

**THE EFFECT OF LIQUIDITY ON THE FINANCIAL PERFORMANCE
OF DEPOSIT-TAKING SACCOS IN NAIROBI COUNTY, KENYA**

BY

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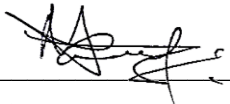
D63/36354/2020

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
MASTER OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS,
UNIVERSITY OF NAIROBI**

2022

DECLARATION

I declare that this research project is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed:  Date: 28th November 2022

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This Research Proposal has been submitted for examination with my approval as the University of Nairobi Supervisor.

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ACKNOWLEDGEMENT

The preparation of this project has been made possible through the effort of several people and stakeholders.

First of all, I thank the Almighty God for giving me good health and strength through the entire period of the study. I would also like to thank my family at large, for the continued moral and financial support they have continuously granted.

Special thanks to my supervisor, Dr. Duncan Elly, Ochieng, for the steadfast and keen interest in my work. The constructive guidelines and valuable suggestions were key in improving the project.

Much appreciation to my friends for the encouragement and support will forever remain indebted.

DEDICATION

This research project is dedicated to my mother, Lucy Wanjiku Kariuki, for her encouragement in the pursuit of excellence throughout my academic life.

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LIST OF ABBREVIATIONS

DTS	Deposit Taking Savings and Credit Societies.
NPLs	Non-performing Loans
ROA	Return on Assets
ROE	Return on Equity
SACCOs	Savings and Credit Co-operatives Society
SASRA	SACCO Societies Regulatory Authorities.

ABSTRACT

Corporate liquidity refers to a company's ability to overcome challenging business situations, when necessary, by having access to cash and close cash equivalents that could help it pay its obligations, particularly those that are short-term. Since preserving deposits is a financial institution's main responsibility, liquidity is crucial for the sustainability of any organization in this regard. In SACCOs, depositors undertake to save in the short-term and borrowers borrow in the long-term, thus exposing SACCOs to asset/liability mismatch. By being subjective in loan assessments and disbursement, these financial institutions have been aggravating this liability/asset mismatch. In this study, the financial performance of deposit-taking SACCOs in Nairobi County was evaluated in relation to the impact of liquidity. Profitability and efficiency were utilized in the study to gauge financial performance. Leverage, liquidity and credit management were among the independent study's variables. The sampled DT-SACCOs were 20 but data was accessible for 15 SACCOs. This study sourced secondary data from SACCOs Statistics database for the period 2017 to 2020. Results show that Liquidity has a positive and significant effect on DT- SACCO's financial performance. The findings were positive and significant for both profitability and efficiency. Credit management had a negative but insignificant association with financial performance. The findings were negative and insignificant for profitability and efficiency. Leverage also had a negative and insignificant association with financial performance. The results for profitability and efficiency revealed negative and insignificant association. Operational efficiency had a positive and significant association with financial performance. The research opines that DT-SACCOs continue improving their liquidity to improve performance. In addition, regulators like SASRA should develop policies to help SACCO maintain their profitability, such as establishing minimum liquidity criteria. The results indicate that leverage is crucial to DT-SACCOs. Therefore, managers should minimize their use of debt finance. The study also recommends managers of SACCO's to prioritize short-term debts over long-term debts when financing their activities to produce beneficial financial results. Further, SACCOs, must be meticulous and strict during the loan evaluation process. SACCO's should think about providing training to successful loan applicants to guarantee that the money will be used as intended and result in some returns.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, adequate liquidity is essential to the successful running of any organizations. No matter how small, any liquidity constraint can significantly impact a SACCOs operations (Githaka, Maina & Gachora, 2017). If a liquidity crisis is not adequately managed, it can quickly destroy long-term established client relationships. In SACCOs, depositors undertake to save in the short-term and borrowers borrow in the long-term, thus exposing SACCOs to asset/liability mismatch. By being subjective in loan assessments and disbursement, these financial institutions have been aggravating this liability/asset mismatch (Otwoko & Maina, 2021). This happens when the administration of the institutions extends credit to friends, relatives, and business associates who do not qualify for credit and hence later default on their loan obligations. Due to their inability to conduct their intermediation operations, SACCOs have been exposed to liquidity risk (Shibutse, Kalunda & Achoki, 2019). Hence, effective liquidity control helps SACCOs satisfy cash flow needs, fundamentally uncertain because of external events and actions of agents' activities.

The study will be anchored by the liquidity preference theory and supported by the loanable fund's theory. The liquidity preference theory explains how SACCOs can become more liquid by trading off liquid liabilities with liquid assets, therefore, managing their financial performance. The loanable fund theory links SACCOs NPLs to financial performance. The theory asserts that delinquent borrowers are the primary cause of poor performance in SACCOs. The theory postulates that where the rate of interest on loans increases, borrowers may fall behind in their loan payments due to the high rates, increasing the likelihood of loan default (increasing credit risk) and, as a result, poor financial performance.

DT-SACCOs mobilize deposits from its members and advance loans to borrowers at affordable interest rates, thus they must keep their liquidity at optimum levels since it is vital for their operational costs and the satisfaction of their member's loan needs. However, SACCOs in Kenya are suffering from poor financial administration, employer non-remittance of deductions, graft, and delinquent loans (Maina & Otwoko, 2021). SASRA (2020) reports notes that employers have failed to remit employees' emoluments totaling Ksh 4.31 billion to SACCOs. As a result of member defaults on loans and their failure to seize lucrative investment opportunities, DT-SACCOs are vulnerable to the risk of low liquidity. Thus, they cannot meet their immediate cash requirements due to these liquidity constraints, which causes financial turmoil. They are consequently obliged to turn to external funding sources at unfavorable rates, which ultimately results in withdrawal of members and reduction of profits (Maaka & Ondigo, 2013).

1.1.1 Liquidity

It refers to settling a business immediate payment. A SACCO can promptly meet cash, loans, and other withdrawal obligations while adhering to its capital adequacy requirements (Otwoko & Maina, 2021). DT-SACCOs with insufficient assets have challenges meeting operational costs while those with excessive assets register weak return on investments. Therefore, illiquid assets have an influence on the ability of the SACCO to operate optimally. It can fail to timely satisfy customer loan requests, eroding its ties with them (Osoro & Muturi, 2015). Making a plan for efficient liquidity management is crucial because the appropriate strategy balances cash inflows and outflows.

Less current assets will make it harder for SACCOs to support their operations, while greater than ideal current assets will result in a lesser return on investment. On the other hand, a SACCO's ability to operate effectively might be impacted by a lack of liquidity. It can fail to timely satisfy customer loan requests, eroding its ties with customers (Osoro & Muturi, 2015). Making a plan for efficient liquidity management is crucial because the appropriate strategy balances cash inflows and outflows. Therefore, managing liquidity entails strategically supplying or withholding from the market funds or circulation funds without impairing SACCO's capacity for profit and ability to conduct business.

Successful company operations are made possible by effective liquidity management, which boosts return on assets (Businge, 2017). SACCO can become more liquid by extending the maturities of its liabilities and assets, issuing more equity, reducing contingent commitments, and taking other actions. A stable financial sector will result from all banks using this strategy (Dzapasi, 2020). The quick and current ratios are the main measures of a SACCOs liquidity. Both ratios determine the liquidity of a business, with the acid test ratio determining the liquidity using the most liquid assets. This implies that inventories and prepayments are removed when determining the quick ratios but included in the determination of the current ratio (Batchimeg, 2017). An increasing current ratio is not necessarily ideal as a company with large inventory in its books relative to the other current assets may have a high current ratio, despite inventory being an illiquid asset (Batchimeg, 2017). In contrast, a falling current ratio shows that a company is having trouble keeping up with its payments to creditors.

