the lack of observable variables or other measurement errors cannot be completely avoided. These constraints will be considered during the interpretation of the findings and other policy implications.

## **LITERATURE REVIEW**

### **Theoretical Review**

Theoretical review gives a conceptual basis on why capital structure decisions determine the financial wellness of DT SACCOs. Since regulatory oversight and financing limitations are related to the cooperative form of color, this study is rooted on some of the interrelated financial and organization theories, which are jointly used to explain the funding behavior, risk management, and performance results.

### **Modigliani and Miller Theory**

Modigliani and Miller (1958) assume that in a perfect capital market, which implies lack of taxes, costs of transaction, information asymmetry and risk of insolvency, firm's value will not

rely on its capital structure. Under this irrelevance proposition, financing choices does not impact firm value or financial performance. Being very restrictive, this theory nevertheless turns out to be a beneficial point of reference in terms of how capital structure becomes relevant in the conditions of the real world due to the imperfection of the market (Ross et al., 2019).

The perfect markets assumptions are not applicable in the context of DT-SACCOs because of regulatory capital requirements, taxation, asymmetry of information between members and management, and nonexistence of access to external capital markets. Therefore, the implication of non-observance of the Modigliani Miller assumptions is that capital structure decisions, especially the tradeoff of debts and equity against liquid assets, are likely to affect profitability. The theory thus gives a fundamental point of reference in examination of the importance of capital structure in regulated cooperative financial institutions.

### **Trade-Off Theory**

The trade-off theory, which was established by Kraus and Litzenberger (1973), states that companies establish an ideal capital structure by weighing the marginal cost of financial distress and insolvency against the marginal benefits of debt financing. The significance of debt financing include tax shelter and discipline in the management, whereas excessive leverage leads to high chances of insolvency and regulatory intervention (Frank & Goyal, 2009).

In the case of DT-SACCOs, trade-off theory is especially applicable because of the prudential regulation of capital adequacy and liquidity as required by SASRA. As much as higher leverage with member deposits and borrowings may boost lending capacity and profitability, too much debt leaves SACCOs vulnerable to liquidity risk, solvency issues and regulatory fines. The optimal debt to equity ratio of DT-SACCOs should, therefore, be maintained to ensure the maximization of financial performance without violating the regulatory limits (SASRA, 2023).

### **Pecking Order Theory**

According to this theory, which was set forth by Myers and Majluf (1984), companies adopt a hierarchical financing preference due to insufficient information that exists between insiders and outside financiers. The companies choose internal financing, then debt and external equity is considered as last recourse. This act reduces the adverse selection and issuance costs of external financing (Myers, 2001).

This theory is closely related to the financing behavior of DT-SACCOs as they depend largely on the profits earned and deposits made by members to finance their operations. Collateral and regulatory controls tend to limit external borrowing whereas the ability and willingness of members to raise share capital tends to limit equity mobilization. Pecking order theory thus puts a powerful description of the observed patterns of capital structure in SACCOs and argues in favor of the expectation that internal financing and moderate leverage has a positive association with financial wellness.

### **Agency Theory**

The agency theory is an interest of conflict that develops as an outcome of the possession and control separation, as developed by Jensen and Meckling (1976). Agency costs arise where managers are pursuing self-centered interests at the expense of the title-holders, or where there is a conflict of interest among the equity and debt holders. Capital structure would also alleviate agency problems by decreasing the amount of free cash flow and improving monitoring by debt obligation (Jensen, 1986).

In DT-SACCOs, the dispersed ownership and inability to monitor may result in agency issues between members who are the owners and the management. Moderate debt could also subject the management to discipline and enhance efficiency, thus boosting the financial performance. Nonetheless, excessive leverage can promote gamblers attitude that jeopardize the deposits of the members. The Agency theory therefore explains the non-linearity of debt ratio and financial viability of cooperative financial institutions.

### **Liquidity Preference Theory**

This theory points out the significance of the liquidity assets to settle the short-term liabilities and to deal with uncertainty (Keynes, 1936). In the case of financial institutions, proper liquidity is key in securing depositor confidence, continuity in operations and even compliance with regulators. But having too much liquidity also can detract profitability by creating opportunity costs related to the idle money (Bordeleau & Graham, 2010).

