FINANCIAL LEVERAGE AND FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES IN NAIROBI CITY COUNTY-KENYA

ANDREW GROHNEY ODONDI, BCOM (KU), CPA (K)

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university

…… ……

Signature Date

ANDREW GROHNEY ODONDI

D58/CTY/PT/29096/2013

We confirm that the work in this thesis has been carried by the candidate under our supervision:

…….. ……..

Signature Date

DR. AMBROSE JAGONGO

Department of Accounting and Finance

Kenyatta University

…….. ……

Signature Date

DR. FREDERICK W.S NDEDE

Department of Accounting and Finance

Kenyatta University

DEDICATION

To my family members, My Wife Mildred, Sons Grohney Jnr, Joe and Jabali Daughter Jesmine, My Mother Zilpah, Father Benson and all Brothers, Sisters all men and women of goodwill working directly or indirectly in cooperative movement and particularly Colleagues at Grohney & Co. Associates, Investobrain Sacco Society Ltd and Grodmac Africa Ltd which I founded.

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OPERATIONAL DEFINITION OF TERMS

Capital Structure:	The mix of owners' Equity and debt.
Debt to Capital:	Is a ratio computed by taking the firm's interest-bearing external borrowing (short- and long-term) and dividing it by the Core Capital.
Long term debt to Total asset:	Long term debt is characterized as obligation payable over one year after date of issue.
Short term Debt to Total asset:	Short term obligation alludes to current liabilities or obligation due in one year's time.
Deposit Taking SACCO:	SACCOs that conduct business of savings and credit and in addition does business of accepting or withdrawing money on daily basis across the counter.
Financial Leverage:	Financial leverage is a proportion of using obligations and equity to fund its resources. Can likewise be alluded to as a limit of an association in utilizing acquired cash
Financial performance:	Refers to the demonstration of performing financial activity in monetary terms.
Institutional Capital:	Institutional capital alludes to the bit of the center capital that has a place with the SACCO society as a foundation to such an extent that nobody as a member can individually lay claim on it.

Return on Equity:	ROE simply mean how much profit ($) the entity could generate per ($) invested.
Return on Investment:	Financial results as measured by SACCO's income (Turnover) and the return on assets.
Sasra Regulation:s	SASRA, the Sacco's society guidelines are intended to improve the intensity of Sacco's by setting budgetary and working measures equivalent to deposit taking business led by Sacco's

ABBREVIATION AND ACRONYMS

CAK	Cooperative Alliance of Kenya. It is the apex body for all cooperatives
CAPR	Capital to total assets ratio
CARs	Capital Adequacy Ratios
CBK	Central Bank of Kenya
DTS	Deposit Taking SACCOs.
IFRS	International Financial Reporting Standards
KUSSCO	Kenya Union of Savings and Credit Cooperatives
MCR	Minimum Capital requirements.
MOIED	Ministry of Industrialization and Enterprise Development
MCR	Minimum Capital requirements.
SACCO	Savings and Credit Cooperative
SASRA	SACCO Societies Regulatory Authority
SPSS	Statistical Package for social sciences

ABSTRACT

Statistical evidence from SASRA annual supervisory reports indicate a declining number of Deposit taking SACCOs especially after the introduction of SASRA regulation of 2012 on capital. This study therefore seeks to investigate the effect of financial leverage on financial performance of Sacco's in Kenya. The objectives of the study were to determine the effect of debt to capital ratio, debt to equity ratio, short term debt ratio and short term debt ratio on financial performance of Sacco's in Kenya. Pecking Order, Theory Agency Cost Theory, Dynamic Trade off theory and Modigliani-Miller Theory – With Taxes theories are the theories the study is anchored on. The study employed purpose sampling technique of the 30 Sacco's out of the 42 available Sacco's in Nairobi City County. The study was carried out between years 2012 to 2018 where secondary data was collected and used for this study. Causal research design was employed to determine the effect of the financial leverage on financial performance. Panel regression model was employed for analysis. Whisman and McClelland two step model was used to aid in the moderation stage. Document review guide was used to extract information from the financial statements of the Sacco's in Nairobi. Diagnostic test were carried out to meet the assumptions of the panel regression model. The study found out that debt to equity ratio had a statistically significant negative effect on financial performance, debt to capital ratio had a statistically significant negative effect on financial performance, long-term to total asset ratio had a statistically significant effect on financial performance, short-term to total asset had a statistically significant positive effect on financial performance while sasra regulation had a statistically significant negative effect on the relationship between a moderating effect on the relationship between financial leverage and financial performance of deposit taking Sacco's in Nairobi County. The study concluded that debt to equity, debt to capital and short-term to total asset are associated with financial performance of Sacco's. The study recommends that Sacco's should consider debt restructuring when it comes to capital structure, client management with the sole objective of achieving the vision 2030.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, cooperative development in nineteenth dispensation and all this began in Europe. By 1830, there were a number of cooperative some were from the outset productive, most cooperatives that were built up in the mid nineteenth century had slumped by 1840 (Peacock, 2008). In 1844, this was the year that cooperative development on the planet took a turn towards improvement and development when Rochdale come up with reasonable principles for development of cooperatives (Lothian, 2007). Since this period there has been a speedy advancement in the cooperative improvement introduced upon the definitive strategies for Raiffeisen. Tache (2006) reveals that the cooperatives advancement spread all over the developed countries from 1900 to 1930 and afterward the cooperative movement reached out to Ghana (Obure & Muturi, 2015).

In Africa, the idea of Saccos was first delineated and discussed in 1955 in Ghana (Mumanyi, 2014). Further advancement of Sacco's in Africa has been the historical backdrop of cooperative improvement in free Africa for the most part staged into two eras: the first era running from the quick post-provincial period in the 1960's to the mid-1990s and the subsequent time happening during the worldwide financial changes from the mid 1990's to the present, which has been portrayed progression of the economy (Develtere & Pollet, 2009). While the first era was described by severe government authority over agreeable improvement through institution of approaches, enactment and projects that advanced cooperatives as vehicles for quickening national monetary turn of events, the second era has been the circle of liberating cooperatives from the state to

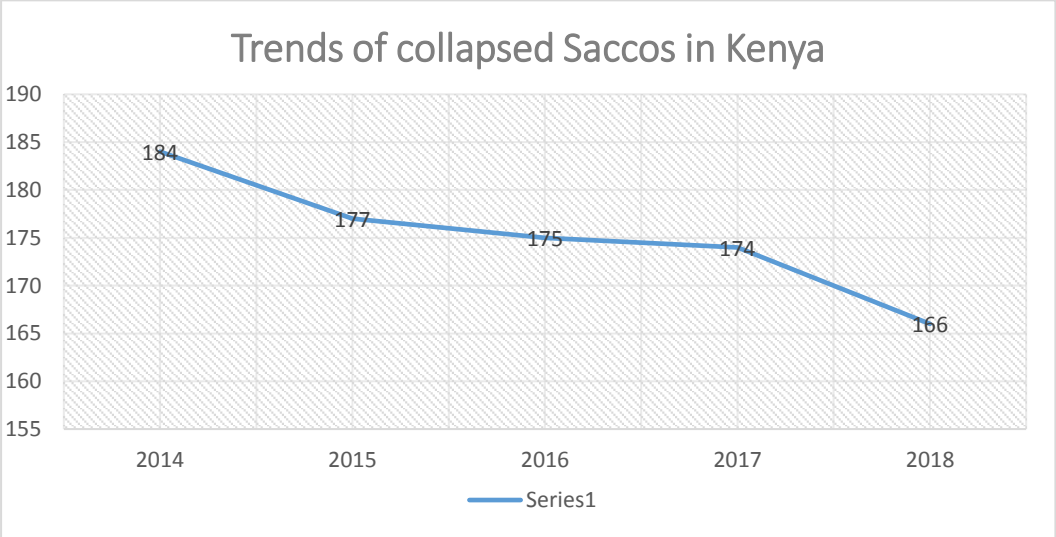
appreciate self-sufficiency and work like undertakings reacting to market demands (Wanyama, 2009).

In Kenya Sacco's were established in 1908 as a way to achieve the economies of scale, Sacco's are a basic piece of the Kenyan government's monetary methodology, executed to improve income creating openings. Especially in country regions has the cooperative development been perceived by the administration as a crucial establishment for the activation of material assets for advancement in these specific territories, where most of residents procure their living basically from horticulture (Anaya & Otinga, 2019). Sacco's in the nation have aggregated 35% of the nations national reserve funds, unmistakably the need more acknowledgment for the job they play in Kenya. The vision 2030 blue print in Kenya perceives savings and credit co-operative societies social orders as significant players in extending financial access to prepare reserve funds for interests in undertakings and self-awareness (Ndung'u, 2010).

The current study seeks to investigate the effect of financial leverage on financial performance of Sacco's in Nairobi County in Kenya, given the moderating effect of the Sasra regulations on the study variables. Understanding the effect of financial leverage ratios, namely, debt-to-assets ratio, debt-to-equity ratio and debt-to-capital ratio on financial performance will guide policy makers on the way forward and come up with policies that will ensure Sacco's adhere to, which will in turn better the financial execution and thus reduction of the collapsing of savings and credit co-operative societies.

1.1.1 Financial Performance

Financial execution alludes to the demonstration of performing money related movement. In more extensive sense it is the way toward estimating the results of a company's approaches and activities in monetary terms (Gibson, 2012). The financial performance of Sacco's in Kenya to be specific the return on equity is in a shaky state. Because of liquidity issue that Sacco's face in Kenya they are compelled to obtain to support their customer base (Simeyo, 2013). The returns from the borrowed funds tend to have an impact on financial execution of Sacco's. Statistics show that 6% of the legal members abandon their membership yearly due to low returns on investments (James, Alala & Douglas, 2014). Furthermore the declining trends of the number of Sacco's is a cause of concern; in 2014 there were 184 Sacco's, in 2015 there were 177, in 2016 reduced to 175, in 2017 it still reduced to 174 and in 2018 it further reduced to 166 Sacco's, this implies that as members exit the Sacco's the entry is not significant thus closure of Sacco's.



(Author, 2019)

Figure 1. 1: Collapsed Sacco's over the Years

Figure 1.1 represents the collapsed Sacco's over the years, and this is due to low returns from the Sacco's thus the members quit their Sacco's due to low return on investment (ROI), and thus as a result of low return on investment, return on equity will also follow suit since they are positively correlated. Low return on investment it goes without say that return on equity will definitely be affected or rather decline.

Return on asset, net income margin, return on equity, return on investment and Profit margin are measures found in literature that studies have used as financial performance indicators (Gulzara *et al.,* 2018). For the purpose of this study return on investment will be used as a measure of financial performance since the phenomena under study is centred towards establishing the effect of leverage on return on investment. Return on equity will also be employed as the second measure of performance since there exists a positive correction with return on investment measure (James, Alala & Douglas, 2014). The withdrawal of members from a Sacco's due to low returns on investment and the declining trend of the number of Sacco's in Kenya is a phenomenon to be studied.

1.1.2 Financial Leverage

Financial leverage is a proportion of using obligations and equity to fund its resources (Abubakar, 2015). Financial leverage can also be is referred to capacity of an organization in using borrowed money (Mohammad, 2015). Financial leverage appears as a credit which are ploughed back with the purpose to procure a more prominent pace of return than the expense of venture (Chigbu, 2012). Financial leverage utilized by a Sacco is planned to win more profit for the fixed-charge assets than their expenses. The excess will increment the arrival on the proprietors' value (Pandey, 2010). The pace of

profit for the proprietors' value is turned above or beneath the pace of profit for absolute resources. Consequently, financial leverage is considered as a twofold edged blade since it gives the possibilities of expanding the investors' profit just as creating the dangers of misfortune to them (Chigbu, 2015).

Financial leverage ratio is comprised of a number of measurements; debt-to-assets ratio, debt-to-equity ratio and debt-to-capital ratio, (Lan, 2012). For the purpose of this study; debt to capital ratio and debt-to-asset ratio will be used as measures of financial leverage as well as the explanatory variable for the study. Debts to capital ratio have been ignored in literature under Sacco's and it is among the components of leverage ratio and has an impact on the financial performance of a financial institution.

1.1.3 SASRA Regulations

In Kenya, it's a requirement that savings and credit co-operative societies conform to SASRA guidelines. The regulations were presented against scenery of traded off benefit, loss of individuals to banks, clumsy staff and poor corporate administration (SASRA Supervision Reports, 2012). As indicated by SASRA, the savings and credit co-operative societies guidelines are intended to improve the intensity of savings and credit co-operative societies by setting budgetary and working measures equivalent to deposit taking business led by Sacco's .This is eventually expected to drive proficiency and improve the degree of reserve funds in the Sacco's social orders as visualized in the money related strategy vision 2030 (Financial Sector Deepening, 2009).

The nonappearance of a regulatory without prudential guidelines and budgetary supervision brought about several shortcomings in the savings and credit co-operative societies board framework. This included powerless review reports with no

provisioning or discounting credits for non-performing advances and portfolio quality which was either not observed and whenever checked then ineffectively (SASRA, 2013). Thus this study seeks to establish the moderating effect of Sasra regulations on the relationship between financial leverage and financial performance of deposit taking Sacco's in Nairobi County. Institutional capital to total asset will be employed as the proxy to Sasra regulations, the higher the ratio the better.