1.1.2 Financial Performance

It relates to an institution's ability to remain profitable in the long-term (Adebayo, Nworji & David, 2011). Making wiser financial decisions and evaluating the company's future are made possible by being aware of how it is operating (Schechner, 2017). Strong performance enables a business to meet its costs and still generate profits to allocate as dividends. Therefore, the management should maintain a balance between profitability, and risk and return measures for their firms to be highly profitable (Bassey et al, 2016). ECB (2010), posits that robust measures have various performance elements than just profitability included. The paper will adopt ROA as the financial metric measure. It not only indicates the profit made, but also how profitably and efficiently the management utilized an organizations real investment and financial resources (Schechner, 2017).

1.1.3 Liquidity and Financial Performance

A company's ability to maintain liquidity is essential. It affects the level of risk absorbed by the firm, and influences its costs and growth possibilities. According to Arnold (2008), holding cash offers certain advantages, including paying for day-to-day operating expenses such as payroll, direct costs, and taxes. It also safeguards the business against potential volatile cashflows.

According to Kong, Musah and Agyemang (2019) businesses can increase profits by being efficient in the management of their liquid assets. They argue that firms should invest in liquid assets since it is vital in ensuring that their clients gain access to loans, enabling them to attain their goal of accumulating wealth in a liquid position. Therefore, it is anticipated that an organization's profits will greatly improve if its liquid assets are managed well. However, Ashok, Namita and Chaitrali (2018) argue that the performance of a company in financial terms has little to do with liquidity. Thus, improving liquidity does not necessarily improve business performance, especially where the costs of working capital outweigh the benefits of retaining more liquid assets.

Firms can increase their profits by having more liquid assets; nevertheless, maintaining high liquidity can negatively impact profitability.

As a result, organizations can fulfill the dual contradictory liquidity and financial performance goals by developing a broader and equal asset-liability mix, satisfying their financial responsibilities while having sufficient liquid assets and still make profits (Ashok, Namita & Chaitrali, 2018). However, scholars like Neto (2003) opine that high liquidity offers no financial stability to a firm, just like low liquidity. This is anchored on the argument that current assets have a lower value than fixed assets, implying that investments in current assets typically generate smaller returns than investments in fixed assets.

1.1.4 Deposit Taking SACCOs in Nairobi County

SACCO Societies Regulating Authority (SASRA), a statutory regulatory agency established under the SACCO Societies Act 2008, regulates DT-SACCOs business in Kenya (Cap 490B). Nairobi has the most DT SACCOs, with 41 head offices and 23 different branches spread over the country (SASRA, 2020). These SACCOs face intense competition from various institutions, including capital markets, insurance, banks, microfinance institutions, pension schemes, informal financial services, and Development Finance Institutions, due to their geographic position. In this regard, the DT-SACCOs survival in the county is dependent on their ability to maintain an optimal liquidity level to compete effectively for customers.

SACCOs performance in Kenya has been inconsistent and fluctuated over time when assessed using ROA. The SACCOs registered a ROA of 2.40% in 2018, a drop from the 2.69% recorded in 2017. The ratio slightly increased in 2020 to 2.65 percent. Similarly, the quick ratio declined

between 2016 and 2020. SACCOs reported 11.85% in 2017, a drop from the 12.9% registered in 2016 (SASRA, 2020). This represents the volatility of liquidity, posing a liquidity risk

1.2 Research Problem

DT-SACCO largest risk resides in their assets-loans. Thus, every loan advanced to borrowers has implications on their liquidity levels. With recessions becoming common in the past, the global economy has been hit significantly. The recessions frequently originate from liquidity issues and an unstable financial market (Waithero et al., 2021). DT-SACCOs appear uninterested to hold excessive liquidity even when a recession looms because they have inadequate capital to advance as loans to customers (Acharya et al., 2011). Inferring that too much liquidity can result in unstable financial markets, Berger and Bouwman (2009) uncover evidence that recessions are caused by illiquidity created by banks.

SACCOs in Kenya borrows funds at a high cost from traditional banks to bridge temporary illiquidity, endangering their financial stability and, as a result, the safety of their member's deposits (Monnie, 2009). This forces them to high price their loans which undermines the government's goal of ensuring access to financial services by the underserved population via SACCO societies. This structural issue has had a severe influence on credit facility pricing for members. SASRA (2017) report notes that the inability of SACCOs to attract investors, raise capital to finance their activities, and access central liquidity facilities like banks when facing liquidity challenges impacts their performance. These challenges have made some SACCOs convert to MFIs or commercial banks to meet the minimum liquidity requirements.

Globally, Asongu (2013) investigated the link between liquidity and disclosure in SACCOs after the financial crisis. The study presents a conceptual gap, examining disclosure and not financial

performance. In Poland, Darek (2012) explored liquidity gaps and SME financing. There is a conceptual gap as it relates to SME financing and not financial performance.

Muheebwa's (2018) study focused on how liquidity affects SACCOs performance in Uganda. The study presents a contextual gap since Uganda's economic environment in which SACCOs operate differs from the Kenyan environment. Donkor and Tweneboa-Kodua (2013) examined the liquidity and efficiency of SACCOs in rural areas in Poland. The study presents a conceptual gap as it focused on efficiency and not performance.

Locally, Njeri (2013) examined the association between liquidity and the performance of DT-microfinance institutions. The research presents a contextual gap since the focus was on MFIs and SACCOs, distinct organizations. Olando, Mbewa, and Jagongo (2012) investigated the determinants of growth among SACCOs in Meru County. The study presents a contextual gap since it was geographically limited to Meru County and a conceptual gap as the scholar focused on growth determinants and not liquidity management. Mugambi et al. (2015) examined cash management and SACCO performance in Meru County.

The review of extant literature has exposed conceptual, contextual, and methodological gaps. The conceptual gaps have arisen due to the past studies focusing on financing, financial crisis, efficiency, cash management, and growth while ignoring liquidity and financial performance. Locally, the contextual gaps have been evident as past studies have limited geographical scope or the industry examined. Some have focused on Meru County and Microfinance institutions. Methodological gaps were also evident as some studies explored liquidity from the cash management concept. The current study aimed to bridge these gaps by answering the question:

what is the effect of liquidity on the financial performance of Deposit Taking SACCO in Nairobi County?

1.3 Research Objective

To determine the effect of liquidity management on the financial performance of deposit taking SACCO's in Nairobi County.

1.4 Value of the Study

The findings are helpful to policymakers in public agencies including SASRA, the Vision 2030 Secretariat, and SACCOs, particularly in enhancing policy considerations in the subsector. Such policy improvements would help provide directions on improving the performance to strengthen their effectiveness in managing liquidity that would be beneficial to their members and society.

The study recommendations benefit the SACCOs management by providing information on the benefits of maintaining an optimum liquidity level for the success of their organizations. In addition, the study findings are helpful in the management identification of risk mitigation measures in liquidity management as SACCO's gear towards decreasing their level of risk-weighted assets and reducing their exposure to delinquent loans.

