

**CREDIT RISK, LIQUIDITY RISK AND FINANCIAL
PERFORMANCE OF DEPOSIT TAKING SAVING AND CREDIT
CO-OPERATIVE SOCIETIES IN KENYA**

MWANGI WACHIRA ALLAN

D53/OL/KER/26559/2015

**A RESEARCH SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL
FULFILMENT FOR THE AWARD OF THE DEGREE OF MASTER OF
BUSINESS ADMINISTRATION (FINANCE OPTION) OF KENYATTA
UNIVERSITY**

JULY 2018

DECLARATION

Declaration by candidate:

I confirm that this research project is my original work and has not been presented in any other university for certification. This research has been complemented by referenced sources duly acknowledged. Where text, data, graphics, pictures or tables have been borrowed from other works- including the internet, the sources are specifically accredited through referencing in accordance with anti-plagiarism regulations.

.....

.....

Signature

Date

Allan Wachira Mwangi

D53/OL/KER/26559/2015

Declaration by supervisor:

I confirm that the work reported in this project was carried out by the candidate under my supervision as University supervisor.

.....

.....

Signature

Date

Dr Isaac Naibei

Lecturer, Department of Accounting and Finance,

School of Business,

Kenyatta University- Kericho Campus

ACKNOWLEDGEMENT

My sincere gratitude to my supervisor Dr Isaac Naibei for his guidance and patience. I thank him for the tireless effort to see me through the proposal. To my family, thank you for the sacrifices you have had to make to allow me pursue my education. I also wish to thank the entire Kenyatta University fraternity for the opportunity, guidance and assistance.

Above all am grateful to the almighty God for the grace and strength to come this far.

TABLE OF CONTENTS

DECLARATION	i
TABLE OF CONTENTS	iii
LIST OF TABLES	v
LIST OF FIGURES	vi
OPERATIONAL DEFINITION OF TERMS	viii
ABSTRACT	ix
CHAPTER ONE: INTRODUCTION	1
1.1 Introduction	1
1.1.0 Background of the study	1
1.1.1 Financial performance	3
1.1.2 Credit Risk	4
1.1.3 Liquidity	7
1.1.4 Deposit mobilisation and external borrowing.....	9
1.1.5 SACCO Structure in Kenya	10
1.2 Statement of the problem.....	11
1.3 Objectives of the study.....	12
1.3.1 Specific objectives.....	12
1.4 Research hypothesis	12
1.5 Significance of the study.....	13
1.6 Scope of the study	13
CHAPTER TWO: LITERATURE REVIEW	15
2.1 Introduction	15
2.2 Theoretical review.....	15
2.2.1 Liquidity preference theories	15
2.2.2 Pecking order theory	17
2.2.3 Credit Risk Theory	18
2.2.4 Agency theory.....	19
2.3 Empirical review	20
2.3.1 Liquidity risk and financial performance	20
2.3.2 Credit risk and financial performance	21
2.4 Summary of Literature review and research Gaps	23
2.5 Conceptual Framework.....	27
2.5.1 Analytical Model	28
2.5.2 Operationalization and measurement of variables	28

CHAPTER THREE: RESEARCH METHODOLOGY	30
3.2 Introduction	30
3.3 Research Design.....	30
3.4 Target Population.....	30
3.5 Sampling size and design.....	31
3.6 Data collection Procedure.....	31
3.7 Data analysis and presentation	31
3.7 Ethical consideration.....	32
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION.....	33
4.1 introduction.....	33
4.2 Analysis of response rate and descriptive statistics	33
4.2.1 Return on Assets	34
4.2.2 Liquidity Risk	35
4.2.3 Credit Risk	36
4.2.4 ROA, Credit risk and Liquidity risk combined effect.....	38
4.2.5 Descriptive statistics.....	39
4.2.6 Test for multi collinearity	40
4.2.7 Correlation analysis	41
4.2.8 Regression analysis	42
4.2.8.1 The regression equation	43
4.2.9 Hypothesis testing:	44
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION	49
5.1 Introduction	49
5.2 Summary.....	49
5.3 Conclusion.....	50
5.4 Limitation of the study.....	50
5.5 Recommendation.....	51
5.6 Suggestion for further studies.....	52
APPENDICES.....	57
APPENDIX I: PROJECT APPROVALS	57
APPENDIX II: INTRODUCTION LETTERS	60
APPENDIX III: DATA COLLECTION SHEET.....	62
APPENDIX IV: LIST OF DT-SACCOS.....	63

LIST OF TABLES

Table 2.1 Research Caps	25
Table 2.1 Operationalization and Measurement of Variables	29
Table 3.1: Category of DT-SACCOs by asset size in 2015.....	31
Table 4.1: Average of variables for 4 years 2012-2015.....	33
Table 4.2: Return on Assets 2012-2015.....	34
Table 4.3: liquidity risks 2012-2015	36
Table 4.4: Credit risk 2012-2015.....	37
Table 4.5: Descriptive statistics.....	39
Table 4.6: Test for multicollinearity	40
Table 4.7: Correlation Analysis.....	41
Table 4.8: Correlation Analysis.....	42
Table 4.9: ROA-Credit risk paired T-test	44
Table 4.10: ROA-Liquidity risk paired T-test	45

LIST OF FIGURES

Figure 4.1 Graph of ROA (2012-2015)	35
Figure 4.2 Graph of Credit risk (2012-2015).....	38
Figure 4.3 Combined Graph of ROA, Credit risk and Liquidity (2012-2015).....	39

ABBREVIATIONS

CCD	Commissioner for Cooperative Development
CSA	Cooperative Societies Act (Cap 490)
DT-SACOO	Deposit Taking Saving and Credit Cooperative Societies
Non DT-SACCO	Non- Deposit Taking Saving and Credit Cooperative Societies
SACCOs	Saving and Credit Cooperative Societies
SASRA	SACCO Society Regulatory Authority

OPERATIONAL DEFINITION OF TERMS

Credit risk	- inability of a person or entity to pay their current financial liabilities as and when they fall due
Current Ratio	- ratio of liquid assets to short term liabilities
DT-SACCOs	- SACCOs licensed by SASRA to undertake deposit taking activities
Financial performance	- extent to which financial objectives of a firm are being executed
Liquidity risk	- lack of enough current assets to cover short term liabilities
Middle tier DT-SACCOs	- SACCOs with an asset base of over 1 billion shillings but below 4 billion shillings
Non-Performing loans	- loans outstanding for a period of over 30 days from the due date
Non-Performing loans ratio	- ratio of non-performing loans to total loans
Return on Assets	- ratio of net income after tax to total assets
SACCOs	- financial institutions set up by members to allow them save and borrow funds
Top tier DT-SACCOs	- SACCOs with an asset base of over 4 billion shillings

ABSTRACT

SACCOs are essential financial intermediaries especially in the rural and far to reach areas by commercial banks. Poor financial performance, insolvency and general liquidity challenges have become common to SACCOs. Loans provide the most favourable investment option for financial entities due to the interest receivable. In carrying out this lending activities, they are exposed to credit risk and liquidity risk. The main source of credit risk is outstanding loans that might eventually not be paid back, liquidity risk arises from the inability of the SACCOs to repay their short term liabilities when and as they fall due. Since the SACCO members are essentially the owners, once a member qualifies for a loan it is deemed to be a right for them to receive the loan. Managers of SACCOs should therefore maintain the most effective and efficient levels of liquidity. This research had the objectives of finding out the relationship between liquidity risk, credit risk and financial performance of SACCOs and if there was a significant negative relationship between independent variables (liquidity risk and credit risk) and the dependent variable (financial performance). To measure these variables, non-performing loans ratio, current ratio and return on assets were used. From a target population of 73 top and medium tier DT-SACCOs as at 31st December 2015; only 63 DT-SACCOs that were registered in 2012 were selected and secondary data obtained for analysis. Collected data was analysed using computer packages. Regression analysis was used to understand the relationship between dependent and independent variables of the study. Further, the data was tested for multicollinearity where it was noticed that no multicollinearity relationship between independent variables existed. A regression equation of $Y=6.60-0.21X_1 - 0.05X_2$ and a correlation coefficient ratio of 0.52. The hypotheses developed were tested where the results indicated that there was no significant negative relationship between credit risk and financial performance but there is significant negative relationship between liquidity risk and financial performance. From the research it was concluded that DT-SACCO managers have to strike a balance between the two types of risk to maximise returns and minimise the risk exposure of their institutions. It is recommended that SASRA should review the current liquidity levels to cushion DT-SACCOs from cash outs and managers should resolve to external borrowing for short term purposes only.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

1.1.0 Background of the study

Saving and Credit Co- operatives (SACCOs) are financial intermediaries that provide a medium for members to save and borrow funds. Globally World Council of Credit Unions develops the structural and best practice systems for SACCOs in the registered member countries. WOCCU has membership from 60 countries around the world, championing credit union and cooperative financial institutions (SASRA, 2015). In Africa, SACCOs have been widely accepted as a means of financing both short term and long term financial needs among members as opposed to commercial banks especially in rural areas (Osoro & Muturi, 2015). In East Africa, Kenya recorded the highest growth in the number of SACCOs followed by Tanzania and Rwanda (Mbatha, 2016).

SACCOs operate on the principle of pooling funds together and availing the same to members who will be able to repay this amount at a low interest rate (Kibui & Moronge, 2014). In return for their savings, members receive dividends at the end of the financial period. SACCOs can be said to have a common bond as the membership is based on some common parameters (SASRA, 2015). These institutions offer major credit facilities to their members in Kenya, particularly, in areas perceived unattractive by commercial banks such as rural areas (Munyiri, 2006). According to a 2015 supervisory report, there are one hundred and seventy six (176) DT-SACCOs in the country regulated by SASRA. These institutions provide the most preferred borrowing point for the concerned members due to three main reasons.

Firstly the members being the owners of the SACCOs through ownership of shares, are able to borrow at lower rates as compared to commercial bank loans. Secondly, the members are still entitled to dividends on their shares at the end of the accounting period. Lastly and the most important reason is that there are no collaterals required for members to acquire loans, members' shares and savings as well as guarantors act as collaterals. This third reason attracts the members of the SACCOs to be more actively involved in running and management of the SACCOs (SASRA, 2015).

The characteristics of members in the SACCOs are generally homogeneous as they are drawn together by members from the same economic activities/region. This means that when the economic periods are low all members mostly likely face similar difficulties in repaying loans, the verse versa is also true. Consequently, the rate of loan default in a given period might be low or high depending on the economic conditions prevailing as well as the economic characteristics of the members. In addition to this, there might be other instances of loan default based on individual characteristics of the members (Osoro & Muturi, 2015).

The highest percentage of liquidity for SACCOs is generated internally by members' monthly shares contributions, repayment of loans and in the least percentages being borrowing from commercial banks and other financial institutions; these continual contributions ensure permanence and growth of SACCOs even in the face of turbulent economic times (Kimari, 2013). Member's monthly share contribution are in most cases assured as the members understand that the numbers of share translates to the amount of dividends receivable at the end of the year. Loan repayment is mainly calculated on the members' ability, interest rate charged and the payment period. Most SACCOs also encourage their members to channel their salaries through the SACCOs to enable them

deduct the monthly contribution at source instead of depending on the members to make voluntary contribution.