1.1.4 Savings and Credit Co-operatives in Kenya

Cooperatives in Kenya are managed by Saving Societies Regulatory Authority (SASRA) and Ministry of Industry, Trade and Cooperatives, which supervise all the exercises that happen among the cooperatives (Mwatu and Farida, 2018). As of now there two kinds of savings and credit co-operative societies in Kenya specifically non-deposit taking Sacco's and Deposit Taking Sacco's (Karanja, 2012). SASRA control all deposit taking Sacco's whose fundamental exercises is to acknowledge deposits as a normal obligation under Front Office Service Activity (FOSA). Kenya has 177 authorized deposit accepting savings and credit co-operative societies as at December 2017 (SASRA report, 2017). Sacco's are equipped towards accomplishing the Kenya vision 2030 of making a successful and all inclusive serious financial sectors fit for advancing significant levels of savings and financing for Kenya's venture needs (Adam, Collier & Ndungu, 2011).

Deposits taking Sacco's in Kenya are confronting extreme monetary issues and dominant parts can not fulfil the needs of their customers for advances and withdrawal of savings (FSD, 2013). The severe adherence to the consistence principles uncovered the powerlessness of a portion of the DT-SACCOs to keep up the base permitting

prerequisites, and their failure to meet their transient commitments to the individuals and has seen some Sacco's licenses disavowed (SASRA, 2015). This ambiguity is occasioned by the way that the primary piece of fiscal weights in DT- Sacco's are normally occasioned by enthusiasm for credits, which once a part is qualified is regarded a right, dissimilar to in the financial segment. This incongruity calls for the need for financial leverage to improve the performance in this case the financial position so that the DT-Sacco's can meet its short term financial obligation and thus Long-term profitability.

1.2 Statement of the Problem

SACCOs assume an essential role in elevating lives in the community through financial inclusion. The cooperative subsequently assumes a pivotal role in members' work creation and wealth creation which encourages poverty alleviation (Dana, 2010). In Kenya, cooperatives are an imperative piece of the economy and are in charge of fourth five percentage of Kenya's gross domestic product with about twenty percent of the populace enlisted as a partner (Kirimi, Simiyu & Murithi, 2017). However, despite the significant role the sector plays in the economy, statistics show that 2 percent of the cooperatives go under every year as a result of financial challenges (Simeyo, 2013; Karuru & Agnes, 2016). Due to financial problems among the Sacco's it has been a challenge for them to repay borrowed loans from external sources (Mwende & Kalio, 2014; Onyango, 2016). As a result of the financial distress 6% of the members abandon their membership yearly due to low returns on investments (James, Alala & Douglas, 2014; Kirimi *et al.,* 2017). SASRA Supervisory reports shows that the number of deposit taking Sacco's have declined from 184 Supervised in 2014 to 166 in 2018, many of them being deregistered due to failure to comply with the SASRA regulations (Sasra,

2016). Since Sacco's depend on member's deposits and external funds, thus the effect of financial leverage components on financial performance of Sacco's is an issue that needs to be investigated further. Therefore, this forms the basis for the current study.

A number of studies have been conducted on financial leverage and financial performance (Kirimi, Simiyu & Murithi, 2017; Wabwile, Chitiavi, Alala, and Musiega, 2014; Mwatu & Abdul, 2018; Karuru & Njeru, 2016; Abubakar, 2016). However, some of the studies have been based on data from other counties whose findings may not be relevant to the local Sacco's context. On the other hand, most of the local studies have neglected to demonstrate the moderating effect of Sacco regulation on the relationship between financial leverage and financial performance of Sacco's. Hence this study sought to bridge this research gap though establishing the effect of financial leverage on financial performance and the moderating effect of Sasra regulations on the relationship between financial leverage and financial performance in Sacco's in Nairobi County, Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of the study was to investigate the effect of financial leverage on financial performance of deposit taking SACCOs in Nairobi County.

1.3.2 Specific Objectives

(i) To determine the effect of debt to capital ratio on financial performance of deposit taking SACCOs in Nairobi County.

(ii) To determine the effect of debt to Equity ratio on financial performance of deposit taking SACCOs in Nairobi County.

(iii) To examine effect of long-term debt ratio on financial performance of deposit taking SACCOs in Nairobi County.

(iv) To assess the effect short term ratio on financial performance of the deposit taking SACCOs in Nairobi County.

(v) To Determine Moderating effect of SASRA Regulations on the relationship between financial leverage and financial performance of deposit taking SACCOs in Nairobi County.

1.4 Research Hypothesis

Ho_1: Debt to capital ratio has no significant effect on financial performance of deposit taking SACCOs in Nairobi County.

Ho_2: Debt to equity ratio has no significant effect on financial performance of deposit taking SACCOs in Nairobi County.

Ho_3: Long term debt ratio has no significant effect on financial performance of deposit taking SACCOs in Nairobi County.

Ho_4: Short term debt ratio has no significant effect on financial performance of deposit taking SACCOs in Nairobi County.

Ho_5: SASRA Regulations has no moderating effect on the relationship between financial leverage and financial performance of deposit taking SACCOs in Nairobi County.

1.5 Significance of the Study

This study is critical as it has added to theory, practice and policy in different ways. The researchers will borrow information from this study including the areas for further studies as well as the findings. The significant issues looked by the directors of Sacco's

are not exclusively to get or accumulate the assets yet in addition their important organization to create greatest returns. For the most part the wellsprings of fund over all the organizations are same, at that point why a few organizations succeed while different doesn't. This plainly implies there is something past financial success accomplishment of business other than extraordinary thought and great geographic nearness. This makes it increasingly alluring to contemplate effect of financial leverage on performance of Sacco's in Nairobi County, Kenya.

Understanding the link between financial leverage, Sasra regulations and financial performance will be of essence to policy makers. The study is of significance to SASRA and other regulatory institutions like Central Bank of Kenya (CBK) and Capital Market Authority (CMA).

It turns into a perspective when thinking of prudential rules, important arrangements and rules that would direct the Sacco's in agreeing to least capital prerequisite just as guaranteeing that sound money related execution in the Sacco business is accomplished.

The scholar has propelled the study on already settled group of knowledge on how Pecking Order, Theory Agency Cost Theory, Dynamic Trade off theory and Modigliani-Miller Theory – With Taxes theories are applied in the process of financial leverage and financial performance of deposit taking Sacco's in Kenya Nairobi County. The study has pointed out areas of further research on different angles of financial leverage and financial performance of Sacco's in Nairobi County. The study has also recommended the findings of this study to justify the relationship between financial leverage and financial performance of deposit taking savings and credit co-operative societies.

1.6 Scope of Study

The study was carried out in 30 deposit taking Sacco's out of the 42 authorized by SASRA in Nairobi City County (SASRA, 2018) (See appendix i). Secondary data was used from SASRA reports and fiscal reports for a time of 7 years extending from 2012 to 2018 to find out the effect of leverage ratios on financial performance. The study chose year 2012 since this is the time that Kenya Sacco's registered the highest number of members than other years, this year revealed likewise the most noteworthy number of registered deposit taking Sacco's in Kenya.

1.7 Limitation of the Study

The study concentrated on Deposit Taking Sacco's in Nairobi County and considered three variables as the explanatory variable on the financial performance of deposit taking savings and credit co-operative societies in the Kenya. The study did not consider other Sacco's which are not yet as deposit taking savings and credit co-operative societies. The information was gathered within a range of seven years beginning 2012 to 2018. This confinement in data is also a limitation to this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This segment examines the theoretical and empirical literature covering financial leverage on the performance of deposit taking savings and credit co-operative societies. Also included in this chapter is the conceptual framework stating the relationship between variables and how they influence performance of deposit taking Sacco's. The chapter gives an in-depth background of the topic to be studied; the empirical studies carried out in the area of research.

2.2 Theoretical Literature Review

Kotler and Gary (2005) depicted theoretical system as an assortment of interrelated ideas, for example, in a theory to direct a research work as it decides the items for estimation and the measurable association being examined. A theory is a contemplated proclamation or gathering of explanations, which are upheld proof intended to clarify a phenomena. As per (Trochim, 2006) a theoretical framework guides research, figuring out what variables to gauge, and what measurable relationship to search for with regards to the issues under study. Subsequently, the theoretical literature enables the researcher to see unmistakably the variables of the study; gives a general system to data analysis and aides in the determination of pertinent research plan.

2.2.1. Pecking Order Theory

This theory was created by Donaldson (1961), Myers and Majluf's (1984) improved the POT from crafted by Donaldson and the scientist refined this theory basing on the head of inclinations and pecking order of budgetary choices. The theory expresses that organizations will consistently lean toward internal wellspring of subsidizing to

external wellspring of financing. Because of information asymmetry Akerlof (1970) directors know more than financial specialists internal funding which is less prone to costs unlike external funding. Retained earnings, debt and equity as the fundamental wellsprings of subsidizing accessible to a firm in this manner Myers and Majluf's (1984) states that a firm will utilize retained earnings first since they are considered as a less expensive wellspring of financing which do not have antagonistic determination issues at that point if need be debt financing and use equity if all else fails of raising funds. Equity is considered to have the most elevated educational expense with the most elevated unfavorable choice issues than debt consequently Fama and French (2002) select debt to be the second then equity as the last choice of raising funds. Pecking order theory is the main theory that the study is anchored on, since firms can not only rely on one source for investment but rather opts for the cheaper option given the sources of finance available to them.

2.2.2 Agency Theory

Jensen and Meckling (1976) put forth the possibility of agency costs. There is an organization association between the investors and advance managers of firms that have noteworthy proportions of commitment. In such affiliation's speculators have insignificant help to oblige disasters if there should be an occurrence of insolvency. Agency theory sees that the premiums of directors and speculators may conflict and that, disregarded all, administrators may choose major financial policy choice, for instance, the choice of a Capital Structure, that are perfect from the financial specialists' perspective. The theory in like manner suggests, in any case, that pay contracts, managerial worth endeavour, and seeing by the overseeing body and huge speculators can diminish irreconcilable situations among mangers and investors Mehran (1992). It

is additionally proposed that Capital Structure models that overlook agency costs are inadequate. Debt financing is another pivotal factor that constrains the free income accessible to managers and accordingly assists with controlling this agency problem (Jensen and Meckling, 1976).

Myers (1977) set forth another sort of agency cost of debt which emerges from the underinvestment issue. At the point when a firm has obligation, which develops after a venture option terminates, investor spare the motivation to dismiss ventures that have positive net present qualities in light of the fact that the advantages from tolerating the tasks collects to the obligation holders without expanding the investors' wealth. The issuance of obligation in this way prompts imperfect venture for the firm, requiring this kind of agency cost to be traded off against the tax investment funds of obligation financing to decide the ideal Capital Structure. On the other hand (Lin, Huang and Steward, 2000), gives an expression of agency costs being significantly higher given an outsider as opposed to an insider deals with the firm and lower with more prominent observing by SACCOS. In this manner, cost of obligation is significant in the study of financial leverage on the performance of deposit taking Sacco's in Kenya.

2.2.3 Dynamic Trade off theory

Implementing the role of time is critical in distinguishing the ideal Capital Structure. In a unique model, the right financing choice commonly relies upon the financing edge that the Sacco's envision in the following time frame. A few Sacco's hope to pay out assets in the following time frame, while others hope to raise reserves. Stiglitz (1972) made the exceptional stride of accepting ceaselessly vulnerability. Kane, Marcus, and MacDonald (1984) and Brennan and Schwartz (1984) thought about of firms that have:

vulnerability, expenses, and liquidation costs, yet no exchange costs. These organizations keep up elevated levels of obligation to exploit the tax savings funds and to change in accordance with stuns with no expense as there is no transaction cost (Strebulaev, 2007). Once more, in the event that organizations ideally money occasionally due to transaction costs, at that point the debt proportions of most firms will go astray from the ideal more often than not. In the model, the firm's financial leverage reacts less to short-run value vacillations and more to long run value changes. This makes financial leverage significant variable in this study.

2.2.4 Modigliani-Miller Theory – With Taxes

The Modigliani-Miller theory recommendation was created in 1950s; they proposed the capital structure irrelevancy theory. Modigliani and Miller recommended that the estimation of a firm isn't influenced by the capital structure of the firm. The level of obligation segment in the capital structure makes little difference to its reasonable worth and that the market estimation of a firm is exclusively a component of the operating benefits of the organization (Modigliani and Miller, 1963). The capital structure of the firm is the methods by which the firm funds its benefits. A firm funds its advantages through procurement of obligation accounts, value or a mix of obligation and equity accounts. Anyway the way wherein the componets of the capital structure have been blended is of a significance.

The capital structure of an organization may have a greater part of obligation segment or a lion's share of value, or an even blend of both debt and equity. The extent picked by a compnay could possibly be benefitial to the organization. Among the speculations that have been created to legitimize or expel the capital structure approaches received

by different organizations, the Modigliani and Miller approach is a significant one (Brigham & Ehrhardt, 2010). The Modigliani and Miller Approach expect that there are no taxes, yet in reality, this is a long way from reality organization (Popescu & Sorin, 2011).