The study's findings help scholars better understand how liquidity affects SACCO performance and identify potential areas for further studies. Future scholars conducting studies on SACCOs and other pertinent topics will use the study as a source of information. The study also identified more significant relationships that require additional study. The study also points out other crucial correlations that need further investigation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the theories on which the study is based on, factors determining financial performance, covers the empirical literature on the study variables, presents the conceptual framework, and concludes with a summary of the literature review and knowledge gaps.

2.2 Theoretical Review

The sections discuss the study anchor theory, the liquidity preference theory, and its supporting theory, the loanable funds' theory.

2.2.1 The Liquidity Preference Theory

The theory was developed by Keynes in 1930. Keynes was motivated to develop the theory due to the failure of the quantity theory of money to address the great depression witnessed, which caused protracted unemployment (Jhingan, 2003).

Keynes (1936) identifies three motives for holding money. Transactional motive: Individuals have a high preference for liquid cash to settle their everyday expenses. Their liquidity is based on their income levels: the more one earns, the more predisposed they are to spend their income. Precautionary motive: consumers seek liquidity to finance contingent expenses. The more an individual earns, the more they demand precautionary liquid cash. Speculative motive aims to exploit the future fluctuations in rates of interest and the prices of bonds: When the interest rate is high, the speculative demand for money is low and vice versa.

The theory has been criticized for solely focusing on liquidity preference- the demand for money and wholly disregarding the consideration of supply-side concerns. Despite its criticism, the theory links SACCO's determinants for liquidity to their preference for pursuing active balance sheet policies and non-preference for holding more liquid assets to meet their borrowers' loan demands. Therefore, the theory helps describe how SACCOs hold money to satisfy the members' liquidity needs while balancing the three reasons for holding cash. Overall, the theory describes how SACCOs can manage their financial performance by financing less liquid balance sheet items with liquid liabilities, ultimately resulting in SACCO's liquidity stability.

2.2.2 Loanable Funds Theory

The theory was developed by Ohlin in (1937). Loanable funds refer to all types of loans, bonds, and savings available in the market. According to the loanable funds model, banks are modeled as resource-trading middlemen who accept physical resource deposits from savers before lending them to borrowers (Jakab & Kumhof, 2018). Ultimately, the competing forces in the market equalize the market resulting in an equilibrium rate of interest. This results in a single rate of interest prevailing in the market at any one time. Ultimately, the competing forces in the market equalize the market resulting in an equilibrium rate of interest. The theory employs a partial-equilibrium approach, where all variables, monetary and non-monetary, are considered constant except for interest rate (Tsiang, 1989). The theory presupposes that the rate of interest is unaffected by other macro variables. This approach gives the theory a superior advantage over other interest rate theories like the classical theory (Hayes, 2010). It considers the monetary variables of hoarding, dishoarding, and money supply expansion and the fundamental components of savings and investment in determining interest rate. It includes both monetary and non-monetary aspects in this way.

The theory has been criticized for claiming that the economy is in an equilibrium state at the rate of interest. However, this is disputed, given that the number of investments exceeds the savings at the equilibrium rate. Thus, the equilibrium state is achievable at a higher interest rate where the savings and investments equate (Lindner, 2013). The theory is relevant to the study as it links the management of credit risk to the financial performance of SACCOs. Thus, where the rate of interest on loans increases, borrowers may fall behind in their loan payments due to the high rates, increasing the likelihood of loan default (increasing credit risk) and, as a result, poor financial performance.

2.3 Determinants of Financial Performance

The section discusses the determinants of financial performance which include: credit, firms leverage and operational efficiency.

2.3.1 Credit

Loans represent the largest asset of any financial institution. They generate the highest operational revenue and expose the bank to the most significant risk. More importantly, they contribute to any country's progress by serving as the primary intermediary between depositors and those in need of funding for feasible initiatives (Kariuki & Ngahu, 2016). As a result, effective credit management benefits the SACCO's and the borrower, businesses, and the country. Inability to effectively manage loans that account for most of SACCO's assets will almost certainly result in increased NPLs, negatively impacting SACCO's financial performance (Sebhatu, 2012). SACCOs were known for advancing loans without following strict credit appraisal techniques, which affected the quality of their portfolios. Borrowers mostly fronted guarantors as alternatives for collateral or security. Thus, SACCOs advanced loans on this basis rather than on the creditworthiness of the borrower (Ngahu & Kariuki, 2016).

This weakness in loan appraisal caused a surge in the number of delinquents and defaulted loans, thus impacting negatively on SACCOs performance (Mugambi et al., 2015). Therefore, SACCOs adopted prudent credit management policies to overcome these challenges. Nakayiza (2013) finds that adopting effective credit management policies by banks in Uganda did not translate into fewer non-performing loans. The client default rate increased, resulting in poor loan performance, which affected the banks' profitability. Korankye (2014) finds that weak appraisal methods, and small loan sizes were the significant causes of NPLs in Ghanaian microfinance banks.

2.3.2 Firms Leverage

Levered firms use debt to finance their activities, while unlevered firms lack debt in their capital structure (Chen et al., 2019). The total debt of a company is the sum of all its liabilities. Currently, SACCOs are competing with banks for clients. The increasing demand for SACCO loans has forced them to borrow funds from conventional banks to supplement the deficit funds needed to satisfy their members' needs. In Deposit-Taking SACCOs, member deposits as a source of finance also attract interest, competing with bank deposit rates.

Amidu (2007) study in Ghana establishes that the debt-equity ratio influences the performance of financial institutions negatively. The study concurs that firms with good performance rely heavily on internal financing sources to finance their capital needs rather than debt. In addition, the author finds that banks have a preference for short-term debt than long-term debt. Pratomo and Ishmail (2006) study of banks in Malaysia found that the debt-to-equity ratio positively influences profit efficiency. Saeed et al., (2013) finds evidence of a direct relationship between ROA, ROE, and EPS with the total debt of banking institutions in Palestine.

2.3.3 Operational Efficiency

High-operational costs force SACCOs to show a preference for reducing lending. They impose stricter credit assessment procedures over increasing interest rates because they are associated with a higher level of risk and the push for borrowers to use loan proceeds in high-risk opportunities to recover cost by aiming for a high-risk high-return opportunity (Al-Azzam & Parmeter, 2019). Ng'etich and Wanjau (2011) found that rates negatively affect non-performing assets. This shows that interest rates favorably affect performing assets in banks because they result in higher fees being imposed on borrowers.

2.4 Empirical Review

The empirical section reviews past studies done on the topic to identify gaps that the current study will seek to explore.

2.4.1 Global and Regional Studies

Nduati and Oluoch (2021) assessed SACCOs liquidity determinants. The study covered the period 2015 to 2018. The authors select 45 SACCOs in Laikipia County as the population. They obtain secondary data from KNBS and the audited reports of the SACCOs and employ regression in data analysis. The authors found that nonperforming loans influence liquidity risk positively.

Ullah (2019) investigated liquidity and the performance of Pakistan's sugar mills in financial terms between 2008 to 2018. He uses regression and descriptive statistics. The findings of multiple regression analysis indicated that performance was influenced by liquidity positively.

Onyekwelu et al. (2018) investigated liquidity and performance of Nigerian banks between 2007 and 2016. The sample consisted of five banks. The research used the ex-post facto design. He uses

descriptive and regression. The results indicated that liquidity positively impacts bank profitability ratios and ROCE. According to the study, there is a need to replace what is currently being done in advanced countries.