1.1.1 Financial performance

Financial performance refers to the extent to which the financial objectives of a given firm are being executed by measuring results of firm's policies in monetary terms (Meigs, 1978). This can be done by analysis of production and productivity (total business performance), profitability, liquidity, working capital, non-current assets, cash flows and social performance, however the most common measuring unit is profitability ratios (Eshna, 2012). In 2015, the total assets of DT-SACCOs in Kenya increased by 13.7% to stand at 342.8 billion with the major components being loans and advances (SASRA, 2015). However the growth rate for the year declined as compared to 2014. The core capital to total assets ratio increased from 11.20% in 2014 to 12.17% in 2015. This represents a significant rise in terms of DT-SACCOs (SASRA, 2015). As per agency theory, shareholders expect high returns for their investment; it is the objective of the SACCO management to attain the highest possible returns to members in terms of dividends (Kimari, 2013). SACCOs should be able to cover their operating costs as well as other costs from generated revenues and provide for profits. DT- SACCOs are formed with the main aim of improving the financial wellbeing of their members (SASRA, 2015) it is therefore important and of key to study the financial patterns and challenges of these institutions. The analysis further shows that there was a general improvement in capital adequacy ratios where institutional capital to total assets improved from 5.42% in 2014 to 8.75% in 2015 (SASRA, 2015).

1.1.2 Credit Risk

Credit risk is the inability of a person to pay their financial or current liabilities as per the stipulated time and/or pattern when and as they fall due. This risk is the most expensive risk exposure of any financial intermediary as it distorts and threatens financial solvency of the institution (Chijoriga, 1997). To measure the extent of default in a given institution the default rate is calculated through use of non-performing loans rate (NPLR). This rate can be used to indicate the trend of the performing or non-performing loans. Though SACCOs try to use the aggregated shares of the guarantors to settle defaulted loan; this does not necessarily imply that their liquidity is reinstated as when the loan would have been repaid. This is due to the fact that the guarantor's shares are not in liquid form as they are usually either invested or loaned out to other members.

A time lag exists between when a loan is due and when it is declared as a defaulted, the SACCOs still expect the loan to be repaid. Consequently, liquidity in this period is most likely to be low in such periods. Late submissions of salaries and late or non-payment of loans can also be viewed as default in repayment. Efficient credit risk management is dependent on classifications, procedures, policies, governance and general practices of individuals and corporate entities (Zeller, 2001).

1.1.2.1 Credit risk management

Every loan issued out by a commercial institution presents a credit risk to the institution, this is because there is a probability of non-payment by the member. SACCOs have to develop mechanisms to ensure that this risk is minimised. Richardson (2002), suggests that credit risk management is an integral part of a financial institution. Maturity mismatch and late or lack of repayment possess the biggest risk to financial institutions, (Salman, 2004); moreover, contingent liabilities (such as litigation) may lead to late or

non-payment of financial obligations (Kelvin, 2008). The following are some of the credit risk management policies by SACCOs;

1.1.2.2 Lending out policies

For one to qualify for a loan in a SACCO they must be members and contribute a given number of shares. This is unlike in banks where the person applying for a loan is not a member and does not need to have contributed some share to the bank. Members' contribution as shares act as collateral, this contributed share is multiplied by a given factor (three times the saving in most cases) as loanable amount (Kibui & Moronge, 2014). Since the members shares are tied up in the SACCO, there is a sense of ownership and as thus this means that the member will try to save as much as possible to achieve the desired borrowing capacity (SASRA, 2015).

Only members are permitted to sign as guarantors for a given loan. These members' shares act as additional collateral. In case of default these shares shall be recouped to repay the loan. This creates a group pressure on the member guaranteed (Lagat, Mugor, & Otuya, 2013). Due to the close knit of members, and similarity in the social economical characteristics, members understand one another better and by the time they sign as guarantors, they have certainty of repayment of the guaranteed amounts (Osoro & Muturi, 2015). In addition to this the members must have banked with the SACCO for a given period (in most cases six (6) months). This provision allows the SACCOs to accumulate the members' history and payment ability should the member be granted the loan.

1.1.2.3 Loan Collection policy

Loan (credit) collection policy is essential for all financial intermediaries as voluntary repayment of debt is never guaranteed (Graham, 2007). In addition, Kariuki, (2010), argues that a credit policy should accelerate collection from slow paying individual,

reduce bad debt losses and ensure all members pay their loan obligations and outstanding instalments on time. SACCOs should use the least expensive methods to recover pending amounts, attaching members' contribution and those of guarantor's serves as the primary point of recovery of outstanding instalments (Nyakado, 2016).

1.1.2.4 Measure and classification of loans

The regulator has outlined procedures and classification of loans as follows:

1.1.2.4.1 Performing Loans

These are loans that are being serviced as per the stipulated timelines. This category present the least amount of risk since the owners continuously honour their financial obligations. According to SARSA (2015), performing loans reduced from 88.80% to 87.70% in 2015 as compared to the same period in 2014.

1.1.2.4.2 Watch loans

These are loans that have been defaulted for a period between one to thirty days. These are loans that have not previously defaulted but need to be watched closely to prevent them sliding to worse positions in the near future. According to Kariuki, (2010), watch list loans are the primary indicators of loan default and as an effective collection policy, the management should put more effort on this category, according to Altman theory, these loans are under grey region where the probability of failure or success is fifty-fifty. Watch loan rates increased by 49.10 % in 2015 from 2014 (SASRA, 2015). The regulator in the 2015 report recommended that the SACCOs' management should be vigilant to avert the possibilities of these loans falling into non- performing state.

1.1.2.4.3 Substandard loans

These are loans that have not been paid for a period over thirty (30) days but less than one hundred and eighty (180) days. These loans are likely to result in a loss as it's highly unlikely that the borrower will be able to repay the stipulated instalment. Interestingly this category of loans reduced by 3.8% in the year under review. This mean that SACCOs have improved methodologies in collecting loans outstanding.

1.1.2.4.4 Doubtful loan

These are loans that are improbable and the firm already anticipates loss of principal and/or interest, (Hon Kong Monetary Authority, 1995). As per SASRA classification, these are loans have been in default for a period over one hundred and eighty (180) days but below three hundred and sixty (360) days. SACCOs are required at this point to create provisions for doubtful debt. At this point the possibility of repayment is small and that of non-payment is at its highest (Kelvin, 2008).

1.1.2.4.5 Loss

These are irrecoverable loans and have been outstanding for a period of over three hundred and sixty (360) days. At this point all collecting mechanism have failed and outstanding amounts have to be written off (Hon Kong Monetary Authority, 1995). In 2015, the aggregate of loans written off amounted to 3.6 billion shillings. This indicates a significant loss of members saving in an uncollectable loans.

1.1.3 Liquidity

Liquidity is simply how easy assets can be converted to cash without affecting its value. In financial sector, this term means the ability of the firm to meet its current obligations without relying on long term assets. Liquidity affects the ability of the firm to efficiently

and effectively pay its short term liabilities as well as issue new loans as and when they fall due. In SACCOs, liquidity is of essence since the nature of members is homogenous and thus their borrowing patterns are nearly the same and to some extent predictable. This means that high number of members might apply for loans at a given time, but due to liquidity problems, the SACCOs might resolve to loan rationing or completely stop issuing new loans. Liquidity of an institution can be measured using the current ratio (the quotient of current assets to current liabilities; the quotient of 2.0 and above is viewed as favourable) or quick/acid test ratio (which measures the current assets less stock divided by the current liabilities; a ratio of 1.5 and above is favourable).

Holding too much cash (over liquidity) may mean inefficient utilisation of funds; since the liquid asset is held in accounts without generating revenues (in form of interests). Over capitalisation is where a firm has too much funds than it requires while overtrading is where a firm has a lot a fund requirement than it can possibly fund. On the other hand, having little cash (under liquidity) may mean that the SACCOs might not be liquid to issue new loans as well as meet the short term liabilities such as payment of bills and salaries. Financial institutions have to find an adequate liquidity balance between assets and liabilities (Zhu, 2001), moreover, the assessment, supervision and management of demand and supply of liquidity is essential in maintaining continuity of operational, financing and investment opportunities of financial sectors globally. According to Garcia-Teruel & Martinez-Solano, (2007), firms with liquidity difficulties will more likely delay payment of current and long term liabilities which sets a dangerous precedent and result in poor credit rating of the defaulting entity.

1.1.4 Deposit mobilisation and external borrowing

For SACCOs to effectively manage their cash flows, they should be able to mobilise members deposit to be higher than the demand for credit (SASRA, 2015). This is expected to reduce the huge appetite of SACCOs to borrow externally to fund the borrowing needs of the members. In addition mobilising deposits also creates a pool of funds that usually act as lender of last resort in case of illiquidity, acts as a platform for DT-SACCOs inter borrowing as well as investment funds for SACCOs. When demand for credit exceeds the supply (through) savings, SACCOs tend to borrow externally, in order to bridge this gap. The net interest in profit will ultimately reduce since the SACCOs will have to pay an interest for the borrowed funds. Normally, members are required to contribute some given amount as shares per month to the SACCOs, these funds in addition to recoveries for loan repayments provide the much need funds for running SACCOs.

SASRA has set the ceiling for external borrowing at 25% of total assets, this is aimed at safe guiding the members' interest since a ratio higher than this will result in very high interest expense leading to low returns and in some cases may cause SACCOs to be insolvent. Some SACCOs opt for short term external borrowing (such as fortnight borrowing) when they perceive that in the near future, members are to receive amounts enough to repay this borrowing. Its' often possible for a SACCO to borrow externally on 15th day of the month in order to have enough to issue salary advance loans, since they are assured that after two weeks they will be able to recoup their principal and interest. The same applies to farmers' SACCOs when they know that bonuses and proceeds for farmers are about to be released.

1.1.5 SACCO Structure in Kenya

The main objective of SACCOs is to mobilise saving and advance these saving to members on collateral such as saving. They engage in financial service provision like banks only that their main clientele are members. In Kenya, SACCOs are governed by the Cooperative Societies Act (Cap 490). This regulations covers all forms of SACCOs, however, Deposit Taking SACCOs (DT-SACCOs) are further regulated by their supervisory body, SASRA.

1.1.5.1 Regulatory framework

SASRA is a semi-autonomous government agency under the Ministry of Industrialisation and Enterprise Development. It was formed after the enactment of an Act of parliament (SACCO Societies Act No. 14 of 2008) and begun its operation in 2009. It is chiefly mandated to regulate, supervise and license DT-SACCOs in the country. The creation of this agency was as a result of the government reform agenda to protect interest of SACCOs' members and improve on public confidence in SACCOs. With this the government aimed at mobilising domestic savings and in the long run spur economic growth. With consultation with the relevant ministry, SASRA is expected to draft and implement regulations on DT-SACCOs. Over time, SASRA has developed numerous regulation from management of members' funds, reporting, minimum and maximum ratios, loan classifications among others (SASRA, 2015). By the end of 2015, SASRA had licensed 181 DT-SACCOs which were published in the *Kenya Gazette No.447, issue No. Vol. CXVII-No. 7*. Out of this number 5 were licensed to operate on a 6 months renewable conditional and restricted licenses (SASRA, 2015). In the same year the regulator deregistered five SACCOs. Consequently, in its 2015 annual supervision report,

SARSA only computed and made report of 176 DT-SACCOs out of the 181. Unlike DT-SACCOs, other forms of cooperatives are supervised by Commissioner for Cooperative Development (CCD).