2.3 Empirical Review

This segment presents past studies that have been done by different scholars comparable to financial leverage and financial performance. The empirical review looks to break down different study and feature the research gaps in those studies.

2.3.1 Debt to Capital Ratio and Financial Performance

Eriki and Osagie (2017) sought to investigate the impact of debt to capital ratio on performance of gas firms in Nigeria. The study was carried between 2011 to 2015 among the listed Nigerian Stock Exchange oil firms. Secondary data was extracted from the oil company's annual financial reports thus employing panel regression model for the analysis. Debt to capital ratio was one of the independent variables in the study while return on asset and returns on equity were proxy to financial performance of oil firms in Nigeria. From the findings the study found out that debt to capital ratio had an insignificant negative effect on performance of Oil Company in Nigeria. The current study was carried in deposit taking Sacco's in Nairobi County Kenya thus filling the contextual gap.

Abeywardhana and Magoro (2017) sought to examine the effect of debt capital on financial performance of listed companies operating in the wholesale and retail sector in Sri Lankan and South Africa. The study was carried between 2011 to 2015 while employing fixed effect regression model for analysis. The study broke down debt capital

into short term debt and long-term debt. From the findings the study found out that debt capital financing had a significant negative effect on financial performance of companies in South Africa. While in Sri Lanka debt financing measured by long-term debt had a significant negative effect on financial performance and short term debt had a significant positive effect of financial performance of companies in Sri Lanka. There exists a contradiction in literature thus the current study was carried out in deposit taking Sacco's in Nairobi Kenya.

2.3.2 Debt to Equity and Financial Performance

Karanja and Gweyi (2014) conducted a study on financial leverage on return on asset, return on equity, profitability and income growth of Sacco's in Kenya. Descriptive and analytical design approaches were used, the study extracted secondary data from the financial statements of 40 Sacco's between period 2010 to 2012. Debt-Equity ratio was used as an explanatory variable while return on asset, return on equity, profitability and income growth were used as measure for financial performance as well as the dependent variable of the study. From the findings debt-equity had a significant relationship on return on equity and profitability while the analysis found an insignificant relationship with return on asset and income growth is Sacco's in Kenya.

Thaddeus (2012) investigated a study on financing leverage and performance of commercial banks in Nigeria. The study used both descriptive and analytical design; simple random sampling technique was used to sample 6 banks from the total 24 commercial banks in Nigeria. Secondary data was extracted from the financial statements of the 6 selected commercial banks and also from the Nigerian Stock Exchange fact books. Debt-equity ratio and coverage ratio were used as the explanatory variables while earning per share was the proxy for bank performance which was the

dependent variable. The study analyzed the 6 banks separately and from the findings there existed a mixed conclusion across the banks.

Abubakar (2015) sought to investigate leverage and performance of commercial banks in Nigeria. Convenience sampling method was used to analyse 11 commercial banks. Secondary information was extracted from the financial statements of the selected commercial banks between years 2005 to 2013. Debt ratio and debt-equity ratio was used as an explanatory variable while return on equity (ROE) was as a measure of financial performance and as the dependent variable. From the findings, debt- Equity ratio had a significant relationship on financial performance while debt ratio had an insignificant relationship on financial performance. The current study was carried out in deposit taking Sacco's in Kenya.

Kirimi, Simiyu and Murithi, (2017) examined a study on debt financing and financial execution of Sacco's of Tharaka Nithi County in Kenya. The study employed a causal research design, inferential and descriptive analysis was carried out. Secondary data was extracted among 10 sampled Sacco's in Tharak Nithi County. Interest coverage ratio, debt/equity ratio, loan tenure and interest rate were used as explanatory variable while ROE was employed as proxy to financial execution. From the findings, loan tenure and interest rate had a negative effect, while the rest of the independent variables showed a positive effect on return on equity as per the outcome.

2.3.3 Long-term debt to total asset ratio and Financial Performance

Wanjiku (2015) carried out a study on leverage and performance of Sacco's in Kenya. Descriptive design was utilized while information for data analysis was extracted given the financial statements of the 44 deposit taking Sacco's in Kenya. Panel data regression

model was used and done for a period of 2011 to 2014. Total debt, long term debt and short term debt were used as explanatory variable while return on asset, return on equity and earnings per share were used as measures for financial performance. From the findings short term debt had insignificant relationship on performance; total debt to asset had a significant relationship with return on asset while long-term debt had a negative relationship with return on asset as proxy to financial performance.

Mwaniki, Oluoch and Ndambiri (2018) sought to investigate the effect of long term debt on financial performance of deposit taking Sacco's in Kenya. The study together examined the effect of short term debt on financial performance. Modigliani and miller, static trade off, pecking order and signaling were theories that the study employed. Return on equity was used as a proxy to financial performance while long term debt and short term debt were employed as an explanatory variable. The study was carried out in 18 deposits taking in Nairobi between 2012 to 2016. Data was extracted from the financial statements of the respective Sacco's thus employing secondary data. From the findings the study found out that long term debt and short term debt had a significant positive effect of financial performance of Sacco's in Kenya measured by return on equity.

2.3.4 Short-term debt to total asset ratio and Financial Performance

Karuru & Njeru (2016) sought to examine a study on financial leverage and profitability of Sacco's in Kiambu County, Kenya. Return on investment, ROA and ROE were utilized as indicators of profitability while long term, short term, retained earnings were used as explanatory variable for the study. Descriptive research was used for the study while multiple regression model was utilized for the analysis. A sample of 10 was picked from 28 savings and credit co-operative societies in the county of Kiambu using

simple random method. Primary data was employed thus questionnaire was tailor made to address the objectives of the study. From the findings retained earnings, long term debt, short term debt had a positive relationship on profitability indicators. On the other hand equity had a negative relationship on profitability of Sacco's in Kiambu County.

2.3.5 SASRA Regulations and Financial Performance

Buluma, Kungu and Mungai (2017) sought to investigate the impact of SASRA regulations on financial performance of Saccos in Nyandarua County. Secondary data was extracted from the financial statements of Nyandarua County Sacco's while primary data employing questionnaires on the other hand was collected from the respondents associated with the Nyandarua Sacco. The study employed trade off theory, agency theory and stakeholder's theory that supported the study. Descriptive research design was used while multiple regression model was employed in the analysis of the data under study. From the findings the study found out that SASRA regulation had a significant positive effect on financial performance of Sacco's in Nyandarua measured by return on Equity.

Ngeno, Kibet and Katwalo (2015) sought to investigate the impact of Sasra regulations on financial performance of North and Central Rift Regions of deposit taking Sacco's in Kenya. The study employed core capital as the proxy to Sasra regulations while return on investment as proxy to financial performance. The study was supported by theory on capital adequacy, theory on liquidity, stakeholder theory and shareholder theory. The study period was between 2006 to 2013. Descriptive research design was utilized where eighteen Sacco's in the North and Central rift region were used for data collection. Secondary data was used which incorporated the financial statements of the eighteen Sacco's. From the findings the study found out that Sasra regulation had a

positive insignificant effect on financial performance measured by return on investment.

2.4 Summary of Research Gaps from Literature Review

Table 2. 1: Summary of Research Gaps

Author(s)	Study objectives	Main findings	Research gap	Gaps to be filled by the study
Eriki & Osagie (2017)	Debt to capital ratio on financial performance of gas companies in Nigeria	The study found out that debt to capital ratio had an insignificant negative effect on financial performance of oil firms in Nigeria	The study was carried out in gas firms in Nigeria whose economic condition is different to those of Kenya	The study was be carried in deposit taking Sacco's in Kenya.
Abeywardhana and Magoro (2017)	Debt capital on financial performance of listed companies operating in the wholesale and retail sector in Sri Lankan and South Africa	From the findings the study found out that debt capital financing had a significant negative effect on financial performance of companies in South Africa	The study was carried out in Sri Lankan and South Africa	Was carried out in Kenya among the deposit taking Sacco's in Nairobi County.
Thaddeus (2012)	Financing leverage and performance of commercial banks in Nigeria	There existed a mixed conclusion across the banks.	Carried out in Nigeria commercial banks	Was done in Sacco's in Kenya
Abubakar (2015)	Focused on Debt/Equity and	Debt- Equity ratio had a significant relationship	Carried out in Nigeria	Was done in Sacco's in Kenya

	debt ratio on ROE in Nigeria.	while debt ratio had an insignificant relationship on ROE	commercial banks	
Karanja and Gweyi (2014)	Focused on Debt/Equty, Sacco's in Kenya.	Debt-equity had a significant relationship on return on equity and profitability while the analysis found an insignificant relationship on return on asset and income growth.	Moderating Variable was ignored in the study	Sasra regulations was incorporated as a moderating variable
Wanjiku (2015)	Leverage and financial performance of Sacco's in Kenya.	Short term debt had insignificant relationship on performance; total debt to asset had a significant relationship with return on asset while long-term debt had a negative relationship with return on asset as measures of financial performance.	Was carried out between years 2011 to 2014.	Was carried out between years 2012 to 2018
Kirimi *et al.* (2017)	Debt financing and financial performance of Sacco's in Tharaka Nithi County, Kenya	loan tenure and interest rate had a negative relationship, Interest coverage ratio and debt equity ratio showed a positive association with return on equity	Moderating variable was not incorporated	Sasra regulations was incorporated as a moderating variable

Karuru & Njeru (2016)	Financial Leverage and ROE,ROI of Sacco's Kiambu County, Kenya	Retained earnings, long term debt, short term debt had a positive relationship on profitability indicators. On the other hand equity had a negative relationship on profitability of Sacco's in Kiambu county.	Moderating variable was not incorporated	Sasra regulation was incorporated as a moderating variable

2.5 Conceptual Framework

As per Balachander and Soy (2003), a conceptual framework is a gathering of ideas that are deliberately sorted out in giving a focus, basis and a device for understanding and incorporation of data. This is typically accomplished in diagrammatical illustration. For this study, diagrammatical representation between financial performance as the dependent variable and financial leverage as the independent variable constituting debt to capital ratio, debt to equity ratio, long-term debt to total asset and short term debt to asset ratio was employed.

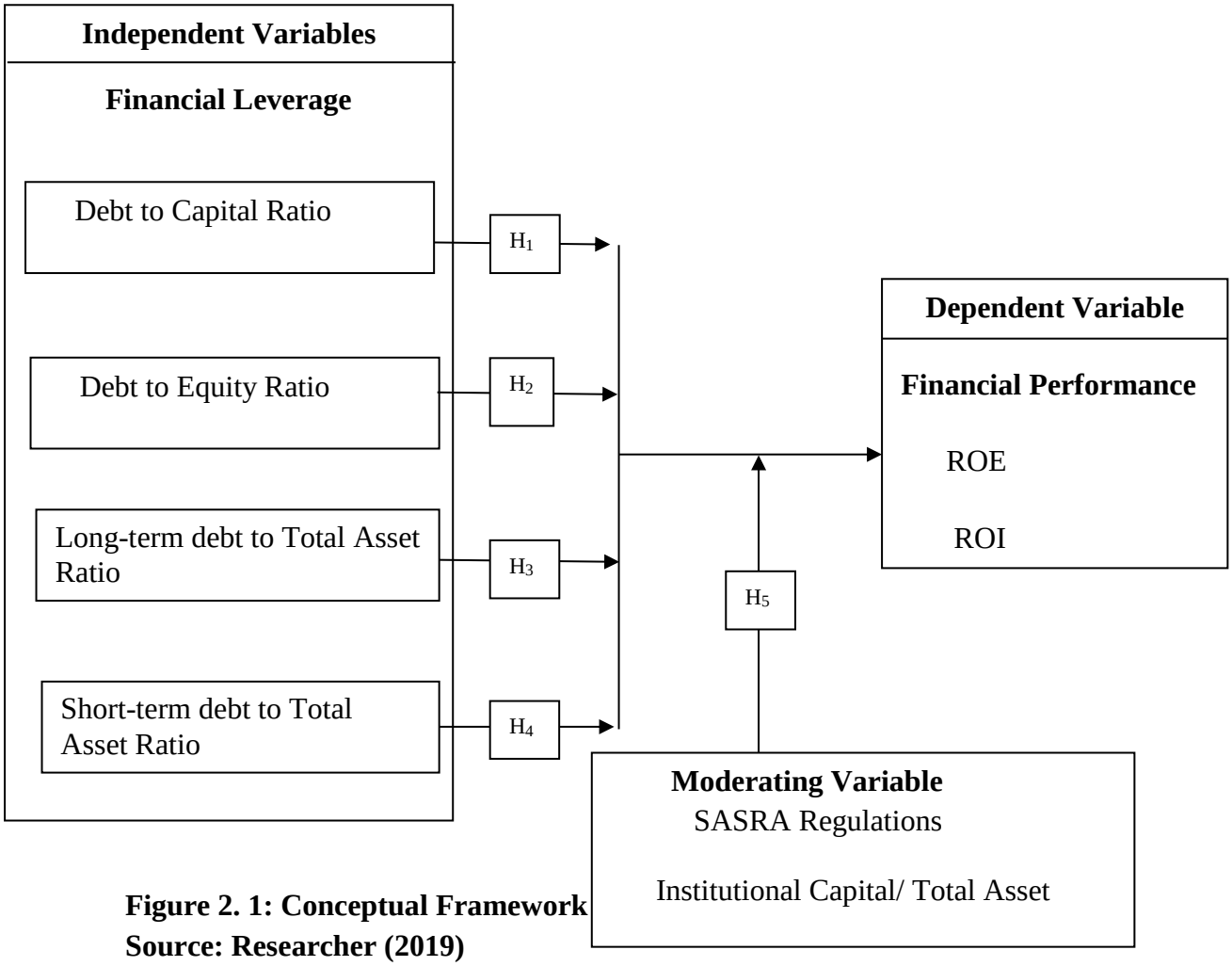


Figure 2. 1: Conceptual Framework
Source: Researcher (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a discussion on the design and methodology that was used to carry out the study. It comprises of research design, empirical model, operationalization and measurement of variables, target population, data collecting procedures, data processing and analysis and diagnostic tests.