2.4.2 Local Studies

Githaka et al. (2017) examine liquidity management and its impact on SACCO's liquidity in Kirinyaga County. The target population consisted of 60 SACCO's. The author employs stratified sampling to attain a representative sample of 18. The author employs questionnaires. The results showed that management of liquidity and liquidity levels have a direct association.

In Nairobi County, Kimathi (2014) studies the impact of funding options on SACCO's liquidity. The author utilizes the descriptive survey. The study's participants were 34 SACCO's in Nairobi County. The author collects data from audited reports of the SACCOs. In addition, data analysis is via descriptive and inferential statistics. The findings indicated that SACCOs funding options influenced their liquidity positively.

Nduati and Oluoch (2021) assessed SACCOs liquidity determinants. The study covered the period 2015 to 2018. The authors select 45 SACCOs in Laikipia County as the population. They obtain secondary data from KNBS and the audited reports of the SACCOs and employ regression in data analysis. The authors found that nonperforming loans influence liquidity risk positively.

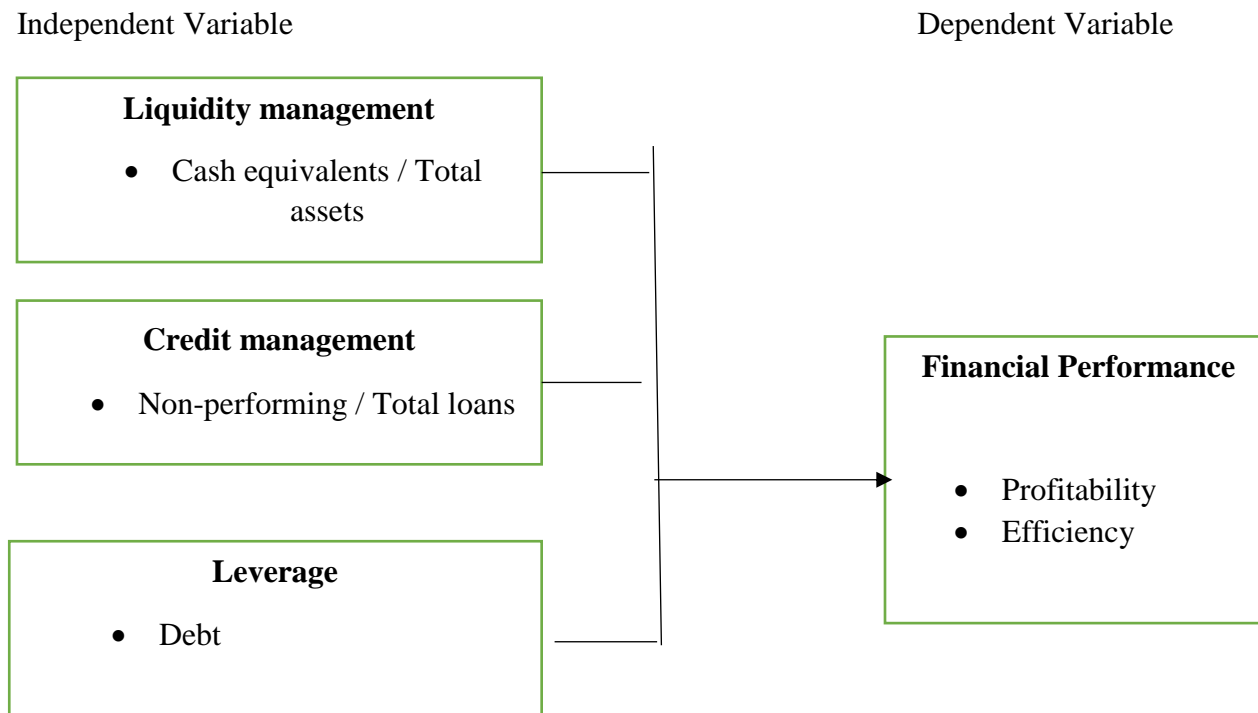
Jepkorir et al. (2019) examine how liquidity influenced the financial distress of SACCOs. The study looks at the strength of liquidity management from 2008 to 2014 and uses a fixed-effect

model. The author used a descriptive survey design to gather information from SACCO's audited reports. The results showed that liquidity is a critical factor in SACCOs financial distress in Kenya.

2.5 Conceptual Framework

The dependent variable is financial performance while the independent variables is liquidity.

Figure 2 1 Conceptual Framework



2.5 Summary of Literature Review

The section examines the liquidity preference and loan fundable theory. The factors that influence performance are also examined in the above section. According to the analysis of the aforementioned empirical studies on credit extension, the global studies have mostly concentrated on industrialized and developed nations, which have a variety of institutional structures that are distinct from those of a developing nation. The findings from developed nations cannot be generalized to Kenya. In addition, the results of the studies have been inconclusive because some

show a positive benefit and no effect, while others report a negative benefit. These results also vary in terms of periods and methodology (primarily reliant on questionnaires), necessitating additional research. Conceptual gaps arise in Omino (2014), Kimathi (2014) and Nduati and Oluoch (2021) studies. Contextual gaps arise in studies that were geographically limited. Some studies were conducted in Laikipia County, Kisumu County and Nairobi County. The current study bridges this gap by investigating the effect of liquidity on the financial performance of SACCOs in Kenya.

Author	Focus of study	Methodology	Findings	Research gap	Focus of the current study
Nduati and Oluoch (2021)	Liquidity of SACCOs in Laikipia.	The study covered 2015 to 2018 and uses descriptive analysis.	The authors found that NPLs influenced liquidity risk positively.	Focused on determinants of liquidity and not financial performance.	The current study explored liquidity and financial performance.
Jepkorir et al. (2019)	Liquidity in determining distress of SACCOs.	The study employs the fixed effect model and covers the period 2008 to 2014.	Liquidity is a critical factor in SACCOs financial distress in Kenya.	Need to explore other elements besides financial distress and employ a different model.	This study employed the linear regression model and examined performance of SACCOs.
Yameen et al. (2019)	Liquidity and performance of pharmaceutical firms in India.	Study period was 2008 to 2017. The author uses the descriptive design.	Liquidity influenced performance positively.	Need to explore other sectors and economies.	The study focused on SACCOs in Kenya.
Ullah (2019)	The link between sugar mills performance and liquidity in Pakistan	Descriptive and the linear regression model.	Liquidity influenced performance positively.	The scope was the sugar sector.	This study examined SACCOs.
Githaka et al. (2017)	Liquidity and SACCOs liquid levels in Kirinyaga.	The author employs stratified sampling in determining the population.	Liquidity management and SACCOs liquidity levels have a direct association.	The study did not explore performance in financial terms.	The current study explored liquidity and performance
Omino (2014)	The impact of liquidity risk on SACCOs performance.	The author employs stratified sampling in determining the population.	Liquidity management and SACCOs liquidity levels have a direct association.	The study did not explore performance in financial terms.	The current study explored liquidity and performance

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explores the research methodology that was used. It discusses the design, study population, data collection, and data analysis methods.

3.2 Research Design

The study adopted the descriptive research design. This design entails sourcing for information about an element employing detailed procedures. The preference for the design was because it explain the causal relationship between liquidity and performance. It enabled the researcher examine the close association between the variables and consequently, drawn conclusions.

3.3 Population of the Study

The study's target population were 20 large tiered DT- SACCOs in Nairobi County (SASRA, 2020). Due to their geographic position, these SACCOs face intense competition from various institutions hence their selection for the study.