1.2 Statement of the problem

Poor financial performance of SACCO has led to the collapse some of the SACCOs in the country as per the SASRA 2015 supervisory report on DT-SACCOs. In 2015, six SACCOs were issued with temporally operating licences while others had their licenses either suspended or further given temporary operating licences. Credit risk and liquidity risk management is of greatest significance to managers and shareholders of any given SACCO (Kariuki, 2010). A situation where one of the two variables is higher than a given norm might present an operating difficulty. SACCOs at times are unable to issue new loans and/or default in repaying externally borrowed funds when the need arises. This can be attributed to high liquidity risk and credit risks (Kibui & Moronge, 2014).

In a research on effects of financing strategies on liquidity of SACCOs in Nairobi County, Muthoni, (2014) concludes that there is a positive relationship between liquidity and financing strategies. An increase in liquidity ratio results in small proportionate improvement in performance. In addition the research indicates that firms with efficient strategies have high returns on investments that ultimately impacts on the performance of SACCOs. There have been difficulties in managing liquidity and credit risks by financial institutions which leads to low profitability (Kiwalabye, 2008). Poor management policies and collection practices results in low liquidity translating to low amounts being available for loaning out; consequently, SACCOs are forced to forgo the interest that would have been earned. Continuous reliance on external borrowing possess a very high risk to SACCOs and if not well controlled might result in collapse of the said institutions.

Efficient and effective utilisation of funds is on major concern to the governing bodies as well as regulators of SACCOs.

A number of studies have been carried out in SACCOs; Odhiambo (2012), indicated that better efficient working capital management results to better performance and in addition suggests that SACCOs should hold optimum level of working capital to achieve better performance. There is a positive relationship between dividend paid out and liquidity of SACCOs in Nairobi as per the study conducted by Mbatha (2016) on the effect of dividend pay-out on liquidity of licensed SACCOs in Nairobi.

1.3 Objectives of the study

The general objective of the study was to establish the relationship between credit risk, liquidity risk and financial performance of SACCOs in Kenya.

1.3.1 Specific objectives

The study specific objectives were to:

- i. Establishing the relationship between non-performing loans rate and financial performance of SACCOs in Kenya,
- ii. Establishing the relationship between current ratio and financial performance of SACCOs in, Kenya.

1.4 Research hypothesis

In this study the following were the research hypotheses:

- i. There is no significant negative relationship between credit risk and financial performance of SACCOs in Kenya;
- ii. There is no significant negative relationship between liquidity risk and financial performance of SACCOs in Kenya;

1.5 Significance of the study

Findings of this study were to add to the body of knowledge of what is known about operations of SACCO. In particular it was aimed at enhancing and improving the general management and effective management of SACCOs. Members of SACCOs are essentially the owners, it is to their greatest importance how their entities are being managed in their absence. This study will therefore gave an insight to the current and prospective members of SACCOs on how credit risk, liquidity risk and performance are related.

Policy formulation and implementation was yet another area where this study was to find relevance. In the study various credit and liquidity management procedures in place were explored. The finding aimed at assisting policy makers to improve on the current systems to improve on their performance. In addition, the research pointed out the research gaps that in future researchers can venture into. With the findings of this research new insights were to generate a need to study other aspects of credit risk, liquidity and performance of both financial and non-financial sectors of the economy.

The study also provided information to the regulatory authority (SASRA) and the government to enable them formulate appropriate policies. This will result in efficient utilisation of members' funds, mobilise more local savings and consequently spur economic growth of County.

1.6 Scope of the study

The study focused on financial performance, liquidity and credit risk of top and medium tier registered DT-SACCOs in Kenya. This was made possible by the study of performance trend of identified DT-SACCOs from 2012-2015. It used measures of credit

risk and liquidity risk as independent variables and financial performance as the dependent variable.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter literature existing about the relationship between credit risk, liquidity risk and financial performance were examined. This chapter outlines the theoretical and empirical literature and frameworks that had been put forth by different scholars in relation to credit risk, liquidity risk and financial performance. In addition to this objective, it will seek insight into related conceptual framework, hypothesis and variables.

2.2 Theoretical review

Various studies have been conducted on the subject of liquidity. Liquidity allows firm to operate and participate in trade as well as monitor and budget for the subsequent periods. It is a normal practice in many businesses to come across the terms cash flow, cash budget and cash and cash equivalent. Sacco Societies Regulatory Authority (SASRA) requires SACCOs to have a minimum liquidity of 15% of their saving deposits and short term liabilities in liquid assets (SASRA, 2015).

2.2.1 Liquidity preference theories

This theory was first proposed by John Maynard Keynes (1936) in his famous book the general theory of employment, interest and money. He argued that investors prefer short term investment where returns are expected within a shorter period than long term investment that are viewed to be more risky. Keynes further argued that for investors to invest in the long term they must be given higher rates to compensate for the risk involved in investing in long term assets. Short term planning is almost accurate

compared to long term periods; (a debt promised to be paid within the shortest time possible has a lower risk of default than a long term promissory payment). This is also compounded by the time value of money. A shilling today has a higher value than a shilling tomorrow, as inflation rises the value of the denomination shrinks. Investors therefore, who want to invest in the long run should be given an incentive (in this case a higher rate of return) else they would only prefer to remain as liquid as possible.

Out of the many investment decisions available to DT-SACCOs, advances to customer (loans) are more profitable than investment or purchase of bonds. Though with loaning out amounts, there is an increase in the probability of default. Commercial institutions including SACCOs have to balance between profitability and liquidity (Llewel, 2006). Moreover, these DT-SACCOs exist to enable their members to access loans and other credit facilities in the most convenient and easy manner. Consequently, loans to members constitutes the bulk source of income for the DT-SACCOs. In a typical statement of income for DT-SACCOs it is noticeable that the bulk of the income reported is from interest on loans. In meeting the members' expectations on obtaining credit, the SACCOs must devise methods and payment methods that will allow them to have enough liquidity at hand to not always pay out loans but also be compensated for the time the credit facility will be out. As per this theory, DT-SACCOs should maximise on short term lending such as salary advance loans, emergency loans among others and at the same time charge higher rates for long term credit facilities such as investment loans.

All loanable amounts are sourced from savings mobilised from members of SACCOs or investors who expect to receive back their investments and interests in time, SACCOs will prefer giving out loans that guarantee repayments in order to generate incomes for the members who are the owners. SACCOs have to balance between profitability (derived from loan interests) and liquidity (holding current assets). Should SACCOs hold liquid

assets they will not be able to pay the interest required by depositors, on the other hand lending out the entire amount puts the SACCO in an unstable position in terms of liquidity. When dealing with investors who wish to lend money to the SACCOs, the managers should invest in areas where they are certain that the rate of return from these investment is enough to cater for the investors' required rate of return and the administrative cost attached to such investment. Nwankwo (1991) suggests that both large and small financial institutions should have adequate and sufficient liquidity to meet all pledges and commitments (including new loan applications) at all times. According to the SASRA supervision annual report 2015, many SACCOs are unable to meet their current (short term) liabilities in particular that of disbursement of loans. The report further notes that once a member qualifies for a loan, it is deemed as their right to get the loan; this is in contrast to the banks where being qualified for a loan does not generate the right to receive the loan.

2.2.2 Pecking order theory

According to this theory, firms may finance their liquidity requirements from, internally generated funds, external borrowing (debt) or issuing new shares. Internal financing is the cheapest and easiest, followed by debt and then raising new equity. The higher the reliance on external borrowing the lower the return of the firm. This is due to the fact that the financing cost accrued from borrowing externally is reported as an expense and this ultimately reduces the net income. Since DT-SACCOs are not listed in the stock exchange, issuing new shares may not be applicable. SACCOs are expected to utilise internally generated funds to meet their commitment before they can opt for borrowing from commercial banks. Although these SACCOs may borrow at a negotiated interest rate the administrative costs of borrowing are not negligible. However, SACCOs can resort to borrowing from commercial banks in times of illiquidity; although, these loans

are expensive due to the interest rates charged. This is further complicated by often fluctuations of interest rates of commercial banks. To maximise the returns for Sacco's members, it is advisable that the revenues that are already generated by the firms plus the monthly members' contribution should be exhausted before borrowing externally. Where a DT-SACCO borrows from other commercial financial institutions such as banks, they should borrow for a short term than for long term purposes.

2.2.3 Credit Risk Theory

This theory was first put forward by Robert C. Metron who developed the Metron model to analyse the firm's ability to meet its financial liabilities, repay its creditor and the probability of a company going into credit default. According to this theory, a low-leveraged firm is favourable as it has enough assets to cover short term obligations as opposed to a high leveraged firm. Unless the credit period is long, a high leveraged firm is at a high default risk than a low leveraged firm. This is because long term credit period will allow the firms' assets to grow higher to cover liabilities (Wang, 2009). SACCOs should not depend on external borrowing to cater for its own administrative costs and in the event that they do borrow they should be sure that the assets to be derived from investing the borrowed amounts will be enough to cover the liability. The SACCOs should also avoid loaning out huge amounts to few individuals but by diversifying on the number of people they lend money to. This implies that if the number of loanees is high the probability of default is low as compared to the same value of loan lend to few members.

This theory is relevant to this research as it forms the basis of evaluating the possibilities of the SACCOs members defaulting. Should the members borrow enormous amounts (highly leveraged) in a short period, this theory predicts that the member will default

payment as and when the obligations become due. However, should the same loan be taken for a longer period, the model predicts that the members' assets will have enough time to grow to cover up the loan obligations.

2.2.4 Agency theory

Financial performance of financial institutions heavily depends on the investment decisions the managers invest in on behalf of their principal. Agency is where one party known as the agent acts on behalf of another party known as the principal. The concept emerged in the early 1970s, where owners of an entity entrust the management of that entity to managers and utilise the resources at their disposal to maximise the owner's wealth. Managers are charged with the responsibility of ensuring that the firm is managed efficiently (Beaver, 1966). With increased numbers of members of DT-SACCOs, all of them may not be having the capacity and technical capacity to run them. This requires them to hire professionals to manage the day to day activities of the firm. In this instance the principal are the members and the managers are the agents. Agreements made by the agents are deemed to be made by the principal. However, due to difference in risk attitude, personal expectations and other factors managers might not perform as per expectations of the owners. This leads to an agency conflict between the principal and the agents. On the other hand the expectations and opinions of the principal might be impractical or unattainable. To avoid adverse decisions and losses, the owners put in place mechanisms to monitor and govern managers (Eshna, 2012). One of the most commonly used mechanism is monitoring; the owners employ the services of auditors to check the practices of the firm to ensure prudent utilisation of resources (Meigs, 1978). The other methods include, incentives, threat of firing and use of annual general meetings to ensure that managers perform as expected.