3.2 Research philosophy

In this study, research philosophy has been described as a set of speculative perspectives that outcome into a hypothetical structure from which logical hypotheses can be confirmed, surveyed, and explored where required (Enc, 1999). The study employed positivism philosophy since the study deals with working with a recognizable social reality and that the completed consequence of such research can be law-like theories like those conveyed by the physical and natural analysts' (Remenyi, Williams, Money and Swartz, 1998). There was the emphatic use of scientific data in numeric terms that were extracted from the financial statements of the respective Sacco's under study (Ramenyi & William, 2010).

3.3 Research Design

This is a blueprint plan, which is utilized by a researcher to produce answers to research issues (Churchill & Iacobucci, 2005). The study used causal research design, it decides explanations behind current status of the problem under investigation and that the variables of interest cannot be manipulated (Cooper & Schindler, 2009). Causal research design is able to establish the effect of the independent variables(s) on the dependent variables in a study (Ginsburg, 2011). Thus, this study utilized causal research design

as the study sought to investigate the causal effect between financial leverage and financial performance of deposit taking savings and credit co-operative societies in Nairobi City County.

3.4 Empirical Model

In order to establish the effect of financial leverage on financial performance in Sacco's in Nairobi, the study used panel regression model. A panel model was suitable for this research because of the cross-sectional and time dimensions.

The model of the study is defined as follows:

$Y = \beta_0 + \beta_n X_n + \varepsilon$... …….. (3.1).

Y = Dependent variable representing financial performance of Sacco's

i = Sacco's under observation with i = 1 to 42

t = the time with t =2012... 2018

β_0 = constant term,

X= Explanatory Variables

β = Coefficients to be estimated

ε = Error term.

When equation 3.1 is expanded and applied to the study variables, equations 3.2 and 3.3 are obtained.

$ROE = \beta_0 + \beta_1 DCR_{it} + \beta_2 DER_{it} + \beta_3 LTDA_{it} + STDA_{it} + \varepsilon$ 3.2

$ROI = \beta_0 + \beta_1 DCR_{it} + \beta_2 DER_{it} + \beta_3 LTDA_{it} + STDA_{it} + \varepsilon$ 3.3

ROI = Return on investment of Sacco i at time t

ROE = Return on Equity of Sacco i at time t

β_0 = Constant term

DCR = Debt to Capital Ratio of Sacco i at time t

DER = Debt to Equity Ratio of Sacco i at time t

LTDA = Long term debt to total asset ratio of Sacco i at time t

STDA = Short term debt to total asset ratio of Sacco i at time t

SR = Sacco Regulation of Sacco i at time t

ε = Error term

3.5 Moderating Effect Model

The study utilized Whisman and McClelland (2005) two-step procedure for moderation effect. Where in the first Sasra regulations step was used as an explanatory variable while in step two Sasra regulations was introduced as a moderator.

Step One

$$ROE = \beta 0 + \beta_1 DCR_{it} + \beta_2 DER_{it} + \beta_3 LTDA_{it} + \beta_4 STDA_{it} + \beta_5 SR_{it} + \varepsilon_{it} \quad .....3.4$$

$$ROI = \beta 0 + \beta_1 DCR_{it} + \beta_2 DER_{it} + \beta_3 LTDA_{it} + \beta_4 STDA_{it} + \beta_5 SR_{it} + \varepsilon_{it} \quad .....3.5$$

Step two

$$ROE = \beta_0 + \beta_1 DCR_{it} + \beta_2 DER_{it} + \beta_3 LTDA_{it} + \beta_4 STDA_{it} + \beta_5 SR_{it} + \beta_6 (DCR * SR)_{it} + \beta_7 (DER * SR)_{it} + \beta_8 (DER+SR)_{it} + \beta_9 (LTDA*SR)_{it} + \beta_{10} (STDA*SR_{it.} + \varepsilon_{it} \quad .....3.6$$

$$ROI = \beta_0 + \beta_1 DCR_{it} + \beta_2 DER_{it} + \beta_3 LTDA_{it} + \beta_4 STDA_{it} + \beta_5 SR_{it} + \beta_6 (DCR * SR)_{it} + \beta_7 (DER * SR)_{it} + \beta_8 (DER+SR)_{it} + \beta_9 (LTDA*SR)_{it} + \beta_{10} (STDA*SR_{it}) + \varepsilon_{it} \quad .....3.7$$

SR = Sasra Regulations (Moderating Variable)

DCR*SR= Interaction between debt to capital ratio and SR

DER* SR= Interaction between Debt to equity Ratio and SR

LTDA*SR= Interaction between Long term debt ratio to total asset Ratio and SR

STDA * SR = Interaction between Short term debt ratio to total asset and SR

Table 3. 1: Variables Measurement in the Study

Category	Variables	Operation of Variables	Measurement of Variables	Scale
Depedent	Financial perfromance	Mirrors the capacity of the executives to produce benefits from the investments.	(ROI) • Net Income/Investment Cost	Ratio Scale
Depedent	Financial perfromance	Mirrors the capacity of the executives to produce benefits from the equity level employed by the firm.	ROE • Profit before tax/ Total equity	Ratio Scale
Indepedent variables	Debt to Capital Ratio	The proportion gauges an organization's capital structure, budgetary dissolvability, and level of influence, at a specific point in time.	• Debt / Capital	Ratio Scale
Indepedent variable	Long term debt ratio	Long term debt is characterized as obligation payable over one year after date of issue	• Long term debt/ Total assets	Ratio Scale
Indepedent variable	Short term debt ratio	Short term obligation alludes to current liabilities or obligation due in one year's time.	• Short term debt/ Total assets	Ratio Scale
Moderating Variable	Sasra Regulations	SASRA, the SACCOs society guidelines are intended to improve the intensity of SACCOs by setting budgetary and working measures equivalent to deposit taking business led by Sacco's	• Institutional Capital to Total Assets	Ratio Scale

Source: Author (2020)

3.6 Target Population

The target population of study are deposit taking Sacco's in Nairobi City Kenya Co-usable industry which works front office administration exercises (FOSA) and has been enlisted by Sacco Society Regulatory Authority (SASRA). They were 166 authorized deposit taking Sacco's (DTS) in number as at 31st December 2018. The study target population was 42 Sacco's in Nairobi City County.

3.7 Sample and sampling design

Sampling is the demonstration, procedure, or strategy of choosing an agent part of a population to decide parameters or qualities of the entire population (Gachingiri, 2015). The study used a sample of 30 deposit taking Saccos in Nairobi and this was based on purpose sampling technique. The 30 Sacco's selected was due to the availability of full data that the study employed.

3.8 Data collecting Procedures

The study applied for a research permit from the research regulators in Kenya. The study's data was obtained from published and audited Sacco's annual financial reports for the years 2012 to 2018. Document review guide was developed (refer to appendix ii). Secondary data was collected based on the document review guide. The importance of the review guide is to provide the researcher with a step by step procedure for identifying, analysing, and deriving useful information from the files (Witkin & Altschuld, 2010).

3.9 Data Analysis

Descriptive statistics was analysed to set up the proportions of central propensity that incorporate the mean, mode, and median the correlation analysis and key findings. Inferential statistics was used to establish the relationship between the variables of the

study. The study used STATA software to facilitate data analysis and panel regression to analyze the data as shown in equestion 3.2. and 3.3 respectivly. Quantitative data was presented using tabes chats and graphs.

3.10 Diagnostic Tests

The study was carry out diagnostic tests that guaranteed the gathered information does not violate key suppositions of panel regression model because of the way that if there is infringement of any of the presumptions, at that point the outcome end up misleading with subjective findings.

3.10.1 Normality Test

The tests of significance, for example, the standard error and t tests are moored on the supposition that the error term is normally dispersed and has a steady fluctuation. Along these lines, the study should set up that the single direction error segment models in the panel data and in destinations are regularly disseminated and that they have a constant distribution. The study will utilize Bera and Jarque (1981) to tests for normality. The null hypothesis state that the components of the error term are normally distributed. If the data is not normally distributed then anon-parametric test will be most suitable.

3.10.2 Multicollinearity Test

The issue of multicollinearity may emerge if at least two variables are profoundly corresponded. It might influence the measureent of the relapse parameters (Hair, Black, Babin and Anderson, 2010). Multicollinearity can be detected either using the variance inflated factor (VIF). The VIF values will be determined to see whether the correlation could be problematic or not. In the cases where the VIF is greater of 10 for any

autonomous variable, it demonstrates that this variable is profoundly clarified by different factors.

3.10.3 Heteroscedasticity Test

Heteroscedasticity a rises when sizes of observation produce huge variations amongst them. The error term is assumed homoscedastic or has constant variance across all the predicted values of the dependent variable in a linear regression model. The researcher will use Breuch Pagan test, the will take care of consistent standard errors of heteroscedasticity. According to Breuch Pagan this test establishes whether the error term variance is constant.

3.10.4 Panel Unit Root Test

Stationary process is where mean, variance and autocorrelation as statistical properties do not change over time (Nason & Sapatin, 2001). The researcher will ascertain whether a time series variable is stationary or not since the study data is made up of panel data, a panel unit root test is important. According to Phillips & Moon (1999) a panel unit root test is used in the evaluation in order to keep away from unauthentic regression effect. This study employed fisher phillips-perron test to test for panel unit root.

3.10.5 Autocorrelation Test

The phenomenon of autocorrelation is the case where successive residuals appear to be correlated with each other (Arrelano & Bond, 1991). Using Wooldridge test, the researcher will test for first-order autocorrelation in the data. According to Wooldridge (2013), testing for first-order serial correlation is important since the presence of serial correlation invalidates standard hypothesis tests and interval estimates. Variance-

covariance matric of the estimate vce (robust) was employed to remedy the violation of autocorrelation.

3.10.6 Hausman Specification Test

Hausman test was conducted in this study to see whether to estimate a fixed effects model or a random effects model since data to be collected is panel data ie both cross section and time series data (Hair *et al.,* 2010). The hypothesis to be tested for the preferred model is fixed effects vs. the alternative the random effects. This was done using Stata software. If the P value is less than 0.05, then the study employed fixed effects otherwise random effect.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

Chapter four provides the study findings as per the objectives and hypotheses. The chapter is structured as follows: descriptive statistics, diagnostic tests, inferential statistics and discussion of findings.

4.2 Descriptive Statistics

Descriptive statistics are utilized to depict the fundamental highlights of the information in a study. They provide straightforward summaries about the sample and the measures. The summary is shown in table 4.1.

Table 4. 1: Descriptive statistics for the data used in the analysis.

Variables	Obs	Mean	Std. Dev.	Min	Max
ROE	210	.109584	.2690794	-2.85174	.4295233
ROI	210	.153367	0.203614	-1.29167	1.75301
Debt to Capital Ratio	210	0.697285	0.854641	-10.8826	2.91823
Debt to Equity Ratio	210	6.30708	14.63436	-190.9659	39.95571
Long-term debt to Total Asset Ratio	210	.087617	.1776343	.0002816	2.154995
Short-term debt to Total Asset Ratio	210	.7105299	.1654032	.004455	1.505222
SASRA Regulations	210	.0542827	.0728616	-.3825705	.2862281

Source: Study Data (2020)

As indicated in table 4.1, the mean value for ROE was 0.109584 with a standard deviation of 0.2514351 and minimum and maximum values of -2.85174 and 0.4295233 respectively. The negative minimum value observation for ROE reflects that some deposit taking Sacco's in Nairobi County were operating at a loss. The mean value of ROI was 0.153367 with a standard deviation of 0.203614 and minimum and maximum values of -12.9167 and 1.75301 respectively. The positive ROI shows that deposit taking Sacco's in Nairobi County were on average a positive return on investment however a number of Sacco's were operating at a loss as indicated in the negative minimum observed value of ROI.