3.4 Data Collection

The research used secondary sources such as audited reports of the DT-SACCOs and SASRA reports collecting information. The study covered the period 2017 to 2020. All the liquidity and financial performance variables were captured using the data collection guide attached as appendix II.

3.5 Data Analysis

The study employed descriptive and regression analysis using the SPSS software in data analysis. Multiple regression and correlation analysis established the connection between the variables.

3.5.1 Analytical Model

The paper adopted the linear regression model to institute the connection between the variables.

$$Y = \alpha + \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: Y = Financial performance given by profitability and efficiency

α = constant (y intercept)

X_1 = Liquidity given by Cash and cash equivalents / Total assets

X_2 = Credit management, given by non-performing loans / Total loans

X_3 = Leverage given by Total liabilities / Total equity

3.5.2 Significance Test

The study employed the F-test evaluates the general significance of the regression model. The coefficient of determination, R², will explain the variability of the overall regression model.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The descriptive, correlation, and regression resulting from the data analysis is presented in this chapter. The study population consisted of 20 SACCOs, but data was only accessible for 15 SACCOs.

4.2 Descriptive Statistics

The mean, standard deviation, skewness and kurtosis of the analyzed data is presented in this section.

Table 4. 1 Descriptive Statistics

	N	Mean		Std. Deviation		Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error	Statistic	Std. Error	Statistic	Std. Error
Profitability	45	.024	.00242	.0162	.0162	1.255	.354	.988	.695
Liquidity	45	.069	.0089	.0594	.0594	1.519	.354	2.846	.695
Credit Mgt	45	.064	.0058	.0389	.0389	-.037	.354	-1.042	.695
Leverage	45	6.32	.8682	5.8246	5.8246	2.656	.354	7.548	.695
OE	45	1.782	.1464	.9822	.9822	1.184	.354	.793	.695

Source (Author, 2022).

As shown in Table 4.1, the leverage and operational efficiency ratios had the highest mean of 6.32 and 1.782 and the highest standard deviations of 5.82 and 0.68. It shows that DT-SACCOs leverage and operational efficiency variables have very high volatility. In addition, liquidity and credit management also had relatively high means (0.069 and 0.064) and high standard deviations (0.0594 and 0.0389).

The data reveals positive skewness for ROA (Sk = 1.255), liquidity (Sk = 1.519), leverage (Sk = 2.656), and operational efficiency (SK=1.184). Credit management registered negative skewness (SK= - .037). It is thought that skewness and kurtosis values between -2 and +2 are sufficient to demonstrate a normal distribution (Hanson, 2017). This indicates that all of the study's variables are normally distributed and that their skewness is within acceptable bounds.

4.3 Diagnostic Tests

As shown in table 4.2, the tolerance levels are greater than .10 for all the independent variables and the Variance inflation factor is less than 10, for the same variables, hence there is no problem with multicollinearity in the data.

Table 4. 2 Diagnostic Test

Model	Coefficients ^a	Collinearity Statistics	
		Tolerance	VIF
1	Liquidity	.885	1.130
	Credit Mgt	.827	1.209
	Leverage	.881	1.135

a. Dependent Variable: profitability and Efficiency

4.4 Correlation Analysis

In Table 4.3, the results of the correlation analysis are shown. The DT-SACCOs performance reported strong positive correlation with liquidity ($r = 0.148$, $p = 0.034$) and operational efficiency ($r = .551$, $p = 0.00$). However, leverage and credit management were negatively and strongly correlated with ROA as indicated by the following values: ($r = -.329$, $p = .033$) and ($r = -.254$, $p = .021$)

Table 4. 3 Correlations

		ROA	OE	Liquidity	Credit Mgt	Leverage
ROA	Pearson Correlation	1	.551**	.148	-.254	-.329*
	Sig. (2-tailed)		.000	.332	.092	.027
OE	Pearson Correlation	.551**	1	-.226	.112	-.069
	Sig. (2-tailed)	.000		.135	.466	.652
Liquidity	Pearson Correlation	.148	-.226	1	-.273	.118
	Sig. (2-tailed)	.332	.135		.070	.442
Credit Mgt	Pearson Correlation	-.254	.112	-.273	1	.280
	Sig. (2-tailed)	.092	.466	.070		.063
Leverage	Pearson Correlation	-.329*	-.069	.118	.280	1
	Sig. (2-tailed)	.027	.652	.442	.063	

Source (Author, 2022)

4.5 Regression Analysis

A linear regression analysis is done to explain further the relationship between independent variables (liquidity, credit management and leverage) and the dependent variables, profitability and efficiency. Table 4.4 below summarizes the model summary results.

Table 4. 4 Model Summary^b

	Profitability	Efficiency
R	.715	.241
R squared	.511	.058

Adjusted R Squared	.462	.110
Std estimate	.0119005	.987613
Durbin Watson	.906	1.259

a. Predictors: (Constant): Leverage, Liquidity, Credit management

b. Dependent Variable: profitability and Efficiency

Table 4.4 above, shows that the adjusted R square for profitability and efficiency is 0.462 and, 0.011 respectively indicating that the independent variables influence 46.2 per cent and 11% of profitability and efficiency deviations. Other variables that justify 53.8 and 89 per cent of the variations in profitability and efficiency are excluded from the study. In addition, because the D-W findings were less than 1.5, a Durbin-Watson statistic of 0.906 and 1.259 suggests that the variable residuals were serially associated for profitability and efficiency.

Table 4. 5 Overall Model Fitness

Profitability					
	Sum of square	Df	Mean square	F	Sig
Regression	.002	3	.001	2.541	.040
Residual	.010	41	.000	.	
Total	.012	44			
Efficiency					
Regression	2.457	3	.819	.840	0.000

Residual	39.991	41	.975
Total	42.447	44	.

a. Dependent Variable: Profitability, Efficiency

b. Predictors: (Constant): Leverage, Liquidity, Credit management

The results of the model fitness are shown in table 4.5 above. The F statistics for profitability and efficiency are both significant since their $p < 0.00$. The model is thus appropriate. Table 4.6 results indicate that for profitability, liquidity association is positive ($\beta = .041$) and significant (p-value = 0.033). Credit management is negative ($\beta = -.053$) and insignificant (p-value = 0.423). However, leverage association is negative ($\beta = .001$) but significant (p-value = 0.048). For efficiency regression, liquidity association is positive and significant (b = 3.269, $p < 0.00$), credit management has a negative and insignificant association (b = -1.930, $p > 0.00$) and leverage is negative and significant (b = 0.011, $p < 0.00$).

Table 4. 6 Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	.030	.006		5.016	.000
	Liquidity	.041	.042	.150	.985	.033
	Credit Mgt	-.053	.066	-.126	-.800	.428

	Leverage	-0.001	.000	-.311	-2.038	.048
a. Dependent Variable: Profitability						
1	(Constant)	1.955	.383		5.101	.000
	Liquidity	3.269	2.666	.198	1.226	.027
	Credit Mgt	-1.930	4.213	-.076	-.458	.649
	Leverage	-.011	.027	-.067	-.416	.040

a. Dependent Variable: Efficiency

Source (Author, 2022)

4.5 Discussion of the Findings

The regression and correlation findings indicated that liquidity is positively and significantly associated with profitability and efficiency. This suggests that regular monitoring and forecasting of liquidity conditions and increasing short-term investment can boost DT SACCO's profitability and efficiency. The results parallels those of Ullah (2019) and Onyekwelu et al. (2018), who found a link between liquidity and financial success in Pakistan and Nigeria, respectively. However, the results contradict Islam (2018), who found that liquidity was insignificantly associated with financial performance, and Graham and Bordeleau (2010), who hypothesized an inverse link where the profits of a bank increase whey they possess high liquidity. Regardless, the liquidity is maintained within acceptable limits beyond which profits start to decline.