2.3 Empirical review

2.3.1 Liquidity risk and financial performance

Non-performing loans also referred to as delinquency have been study over time on how they interact with other factors in the financial sector. In most cases these loans are seen as a liability in that they erode the earnings and investment confidence in banks (Beaver, 1966). In a casual study on the effect of credit risk on performance of commercial banks in Nepal, by analysing data of 14 commercial banks for a span of 5 years from 2010-2015 by applying regression model, Yuga (2016); concluded that non performing ratio had a negative effect on performance. This implied that the higher the credit risk the poor the performance of the commercial banks in Nepal further the study revealed that capital adequacy including cash do not influence performance and therefore conclude that there is a significant relationship between credit risk and performance. These findings were confirmed through a study on the impact of credit risk on profitability of Nigerian Banks by sampling banks from 2004-2008 by, Kargi (2011).

In a study on impact of credit risk on financial performance of Banks in Ethiopia, secondary data for eight banks that had operated for a period of over eleven years was collected and analysed using correlation and regression analysis. The study concluded that credit risk had a significant inverse relationship with bank performance Misker (2015).

In a cross sectional study by Kimari, (2013) on the relationship between credit risk management and financial performance of deposit Taking Microfinance Institutions and

SACCOs in Kenya, data was obtained from SACCOs under the supervision of SASRA. The sample size was 30 SACCOs out of the population of 215 registered SACCOs by then. Pearson correlation analysis and multiple regression analysis tools were used where the dependent variable was performance and independent variable was credit risk. The researcher concluded that: there is a significant positive relationship between credit risk management and performance.

2.3.2 Credit risk and financial performance

Liquidity ration being the ability of the firm to meet its current liability using its current assets (in most cases cash), has been described by many scholar as the main factor of production in the financial sector. It is expected that the higher the current ratio the more profitable an institution is; while institutions with lower liquidity ratios are in financial distress (Garcia-Teruel & Martinez-Solano, 2007). In a study on the relationship between Liquidity Risk and Performance by Toutou & Xiaodong, (2011): a selected sample of 12 banks from the EUROSTOXX index in different Eurozone was used, half year financial records from 2005-2010 analysed. The main aim was to establish how the global recession of 2008 had affected commercial banks and how the same had an effect on the performance of the said institutions. Loan to asset and loan to cash were used as liquidity risk ratios and for measurement of performance, Return on Assets, Return on Equity, Net Profit Margin and Net interest margins were used. Descriptive statistic and regression analysis test were applied, t-statistics and f- statistics were used with significant level at 5%. They obtained contradictory results and therefore were unable to establish any relationship between liquidity and bank performance.

Dietrich & Wanzenreid, (2011) conducted a research on determinants of bank profitability before and during the crisis with a focus on Switzerland where the study

found out that there existed a positive effect of liquidity on performance. This research findings are also supported by findings of study by Simeyo, (2016) that concludes that: there exists a significant positive relationship between liquidity risk management and performance of Microfinance banks (MFBs) in Kenya. The main objective of the study was to establish the relationship the relationship between liquidity risk management and financial performance of Microfinance banks in Kenya. The study employed longitudinal research by exploring data available for the period 2011-2015 for a sample of 6 MFBs out of the population of 12 MFBs. Secondary data was obtained, descriptive statistics were used to study the trend while Pearson correlation was used to determine the strength of the relationship among variables.

In investigating the relationship between liquidity and profitability of banks listed in Ghana Stock Exchange, Lartey, Antwi, & Boadi, (2013) selected 7 out of 9 listed banks. Time series analysis tool was used obtain trend in liquidity and profitability where they found out that for the entire period of 2005-2010, both liquidity and profitability were declining steadily, this lead them to conclude that there was a positive but weak relationship between the two variables.

Muraguri, (2014) conducted a study on the effect of liquidity on the return on investment for SACCOs in Nairobi, where data was collected from SACCOs randomly selected from a population of licensed SACCOs in Nairobi by SASRA. Both primary and secondary data were collected from the SACCOs and analysed by use of linear regression model. The research concluded that, liquidity has a positive effect on performance (measured by return on investment). These findings are affirmed by yet another study conducted by Mochama, (2015) on the effect of liquidity risk management practices on the financial performance of SACCOs in Kisii County. The target respondents were 20 from 5 licensed SACCOs in the County. Primary data was collected from the respondent by use of

questionnaires and secondary data obtained from the regulator. The researcher found out that Capital adequacy had a significant effect on return on Assets (which is an indicator of performance). In a research, Kioko (2002) concluded that high capital and cash requirements impacts positively on SACCOs profitability and that financial stability is at risk due to unpredictable operating micro and macro-economic environment in the country.

2.4 Summary of Literature review and research Gaps

This chapter reviewed literature relevant to the study; Liquidity preference theory, pecking order theory, credit risk theory and the agency theory have been studied and explained. In addition, the empirical studies conducted by different researchers have set a standard for the researcher to build on. There is no agreeable stand on the effect of non-performing loans on financial performance as some researcher have indicated a positive relationship (Kimari, 2013) and others an inverse relationship. Moreover, Kargi (2011) concludes that there is no relationship between the two variables. This creates room for further research to be done to ascertain how this two variables would relate to each other in the DT-SACCO set up.

Similarly, research on liquidity and financial performance has yielded a non-consistent pattern of results ranging from a contradictory finding by Toutou & Xiadong (2011) to a significant positive relationship by Dietrich & Wanzenreid (2011). With this conflicting findings on liquidity and financial performance, the researcher sought to find out how the two variables would behave in a Kenyan set up and more so the DT-SACCO industry.

From the review of literature, it was clear that the theoretical framework in deed provides the critical backbone for the research to be conducted. The lack of a consensus of the effect of liquidity on performance further propels the research objective. This was in

addition to the conflicting findings by different researchers on the topic of credit risk, and performance.

Table 2.1 Research Caps

Author (year)	Title	Findings	Research Gap
Yuga (2012)	Effect of credit risk on performance of commercial Banks in Nepal	Non- performing loans have negative effect on performance	Both non-performing loans and liquidity might have a relationship with performance
Kimani (2013)	Relationship between credit risk management and financial performance of deposit taking microfinance institutions and SACCOs in Kenya	There is significant positive relationship between credit risk management and financial performance	Period of study had limited data as DT SACCOs were first regulated in 2012
Kargi (2011)	Impact of credit risk on profitability of Nigerian Banks	There is significant relationship between credit risk and profitability	Could the same be true for DT-SACCOs in Kenya?
Toutou & Xiadong (2011)	Relationship between liquidity risk and performance	No concrete evidence to conclude the relationship	By focusing on one measure of variable it might be possible to infer a

			relationship
Simeyo (2016)	Relationship between liquidity risk management and financial performance of microfinance institutions in Kenya	There exists a significant positive relationship between liquidity risk management and performance	The relationship might be different if both liquidity and credit risk are considered
Muraguri (2014)	Effects of Liquidity on return on investment of SACCOs in Nairobi	Liquidity has a positive effect on Return on investment	Liquidity might have a different effect on other measures of financial performance such as return on assets

Source: Researcher 2017

2.5 Conceptual Framework

Independent Variables

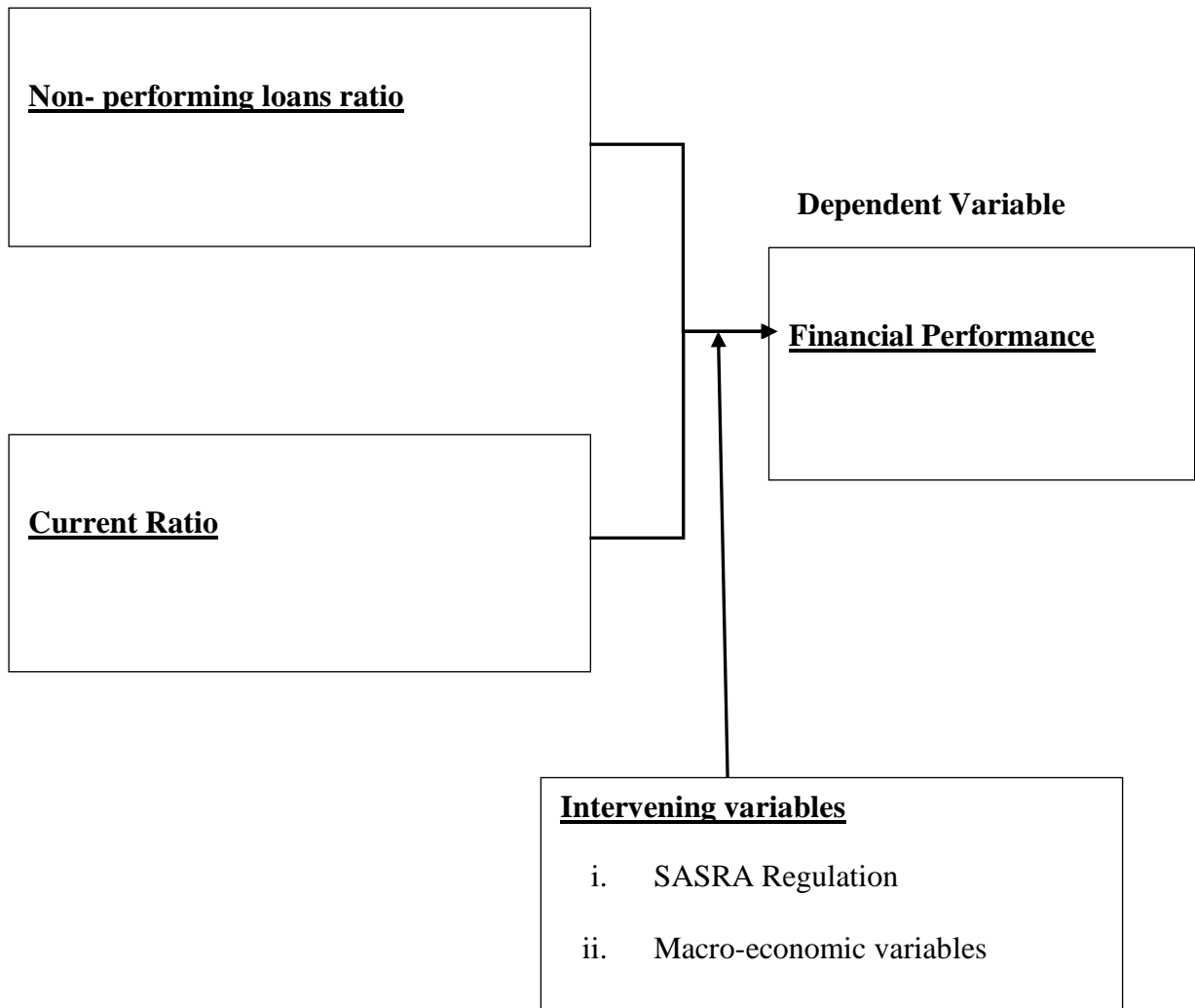


Figure 2.1 Conceptual Framework
Source: Researcher, 2017

2.5.1 Analytical Model

The study used regression inferential analysis where multiple regression was used to determine the relationship between the dependent and independent variables.