In the case of DT-SACCOs, liquidity management is a regulatory and strategic issue. The DT-SACCOs are required to maintain minimum liquidity ratios that affect the distribution of resources between low-yield liquid assets and income-generating loans at SASRA. Liquidity preference theory thus offers an explanation of the inclusion of liquidity as an important element of capital structure that influences financial wellness on a theoretical basis.

### **Empirical Literature Review**

This segment will be a review of the empirical studies concerning capital structure and financial viability arranged by the research variables of the study: debt ratio, equity ratio, liquidity, financial performance, and firm size as a moderating variable. The review identifies key findings, methodological, and gaps that apply to deposit taking SACCOs. okayed

### **Debt Ratio and Financial Performance**

There exists mixed indication on the association among debt ratio and financial wellness based on empirical evidence. Research in the banking and financial institutions suggests that leverage may be beneficial by giving a bank or other financial institution more capacity to lend and tax benefits, but too much debt may lead to a higher financial distress and risk of insolvency. Berger and di Patti (2006) discover that enhanced leverage improves profitability by lowering the agency cost in banking institutions. In contrast, Zeitun and Tian (2007) indicates unfavorable connection amongst debt ratio and firm performance because of the risk of bankruptcy.

Among the developing economies, high leverage has been linked to the deteriorating financial performance, and this has been largely occasioned by ineffective risk management systems and unstable economic environments (Salim & Yadav, 2012). Recent SACCO-based research in Kenya shows that elevated debt ratios have an adverse impact on financial performance without sufficient liquidity level and capital cushions (Mugo & Omagwa, 2020; Waweru & Kalani, 2022). These contradictory outcomes show that the bearing of debt ratio on the profitability of DT-SACCO can be situation-dependent and needs to be explored.

### **Equity Ratio and Financial Performance**

Equity ratio indicates how much the institution has equipped its assets using the money contributed by its owners. Empirical evidence of this has been consistent that increasing the equity capitalization leads to increased financial stability and performance especially at times of financial distress. Berger and Bouwman (2013) prove that high capital base banks perform in a better way and are much stable in economic downturns. On a similar note, Demirguc-Kunt and Huizinga (2010) also discover that equity positions which are strong are related to greater profitability and reduced risk.

In the case of SACCO, the increase in equity ratios will boost the confidence of the members and lessen the reliance on external borrowing, which will result in a better financial performance (Cuevas & Fischer, 2006). According to Kenyan research, SACCOs that have greater equity-levels are more profitable and solvent than their undercapitalized counterparts (Githaiga & Kabiru, 2018). Nevertheless, little empirical research has been done to explore the equilibrium equity of DT-SACCOs when they are regulated, which forms a gap that the given study aims to fill.

### **Liquidity and Financial Performance**

Liquidity management is important to the deposit-taking institutions because it guarantees their capacity to fulfill the short-term needs as well as to allow them to continue lending. Empirical research shows existence of a trade off in liquidity and productivity. Vodova (2013) identifies a positive correlation among liquidity and productivity to an optimum point, after which an additional liquidity decreases returns because of opportunity costs. Similarly, Bordeleau and Graham (2010) present the data that the existence of liquid assets makes the stability better yet profitability lower in the cases when liquidity is high.

Muriithi and Muigai (2020) discover that liquidity management is a key determining factor of the profitability and solvency of SACCOs in Kenya. Liquidity deficits are another issue that is repeatedly noted in the SASRA supervision reports among DT-SACCOs (SASRA, 2021; SASRA, 2023). These results highlight the quests to study the liquidity as a determinant of financial performance in the SACCO subsector.

### **Financial Performance of DT-SACCOs**

Financial wellness in SACCOs is usually measured using accounting-based pointers that includes Return on Assets and Return on Equity. These measures measure operational efficiency and return to the funds of members respectively. Empirical research shows that

capital structure, asset quality, cost-efficiency, and regulatory compliance positively affect financial performance of DT-SACCOs (Athanasoglou et al., 2008; Ozili, 2020).

According to Kenyan research, there are always certain differences in profitability between DT-SACCOs, with certain institutions always being more successful than others, even though they are subject to the same regulatory framework (SASRA, 2023). This difference implies that internal funding choices, such as capital structure and liquidity management, have a major impact on outcomes of performance.