Additionally, the correlation-regression findings demonstrated that DT-SACCO's leverage has an adverse and significant impact on their profitability and efficiency. It has a cost to the DT-SACCO, and if this cost cannot be offset by higher member fees, the SACCO will struggle to remain

affordable and function financially. The study's findings provide proof for the pecking order idea. The Pecking order theory posits that internal finance is preferable to external financing since it presents less of a challenge to management as decisions are made shifting from safer to riskier funding. The results of this research are in line with those of Gweyi and Karanja (2014) who discovered a negative and substantial link between leverage and performance. However, the findings contradict Gonzalez and Gonzalez (2012) who found leverage to have an inverse association with performance and debt.

However, the correlation and regression findings showed that credit management was negatively but insignificantly associated with profitability and efficiency. A higher ratio of nonperforming loans indicates that a company is not recouping loans as projected. These nonperforming loans are likely to contribute to challenges for SACCO's performance and efficiency, including low liquidity, slow expansion, low competitiveness, and increased stakeholder disputes. Koskei (2020) finds evidence of a link between poor credit management and SACCOs financial health. Similarly, Sporta and Mbatia (2019) discover that rising nonperforming loans lower SACCOs in Kenya's Return on Assets. Loans are assets that must generate income for an organization, so when they are not repaid with interest, they must allocate more resources by making provisions for nonperforming loans. They also incur additional expenses to fund recovery efforts. As a result, NPLs impact the performance of Institutions. The SACCOs performance is hampered by these expenditures and provisions, which generate a sizable amount of their profits.

The model summary for profitability and efficiency showed that 46.2% and 11% respectively of the fluctuations in the performance of DT-SACCOs, is due to liquidity, leverage, and credit management. Therefore, external elements over-looked in the analysis cause 53.8% and 89% of variances in financial performance. Given the p-values of profitability and efficiency $p < 0.000$, it

was determined that the model was significantly fit. This supports the statistical significance of the complete linear regression model.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section presents summary of the research findings, conclusions, drawbacks, proposals and other future studies that can be done.

5.2 Summary of Findings

The study examined the effect of liquidity on the financial performance of deposit-taking SACCO's. The study was based on the independent variables of liquidity, credit, and leverage. The dependent variable was financial performance as measured using profitability and efficiency. Secondary information is collected for the period 2017 to 2020 and data analysis is via SPSS. Correlation analysis revealed a positive and strong correlation between liquidity and operational efficiency with the financial performance of SACCOs. At the same time, results showed a strong negative correlation between credit and leverage with ROA. The adjusted R-square is 46.2% and 11% for profitability and efficiency respectively, implying that the independent variables can expound 46.2 and 11% per cent in financial performance deviations. In comparison, 53.8 and 89 per cent is caused by non-study elements. ANOVA findings showed that the model was fit since the p-values for profitability and efficiency $p < 0.000$. The regression results indicated that by setting the independent study variables to zero, the financial performance would be 0.03 for profitability and 1.955 for efficiency. Additionally, a unit change in liquidity will increase profitability by 0.074 and efficiency by 3.269. A unit change in credit management will decrease profitability by 0.053 and efficiency by 1.930: a unit change in leverage will reduce profitability by 0.01 and efficiency by 0.011, holding other factors unchanged.

5.3 Conclusions

The study posits that liquidity has a positive impact on performance of deposit taking SACCO's in Nairobi County. The association is significant for both profitability and efficiency. This indicates that maintaining an optimal liquidity level by increasing short-term investment can boost DT SACCOs performance.

The study further establishes that credit management negatively but insignificantly impacts performance of DT SACCO's in Nairobi County. The study concludes that credit management has no influence on DT SACCOs performance.

The study finds that leverage and DT SACCO's performance have an adverse association. The negative relationship was insignificant for profitability and efficiency. Leverage has a cost to the SACCO; if higher member fees cannot offset this cost, SACCO will struggle to remain affordable and function financially. The study, therefore, concludes that leverage influences DT SACCOs performance negatively and significantly.

5.4 Limitations of the Study

The researcher experienced difficulties while extracting data from the SASRA reports since they did not contain some of the variables needed to make the study successful, such as non-performing loans. Even for the audited reports of SACCO, the financial information provided was limited. Moreover, there was non-uniformity in the data collection period as some SACCO selected for the study only had audited reports for 2019 and 2020, not 2017 and 2018.

In addition, the four-year study period from 2017 to 2020 served as the basis for the study. The study would have covered a more comprehensive range of economic relevance over an extended period. This may have given the problem a wider dimension by giving it a longer temporal focus.

5.5 Recommendations

A higher ratio of liquid assets to total assets has a positive, considerable impact on the financial performance of SACCOs in terms of liquidity. To increase the financial performance of SACCOs, a level that is both liquid and has efficient asset use to create profits must be struck. Therefore, policymakers should propose steps to increase SACCOs so as to maintain the DT-SACCOs operational profitability.

The results showed that credit management has an adverse effect on performance of DT-SACCOs. Thus, to grant loans to only deserving candidates with a high probability that they won't default, SACCO's must be meticulous and strict during the loan evaluation process. SACCO's should think about providing training to successful loan applicants to guarantee that the money will be used as intended and result in some returns.

The results indicate that leverage is crucial to DT-SACCOs. Therefore, managers should minimize their use of debt finance. The study also recommends managers of SACCO's to prioritize short-term debts over long-term debts when financing their activities to produce beneficial financial results.

5.6 Suggestions for Further Research

The impact of liquidity on the performance of DT-SACCO could potentially be triangulated utilizing primary data in future studies to provide more insights. Additional comparative research between DT SACCO in Nairobi County and DT-SACCOs in other counties should be conducted in the future

Despite the financial sector having many stakeholders, this research is limited to DT-SACCOs. Therefore, it is necessary to research the financial performance aspects affecting commercial banks, insurance firms, microfinance organizations, and other financial institutions.

Although they are not the focus of this study, other variables that impact the performance, such as the ownership structure, the cost of working capital, and the management of SACCO's assets and liabilities, are vital. Further research is required to evaluate their effects and determine their impact on the performance.

REFERENCES

- Abbadi, S. M., & Abu-Rub, N. (2012). The effect of capital structure on the performance of Palestinian financial institutions. *British Journal of Economics, Finance and Management Sciences*, 3(2), 92-101.
- Acharya, V. V., Amihud, Y., & Litov, L. (2011). Creditor rights and corporate risk-taking. *Journal of Financial Economics*, 102(1), 150-166.
- Adebayo, O., Nworji, I. D., & David, A. O. (2011). Corporate governance and bank failure in Nigeria: Issues, challenges and opportunities. *Research journal of finance and accounting*, 2(2), 1-19.
- Agbada, A. O., & Osuji, C. C. (2013). An empirical analysis of trends in financial intermediation and output in Nigeria. *Global Journal of Management and Business Research* 4(2), 110-154.
- Amidu, M. (2007). Determinants of capital structure of banks in Ghana: an empirical approach. *Baltic Journal of Management*, 2(1), 67-79.
- Ashok, K. P., Namita, R., & Chaitrali, G. (2018). Liquidity and profitability trade-off: A study of Indian pharmaceutical companies. *Journal of Economics and Public Policy*, (1), 42-56.
- Asongu, S. A. (2013). On the Effectiveness of Foreign aid in institutional quality. *European Economics Letters* 2(1), 12-19.