The relationship between these variables was to be summarised through a multiple regression equation as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

Where:

Y= Return on Assets (Performance)

α = constant term

β = beta co-efficient (effect of a unit change in X to Y)

X_1 = Non-Performing Loans Rate (Credit Risk)

X_2 = (1-Liquidity ratio in percentage)*--- (liquidity risk)

e = error term

2.5.2 Operationalization and measurement of variables

This sub section summarise the interrelatedness of variables, clearly identifying the dependent and independent variables and their hypothesised movement. The table below summarised the relationship between variables,

Table 2.1 Operationalization and Measurement of Variables

Variable	Type	Operationalization	Measurement	Hypothesised direction
Financial Performance	Dependent	Return on Assets	0-100%	No positive relationship
Credit Risk	Independent	Liquid Assets to short term liabilities (Liquidity Ratio)	0-100%	No positive relationship
Liquidity Risk	Independent	Non-Performing Loans Rate (NPLR)	0-100%	No positive relationship

Source: Researcher 2017

CHAPTER THREE

RESEARCH METHODOLOGY

3.2 Introduction

This chapter outlines the specific methods and procedures that will be used in conducting the research. It indicates the research methodology, research design, population, sample and sampling techniques as well as data collection and analysis tools to be used.

3.3 Research Design

This study used descriptive design where it described the characteristics of the population under study. This design allows the researcher to collect, present and infer findings (Borge & Gall, 1989), furthermore, it is an advantageous design as it enables the researcher use various forms of data and incorporate human experience (Morgan, 2007). A longitudinal approach shall be used, where data to be analysed shall be identical for the elements under study over a period of four years from 2012-2015. Longitudinal studies have an advantage of determining variable trends over time (Borge & Gall, 1989). A study by Kimari (2013) applied the same research design when studying the relationship between credit risk management and financial performance of deposit taking microfinance institutions and Sacco in Kenya; where a longitudinal descriptive design was applied for 30 entities.

3.4 Target Population

The target population in this research was all the 73 top and medium tier DT-SACCOs licenced by SASRA as at 31st December 2015 and have been in operation since the year

2012. Top tier DT- SACCOs are SACCOs with assets base of over 5 billion while medium tier SACCOs have assets above 1 billion but below 5 billion shillings.

Table 3.1: Category of DT-SACCOs by asset size in 2015

Category of DT-SACCOs by asset size		No. of DT-SACCOs in 2015
Top Tier	Above Ksh. 5 Billion	15
Medium Tier	Between Kshs. 1-5 Billion	58
	Total	73

Source: *SASRA supervisory report 2015*

3.5 Sampling size and design

All the 73 top and medium tier DT-SACCOs identified were analysed as from 2012-2015. Those that were not registered for the full 4 years were eliminated since the missing data for the period under which they were not registered would not have been obtained. As a result 10 DT – SACCOs were eliminated from the group under study. Therefore data was collected for the remaining 63 DT- SACCOs.

3.6 Data collection Procedure

This study used secondary data from published financial statements. Secondary data collection involves collection and analysis of publicly available data and other published information (Cooper & Schindler, 2003).

3.7 Data analysis and presentation

Data collected was analysed and any out layers corrected; mode, mean, variance and standard deviation in addition to inferential statistics such as regression were calculated,

tabulated. Quantitative data was analysed by use of computer application packages for analysis (SPSS 16.0). Diagnostic tests were carried out to test for multicollinearity among the independent variables to verify if the independent variables had any relationship that would affect the overall regression model. In addition to these techniques a regression model was used to establish the relationship between the variables independent variable (financial performance) and independent variables (credit risk and liquidity risk). The findings were presented using graphs, charts and tables.

3.7 Ethical consideration

All the information collected was treated with outermost confidentiality and was only used for the purpose of this study. No data was collected through falsehood or by coercion.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 introduction

This chapter presents analysis of data collected through the secondary data capture sheet developed in the previous chapter. Tables, graphs and figures are used in this chapter in order to study, credit risk, liquidity risk and financial performance of deposit taking saving and credit co-operative societies in Kenya.

4.2 Analysis of response rate and descriptive statistics

The study sought to investigate return on assets, credit risk and liquidity risk for four years from 2012-2015. Table 4.1 summarises the key findings on the average values of the study variables for four years 2012-2014:

Table 4.1: Average of variables for 4 years 2012-2015

	2012	2013	2014	2015
Return on Assets (%)	1.60	1.97	2.17	2.22
Credit Risk (%)	1.68	0.51	0.60	0.99
Liquidity Risk (%)	0.82	0.80	0.82	0.78

Source: *Research data, 2017*

The average return on assets (ROA) was lowest in 2012 at 1.60% and highest in 2015 at 2.22%. The general trend for ROA has been fluctuating over the four years under study. Credit risk was at the lowest point in 2013 at 0.51% at highest in 2012 at 1.68%. This implies that just like ROA, credit risk has also been fluctuating over the same period of

study with a sharp drop from 1.68% in 2012 to 0.51% in 2013. Liquidity risk on the other hand was least in 2015 (0.78%) and highest in 2012 and 2014 (0.82%). Unlike the other two variables under study, liquidity risk has a form of consistency oscillating between 0.82% and 0.78%.

4.2.1 Return on Assets

Data was collected from all the 59 DT SACCOs. The ROA ratio was computed from the values derived from the financial statements and summaries of presented accounts to the regulator. The net income was extracted from the statements of comprehensive income while the asset values were obtained from the statements of financial position as at the end of each of the respective years for all DT-SACCOs under study.

Table 4.2: Return on Assets 2012-2015

	2012	2013	2014	2015
Mean	1.60	1.97	2.17	2.22
mode	0.00	0.00	0.00	0.00
median	1.31	1.89	2.16	1.90
Variance	1.11	1.41	1.40	1.69

Source: *Research data, 2017*

From Table 4.2, the ROA which was used to measure the financial performance of the SACCOs, there was no modal number that means that every entity had a different value of ROA and this value was not identical to any other DT-SACCO. The median number was 1.31 in 2012 and gradually seemed to increase through to 2.16 in 2014 before dropping to settle at 1.90 in 2015. A similar trend was observed in terms of the variance value which began at a low of 1.11 in 2012, increased to 1.69 in 2015. The ROA shows

an upward steady growth curve implying that the net income and net assets of the DT-SACCOs has generally been rising over time.

This information was presented in the figure 4.1:

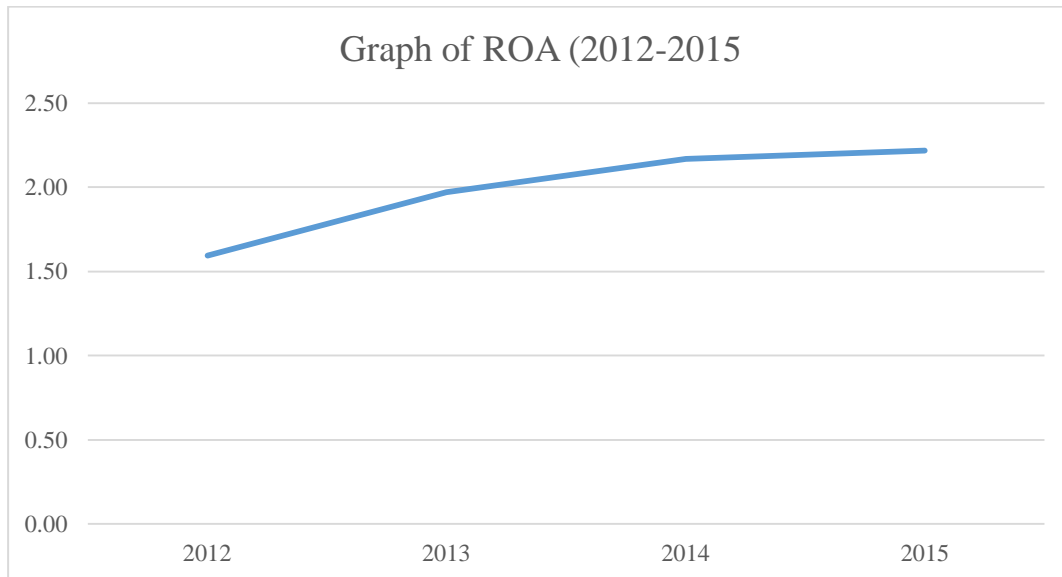


Figure 4.1 Graph of ROA (2012-2015)

Source: *Research data, 2017*

The graph is upward sloping from left to right. This indicates that there has been an increase in return on assets over the period under study. This can be explained by the fact that most SACCOs have rapidly been expanding in assets and in membership numbers.

4.2.2 Liquidity Risk

Liquidity risk measured from the identified DT-SACCOs was presented in Table 4.3. The data for some SACCOs was already presented in the covering summaries but for others direct computation was done by obtaining the liquidity quotient.

Table 4.3: liquidity risks 2012-2015

	2012	2013	2014	2015
Mean	81.66	80.16	81.91	78.22
mode	88.00	84.00	84.00	88.00
median	85.00	83.00	83.80	81.80
Variance	178.88	175.67	485.05	305.57

Source: *Research data, 2017*

The modal amount was 88% both in 2012 and 2015. As also observed from the table above, the mode was 84% both in 2013 and 2014. The median oscillated between 81% and 78% which implies that the liquidity risks between 2012 and 2015 ranged between 81% and 78%. The highest variance levels were highest in 2014 at 485.05 and least in 2013 at 175.67. Median values was 85% in 2012 stagnated at 83% in 2013 and 2014 before dropping to 82% in 2015. This implies that the DT- SACCOs have been very compliant with the regulators required minimum liquidity level of 15% (maximum risk of 85%).

4.2.3 Credit Risk

Credit risk was measured by use of delinquency ratio. It is a requirement by the regulator (SASRA) that each DT-SACCO should report the delinquency ratio in the summary cover page in all published financial statements. However some DT-SACCOs had not reported this rate and as such, direct computations were done. The ratio was obtained as the quotient of provision for bad debts over total (gross) loans and advances.

The information is as presented in Table 4.4

Table 4.4: Credit risk 2012-2015

	2012	2013	2014	2015
Mean	1.68	0.51	0.60	0.99
mode	0.26	0.34	0.20	0.50
median	0.48	0.62	0.53	0.50
Variance	14.66	43.23	41.57	7.02

Source: *Research data, 2017*

From Table 4.4, the highest variance values were recorded in 2013 at 43.23 and least in 2015 at 7.02. The mode values ranged between 0.20 in 2014 to a high of 0.50 in 2015. On the other hand, median values were highest in 2013 at 0.62 and least at 0.48 in 2012.