### **Firm Size as a DT-SACCO**

The size of a firm has been greatly studied as a predictive variable, as well as a moderating variable in association of capital structure performance. Larger organizations are likely to enjoy the economies of scale, diversified revenue streams, and access to better capital markets that increase profitability (Serrasqueiro & Nunes, 2014). There is empirical evidence to support the effect of leverage and liquidity on performance is moderated by firm size, with larger companies being more able to absorb financial shocks (Rajan & Zingales, 1995).

In contexts of SACCOs, bigger DT-SACCOs tend to meet regulatory capital and liquidity requirements with profitability as compared to smaller SACCOs which are limited by resource. This study will seek to seal this gap by explicitly modeling the firm size as a moderator in association between the aspects of capital structure and financial viability.

The empirical research on the specific topic of DT-SACCOs in the Kenyan context is limited. Previous studies have focused mostly on governance, management of credit risks as well as financial innovations, and it has been found that there is a gap in knowledge concerning the joint impact of debt ratio, equity ratio, liquidity, and firm size on financial soundness. This study is important because it uses a panel and dynamic panel analysis to test these relationships in the DT-SACCO subsector.

### **Research Gaps**

Existing studies have not adequately examined the dynamic association amidst capital structure components and financial viability of DT-SACCOs using advanced econometric techniques. This study addresses this gap by employing panel and dynamic panel models.

### **Conceptual Framework**

This section will demonstrate how capital structure encompassing of Debt ratio, Equity ratio and liquidity impact the financial wellness of Kenyan DT- SACCOs. Firm size will act as the moderating variable. The indicators for each variable, including the independent, dependent, mediating, and moderating variables, are outlined in figure 2.1, with financial performance being measured by Return on Assets and Return on Equity.