- Bassey, F. A., Tobi, E. G., Bassey, I. F., & Ekwere, R. E. (2016). Liquidity management and the performance of banks in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(1), 41-48
- Batchimeg, B. (2017). Financial performance determinants of organizations: The case of Mongolian companies. *Journal of competitiveness*, 9(3), 22-33.
- Businge, H. (2017). *Effect of Liquidity Management on the Performance of Commercial Banks: A Case of Stanbic Bank Uganda Limited* (Doctoral dissertation, Makerere University).
- Chen, Z., Harford, J., & Kamara, A. (2019). Operating leverage, profitability, and capital structure. *Journal of financial and quantitative analysis*, 54(1), 369-392.
- Darek, K., (2012) Liquidity Gaps in Financing the SME Sector in an Emerging Market: Evidence from Poland. *International Journal of Emerging Markets*. 7(3), 335- 355
- Donkor, J., & Tweneboaa-Kodua, K, (2013). Profitability, Liquidity and Efficiency of Rural Banks: Evidence from Ghana, *British Journal of Economics, Finance and Management Sciences*, 8(1) 1-11.
- Dzapasi, F. D. (2020). The impact of Liquidity Management on Bank Financial Performance in a subdued economic environment: A case of the Zimbabwean Banking Industry. *PM World Journal*, 9(1), 1-20.
- Eljelly, A. M. (2004). Liquidity-profitability tradeoff: An empirical investigation in an emerging market. *International Journal of Commerce and Management*, 14(2), 41-61.

- Githaka, J., Maina, K., & Gachora, S. (2017). Effects of Liquidity Management on Liquidity of Savings and Credit Co-operative Societies in Kirinyaga County, Kenya. *International Academic Journal of Economics and Finance*, 2(3), 57-73.
- Hayes, M. G. (2010). The loanable funds fallacy: saving, finance and equilibrium. *Cambridge Journal of Economics*, 34(4), 807-820.
- Hongxing, Y., Muhammad, H., & Gulzara, T. (2018). Profitability determinants of financial institutions: Evidence from banks in Pakistan. *International Journal of Financial Studies*, 6(53), 1-28.
- Jepkemoi, E. (2017). *Determinants of bank's profitability in Kenya* [Master's thesis, University of Nairobi].
- Jepkorir, S., Muturi, W. M., & Ndegwa, J. (2019). Liquidity management as a determinant of financial distress in savings and credit cooperative organizations in Kenya. *International Journal of Business Management and Processes*, 4(3), 8-8.
- Kalluru, S., & Bhat, K. (2009). Determinants of cost efficiency of commercial banks in India. *ICFA Journal of Bank Management*, 8(2), 32-50.
- Kariuki, M. W., & Ngahu, S. (2016). Effect of interest rates on loan performance of microfinance institutions in Naivasha Sub-County, Kenya. *International Journal of Economics, Commerce and Management*, 4(4), 549-566.
- Keynes, J. M. (1936). *The general theory of interest, employment and money*, New York: N.Y, Harcourt.

- Kimathi, P. M. (2014). *The effect of financing strategies on the liquidity of savings and credit co-operatives societies licensed by SACCO societies regulatory authority operating in Nairobi County* (Doctoral dissertation, University of Nairobi).
- Kong, Y., Musah, M., & Agyemang, A. O. (2019). Liquidity and financial performance: A correlational Analysis of Quoted Non-financial firms in Ghana. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, 3(5), 133-143.
- Maina, K., & Otwoko, E.B. (2021). Effect of liquidity risk on the financial performance of deposit taking savings and credit cooperative organizations in Kenya. *International Journal for Research in Business & Social Science*. 2147-4478
- Makaa, Z., & Ondigo, H. (2013). *The Relationship between Liquidity Risk and Financial Performance of Commercial Banks in Kenya*. (Doctoral Thesis, University of Nairobi)
- Mugambi, D., Njeru, A., Member, F., & Tirimba, O., (2015) Effects of cash management on financial performance of deposit taking SACCO's in Mount. Kenya region. *International Journal of Scientific and Research Publications*, 5, 2250-3153
- Mugambi, D., Njeru, A., Member, F., & Tirimba, O., (2015) Effects of cash management on financial performance of deposit taking SACCO's in Mount. Kenya region. *International Journal of Scientific and Research Publications*, 5, 2250-3153
- Muheebwa, F., (2018). The Influence of Liquidity on the Financial Performance of SACCOs in Uganda. *Journal of Economics*, 3(2), 55-70.

- Ndolo, P. S. (2015). *The relationship between operational efficiency and financial performance of firms listed at the Nairobi Securities Exchange*. [Unpublished Master's Thesis, University of Nairobi].
- Nduati, G. K., & Oluoch, D. O. (2021). Determinant of the liquidity of deposit taking SACCOs in Kenya: A case of deposit taking SACCOs in Laikipia county. *International Journal of Recent Research in Commerce Economics and Management*, 8 (2), 1-7.
- Njeri, M.M. (2013). *The effect of liquidity on financial performance of deposit taking microfinance institutions in Kenya*, Unpublished MBA project, The University of Nairobi
- Olando, C., Mbewa, M., & Jagongo, A. (2012). Financial practices as determinant of growth of Savings and credit cooperation society's wealth. *International Journal of Business and Social science*, 3 (24), 112-156.
- Omino, P. A. (2014). *Liquidity risk mitigation measures and financial performance of savings and credit co-operative societies (SACCOs) in Kisumu County-Kenya* (Doctoral dissertation, University of Nairobi).
- Onyekwelu, U. L., Chukwuani, V. N., & Onyeka, V. N. (2018). Effect of liquidity on financial performance of deposit money banks in Nigeria. *Journal of Economics and Sustainable Development*, 9(4), 19-28.
- Osoro, E. M., & Muturi, W. (2015). Effects of liquidity-risk management practices on the financial performance of savings and credit co-operative societies in Kisii County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 1(4), 68-85.

- Otwoko, B., & Maina, K. (2021). Effect of liquidity risk on the financial performance of deposit taking savings and credit cooperative organisations (SACCOs) in Kenya. *International Journal of Research in Business and Social Science* (2147-4478), 10(2), 203-211.
- Ranjan, K. M., & Bishnu, K. A. (2017). Determinants of financial performance: Empirical evidence from the textile sector in Bangladesh. *Journal of Accounting and Finance*, 17(8), 110-120.
- Saeed, M. M., Gull, A. A., & Rasheed, M. Y. (2013). Impact of capital structure on banking performance (A case study of Pakistan). *Interdisciplinary journal of contemporary research in business*, 4(10), 393-403.
- SASRA. (2017). *SACCO Supervision Annual Report 2016*.
- SASRA. (2020). *SACCO Supervision Annual Report 2020*.
- Schechner, R. (2017). *Performance studies: An introduction*. Routledge.
- Sebhatu, K. T. (2012). Management of savings and credit cooperatives from the perspective of outreach and sustainability: Evidence from Southern Tigray of Ethiopia. *Research Journal of Finance and Accounting*, 2(7), 10-24.
- Shibutse, R., Kalunda, E., & Achoki, G. (2019). Effect of liquidity and dividend payout on financial performance of deposit taking SACCOs in Kenya. *International Journal of Business and Economics*, 3(3), 110-147
- Tsiang, S. C. (1989). *Loanable funds*. In *Money*. Palgrave Macmillan, London.