The graph plotted for credit risk over the 4 years (2012-2015) indicated that there was a sharp decline in credit risk between 2012 and 2013 before a steady but low increase in this risk between 2013, 2014 and 2015. This implies that the non-performing loans in 2012 and 2013 were very low compared to the other years under study; this might have resulted in the general economic conditions prevailing in the respective financial year. This is as presented in the fig. 4.2;

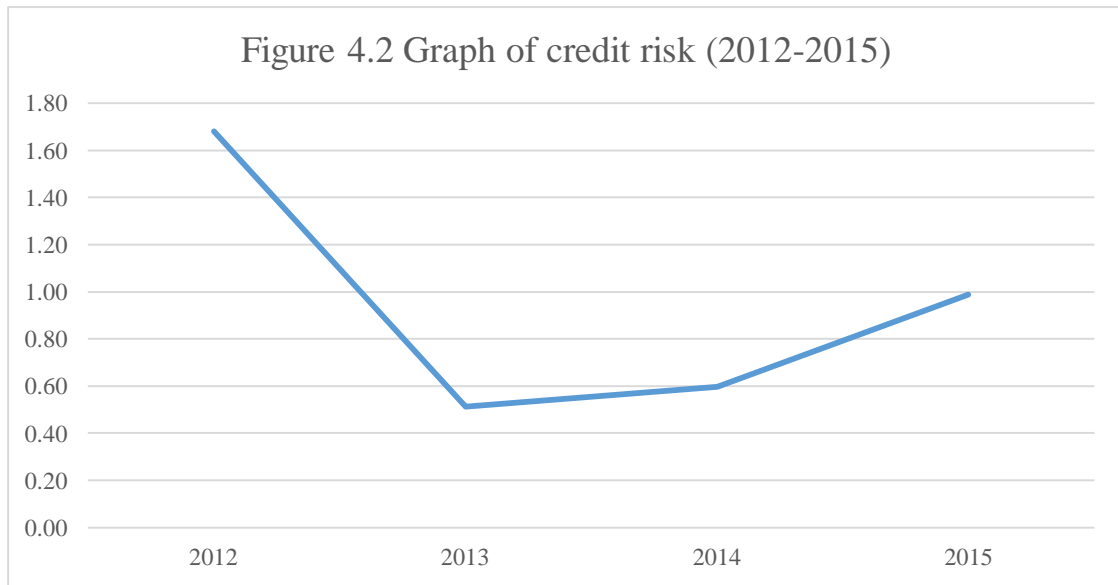


Figure 4.2 Graph of Credit risk (2012-2015)

Source: *Research data, 2017*

4.2.4 ROA, Credit risk and Liquidity risk combined effect

The interrelation between the variables was exploited to find out if any intersection or similarity in trend among the variables could be spotted. The graph obtained are as shown in figure 4.3:

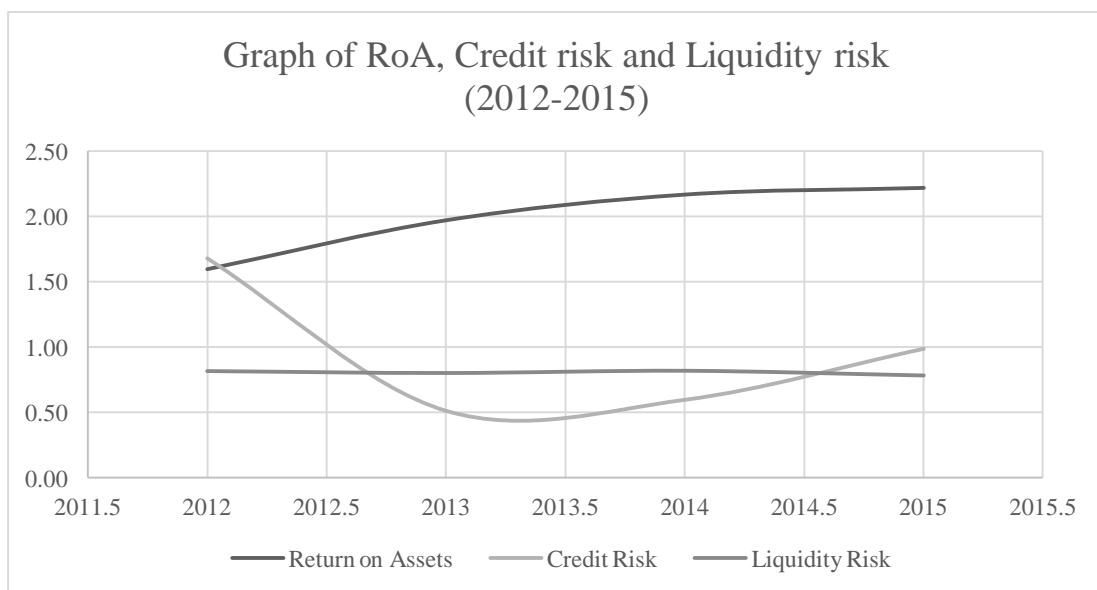


Figure 4.3 Combined Graph of ROA, Credit risk and Liquidity (2012-2015)

Source: *Research data, 2017*

Credit risk curve intersected with ROA early in 2012 before intersecting the liquidity risk curve late 2015 and mid-2015. The liquidity risk curve remained relatively constant over the period under study while the credit risk curve experienced a sharp decline before steadily rising as from 2013. No intersection was observed between the ROA curve and the liquidity risk curve. This implies as the DT-SACCOs maintained a steady liquidity levels, there was a steady growth in their financial performance. On the other hand credit risk – which is an external factor was uncontrollable hence high levels of fluctuation.

4.2.5 Descriptive statistics

This section presents mean, minimum, maximum, standard deviation and the number of elements studied. Data was obtained for 59 DT-SACCOs and was used for further computations, analysis and conclusions for the study. This consequently present the number of elements (N) was 59 out of a total population under study of 63 DT-SACCOs. This represents a 94% response rate which is sufficient to conduct the study.

Table 4.5: Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ROA	59	-2.67	7.11	2.15	1.54
Credit	59	.15	30.77	1.25	3.99
Liquidity	59	16.24	122.58	80.48	14.32
Valid N (listwise)	59				

Source: *Research data, 2017*

The maximum ROA was 7.11%, the minimum value recorded was -2.67%; the mean was 2.1519% and a standard deviation of 1.54%; Credit Risk on the other hand had an average of 1.25%, minimum value was 0.15% and the maximum was 30.77%; the corresponding value of standard deviation of 3.99% was computed. The third variable, liquidity risk had a mean of 80.49%, minimum of 16.24%, maximum of 122.58% and a standard deviation of 14.32%. The mean liquidity rate of 80.49% means that the DT-SACCOs studied experience a very high liquidity risk but were within the SASRA recommended levels. With a minimum liquidity ratio of 15% as required by SASRA, (85% liquidity risk) this implies that these SACCOs met the minimum liquidity rates.

4.2.6 Test for multi collinearity

Since the study employed multiple regression analysis, it was necessary to test for multicollinearity between independent variables. The findings were as outlined on table 4.3.

Table 4.6: Test for multicollinearity

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	Liquidity	1.000	1.000
a. Dependent Variable: Credit risk			

Source: *Research data, 2017*

Variance inflation factor/rate (IVF) is used to measure the degree of collinearity. When IVF equals to 1, collinearity is moderate. IVF between 5 and 10 indicates high correlation, if above 10 the coefficients are poorly estimated caused by multicollinearity. In table 4.6 the IVF computed for liquidity risk and credit risk is 1.00 this means that there is no collinearity between the independent variables. This therefore allows for

further analysis of the independent variables knowing that the two do not affect each other.

4.2.7 Correlation analysis

Association between variables was assessed by use of Pearson correlation coefficient at 95% significant level and a 2- tailed test. The results were as presented in the table 4.7:

Table 4.7: Correlation Analysis

		Correlations		
		ROA	Liquidity	Credit
Pearson Correlation	ROA	1.00	-.52	-.14
	Liquidity	-.52	1.00	.16
	Credit	-.14	.16	1.00
Sig. (1-tailed)	ROA	.	.00	.15
	Liquidity	.00	.	.11
	Credit	.15	.11	.
N	ROA	59	59	59
	Liquidity	59	59	59
	Credit	59	59	59

Source: *Research data, 2017*

From Table 4.7, both credit risk and liquidity risk exhibit a negative correlation with the dependent variable (ROA). Pearson correlation measures the strength of association between two variables. An interval of 0.0-0.3 indicates no correlation, 0.3-0.5 presence of weak correlation, 0.5-0.7 indicate a fair relationship and 0.7- 1.0 strong correlation. The positive and negative signs indicate the nature of the relationship.

Credit risk and financial performance of the firm (measured by ROA) has a coefficient of -0.14 this indicates that there is no relationship between the two variables. This confirms the research findings by Misker (2016) where the research concludes that there is an inverse relationship between credit risk and financial performance. The higher the credit risk the lower the financial performance.

Liquidity risk has a rate of -0.520, which indicates a fairly strong negative relationship. This finding contradicts those on effect of liquidity risk management practice and financial performance of SACCOs in Kisii County (Mocahan, 2015); which concluded a positive relationship. From the research finding in table 4.7 the financial performance increases as the liquidity risk reduces. This is a negative inverse relationship.

4.2.8 Regression analysis

Regression analysis was done to establish the mathematical relationship between the three variables. Correlation analysis as well as regression equation analysis were conducted for this purpose. The results and discussions are as shown in table 4.8

Table 4.8: Correlation Analysis

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.523 ^a	.27	.25	1.33	.27	10.53	2	56	.000

a. Predictors: (Constant), Credit, Liquidity

Coefficients^a					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95% Confidence Interval for B

	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	6.60	1.01		6.55	.00	4.58	8.62
Liquidity	-.055	.012	-.511	-4.42	.00	-.080	-.030
Credit	-.021	.045	-.056	-.48	.63	-.111	.068

a. Dependent Variable:

ROA

Source: *Research data, 2017*

The table 4.8 gives the summary of the key regression analysis including analysis of variance (ANOVA) and coefficients of the regression model. The correlation coefficient (r) is 0.52 while coefficient of determination (r^2) is 0.27. This implies that 27% of change in financial performance as measured by Return on Assets (ROA) can be explained by changes in credit risk and liquidity risk while 73% of change in financial performance is explained by other factors not under the scope of this study. Beta coefficients for both of the study variables are negative. This implies that there is a negative relationship between the independent variables (credit risk and liquidity risk) and the dependent variable of ROA.

4.2.8.1 The regression equation

From the regression table the model below was derived:

$$Y = 6.60 - 0.21X_1 - 0.05X_2$$

Where:

Constant = 6.60

Y= Return on Assets (Performance)

X_1 = Non-Performing Loans Rate (Credit Risk)

$$X_2 = (1 - \text{Liquid assets to short term liabilities}) * 100 \text{--- (liquidity risk)}$$

From the equation, with the absences of credit risk and liquidity risk (X_1 and X_2 being zero), ROA will be 6.60. This implies that the other factors not studied under the current research will accumulatively result to a positive 6.60 rate of ROA.

ROA decreases by 0.21 per unit increase in credit risk and decreases by 0.05 per unit increase in liquidity risk. This further proves that the two independent variables have a negative relationship with the dependent variables.

4.2.9 Hypothesis testing:

Hypothesis testing was done by use of paired t-test per variable and as per the study objectives identified. The results obtained were as follows:

i. Hypothesis 1

H_0 (null hypothesis) -- There is no significant negative relationship between credit risk and financial performance of SACCOs in Kenya;

H_1 (alternate hypothesis) --There is a significant negative relationship between credit risk and financial performance of SACCOs in Kenya;

Table 4.9: ROA-Credit risk paired T-test

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	ROA & Credit	59	-.14	.29

Paired Samples Test					
Paired Differences			t	df	Sig. (2-

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				tailed)
				Lower	Upper			
Pair 1 ROA - Credit	.90	4.47	.58	-.27	2.06	1.54	58	.13

Source: *Research data, 2017*

The value of coefficient of correlation (r) obtained is -0.14 implying a negative relationship. At 95% confidence interval the value obtained is 0.13 ($p > 0.05$) implying that there is no significant relationship between the two variables of credit risk and ROA. The two conclusion put together translates to a negative but weak relationship between credit risk and financial performance. This leads to acceptance of the null hypothesis (there is no significant negative relationship between credit risk and financial performance of SACCOs in Kenya) and rejection of alternate hypothesis; the mean of the differences between ROA and credit risk is 0.90 and the corresponding value of standard deviation of 4.47.

ii. Hypothesis 2

H_0 (null hypothesis) -- There is no significant negative relationship between liquidity risk and financial performance of SACCOs in Kenya;

H_1 (alternate hypothesis) -- There is a significant negative relationship between liquidity risk and financial performance of SACCOs in Kenya;

Table 4.10: ROA-Liquidity risk paired T-test

Paired Samples Correlations			
	N	Correlation	Sig.
Pair 1 ROA & Liquidity	59	-.520	.000

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 ROA - Liquidity	-7.8	15.17	1.97561	-82.29	-74.38	-39.65	58	.000

Source: *Research data, 2017*

The value of coefficient of correlation (r) obtained is -0.52 implying a fairly negative relationship between liquidity risk and financial performance. At 95% confidence interval the value obtained is 0.00 ($p < 0.05$) implying that there is significant negative relationship. This leads to a conclusion that liquidity risk and financial performance have a negative significant relationship. Consequently, the null hypothesis was rejected and alternative hypothesis accepted (there is a significant negative relationship between liquidity risk and financial performance of SACCOs in Kenya).