From the outcome in table 4.1 the mean value of debt to capital ratio 0.697285 with a standard deviation of 0.854641 which shows a larger variability of debt to capital ratio overtime. This implies that Sacco's under study were in a technical insolvent state since on average the Sacco's were operating above the 0.5 mark that is considered ideal as far as debt to equity ratio is concerned. The results on debt to equity ratio show a mean value of 6.30708 and a standard deviation of 14.63436. The mean value under debt to equity indicates that most of the Sacco's were operating above the ideal mark of 1.5 to 3; hence the collapsing of Sacco's due to less return from investment. Further results show long-term to total asset ratio had a smaller variability overtime with a mean value of 0.087617 and a standard deviation of 0.1776343 which is explained from the difference between the min of 0.0002816 and max value of 2.154995. Further results show short-term to total asset ratio had larger variability overtime with a mean value of 0.7105299 and a standard deviation of 0.1654032. This implies that on average Sacco's had 71 percent of short-term debt for each Kenya shillings Sacco's had in assets. The results on sasra regulation show a mean value of 0.0542827 and a standard

deviation of 0.0728616 with minimum and maximum value as -0.3825705 and 0.2862281 respectively.

4.3 Diagnostic Tests

Normality test, multicollinearity test, panel unit root, heteroscedasticity test, autocorrelation test and Hausman test which comprises of fixed and random effect models were the diagnostic tests that the study employed as assumption to be fulfilled under panel regression model.

4.3.1 Normality Test Results

A normality test is utilized to decide whether sample data has drawn from a normally distributed population. The study employed Jarque-Bera test to test the normality distribution of the variables.

Table 4. 2: Normality Test Results

Skewness/ Kurtosis tests for Normality					
Variables	Observation	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
my Residuals	210	0.0000	0.0001	27.95	0.0000

Source: Study Data (2020)

As per the results in table 4.2, the study employed Jarque-Bera test of normality. The null hypothesis under this test was that the residuals were not significantly different from a normal distribution. Given that the P= 0.0000<0.05 significant level for the residual, the null hypothesis was rejected. The study concluded that the residuals were not normally distributed. Going by the rule of the thumb, a sample size of 30

observations and more will usually result in a sampling distribution for mean that is very close to a normal distribution (Saunders, Lewis & Thornhill, 2009).

4.3.2 Multicollinearity Test Results

The study employed correlation matrix, to detect for presence of multicollinearity between variables. Multicollinearity is significant to ascertain whether the explanatory variables are correlated. When the explanatory variables are correlated then the outcome will be misleading. Thus the outcome for the multicollinearity is as shown in table 4.3.

Table 4. 3: Correlation Results

	Debt to Capital Ratio	Debt to Equity Ratio	Long-term debt to Total Asset Ratio	Short-term debt to Total Asset Ratio	SASRA Regulations
Debt to Capital Ratio	1.0000				
Debt to Equity Ratio	0.4821	1.0000			
Long-term debt to Total Asset Ratio	0.0817	0.1820	1.0000		
Short-term debt to Total Asset Ratio	0.0959	0.0845	-0.3138	1.0000	
SASRA Regulations	-0.9507	-0.3582	-0.0575	-0.0979	1.0000

Source: Study Data (2020)

As displayed in table 4.3, the study used a correlation matrix to test for multicollinearity. The explanatory variables used in this study were debt to capital ratio,

debt to equity ratio, long-term to total asset ratio, short-term to total asset ratio and sasra regulations. From the outcome the results indicates that cases of severe multicollinearity was not experienced since all the correlation coefficients between the explanatory variables were less than 0.8 as supported by (Gujarati, 2010). Thus the outcome was not misleading since the explanatory variables are not correlated.

4.3.3 Autocorrelation Test Results

Wooldridge test was employed under autocorrelation test.

Table 4. 4: Autocorrelation test for ROE

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F (1, 9) = 1.660
Prob > F = 0.2089

Source: Study Data (2020)

Under the outcome displayed in table 4.4, the study employed Wooldridge test for autocorrelation for equation 3.2. From the findings, the null hypothesis of no autocorrelation was not rejected given the p values was above the critical value of 0.05 (P= 0.2089>0.05) hence no autocorrelation in the data as noted by (Wooldridge, 2013).

Table 4. 5: Autocorrelation test for ROI

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F (1, 9) = 3.674
Prob > F = 0.0663

Source: Study Data (2020)

From the outcome in table 4.5, the study employed Wooldridge test for autocorrelation for equation 3.3. The findings indicated that the null hypothesis of no autocorrelation was not rejected since the p value was above the critical value of 0.05 (P=0.0663>0.05) hence no autocorrelation in the data as noted by (Wooldridge, 2013).

4.3.4 Heteroskedasticity Test Results

The researcher employed Breuch Pagan test to take care of consistent standard errors of heteroscedasticity.

Table 4. 6: Heteroskedasticity Test Results for ROE

Breusch – Pagan / Cook-Weisberg test for heteroscedasticity
H0: Constant variance
Variables: Fitted values of ROE
$Chi^2(1) = 35.99$
$Prob>chi^2 = 0.0000$

Source: Study Data (2020)

Under Table 4.6, the study tested for panel heteroskedasticity employing Breusch-Pagan test. The null hypothesis was that the error term is homoscedastic. Since the calculated p value for variables fitted values of ROE (0.0000) which is less than the critical value 0.05 which implies presence of heteroskedasticity in equation 3.2. The heteroscedastic was corrected by running a robust regression.

Table 4. 7: Heteroskedasticity Test Results for ROI

Breusch – Pagan / Cook-Weisberg test for heteroscedasticity
H0: Constant variance
Variables: Fitted values of ROI
$Chi^2(1) = 19.68$
$Prob>chi^2 = 0.0014$

Source: Study Data (2020)

From the results output displayed in table 4.7, the study tested for panel heteroskeskedasticity employing Breusch-Pagan test. The null hypothesis was that the error term is homoscedastic. Since the calculated p value for variables fitted values of ROI (0.0014) is less than the critical p value (0.05), the null hypothesis that the data is homokedastic was rejected. This implied that the data had hetroscedasity problems hence the heteroscedastic was corrected by running a robust regression.

4.3.5 Panel Unit Root Tests Results

The researcher employed the Philips-Perron tests to detect the presence of unit root in the regression model.

Table 4. 8: Panel Unit Root Test

Variable	Test	Statistics	Significance
ROE	Phillips-Perron tests	325.9578	0.0000
ROI	Phillips-Perron tests	232.6110	0.0000
Debt to Capital Ratio	Phillips-Perron tests	221.1006	0.0000
Debt to Equity Ratio	Phillips-Perron tests	230.0823	0.0000
Long-term debt to Total Asset Ratio	Phillips-Perron tests	177.8049	0.0000
Short-term debt to Total Asset Ratio	Phillips-Perron tests	94.8806	0.0028
SASRA Regulations	Phillips-Perron tests	123.4067	0.0000

Source: Study Data (2020)

As reported in table 4.8 the Philips-perron test presented P- values that are less than 0.05. Thus the null hypothesis stated earlier that all panel data have unit root was rejected at 5% level of significance. Debt to capital ratio, debt to equity ratio, long-term to total asset ratio, short-term to total asset ratio and sasra regulations were all stationary thus no issues with unit root.

4.3.6 Hausman Test Results

The researcher employed the Hausman Test to detect the presence of endogenous regressors in the regression model.

Table 4. 9: Hausman test for ROE

	coefficients			
	(b) Fixed	(B) Random	(b-B) Differences	Sqrt(diag(v_b-v_B)
Debt to Capital Ratio	.0313188	.0333491	-.0020303	.0076536
Debt to Equity Ratio	.0411097	.0584231	-.0173134	.0091083
Long-term debt to Total Asset	-.009617	-.012332	.0027149	.0068096
Short-term debt to Total	.1572968	-.0205369	.1778337	.0607083
SASRA Regulations	.0207691	.0630654	-.0422963	.0107147
$Chi^2(4)$ = 23.55 $Prob>chi^2$ = 0.0003				

Source: Study Data (2020)

Table 4.9 presented the Hausman test for ROE the application of the random and fixed effect models in the analysis. From the results output displayed in table 4.9,

the P value is less than 0.05 (P = 0.0003<0.05). In this case the alternative effect model was therefore appropriate for the model as suggested by (Green, 2008).

Table 4. 10: Hausman test for ROI

	coefficients			
	(b) Fixed	(B) Random	(b-B) Differences	Sqrt(diag(v_b-v_B) S.E
Debt to Capital Ratio	-.1224811	-.1132916	-.0091895	.1104903
Debt to Equity Ratio	.2838894	.4205081	-.1366187	.1043288
Long-term debt to Total Asset Ratio	-.2299317	-.142384	-.0875477	.0787683
Short-term debt to Total Asset Ratio	.8420715	.0018957	.8401758	.8268992
SASRA Regulations	-.1580039	.191778	-.349782	.1369493
$Chi^2(4)$ = 11.08 $Prob>chi^2$ = 0.0497				

Source: Study Data (2020)

From the results in table 4.10 the P value was less than the critical value (P=0.0497<0.05). Therefore, the alternative effects model for the model was adopted as suggested by (Green, 2008).

4.4. Regression Analysis

This study is anchored on the foundation that there is an association between financial leverage and financial performance of Sacco's in Nairobi City County. The association is mediated by sasra regulations. To establish the statistical significance of the respective hypotheses, regression analysis is conducted at 95% confidence level.

4.4.1 Test for Direct Effect

The four objectives of the study was to determine the effect of debt to capital ratio on financial performance of deposit taking SACCOs in Nairobi County, to determine the effect of debt to Equity ratio on financial performance of deposit taking SACCOs in Nairobi County, to examine effect of long-term debt ratio on financial performance of deposit taking SACCOs in Nairobi County and to assess the effect short term ratio on financial performance of the deposit taking SACCOs in Nairobi County. The results are presented in Table 4.11 and table 4.12 the discussions are provided subsequently,

4.4.2 Effect of Financial Leverage on Financial Performance

Table 4.11 presents the results of regression Model 3.2 on the direct effect of financial leverage measures and financial performance measured by return on equity (ROE).

Table 4. 11: Regression Results with Return on Equity (ROE)

		Robust		
ROE	Coefficient	Standard Error	z	P>|z|
Debt to Capital Ratio	-.4156998*	.113283	-3.67	0.000
Debt to Equity Ratio	-.667692*	.1806475	-3.70	0.000
Long-term debt to Total Asset Ratio	-.0624442	.0716017	-0.87	0.384
Short-term debt to Total Asset Ratio	.1428198**	.0796026	1.79	0.075
_cons	-2.51341	.3982103	-6.31	0.000
F statistics = 4.31 Prob > chi^2 = 0.0024 **(*)(**)** denote 5% and 10% level of significance				

Source: Study Data (2020)

The outcome in Table 4.11 showed that F statistics value was 4.31 with a P= 0.0000< 0.05. This indicated that financial leverage variables had significant effects on financial performance measured by the return on equity of deposit taking Sacco's in Nairobi County in Kenya.

4.4.3 To determine the effect of debt to capital ratio on financial performance of deposit taking SACCOs in Nairobi County.

The first objective of the study determined the effect of debt to capital ratio on financial performance of deposit taking SACCOs in Nairobi County. The outcomes are as displayed in Table 4.11. The coefficient of debt to capital ratio is -0.4156998 and is statistically significant with p value of 0.000 which is less than 0.05. This shows a negative statistically significant effect between debt to capital ratio and return on equity. The null hypothesis that debt to capital ratio has no significant effect on financial performance measured by return on equity of Sacco's in Nairobi was rejected at 5% level of significance.

The negative coefficient implies that a unit increase in debt to capital ratio would lead to a decrease in return on equity of Sacco's. When Sacco's acquire more debt than capital within a financial year this would directly cut down on return on equity of the Sacco's since most of the return would go to serving the debt. The finding of this study is in agreement with those of Abeywardhana and Magoro (2017) but inconsistent with those of Eriki and Osagie (2017).

4.4.4 To determine the effect of debt to Equity ratio on financial performance of deposit taking SACCOs in Nairobi County.

The second objective of the study went forth to determine the effect of debt to equity ratio on financial performance of deposit taking SACCOs in Nairobi County. Table 4.11 indicates that coefficient of debt to equity ratio -0.667692 and is statistically significant with p value of 0.000 which is less than 0.05. The findings showed that there was a significant negative effect of debt to equity ratio on return on equity of Sacco's in Nairobi County in Kenya. The null hypothesis that debt to capital ratio has no significant effect on financial performance measured by return on equity of Sacco's in Nairobi was rejected at 5% level of significance.

The negative coefficient implies that a unit increase in debt to equity ratio would lead to a decrease in return on equity of Sacco's. When Sacco's acquire more debt than equity within a financial year this would directly cut down on return on equity of the Sacco's since most of the return would go to serving the debt. The finding of this study agrees with Modigliani-Miller theory who talks of the irrelevancy of capital structure theory. The finding further is in agreement with those of Abeywardhana and Magoro (2017) but inconsistent with those of Eriki and Osagie (2017).

4.4.5 To examine effect of long-term debt ratio on financial performance of deposit taking SACCOs in Nairobi County.

The third objective of the study determined the effect of long-term debt ratio on financial performance of deposit taking SACCOs in Nairobi County. The outcomes are as displayed in Table 4.11. The coefficient of long- term debt ratio was (β= -0.0624442, p= 0.384>0.05). The results showed that there was a negative

statistically insignificant effect of long-term debt ratio on return on equity of deposit taking SACCOs in Nairobi County. The null hypothesis that long-term ratio has no significant effect on financial performance measure by return on equity of Sacco's in Nairobi was not rejected.