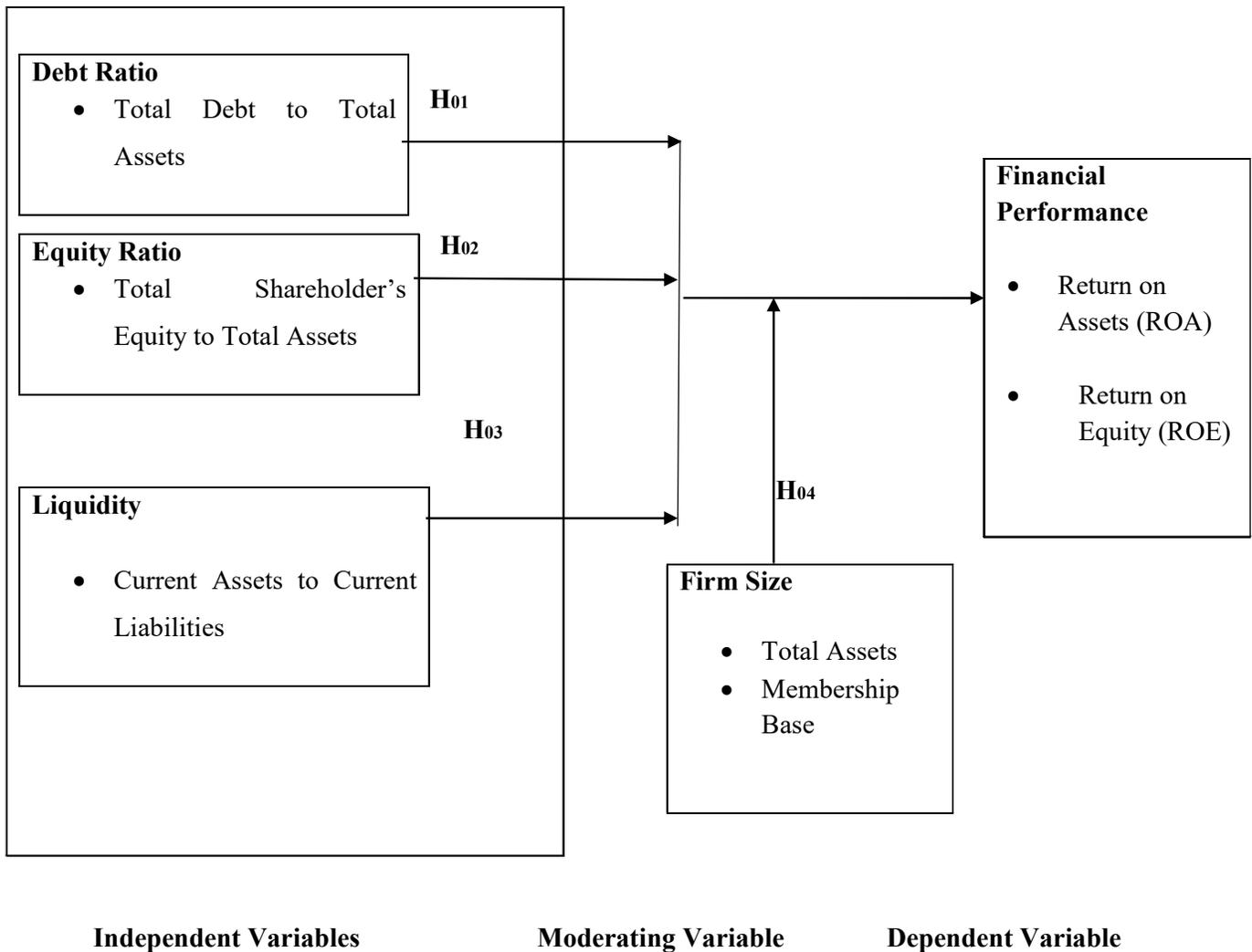


Figure 2.1 Conceptual Framework

Source: Researcher (2026)

## **RESEARCH METHODOLOGY**

### **Introduction**

This part stipulates the research approach, design selection, philosophical foundation, empirical model structure, data acquisition methods, and ethical guidelines that will be useful to the study.

### **Research Philosophy**

This study is developed under the positivist research philosophy, which asserts that relationships between variables can be measured objectively and tested using quantitative methods. Positivism is apposite for this study because it underscores empirical observation, hypothesis testing, and statistical analysis, which align with the study's objective of examining the causal association amongst capital structure and financial wellness of DT-SACCOs (Saunders, Lewis, & Thornhill, 2019). The philosophy supports usage of secondary financial data and econometric modeling to generate generalizable findings. Positivism is widely adopted because it supports the use of secondary numerical data and allows for generalization of findings across institutions (Creswell & Creswell, 2018).

### **Research Design**

The study adopts an explanatory (causal) research design, which seeks to explain the cause and effect connection between capital structure components and financial wellness (Cooper & Schindler, 2014). This design is suitable as the study goes beyond description to test theoretically grounded hypotheses on how debt ratio, equity ratio, and liquidity influence performance, and how firm size moderates these associations. The explanatory design is widely applied in financial and accounting research involving analysis of panel data. The panel data methods are extensively used in capital structure and financial viability studies within the banking and SACCO sectors (Muriithi, Waweru, & Muturi, 2016).

### **Target Population**

This study will target all the Deposit-Taking SACCOs that are regulated and licensed by the Sacco Societies Regulatory Authority in Kenya within the study period. The reason behind the choice of DT-SACCOs is that these financial institutions are regulated under a standard regulatory framework and that they issue audited financial statements, which leads to increased comparability and reliability of data. The research takes a census method, as the number of DT-SACCOs is manageable, and sampling bias should be avoided.

### **Data Type and Sources**

The study relies exclusively on secondary data, covering a ten-year period. Data will be sourced from Audited financial statements of DT-SACCOs, SASRA annual supervision and industry reports

Secondary data is preferred due to its objectivity, consistency over time, and suitability for longitudinal and panel analysis.

### Measurement of Variables

To empirically examine the association amongst capital structure and financial viability of DT-SACCOs in Kenya, the study empirically measures the variables based on well-known financial ratios based on audited financial statements.

Table 3.1: Measurement and Operationalization of Variables

Variable Category	Variable	Operationalisation	Measurement	Scale	Hypothesis Direction
Dependent Variable	Financial Performance	Ability of a DT-SACCO to generate surplus from its resources	<b>ROA</b> = Net Income/Total Assets	Ratio	+ / -
Dependent Variable	Financial Performance	Ability of a DT-SACCO to generate returns on members' equity	<b>ROE</b> = Net Income / Total Equity	Ratio	+ / -
Independent Variable	Debt Ratio	Proportion of assets financed through liabilities	<b>Financial Leverage</b> = Total Liabilities / Total Assets	Ratio	-
Independent Variable	Equity Ratio	Proportion of assets financed by members' funds and reserves	<b>Capital Adequacy</b> = Total Equity / Total Assets	Ratio	+
Independent Variable	Liquidity Ratio	Capability of a DT-SACCO to own short term commitments	<b>Short-term Solvency</b> = Liquid Assets / Short-term Liabilities	Ratio	+ / -
Moderating Variable	Firm Size	Scale of operations of a DT-SACCO	<b>Size of SACCO</b> = $\ln(\text{Total Assets})$	Logs	+