4.3 Discussion of Research Findings

The results of the extracted financial records published by 59 DT-SACCOs has been presented with the aim of accomplishing the objectives of the study. Graphical drawings on the three variables indicated that liquidity risk remained relatively constant over the period of study, financial performance rose steadily while credit risk fluctuated within the said period of study. This implies that the DT-SACCOs under study have been able to manage their liquidity levels as required by the regulator, however the defaulted loans between 2013 and 2015 have been increasing. The management of these DT-SACCOs

should therefore improve on loan recovery mechanism to prevent a high credit risk as well as perform due diligent on the loan applicants.

Multi collinearity was tested for the independent variables and it was established that there was no multi collinearity between credit risk and liquidity risk implying that the two variables do not affect each other. Credit risk was measured by use of non-performing loans rate (delinquency ratio) while liquidity risk was measured by 1- liquidity ratio. Pearson correlation coefficient ratios indicated that there negative relationship between credit risk and financial performance and a unit increase results in a decline of financial performance by 0.21 units. The findings confirms the research conducted on the effects of credit risk on corporate liquidity of deposit taking microfinance institutions in Kenya (Wambui, 2014) where liquidity levels has a negative effect on credit risk.

Similarly, Liquidity risk has a negative relationship with financial performance. A unit increase in liquidity risk results to a decrease of financial performance by 0.05 units. The results obtained concur the findings conducted on delinquent loans and financial performance of selected commercial banks in Nigeria (Alalade, 2016) that concludes that there is a negative relationship between credit risk and financial performance. This is due to the fact that when liquidity risk increases the ability of the DT-SACCOs to pay the financial obligations including approved loans reduces. This in term reduces the interest that would have been earn should the liquidity levels been higher and the obligations honoured. On the other hand, high credit risk means that members are unable to pay for outstanding loans and interest, this leads to a write off of the loans and the earned interest. The amount written off is presented as expenditure on the statement of income which reduces the net profit reported.

Hypothesis testing was carried out at 95% confidence intervals as per the hypothesis in the objectives of the study. Alternate hypothesis (H_1) were developed negating the null hypothesis (H_0). The results obtained led to the conclusion that there is no significant negative relationship between credit risk and financial performance. This findings affirms the findings of a research on effect of credit risk on performance of commercial banks in Nepal (Yuga, 2016) and that carried out on impact of credit risk on financial performance of banks in Ethiopia. Both studies conclude that there is a negative but not strong relationship between credit risk and financial performance. Likewise hypothesis test showed that there is a fair negative relationship between liquidity risk and financial performance, affirming that low liquidity leads to low financial performance (Dietrich & Wanzenreid, 2011).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter outlines the summary, conclusion, recommendation and suggestion for further study as identified in the course of the research.

5.2 Summary

The objectives of the study were based on credit risk, liquidity risk and financial performance of DT-SACCOs in Kenya: with the aim of establishing any relationship between them. Data collected from published financial records was obtained directly from SASRA depository department. Return on assets (ROA) was used to measure financial performance, non-performing loans rate was used to measure credit risk and 1-liquidity rate was used to measure liquidity risk.

The regression equation was computed to be $Y = 6.60 - 0.21X_1 - 0.05X_2$ this implies that a unit increase in credit risk reduces financial performance by 21% and a unit increase in liquidity risk results in a 5% in financial performance. The coefficient of correlation between credit risk and financial performance was -0.14; this implies that there is a weak and negative relationship between credit risk and financial performance; this is because a coefficient of 0.3-0.5 indicates the presence of weak correlation while the negative sign implies a negative relationship. The co-efficient of liquidity risk was -0.520 implying a fairly negative relationship between liquidity risk and financial performance. This was further confirmed by hypothesis tests carried out 95% confidence levels indicated that there is no significant negative relationship between credit risk and

financial performance but there is a fairly negative relationship between liquidity risk and financial performance.

5.3 Conclusion

Though liquidity and credit levels are an important aspect of any business entity, they have opposite interaction when it comes to financial performance. Both Liquidity risk and credit risk have a negative effect. In respect to coefficient of determination, 27% of changes in financial performance can be explained by change in credit risk and liquidity risk the other factors therefore, account for 73%.

Managers of DT-SACCOs should aim at reducing their risk exposure particularly that of liquidity risk because it is this form of risk that is highly negatively related to financial performance as compared to that of credit risk.

5.4 Limitation of the study

The published financial statements of various DT-SACCOs differed, so did the disclosures contained in them. The large DT-SACCOs had better presentation of financial statement while the smaller ones had difficulties and a lot of inconsistencies. Change in accounting records and policies also presented a difficulty in interpreting the financial information.

The study also limited itself to two independent variables (credit risk and liquidity risk) and return on assets as measure of financial performance. The effect of other measures of financial performance such as return on investment (RoI) was not factored.

Secondary data was relied upon for the purpose of the study. The explanations that would have been obtained through primary data was therefore omitted. The information obtained

through secondary sources is mostly historical and therefore may not show a clear picture of the future patterns to be expected.

The period under study was 2012-2015, the period under which the SACCOs were licensed by SASRA. The period prior to the year were not factored and thus a clear pattern could not be drawn.

5.5 Recommendation

There exists a negative relationship between liquidity risk and financial performance of DT-SACCOs. It is recommended that SASRA which is the regulatory body reviews the current set minimum liquidity levels in order to cushion the DT-SACCOs against the negative effects of low liquidity. The managers of DT-SACCOs should find the optimal combination of liquidity levels for their specific operations to reduce shortages and delays in deployment and release of loans. Further, the managers can resolve to utilise short term borrowing to bleach the liquidity gap that might be temporarily be experienced.

Credit risk also exhibits a negative relationship with financial performance. DT-SACCOs' credit department should invest heavily on fact finding before issuance of loan and apply aggressive loan recovery procedures to ensure loan repayments on time. Furthermore, the DT-SACCOs should include an insurance component on the issued loans so that they can make a claim if the loan is defaulted. It is also recommended that the government enacts laws that will ensure employers furnishes the DT-SACCOs with relevant employee details and credit history.

In general that managers are advised to find the optimal combination on credit levels and liquidity levels that optimise their financial performance since both variables have a negative effect on performance. Prudent investigation of borrowers as well as services of credit reference bureau (CRB) should be used to safe guard against defaulters. Moreover,

managers should pay attention to other factors as they contribute a constant of 6.60 to the financial performance as per the regression computed.

The regulator should standardise the format of presentation of published financial statements as well as the disclosures to be done. This will allow for longitudinal analysis of elements having similar characteristics. SARSA should also increase the current liquidity ratio from 15% (85%- liquidity risk). This will improve the liquidity levels and this funds available to loan out to members.

5.6 Suggestion for further studies

This study limited its scope to studying only two variables (credit risk and liquidity risk) and how they affect financial performance. Other variables not studied contribute a bigger share of financial performance (as indicated by a constant figure of 6.60). It is suggested that further research can be done on this other factors to determine how they specifically affect financial performance.

REFERENCES

- Alalade, Y. S. (2016). Delinquent Loans and Financial Performance of Selected Commercial Banks in Nigeria. *World Journal of Finance and Research* 1 (1), 53-66.
- Beaver, W. (1966). Financial ratios as predictors of failures. *suppliment to journal of accounting Research*, 150-853.
- Borge, R., & Gall, M. (1989). *An introduction to theory and practice*. London: Alley and Becon.
- Chijoriga, M. M. (1997). *Application of Credit Scoring and Financial Distress Prediction Models to Commercial Banks: The Case of Tanzania*. Vienna: Phd. Dissertation, Wirts Chaftsnnversitat Wien (WU).
- Cooper, D. R., & Schindler, P. (2003). *Business Research Methods, (8th Edition)*. New York: McGraw.
- Dietrich, A., & Wanzenreid, G. (2011). Determinants of Bank Profitability before and during the crisis: Evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money* 21, 305-325.
- Eshna, J. (2012). Financial performance- understanding its concept and importance.
- Evans, A. (2001). *Strengthening Credit Unions in Sri Lanka*. Madison: USA: World Council Of Credit Unions.
- Garcia-Teruel, P., & Martinez-Solano, P. (2007). Effects of working capital management on SME Profitability. *International Journal of Managerial Finance*.
- Graham, O. (2007). Agricultural and Rural development. *Rural Outreach of Financial cooperatives*.
- Hon Kong Monetary Authority. (1995). The New Loan Classification System. *Banking Policy Department*, 21-26.

- Kargi, H. (2011). *Credit risk and performance of Nigerian Banks*. Ahmadu Bello University: Zaria: Department of Accounting, Faculty of Administration.
- Kariuki, J. (2010). Effective Collection Policy. *KASNEB Publications*, 42-45.
- Kelvin, D. (2008). *Managing Liquidity Risks*. Shanagai: Melbourne centre for financial studies.
- Kibui, N., & Moronge, M. (2014). Effects of credit risk management on financial performance of SACCOs: case study of Harambee SACCO. *International Journal of Social Sciences and Project Planning Management*, 152-180.
- Kimari, K. (2013). *Relationship between Credit Risk Management and Financial Performance of Deposit taking Microfinance Institutions and SACCOs in Kenya*. Nairobi: Unpublished Thesis: University of Nairobi.
- Kioko, B. (2012). *Impact of SASRA regulations on financial Performance of SACCOs in Kenya*. Nairobi: Unpublished Thesis: University of Nairobi.
- Kiwalabye, J. (2008). *quarterly newsletter*. UNDP Uganda.
- Lagat, F., Mugor, R., & Otuya, R. (2013). Effect of credit risk management practices on lending portfolio among SACCOs in Kenya. *European Journal of Business Management*, 90-107.
- Lartey, A., Antwi, M., & Boadi, D. (2013). *Relationship between Liquidity and Profitability of Banks Listed in Ghana Stock Exchange*. Accra, Ghana: Accra University.
- Llewel, D. (2006). *The regulation and supervision of Financial Institution*. London: Chartered Institute of Bankers.
- Mbatha, V. M. (2016). Effect of dividend pay out on liquidity of Licensed Non- Deposit taking SACCOs in Nairobi County. *The Strategic Journal of Business and Change Management*, 1260-1274.