The negative coefficient implies that a unit increase in long-term debt to total asset ratio would lead to a decrease in return on equity of Sacco's. When Sacco's use more of long-term to finance its investment the less they get as far as return on equity is concern. Long-term debt is an expense venture of raising funds since creditors will require higher returns from the same. The finding of this study is in agreement with those of Wanjiku (2015) but inconsistent with those of Mwaniki, Oluoch and Ndambiri (2018).

4.4.6 To assess the effect short term ratio on financial performance of the deposit taking SACCOs in Nairobi County.

The fourth objective of the study determined the effect of short-term debt to total asset ratio on financial performance of deposit taking SACCOs in Nairobi County. The outcomes are as displayed in Table 4.11. The coefficient of long- term debt to total asset ratio was (β= 0.1428198, p= 0.075<0.10). The results showed that there was a positive statistically significant effect of short-term debt to total asset ratio on return on equity of deposit taking SACCOs in Nairobi County. The null hypothesis that short-term debt to total asset ratio has no significant effect on financial performance measured by return on equity of Sacco's in Nairobi was rejected at 10% level of significance.

The positive coefficient implies that a unit increase in short-term debt to total asset ratio would lead to an increase in return on equity of Sacco's. Short term debt is a cheaper venture of getting quicker returns on investment. Thus an increase of the same would lead to would lead to an increase in return on equity. The finding of this study was inconsistent with those of Karuru & Njeru (2016).

4.4.7 Effect of Financial Leverage on Return on Investment

Table 4.12 presents the results of regression Model 3.3 on the direct effect of financial leverage measures and return on investment (ROI).

Table 4. 12: Regression results with ROI as the Dependent Variable

Robust				
ROI	Coefficient	Standard Error	z	P>|z|
Debt to Capital Ratio	-.6315662	.1529925	-4.13	0.000
Debt to Equity Ratio	-.5324115	.1964793	-2.71	0.007
Long-term debt to Total Asset Ratio	-.1059587	.0755608	-1.40	0.163
Short-term debt to Total Asset Ratio	.166664	.0846789	1.97	0.051
_cons	-.8592609	.3684964	-2.33	0.021
F statistics = 5.01 Prob > chi^2 = 0.0008				

Source: Study Data (2020)

The outcome in Table 4.12 showed the F statistics value was 5.01 with a P =0.0008<0.05. This indicates that financial leverage indicators had a significant effect on return on investment of deposit taking Sacco's in Nairobi City County.

4.4.7.1 To determine the effect of debt to capital ratio on financial performance of deposit taking SACCOs in Nairobi County.

The first objective of the study determined the effect of debt to capital ratio on financial performance of deposit taking SACCOs in Nairobi City County. The outcomes are as displayed in Table 4.12. The coefficient of debt to capital ratio was (β= -0.6315662, p= 0.000<0.05). The results showed that there was a negative statistically significant effect of debt to capital ratio on return on investment of deposit taking SACCOs in Nairobi County. The null hypothesis that debt to capital ratio has no significant effect on financial performance of Sacco's in Nairobi was rejected at 5% level of significance.

The negative coefficient implies that a unit increase in debt to capital ratio would lead to a decrease in return on investment of Sacco's. When Sacco's use more of debt to finance its investment the less they get as far as return on investment is concern. Debt in this Sacco's from statistics is proving to be an expense venture of raising funds since creditors will require higher returns from the same. The finding of this study is in agreement with those of Wanjiku (2015) but inconsistent with those of Mwaniki, Oluoch and Ndambiri (2018).

4.4.7.2 To determine the effect of debt to equity ratio on financial performance of deposit taking SACCOs in Nairobi County.

The third objective of the study determined the effect of long-term debt ratio on financial performance of deposit taking SACCOs in Nairobi County. The outcomes are as displayed in Table 4.12. The coefficient of debt to equity ratio was (β= -.5324115, p= 0.007<0.05). The results showed that there was a negative statistically significant effect of debt to equity ratio on return on investment of

deposit taking SACCOs in Nairobi County. The null hypothesis that debt to equity ratio has no significant effect on financial performance measure by return on investment of Sacco's in Nairobi was rejected at 5% level of significance.

The negative coefficient implies that a unit increase in debt to equity ratio would lead to a decrease in return on investment of Sacco's. When Sacco's use more of debt to finance its investment the less they get as far as return on investment from the findings is concerned. Debt is a cheaper way of raising funds as opposed to equity which agrees with pecking order theory however in this scenario a manger will end up choosing equity as opposed to debt financing. The finding of this study is in agreement with those of Wanjiku (2015) but inconsistent with those of Mwaniki, Oluoch and Ndambiri (2018).

4.4.7.3 To examine effect of long-term debt ratio on financial performance of deposit taking SACCOs in Nairobi County.

The third objective of the study determined the effect of long-term debt ratio on financial performance of deposit taking SACCOs in Nairobi County. The outcomes are as displayed in Table 4.12. The coefficient of long- term debt ratio was (β= -.1059587, p= 0.163>0.05). The results showed that there was a negative statistically insignificant effect of long-term debt ratio on return on investment of deposit taking SACCOs in Nairobi County. The null hypothesis that long-term ratio has no significant effect on financial performance measure by return on investment of Sacco's in Nairobi was not rejected at 5% level of significance.

The negative coefficient implies that a unit increase in long-term debt to total asset ratio would lead to a decrease in return on investment of Sacco's. When Sacco's use more of long-term to finance its investment the less they get as far as return on equity is concern. Long-term debt is an expense venture of raising funds since creditors will require higher returns from the same. The finding of this study is in agreement with those of Wanjiku (2015) but inconsistent with those of Mwaniki, Oluoch and Ndambiri (2018).

4.4.7.4 To assess the effect short term ratio on financial performance of the deposit taking SACCOs in Nairobi County.

The fourth objective of the study determined the effect of short-term debt to total asset ratio on financial performance of deposit taking SACCOs in Nairobi County. The outcomes are as displayed in Table 4.12. The coefficient of short- term debt to total asset ratio was (β= 0.166664, p= 0.051<0.05). The results showed that there was a positive statistically significant effect of short-term debt to total asset ratio on return on investment of deposit taking SACCOs in Nairobi County. The null hypothesis that short-term debt to total asset ratio has no significant effect on financial performance measured by return on equity of Sacco's in Nairobi was rejected at 5% level of significance.

The positive coefficient implies that a unit increase in short-term debt to total asset ratio would lead to an increase in return on investment of Sacco's. Short term debt is cheaper venture of getting quicker returns on investment. Thus an increase of the same would lead to would lead to an increase in return on investment.

4.4.7.5 Effects of Sasra Regulations as an explanatory variable on ROE

Table 4.13 presents the results of regression model 3.4 on the effects of Sasra regulation as an explanatory variable on ROE while Table 4.14 presents the results of regression model 3.5 on the effects of Sasra regulation as an explanatory variable on ROE.

Table 4. 13: Effects of Sasra regulation as an explanatory variable on ROE

Robust				
ROE	Coefficient	Standard Error	z	P>|z|
Debt to Capital Ratio	-.5942361	.391764	-1.52	0.131
Debt to Equity Ratio	.6886748*	.2026143	3.40	0.001
Long-term debt to Total Asset Ratio	-.0633093	.0718705	-0.88	0.380
Short-term debt to Total Asset Ratio	-.1439169**	.0801758	-1.80	0.074
SASRA Regulations	-.1898859	.3672324	-0.52	0.606
_cons	-2.619785	.4624251	-5.67	0.000
F statistics = 3.60 Prob > chi^2 = 0.0040 **(*)(**)** denote 5% and 10% level of significance				

Source: Study Data (2020)

The result in Table 4.13 indicates that debt to capital ratio, debt to equity ratio, long-term to total asset ratio and short-term to total asset ratio and Sasra regulation as a moderator were all together significant in explaining the changes in return on equity in deposit Sacco's in Nairobi City County.

The coefficient of debt to capital ratio (β= -.5942361 p= 0.131>0.05) shows a negative statistically insignificant relationship between debt to capital ratio and return on equity of Saccos in Nairobi County. The regression coefficient of 0.5942361 obtained in this case implies that a unit increase in debt to capital ratio would lead to 0.5942361 decrease in return on equity. The coefficient of debt to equity ratio (β= 0.6886748 p= 0.001< 0.05) indicates a negative statistically significant relationship between debt to equity ratio and return on equity. The coefficient of long-term to total asset ratio (β= -0.0633093 p= 0.380 > 0.05) shows a positive statistically insignificant relationship between long-term to total asset ratio and return on equity of Sacco's in Nairobi County. The coefficient of short-term to total asset ratio (β= -0.1439169 p= 0.074<0.10) indicates a negative statistically significant association between shorter to total asset ratio and return on equity. The coefficient of Sasra regulation (β= -0.1898859 p= 0.606>0.05) shows a negative statistically insignificant association between Sasra regulation and return on equity Sacco's in Nairobi County. This indicates that sasra regulation does not directly affect return on equity and thus can moderate the association between financial leverage and return on equity as per the sample. This finding is consistent with those of (Buluma, Kungu and Mungai, 2017).

Table 4. 14: **Effects of Sasra regulation as an explanatory variable on Return on Investment**.

Robust				
ROI	Coefficient	Standard Error	z	P>|z|
Debt to Capital Ratio	-.0938805	.4304567	-0.22	0.828
Debt to Equity Ratio	.469219	.2075342	2.26	0.025
Long-term debt to Total Asset Ratio	-.1033532	.0748751	-1.38	0.169
Short-term debt to Total Asset Ratio	-.1633598	.0840846	-1.94	0.054
SASRA Regulations	.5718666	.4200494	1.36	0.175
_cons	-.5389002	.4383491	-1.23	0.221
F statistics = 4.45 Prob > chi^2 = 0.0008				

Source: Researcher (2020)

The result in Table 4.14 indicates that F statistics value was 4.45 with a P= 0.0008 < 0.05). This indicates that financial leverage and Sasra regulation as a moderator were jointly significant in explaining variations in return on investment and that financial leverage and Sasra regulation all together explains significantly to changes in the return on investment of deposit taking Sacco's in Nairobi County.

The coefficient of debt to capital ratio (β= -0.0938805 p=0.828 > 0.05) shows a statistically insignificant positive effect on return on investment of deposit taking Sacco's in Nairobi County. The regression coefficient of 0.0938805 obtained implies that a unit increase in debt to capital ratio would lead to 0.0938805 decrease in return on investment of Sacco's in Nairobi County. The coefficient of debt to equity ratio (β= -0.469219 p= 0.025<0.05) indicates a negative statistically significant association

between debt to equity ratio and return on investment. The coefficient of long-term debt to total asset ratio (β= -0.1033532 p= 0.169> 0.05) shows a positive statistically insignificant association between long-term to total asset ratio and return on investment of Sacco's in Nairobi County. The coefficient of short-term debt to total asset ratio (β=-0.1633598 p= 0.054 < 0.05) shows a positive statistically insignificant association between short-term to total asset ratio and return on investment on Sacco's in Nairobi County in Kenya.

The coefficient of Sasra regulation (β= -0.5718666 p= 0.175> 0.05) shows a negative statistically insignificant association between Sasra regulation and return on investment of Sacco's in Nairobi City County. This indicates that Sasra regulation does not directly affect return on asset and thus can moderate the association between financial levarage and return on asset as per the sample. This finding is consistent with those of (Ngeno, Kibet and Katwalo, 2015).

4.4.7.6 Effects of Sasra regulation as a moderating variable on the relationship between financial leverage and financial performance

According to Whisman and McClelland (2005) who propagates for two-step approach for moderation effect, the tables below presented the second step approach when Sasra regulation was brought on board as a moderator and the interaction between debt to capital ratio, debt to equity, long-term to total asset ratio and short-term to total asset ratio were employed.

Table 4. 15: Effects of Sasra regulation as a moderator between financial leverage and return on equity (ROE).

Robust				
ROE	Coefficient	Standard Error	z	P>|z|
Debt to Capital Ratio	-0.246782	.5221289	-2.39	0.018
Debt to Equity Ratio	0.87838	.5041311	3.73	0.000
Long-term debt to Total Asset Ratio	-.5720681	.203265	-2.81	0.005
Short-term debt to Total Asset Ratio	-.340933	.3954042	-0.86	0.390
SASRA Regulations	-.9616963	.5917096	-1.63	0.106
Debt to Capital Ratio*SASRA Regulations	-.1674804	.0777183	-2.15	0.033
Debt to Equity Ratio*SASRA Regulations	.3559697	.1568665	2.27	0.025
Long-term debt to Total Asset Ratio*SASRA Regulations	-.1657276	.0700948	-2.36	0.019
Short-term debt to Total Asset Ratio*SASRA Regulations	-.058628	.1336343	-0.44	0.661
_cons	-4.836998	1.313507	-3.68	0.000
F statistics = 4.78 Prob > chi^2 = 0.0000 **(*)(**)** denote 5% and 10% level of significance				

Source: Study Data (2020)

The outcome in Table 4.15 shows the F statistics value was 4.78 with a P= 0.0000< 0.05. This indicates that financial leverage and Sasra regulation as a moderator all together significantly explained the changes in return on equity of Sacco's in Nairobi County in Kenya.