### Empirical Model Specification

The study utilizes panel data regression analysis to establish the connection amongst the capital structure and financial soundness of DT-SACCOs in Kenya. The empirical models are formulated to ascertain the direct impact of components of capital structure and the moderating impact of firm size.

### Baseline Panel Regression Model

To evaluate the capital structure's direct effect on financial performance, the following baseline panel regression model is specified:

$$FP_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 ER_{it} + \beta_3 LIQ_{it} + \beta_4 FS_{it} + \varepsilon_{it}$$

Where;

FP<sub>it</sub> = Financial performance (ROA or ROE) of DT-SACCO *i* at time *t*

DR<sub>it</sub> = Debt ratio

ER<sub>it</sub> = Equity ratio

LIQ<sub>it</sub> = Liquidity ratio

FS<sub>it</sub> = Firm size (natural logarithm of total assets)

ε<sub>it</sub> = Error term

$\beta_1 \beta_2 \beta_3 \beta_4$  = Coefficients

$\beta_0$  = Constant term

The coefficients  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  capture the direct effect of capital structure components on financial performance, while  $\beta_4$  measures the direct effect of firm size.

### **Moderating Effect Model**

To assess the moderating role of size of firm on the association between capital structure and financial wellness, interaction terms amongst firm size and the capital structure variables are introduced as follows:

$$\text{FP\_it} = \beta_0 + \beta_1\text{DR\_it} + \beta_2\text{ER\_it} + \beta_3\text{LIQ\_it} + \beta_4\text{FS\_it} + \beta_5(\text{DR\_it} \times \text{FS\_it}) + \beta_6(\text{ER\_it} \times \text{FS\_it}) + \beta_7(\text{LIQ\_it} \times \text{FS\_it})$$

A statistically significant coefficient on the interaction terms  $\beta_5$ ,  $\beta_6$  and  $\beta_7$  indicates the presence of a firm size's moderating effect on the association between capital structure and financial wellness.

### **Model Estimation and Diagnostic Tests**

The study will estimate Fixed Effects and also Random Effects models, together with the Hausman specification test used to select the suitable estimator. Diagnostic tests that consists of multicollinearity (Variance Inflation Factor), heteroskedasticity, autocorrelation, unit root tests, the Arellano–Bond serial correlation test and the Hansen test of over-identifying limitations will be conducted to assess model validity.

### **Ethical Considerations**

The research will be based on the publicly available secondary data, which will guarantee the confidentiality and ethical information usage. All references will be duly credited and the research will consider Kenyatta University on ethical and academic integrity.

### **REFERENCES**

- Abor, J. (2005). The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana. *Journal of Risk Finance*, 6(5), 438–445.
- Arbale, H., & Mutisya, D. N. (2024). Book Review: " Research Methods for Business Students" by Mark NK Saunders, Philip Lewis, and Adrian Thornhill (Pearson Education, 2019). *African Quarterly Social Science Review*, 1(2), 8-21
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18(2), 121–136.
- Berger, A. N., & Bouwman, C. H. S. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics*, 109(1), 146–176.
- Berger, A. N., & di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory. *Journal of Banking & Finance*, 30(4), 1065–1102.
- Bordeleau, É., & Graham, C. (2010). The impact of liquidity on bank profitability. *Bank of Canada Working Paper*, No. 2010-38.