- Meigs, W. B. (1978). *Intermediate Accounting*. New York: McGraw- Hill.
- Mochama, E. O. (2015). Effects of liquidity-risk management practices on the financial performance of SACCOs in Kisii County, Kenya. *International Academic Journal of Information Science and Project Management 1 (4)*, 67-83.
- Morgan, D. (2007). Paradigms Lost and Paradigms Regained methodological Implications of combining qualitative and quantitative Methods. *Journal of Mixed Methods of Research*, 42-60.
- Mugenda, O., & Mugenda, G. (2003). *Research methods quantitative and qualitative approaches*. Nairobi: Act Press.
- Munyiri, C. (2006). Role of women in development of microfinance in Africa. *Digest*, 1-9.
- Muraguri, J. (2014). *The effect of liquidity on the return on investment for SACCOs in Nairobi*. Nairobi: Published Thesis: University of Nairobi.
- Muthoni, P. K. (2014). *Effects of financing strategies on liquidity of SACCOs in Nairobi County*. Nairobi: Unpublished thesis: University of Nairobi.
- Nyakado B. (2016). *Effects of credit policy on the liquidity of deposit taking SACCOs in Nairobi County*. Kenya: University of Nairobi.
- Odhiambo, J. (2012). *Relationship between working capital and Financial Performance of DT-SACCOs in Nairobi County*. Nairobi: Unpublished thesis: University of Nairobi.
- Orodho, A. (2002). *Essential of Educational and Social Science Researchers' methods*. Nairobi: Masda Publishers.
- Osoro, E., & Muturi, W. (2015). Effects of liquidity- risk management practices on the financial performances of SACCOs in Kisii County. *International Academic Journal of Information sciences and Project Management*.

- Richardson, D. (2002). PEARLS monitoring system. *WOCCU tool kit series 4*.
- Salman, S. (2004). Islamic modes of financing and associated liquidity risks. *conference on monetary sector in Tehran*. Iran.
- SASRA. (2015). *The SACCO supervision Annual Report*. Nairobi Kenya: The SACCO Regulatory Authority.
- Simeyo, O. (2016). Empirical analysis on relationship between Liquidity risk management and Financial Performance of Microfinance banks in Kenya. *Research Journal of Finance and Accounting* 7 (5), 129-151.
- Toutou, J., & Xiaodong, X. (2011). *The relationship between Liquidity Risk and Performance: An empirical study of Banks in Europe 2005-2010*. Umea School of Business.
- Wambui, M. C. (2014). *The effect of credit risk on corporate liquidity of deposit taking microfinance institutions in Kenya*. Nairobi: University Press.
- Wang, Y. (2009, June). structural Credit Risk Modeling: Merton and Beyond. *Society of actuaries: Risk Management*, 30-35.
- Yuga, B. (2016). *Effect of Credit Risk on the Performance of Nepalese Commercial Banks*. Nepal: Tribhuvan University.
- Zeller, M. (2001). Solidarity groups reaching poor clients with high repayment rates. *Focal Point for Micro Finance* 2, 4-8.
- Zhu, H. (2001). Bank runs, welfare and Policy Implications. *Bank of International Settlement working paper 107*, 14-32.

APPENDICES

APPENDIX I: PROJECT APPROVALS



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 020 400 7000,
0718788787, 0733404245
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off'Wayaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref No: **NACOSTI/P/17/93827/19270**

Date: **22nd September, 2017**

Allan Wachira Mwangi
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Credit risk, liquidity risk and financial performance of Deposit Taking Saving and Credit Co-Operative Societies in Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **all Counties** for the period ending **21st September, 2018.**

You are advised to report to **the County Commissioners and the County Directors of Education, all Counties** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.


GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioners
All Counties.

The County Directors of Education
All Counties.



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 11th September, 2017

TO: Allan Wachira Mwangi
C/o Accounting and Finance Dept.

REF: D53/OL/KER/26559/2015

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 6th September, 2017 approved your Research Project Proposal for the M.B.A Degree Entitled, "Credit risk, liquidity risk and financial performance of deposit taking saving and credit co-operative societies in, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

ELJAH MUTUA
FOR: DEAN, GRADUATE SCHOOL

c.c: Chairman, Accounting and Finance.

Supervisors:

1. Dr. Isaac Nailbey
C/o Department of Accounting and Finance,
Kenyatta University



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/OL/KER/26559/2015

DATE: 11th September, 2017

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

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR ALLAN WACHIRA MWANGI – REG. NO. D53/OL/KER/26559/2015.

I write to introduce Mr. Allan Wachira Mwangi who is a Postgraduate Student of this University. He is registered for M.B.A degree programme in the Department of Accounting and Finance.

Mr. Allan intends to conduct research for a M.B.A Project Proposal entitled, "Credit risk, liquidity risk and financial performance of deposit taking saving and credit co-operative societies in, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,


/ MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

EM/lin

APPENDIX II: INTRODUCTION LETTERS



KENYATTA UNIVERSITY
OFFICE OF DIRECTOR, KERICHO CAMPUS

Tel. +254-20-2171313
KU CISCO EXT. 4600/1/2/3/4/7
Website: www.ku.ac.ke/campuses/kerichocampus
E-mail: director-kericho@ku.ac.ke

DATE: 26th JUNE, 2017

OUR REF: D53/OL/KER/26559/2015

YOUR REF:.....

TO WHOM IT MAY CONCERN

SUBJECT: INTRODUCTION LETTER

This is to confirm that the person whose details appear below is a registered student of Kenyatta University (Kericho Campus).

NAME: ALLAN WACHIRA MWANGI
REG. NO: D53/OL/KER/26559/2015
ID NO. 27854099
PROGRAMME: MASTER OF BUSINESS ADMINISTRATION (FINANCE)

Any assistance accorded to him will be highly appreciated.

Thank you.


Dr, Zacharia W. Samita
DIRECTOR, KERICHO CAMPUS



CHIEF EXECUTIVE OFFICER,
SACCO SOCIETIES REGULATORY
AUTHORITY,
P.O BOX 25089-00100, NAIROBI
BRITAM CENTRE, UPPER HILL

ALLAN WACHIRA MWANGI,
P.O BOX 49-20400,
Tel: 0721-223-301
BOMET
27/6/2017

RE: DATA COLLECTION FOR MBA (FINANCE) RESEARCH

Am an MBA student at Kenyatta University currently doing my research on Credit risk, liquidity risk and performance of deposit taking SACCOs. This is to kindly request for assistance in accessing data for this research from audited accounts of SACCOs for the year 2015. The main areas of focus will be, current ratio, non-performing loans and return on assets.

Looking forward to hearing from you.

Yours sincerely



Allan Wachira Mwangi

MBA student Kenyatta University

APPENDIX III: DATA COLLECTION SHEET

This data sheet has been designed to collect data from published reports; the information is for pure academic use and as such shall be used confidentially. It will be used to study the relationship between credit risk, liquidity risk and financial performance of deposit taking (DT) SACCOs in Kenya

Table 1: Credit risk of SACCOs

	2012	2013	2014	2015
Performing loans				
Watch-loans (1-30 days)				
Totals				
Substandard Loans (31-180 days)				
Doubtful (181-360 days)				
Loss (over 360 days)				
Totals (non-performing Loans)				
Grand total (All loans)				

Table 2: Liquidity of SACCO over the past 3 years

	2012	2013	2014	2015
Liquid Assets				
Short term Liabilities				
Liquid Assets to short term liabilities (liquidity ratio)				

Table 3: Performance of SACCO

	2012	2013	2014	2015
Total revenue				
Total Expenses				
Net income				
Tax and Donations				
Net income after tax				
Total Assets				

APPENDIX IV: LIST OF DT-SACCOS

List of top and medium tier DT-SACCOs as at 31/12/2015 and their registration status from 2012-2015

Key:

L-licensed

NL- Not Licensed

No.	Name of the SACCO	Registration Status			
		2012	2013	2014	2015
1	Afya	L	L	L	L
2	Asili	L	L	L	L
3	Bandari	L	L	L	L
4	Bingwa	L	L	L	L
5	Boresha	L	L	L	L
6	Chai	L	L	L	L
7	Chuna	L	L	L	L
8	Cosmopolitan	L	L	L	L
9	Egerton University	L	L	L	L
10	Fortune	L	L	L	L
11	Gusii Mwalimu	L	L	L	L
12	Harambee	L	L	L	L
13	Hazina	L	L	L	L
14	Imarika (Formerly Kilifi Teachers)	L	L	L	L
15	Imarisha	L	L	L	L
16	Jamii	L	L	L	L
17	Kakamega Teachers (Currently IG SACCO)	L	L	L	L
18	Kenpipe	L	L	L	L
19	Kenversity	L	L	L	L
20	Kenya Bankers	L	L	L	L
21	Kenya Cannery	L	L	L	L
22	Kenya Highlands	L	L	L	L
23	Kenya Police	L	L	L	L
24	Kitui Teachers	L	L	L	L
25	K-Unity	L	L	L	L
26	Magereza	L	L	L	L
27	Maisha Bora	L	L	L	L
28	Mentor	L	L	L	L
29	Metropolitan	L	L	L	L
30	Mombasa Port	L	L	L	L
31	Murata	L	L	L	L
32	Mwalimu National	L	L	L	L
33	Mwito	L	L	L	L

No.	Name of the SACCO	Registration Status			
		2012	2013	2014	2015
34	NACICO	L	L	L	L
35	Naku (Currently Shoppers)	L	L	L	L
36	Nassefu	L	L	L	L
37	Nation	L	L	L	L
38	Ndege Chai	L	L	L	L
39	Ng'arisha (formerly Bungoma Teachers)	L	L	L	L
40	Noble (formerly Wareng Teachers)	L	L	L	L
41	Nyeri Teachers (Currently New Fortis)	L	L	L	L
42	Ollin (Formely Muhigia)	L	L	L	L
43	Qwetu (formerly Taita Taveta Teachers)	L	L	L	L
44	Safaricom	L	L	L	L
45	Shirika	L	L	L	L
46	Solution	L	L	L	L
47	Stima	L	L	L	L
48	Tai	L	L	L	L
49	Taifa	L	L	L	L
50	Tembo	L	L	L	L
51	Tower	L	L	L	L
52	Transnation (formerly Tharaka Nithi Teachers)	L	L	L	L
53	Ukulima	L	L	L	L
54	Unaitas	L	L	L	L
55	United Nations	L	L	L	L
56	Wakenya Pamoja	L	L	L	L
57	Wanaanga	L	L	L	L
58	Wananchi	L	L	L	L
59	Wanandege	L	L	L	L
60	Waumini	L	L	L	L
61	Winas	L	L	L	L
62	Yetu	L	L	L	L
63	Ardhi	NL	L	L	L
64	Capital	NL	L	L	L
65	Elimu	NL	L	L	L
66	Kwetu (formerly Masaku Teachers)	NL	L	L	L
67	Moi University	NL	L	L	L
68	Nawiri	NL	L	L	L
69	Sheria	NL	L	L	L
70	Teleposta	NL	L	L	L
71	Ukristo na Ufanisi	NL	L	L	L
72	Unison (formerly Laikipia Teachers)	NL	L	L	L
73	Nyati	NL	NL	L	L