The coefficient debt to capital ratio at β= -0.246782 p = 0.018<0.05, shows that debt to capital ratio has a statistically significant negative effect on financial performance as measured by return on equity. The coefficient debt to equity ratio at β= 0.87838 p=0.000< 0.05 shows that debt to equity has a statistically significant positive effect on return on equity. The coefficient long-term to total asset ratio at β= -.5720681 p= 0.005< 0.05 shows that long-term to total asset ratio has a statistically significant negative effect on return on equity. The coefficient short-term to total asset ratio at β= -.340933 p= 0.390>0.05 shows that short-term to total asset ratio has a statistically insignificant negative effect on return on equity. The coefficient sasra regulation β= -.9616963 p= 0.106<0.05 shows that sasra regulation has a statistically significant negative effect on return on equity. The regression coefficient indicates that a unit increase in sasra regulation would lead to a decrease in return on equity. Sasra regulation in this scenario can therefore be used as a moderator variable and not as an explanatory variable.

Table 4.15 shows that when debt to capital ratio and sasra regulation, debt to equity ratio and sarsra regulation, long-term to total asset and sasra regulation were interacted they displayed negative coefficients as β -.1674804, -.3559697 and -.1657276 respectively with significant p values as 0.033, 0.025 and 0.019 respectively. The negative coefficient indicates that a unit increase among the variables would lead to a decrease in return on equity of Sacco's in Nairobi County. Nonetheless, the interaction between short-term to total asset ratio and sasra regulation gave a positive outcome as a coefficient and insignificant effect on the return on equity (β= 0.058628 p= 0.661>0.05). The positive outcome of this coefficient note that one unit increase in the interaction between short-term to total asset ratio and sasra regulation leads to an

increase in return on equity of Sacco's in Nairobi City County holding other variables constant.

Table 4. 16: Effects of Sasra regulation as a moderator between financial leverage and return on asset (ROI)

Robust				
ROE	Coefficient	Standard Error	z	P>|z|
Debt to Capital Ratio	-0.899392*	.7269031	-2.61	0.010
Debt to Equity Ratio	0.115433*	.8629516	2.45	0.015
Long-term debt to Total Asset Ratio	-0.1618315	.273642	-0.59	0.555
Short-term debt to Total Asset Ratio	0.0986517	.4343752	0.23	0.821
SASRA Regulations	0.236429**	.6611835	1.87	0.063
Debt to Capital Ratio*SASRA Regulations	-.5176874	.152294	-3.40	0.001
Debt to Equity Ratio*SASRA Regulations	0.4661664	.2587925	1.80	0.073
Long-term debt to Total Asset Ratio*SASRA Regulations	-0.019978	.0846463	-0.24	0.814
Short-term debt to Total Asset Ratio*SASRA Regulations	0.0922893	.1461255	0.63	0.529
_cons	1.452068	1.286951	1.13	0.261
F statistics = 6.10 Prob > chi^2 = 0.0000 **(*)(**)** denote 5% and 10% level of significance				

Source: Study Data (2020)

The outcome in Table 4.16 shows the F statistics value was 6.10 with a p value of 0.0000 which is less than 0.05. This indicates that financial leverage and Sasra regulation a moderator are jointly significant in explaining variations in return on investment of deposit taking Sacco's in Nairobi City County.

The coefficient debt to capital ratio at β= -0.899392 p = 0.010 >0.05, shows that debt to capital ratio has a statistically insignificant negative effect on return on investment. The coefficient debt to equity ratio at β= 0.115433 p= 0.015<0.05 shows that debt to equity has a statistically significant positive effect on return on investment. The coefficient long-term to total asset ratio at β= -0.1618315 p= 0.555>0.05 shows that long-term to total asset ratio has a statistically insignificant negative effect on return on investment. The coefficient short-term to total asset ratio at β= 0.0986517 p=0.821>0.05 shows that short-term to total asset ratio has a statistically insignificant positive effect on return on investment. The coefficient sasra regulation β= 0.236429 p= 0.063<0.05 shows that sasra regulation has a statistically significant positive effect on return on investment. Sasra regulation in this scenario can therefore be used as a moderator variable and not as an explanatory variable.

Table 4.16 shows that when debt to capital ratio and debt to equity ratio were interacted with the moderator as sasra regulation they displayed negative coefficient and the effect was significant as follows respectively (β= -0.5176874 p= 0.001<0.05). (β= -0.4661664 p= 0.073>0.05). When long-term to total asset ratio was interacted with sasra regulation coefficient turned out negative with a statistically insignificant effect of the same (β= -.019978 p= 0.814>0.05). When short-term to total asset ratio was interacted with sasra regulation the coefficient turned out negative with a statistically insignificant

effect on return on equity (β= 0.0922893 p= 0.529>0.05). The positive coefficient implies that a unit increase in the interaction between short-term to total asset ratio and sasra regulation would lead to an increase in return on investments of Sacco's in Nairobi County, however the effect was not significant.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, conclusions, policy recommendations and contributions of the study to knowledge and areas for further research.

5.2 Summary of the study

Statistics show that 6% of the legal members abandon their membership yearly due to low returns on investments. Furthermore the declining trends of the number of Sacco's between years 2014 and 2018 triggered the mind of research to go forth and uncover the recurring phenomena under study. The study sought to determine the effect of financial leverage on financial performance of deposit taking Sacco's in Nairobi County. The result of financial leverage specifically debt to capital ratio, debt to equity ratio, long-term to total asset and short-term to total asset ratio of deposit taking Sacco's in Nairobi County. The study further evaluated the moderating effect of sasra regulations on the relationship between financial leverage and financial performance of deposit taking Sacco's in Nairobi County.

The first objective of the study as to determine the effect of debt to capital ratio on financial performance of deposit taking Sacco's in Nairobi County. The null hypothesis was that debt to capital ratio has no significant effect on financial performance measured by return on equity. The study findings showed that debt to capital ratio had a negative but significant effect on return on equity. The findings under the effect of financial leverage indicators on return on asset return on investment showed that debt to capital ratio had a negative and significant effect on return on investment.

The second objective sought to establish effect of debt to equity ratio on financial performance of deposit taking Sacco's in Nairobi County. The null hypothesis as that debt to equity ratio has no significant effect on financial performance measured by return on equity. The study findings showed that debt to equity ratio had a negative and significant effect on return on equity. One the other hand debt to equity ratio had a negative and significant effect on Return on investment.

The third objective of the study sought to determine the effect of long-term to total ratio on financial performance of deposit taking Sacco's in Nairobi County. Long-term to total asset ratio had a negative insignificant effect on both financial performance indicators namely return on equity and return on investment. Meaning any changes an increase in long term debt ratio would lead to a decrease in return on investment and return on equity respectively.

The fourth objective of the study sought to establish the effect of short-term to total asset ratio on financial performance of deposit taking Sacco's in Nairobi County. The null hypothesis was that short-term to total asset ratio has no significant effect on financial performance of Saccos in Nairobi City County. Short-term to total asset ratio had a positive significant effect on both financial performance indicators namely return on investment and return on equity.

Finally, the study sought to determine the moderating effect of sasra regulation on the relationship between financial leverage and financial performance of deposit taking Sacco's in Nairobi County. The null hypothesis was that sasra regulation has no significant effect on the relationship between financial leverage and financial performance of Sacco's in Nairobi City County. From the findings the study found out

that sasra regulation does not direly affect the financial performance of Sacco's but rather it moderates the relationship between financial leverage and financial performance of deposit taking Sacco's in Nairobi County.

5.3 Conclusions

The study concludes that, for Sacco's to increase on their returns, they need to manage their financial leverage as proxied by ratios. Debt to capital ratio indicated that higher debt to capital ratios implied that Sacco's were not managing their debts well. They therefore need to implement debt cutting initiatives to manage capital. Increased debt to capital is an immediate indicator to Sacco's of emerging problems in the cash flow. Furthermore the study concluded that Sacco's with a high debt-to-capital ratio would be taking a big risk if they leveraged existing equipment or real estate as collateral for a new venture. Since they would theoretically be increasing their ratio, they would be seen as a greater liability since the leveraged items might not be enough to cover their financial obligations if the new venture did not work out as planned, thus cutting down on returns on investments.

The study noticed that debt to equity ratio negatively influenced the financial performance as proxied by ROE and ROI of deposit taking Sacco's in Nairobi City County in Kenya. It can be observed from the table 4.1 that Sacco's under study were operating above the ideal state of debt to equity ratio of 1.5 to 3. The debt to equity ratio shows a company's debt as a percentage of its shareholder's equity. If the debt to equity ratio is less than 1.0, then the firm is generally less risky than firms whose debt to equity ratio is greater than 1.0. Understanding the debt to equity ratio in this way is important to allow the management of a Sacco to understand how to finance the operations of the Sacco. This increasing leverage (using debt to finance growth) adds

additional risk to the company and increases expenses due to the higher interest costs and debt.

The study noted that short-term to total asset ratio had a positive effect of financial performance of deposit taking Sacco's in Nairobi City County. As observed form table 4.1 that Sacco's on average were operating at 0.71 which implies that Sacco's have a 71 percent of short-term debt for each Kenya shilling it has in assets. The study concluded that deposit taking Sacco's should invest more in short term debt unlike long term debt since it's associated with financial performance of Sacco's .

The study furthermore indicated that sasra regulation moderated the relationship between the study variable and rather not as an explanatory variable. Sasra regulation as a moderator had a statistically significant effect of the study variables. The study concluded that deposit taking Sacco's in Nairobi County should pay attention to institutional capital against the total asset since they are associated with financial performance of Sacco's in Nairobi County.

5.4 Recommendations

Based on the findings, the study made the following recommendations. First, the study sought to evaluate the effect of debt to capital ratio on financial performance of deposit taking Sacco's in Nairobi County. The study findings showed that debt to capital ratio had a statistically significant negative effect on financial performance. The study therefore recommends that Sacco's can use certain tools like debt restructuring in order to lower their debt-to-capital ratio. By using certain bottom-line accounting techniques, the Sacco's can help to make themselves appear in a better financial position without the fear of insolvency. Furthermore the study recommends that the most logical step a

Sacco can take to reduce its debt-to-capital ratio is that of reduce on their services charges, this will attract more clients and in the long run they become profitable. This can be achieved by reducing on interest rates. This will increase customer uptake of loans, the monies generated in this process can then be used to pay off existing debt.

Secondly the study sought to establish the effect of debt to equity ratio on financial performance of deposit taking Sacco's in Nairobi County in Kenya. The study findings showed that debt to equity ratio had a statistically significant negative effect on financial performance. A high debt-to-equity ratio indicates that a Sacco is primarily financed through debt. That can be fine, of course, and it's usually the case for Saccos in the financial industry. But a high number indicates that the Sacco's higher risk. That's why a high debt-to-equity ratio may be a red flag for investors. In fact, it may also turn off lenders, partners and suppliers. Because debt is inherently risky, lenders and investors tend to favor Sacco's with lower D/E ratios. For lenders, a low ratio means a lower risk of loan default. For shareholders, it means a decreased probability of bankruptcy in the event of an economic downturn. A Sacco with a higher ratio than its industry average, therefore, may have difficulty securing additional funding from either source.

The study therefore recommends that Sacco's can use certain tools like debt restructuring in order to lower their debt-to-capital ratio. By using certain bottom-line accounting techniques, the Sacco's can help to make themselves appear in a better financial position without the fear of insolvency.

Thirdly the study sought to determine the effect of short-term to total asset ratio on financial performance of deposit taking Sacco's in Nairobi County. Short-term to total

asset ratio had a positive effect on financial performance. The study therefore recommends that the Sasra the regulators should encourage the Sacco's to invest more on short-term debt unlike long-term debt as part of debt restructuring among Sacco's since short-term financing is cheaper and there is an increased return on investment and also an increased return on equity.

Fourthly the study sought to determine the moderating effect of sasra regulations on the relationship between financial leverage and financial performance of deposit taking Sacco's in Nairobi County. Sasra regulation turns out to have a significant moderating effect on the relationship between financial leverage and financial performance of Sacco's. The study recommends that Sasra as a regulator should be the lender of the last resort to Sacco's under financial difficulties and this will help the Sacco's to manage their liquidity as they report to Sasra directly and not to commercial bank as it is the case currently in Kenya.

5.5 Contribution to Knowledge

This study has contributed to knowledge is a number of ways: firstly the use of return investment as proxy to financial performance is of great contribution to the body of knowledge since a number of studies have ignored this proxy. Secondly the use of sasra regulation as a moderator on the relationship between financial leverage and financial performance is of great contribution to the body of knowledge.

5.6 Limitation of the Study

The study concentrated on deposit taking Sacco's in Nairobi City County and considered four variables as the explanatory variable on the financial performance of deposit taking savings and credit co-operative societies in the Kenya. The study did not

consider other Sacco's which are not yet as deposit taking savings and credit co-operative societies. The information was gathered within a range of seven years beginning 2012 to 2018. This confinement in data is also a limitation to this study.

5.7 Areas for Further Research

Further study can be done on the effect of financial leverage and financial performance on non-deposit taking Sacco's in Nairobi County in Kenya.