- Uddin, M. R., Syed R. M. A., & Saurav, D. (2016). Liquidity risk and performance: A study on the banking sector of Bangladesh. *A Journal of Business Administration Discipline*, 11, 35-42.
- Ullah, H. (2019). The Impact of Liquidity, Firm Size and Fixed Assets on the Profitability of Sugar Mills in Pakistan. *International journal of Business Management*, 4 (4): 114-121
- Waitherero, K. F., Muchina, S., & Macharia, S. (2021). The role of liquidity risk in augmenting firm value: lessons from savings and credit cooperatives in Kenya. *International Journal of Financial, Accounting, and Management*, 2(4), 295-304.
- Yameen, M., Farhan, N. H., & Tabash, M. I. (2019). The impact of liquidity on firms' performance: Empirical investigation from Indian pharmaceutical companies. *Academic journal of interdisciplinary studies*, 8(3), 212-212.

APPENDICES

Appendix I: List of SACCOs Registered in Nairobi County

- | | |
|------------------------|----------------------|
| 1. Ushuru | 11. Kimisitu |
| 2. Metropolitan | 12. Trans Nation |
| 3. Tower | 13. Mwalimu National |
| 4. Unaitas | 14. Unisa |
| 5. Kentours | 15. Nacico |
| 6. Nafaka | 16. Orthodox |
| 7. Kencream | 17. Safaricom |
| 8. Hazina | 18. Stima |
| 9. Jamii | 19. Sheria |
| 10. Kenya Police Staff | 20. Ukulima |

Appendix II: Raw Data

		Efficiency	Income	Net income	Assets	Cash & cash equivalents	Total loans	Total liabilities	Total equity	NPLs
Mwalimu National	2017	1,489,996	1,945,361	432,586	40,511,460	40,058	27,578,678	34,364,387	6,147,073	2,012,120
	2018	1,746,145	2,450,124	613,046	46,151,986	181,167	30,981,829	39,674,312	6,447,674	2,686,049
	2019	2,070,342	2,608,256	652,635	52,028,528	2,442,278	33,769,307	44,875,829	7,152,699	2,631,582
	2020	2,680,916	3,247,234	443,189	57,732,518	945,173	38,074,609	50,205,071	7,527,447	2,744,649
Stima DT	2019	1,255,764	3,183,436	883,702	36,534,789	785,739	28,617,399	31,175,978	5,358,811	2,125,658
	2020	1,398,569	3,064,660	1,021,122	41,062,955	655,228	32,798,794	34,676,202	6,386,753	2,440,942
Safaricom	2017	495,068	289,322	67,384	5,156,558	228,466	4,477,292	4,430,100	726,458	375,646
	2018	149,046	602,546	309,241	5,890,774	728,367	4,779,957	5,047,541	843,232	309,222
	2019	180,924	675,175	302,474	6,692,680	864,358	5,342,150	5,920,467	772,213	401,360
	2020	196,283	386,392	392,556	7,471,552	1,406,346	5,582,240	6,457,139	1,014,413	549,447
Sheria	2017	352,403	203,711	93,312	4,158,737	274,482	3,524,405	3,548,752	609,984	150,212
	2018	265,774	375,901	101,640	5,376,419	353,894	4,572,013	4,249,478	1,126,941	130,674
	2019	283,284	414,564	122,037	6,030,092	191,524	5,365,789	4,807,376	1,222,716	160,524
	2020	269,838	461,703	182,495	6,724,402	483,236	5,744,239	5,358,231	1,366,171	272,313
Kimisitu	2017	134,801	267,071	54,652	5,154,850	84,041	4,326,032	4,710,180	444,670	444,330
	2018	162,094	263,504	97,733	6,051,505	142,962	4,806,697	5,391,797	659,708	496,706
	2019	181,405	341,155	102,441	6,908,885	167,548	5,189,521	6,066,843	842,042	545,904
	2020	185,721	428,932	174,512	7,661,638	49,936	5,535,136	6,580,573	1,081,064	735,261
Unisa	2017	2,218	2,698	480	37,852	10,581	26,552	36,319	1,533	2410
	2018	3,233	3,441	202	59,921	1,627	44,612	57,892	2,029	4,911
	2019	3,630	4,899	1,136	80,541	3,097	54,779	77,500	3,040	5,491
	2020	3,349	5,679	1,996	94,125	3,311	56,832	88,895	91,125	5,740
Kenya Police	2017	563,678	2,340,058	1,483,096	24,236,912	1,111,183	20,010,658	18,295,306	5,941,606	620,330
	2018	1,027,324	2,809,975	1,687,651	28,954,121	583,796	24,074,678	21,127,648	7,826,473	625,942
	2019	1,204,102	3,822,806	2,494,097	34,820,782	2,627,394	29,071,997	24,311,852	10,508,930	377,936
	2020	1,515,502	3,844,908	1,927,316	39,053,496	3,152,585	32,612,070	26,369,460	12,684,036	521,793
Trans Nation	2019	324,912	601,178	159,047	5,109,509	318,701	4,431,471	4,283,184	826,325	558,365
	2020	379,910	754,447	207,537	6,620,553	453,328	5,917,146	5,593,413	1,021,140	44,970.31
Ushuru	2017	85,027	101,391	13,430	3,461,177	175,051	2,679,302	27,020	421,086	114,930
	2018	101,488	142,329	30,263	3,849,501	410,628	2,896,864	29,399	463,859	405,789
	2019	402,395	187,375	42,450	4,249,541	638,426	3,040,626	3,719,062	530,479	2,949
	2020	425,705	181,511	74,045	4,848,103	1,058,031	3,275,732	4,232,625	615,478	4,865
Tower	2019	1,374,976	1,592,272	189,773	11,157,556	1,320,406	9,190,381	9,560,784	1,596,772	70,950
	2020	1,691,559	2,070,228	353,255	13,728,871	1,146,619	11,804,962	11,730,988	1,997,883	67,534
Metropolitan	2018	1,005,246	1,227,295	206,734	13,649,500	689,292	11,927,179	10,617,611	3,031,889	851,460

	2019	909,997	1,115,697	195,804	15,153,529	653,188	13,521,188	11,957,341	3,196,188	977,240
Unaitas	2018	1,112,344	1,698,091	425,995	12,735,149	1,509,622	8,531,889	7,884,531	4,850,618	900,902
	2019	1,326,323	1,966,922	486,217	14,162,792	714,505	10,565,817	8,885,694	5,277,097	850,760
	2020	1,257,511	2,211,751	620,183	16,566,357	655,622	13,117,777	10,764,791	5,801,566	995,670
Kentours	2017	32,950	129,741	12,567	1,164,313	5,975	825,838	1,052,342	111,971	47,076
	2018	31,506	130,109	12,117	1,270,778	8,409	821,988	1,151,297	119,482	94,838
Kencream	2019	24,599	28,667	3,655	281,150	30,468	210,069	225,048	56,103	4,277
	2020	24,200	31,331	6,132	304,633	38,798	229,518	245,471	59,162	6,252
Nafaka	2017	65,933	52,453	11,262	465,450	49,320	393,150	375,609	89,841	7,076
	2018	74,429	61,214	13,496	510,570	49,380	441,179	409,964	100,606	24,838