- Blumberg, B., Cooper, D., & Schindler, P. (2014). *EBOOK: Business research methods*. McGraw Hill.
- Cuevas, C. E., & Fischer, K. P. (2006). Cooperative financial institutions: Issues in governance, regulation, and supervision. *World Bank Working Paper*.
- Demirgüç-Kunt, A., & Huizinga, H. (2010). Bank activity and funding strategies: The impact on risk and returns. *Journal of Financial Economics*, 98(3), 626–650.
- Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: Which factors are reliably important? *Financial Management*, 38(1), 1–3.
- Gachenga, J., Muthoni, D. K., & Metto, W. K. (2025). Financing decision practices, size of savings and credit cooperative organization (SACCO) and financial sustainability of deposit-taking savings and credit co-operative societies in Kenya. *Journal of Accounting, Finance and Auditing Studies*, 11(3), 130-139.
- Gichuru, D. B., Kung'u, J., & Gakobo, T. W. (2025). *Influence of capital structure on profitability of government-based deposit-taking SACCOs in Kenya*. *European Journal of Economic and Financial Research*.
- Githaiga, J. W., & Kabiru, G. (2018). Capital adequacy and financial performance of SACCOs in Kenya. *International Journal of Economics, Commerce and Management*, 6(5), 150–166.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Kraus, A., & Litzenberger, R. H. (1973). A state-preference model of optimal financial leverage. *Journal of Finance*, 28(4), 911–922.
- Kuya, P. O., & Oima, D. (2024). The effect of capital structure on profitability of deposit taking SACCOs in Western Kenya. *Global Journal of Economics and Finance*. <https://www.gjournals.org/2024/12/28/110824163-kuya-and-oima>
- Lindsay, E. K., Young, S., Smyth, J. M., Brown, K. W., & Creswell, J. D. (2018). Acceptance lowers stress reactivity: Dismantling mindfulness training in a randomized controlled trial. *Psychoneuroendocrinology*, 87, 63-73.
- Maina, J., & Jagongo, A. (2022). Effect of capital structure on financial performance of small tiered deposit taking savings and credit cooperatives societies in Nairobi County. *International Journal of Finance and Accounting*, 7(2), 1-15.
- Modigliani, F., & Miller, M. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review*, 48(3), 261–297.
- Mirichii, J. M., Akims, M. A., & Nyachae, S. M. (2025). *Capital adequacy, asset quality, liquidity and financial performance of DT-SACCOs in Kenya*.
- Mugo, R. N., & Omagwa, J. (2020). *Capital structure and financial performance of SACCOs in Kenya*. *Journal of Finance and Accounting Studies*, 8(2), 56–75.
- Muriithi, J. G., & Muigai, R. G. (2020). Liquidity management and financial performance of deposit-taking SACCOs in Kenya. *International Journal of Finance and Accounting*, 5(1), 12–25.

- Muriithi, J. G., Waweru, K. M., & Muturi, W. M. (2016). Effect of credit risk on financial performance of commercial banks Kenya
- Myers, S. C. (1984). The capital structure puzzle. *Journal of Finance*, 39(3), 575–592.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221.
- Ozili, P. K. (2020). Banking stability determinants in Africa. *International Journal of Managerial Finance*, 16(4), 515–535.
- Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance*, 50(5), 1421–1460.
- Sacco Societies Regulatory Authority (SASRA). (2025). SACCO Supervision Annual Report 2024. <https://www.sasra.go.ke>
- Sacco Societies Regulatory Authority (SASRA). (2022). *Annual Supervision Report*. Nairobi: SASRA.
- Sacco Societies Regulatory Authority (SASRA). (2023). *Annual Supervision Report*. Nairobi: SASRA.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.
- Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. *Procedia – Social and Behavioral Sciences*, 65, 156–166.
- Serrasqueiro, Z., & Nunes, P. M. (2014). Financing behaviour of Portuguese SMEs in different life cycle stages. *International Journal of Entrepreneurship and Small Business*, 21(3), 331–352.
- Vodová, P. (2013). Determinants of commercial banks' liquidity in Hungary. *Financial Internet Quarterly*, 9(3), 64–71.
- Wanjiru, C. A., & Waweru, F. W. (2025). *Liquidity and financial performance in SACCOs: Evidence from Kiambu County, Kenya*. *Asian Journal of Economics, Finance and Management*, 7(1), 123-137.
- Waweru, D., & Kalani, V. (2022). *Effect of capital structure on financial performance of SACCOs in Kenya*. *Journal of Business and Economic Studies*, 10(3), 45–62.
- Zeitun, R., & Tian, G. G. (2007). Capital structure and corporate performance: Evidence from Jordan. *Australasian Accounting, Business and Finance Journal*, 1(4), 40–61.