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APPENDIX I LICENSED SACCO SOCIETIES IN NAIROBI CITY COUNTY

AS AT DECEMBER 2018

1. Afya Sacco Society Ltd P.O.Box 11607 – 00400, Nairobi
2. Aiports Sacco Society Ltd P.O Box 19001-00501 Nairobi
3. Ardhi Sacco Society Ltd P.O. Box 28782-00200, Nairobi.
4. Asili Sacco Society Ltd P.O.Box 49064 – 00100, Nairobi.
5. Chai Sacco Society Ltd P.O.Box 278-00200, Nairobi.
6. Chuna Sacco Society Ltd P.O.Box 30197 – 00100, Nairobi
7. Elimu Sacco Society Ltd P.O Box 10073-00100, Nairobi.
8. Fundilima Sacco Society Ltd P.O.Box 62000 – 00200, Nairobi
9. Harambee Sacco Society Ltd P.O.Box 47815 – 00100, Nairobi.
10. Hazina Sacco Society Ltd P.O.Box 59877 – 00200, Nairobi.
11. Jamii Sacco Society Ltd P.O.Box 57929 – 00200, Nairobi.
12. Kenpipe Sacco Society Ltd P.O.Box 314 – 00507, Nairobi.
13. Kenversity Sacco Society Ltd P.O.Box 10263 – 00100, Nairobi.
14. Kenya Bankers Sacco Society Ltd P.O.Box 73236 – 00200, Nairobi
15. Kenya Police Sacco Society Ltd P.O.Box 51042 – 00200, Nairobi
16. Kingdom Sacco Society Ltd P.O.Box 8017 – 00300, Nairobi
17. Magereza Sacco Society Ltd P.O.Box 53131 – 00200, Nairobi.
18. Maisha Bora Sacco Society Ltd P.O.Box 72713 – 00200, Nairobi.
19. Metropolitan National Sacco Society Ltd P.O.Box 5684 – 00100, Nairobi.
20. Mwalimu National Sacco Society Ltd P.O.Box 62641 – 00200, Nairobi
21. Mwito Sacco Society Ltd P.O. Box 56763- 00200, Nairobi
22. Nacico Sacco Society Ltd P.O.Box 34525 – 00100, Nairobi.
23. Nafaka Sacco Society Ltd P.O.Box 30586 – 00100, Nairobi.
24. Nation Sacco Society Ltd P.O.Box 22022 – 00400, Nairobi
25. Nyati Sacco Society Ltd P.O. Box 7601 – 00200, Nairobi.
26. Safaricom Sacco Society Ltd P.O.Box 66827 – 00800, Nairobi.
27. Sheria Sacco Society Ltd P.O.Box 34390 – 00100, Nairobi.
28. Shirika Sacco Society Ltd P.O Box 43429-00100, Nairobi.
29. Shoppers Sacco Society Ltd P.O. Box 16 – 00507, Nairobi
30. Stima Sacco Society Ltd P.O.Box 75629 – 00100, Nairobi
31. Taqwa Sacco Society Ltd P.O. Box 10180–00200, Nairobi.
32. Tembo Sacco Society Ltd P.O.Box 91 – 00618, Ruaraka Nairobi
33. Ufanisi Sacco Society Ltd P.O Box 2973-00200, Nairobi.
34. Ukristo Na Ufanisi Wa Angalicana Sacco Society Ltd P.O Box 872- 00605, Nairobi.
35. Ukulima Sacco Society Ltd P.O.Box 44071 – 00100, Nairobi.
36. Unaitas Sacco Society Ltd P.O.Box 38721– 00100, Nairobi.
37. Wanaanga Sacco Society Ltd P.O.Box 34680 – 00100, Nairobi.

38. Wanandege Sacco Society Ltd P.O.Box 19074 -00501, Nairobi
39. Waumini Sacco Society Ltd P.O.Box 66121 – 00800, Nairobi.
40. Comoco Sacco Society Ltd P.O. Box 30135 – 00100, Nairobi
41. Miliki Sacco Society Ltd P.O. Box 43582 – 00100, Nairobi
42. Telepost Sacco Society Ltd P.O Box 49557-00100 Nairobi.

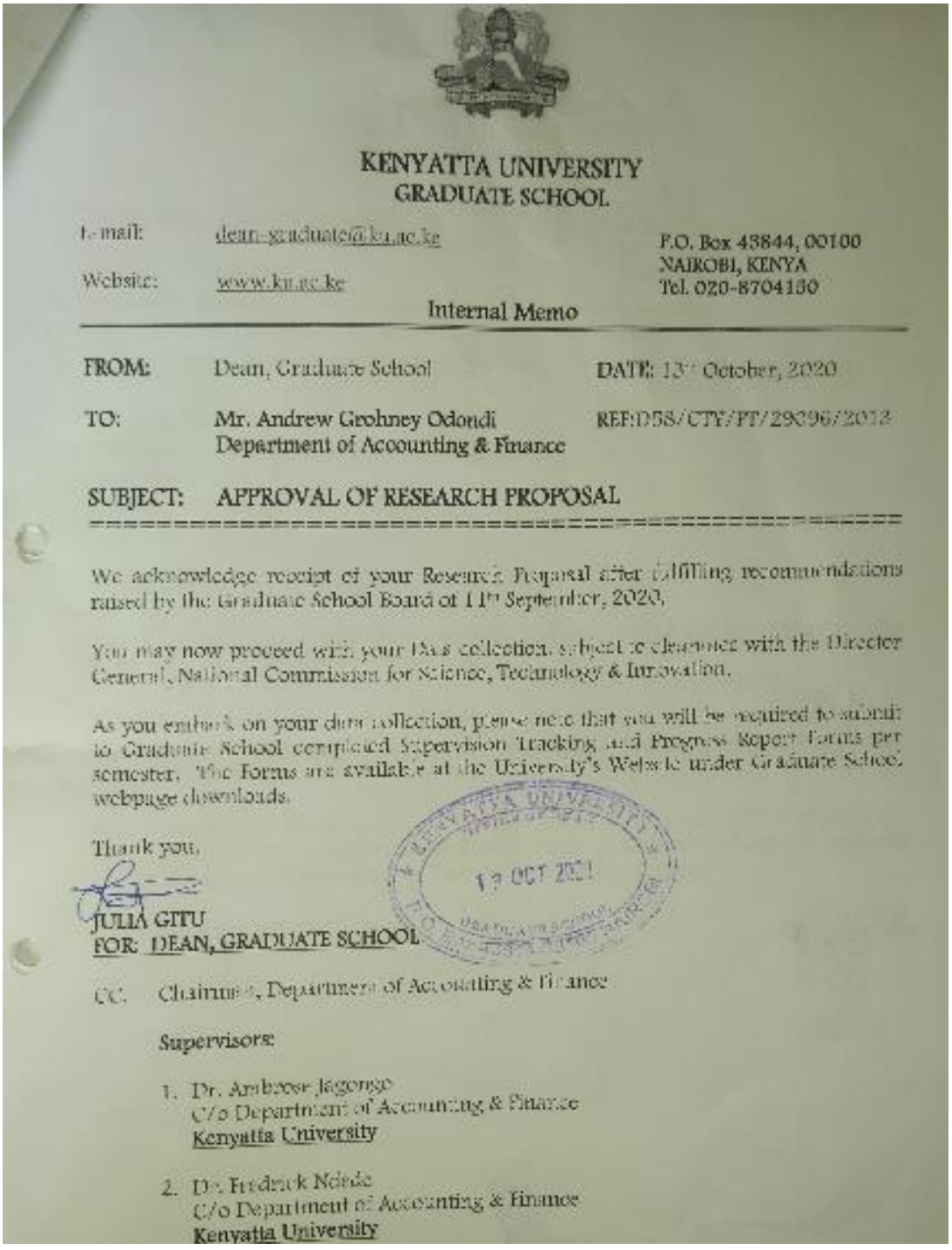
APPENDIX II DOCUMENT REVIEW GUIDE

Data Entry Sheet……

Sacco's Name…….

Financial Year	ROI	ROE	Long term Debt	Share Capital	Equity	Institutional capital	Short term debt	Total Asset
2012								
2013								
2014								
2015								
2016								
2017								
2018								

APPENDIX III: APPROVAL OF RESEARCH PROPOSAL FROM 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. 020-8704100

Internal Memo

FROM: Dean, Graduate School
DATE: 13th October, 2020

TO: Mr. Andrew Geohney Odondi
Department of Accounting & Finance
REF:D58/CTY/PT/29096/2018

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

We acknowledge receipt of your Research Proposal after fulfilling recommendations raised by the Graduate School Board of 11th September, 2020.

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

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

Thank you.

JULIA GITU
FOR: DEAN, GRADUATE SCHOOL

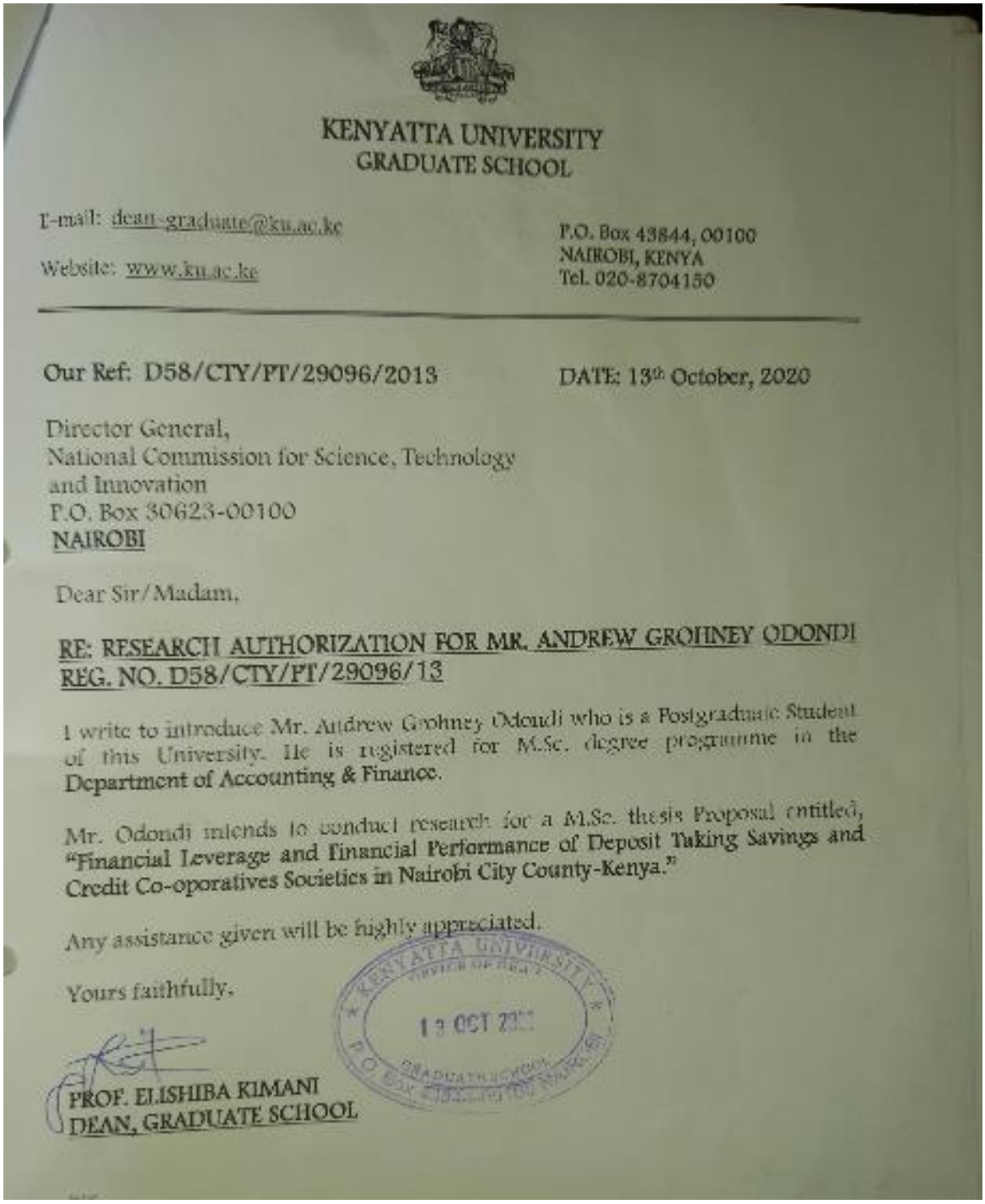
CC. Chairman, Department of Accounting & Finance

Supervisors:

1. Dr. Ambrose Jagongo
C/o Department of Accounting & Finance
Kenyatta University

2. Dr. Fredrick Ndede
C/o Department of Accounting & Finance
Kenyatta University

APPENDIX IV: RESEARCH AUTHORIZATION FROM 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. 020-8704150

Our Ref: D58/CTY/PT/29096/2013 DATE: 13th October, 2020

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

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MR. ANDREW GROHNEY ODONDI
REG. NO. D58/CTY/PT/29096/13

I write to introduce Mr. Andrew Grohney Odondi who is a Postgraduate Student of this University. He is registered for M.Sc. degree programme in the Department of Accounting & Finance.

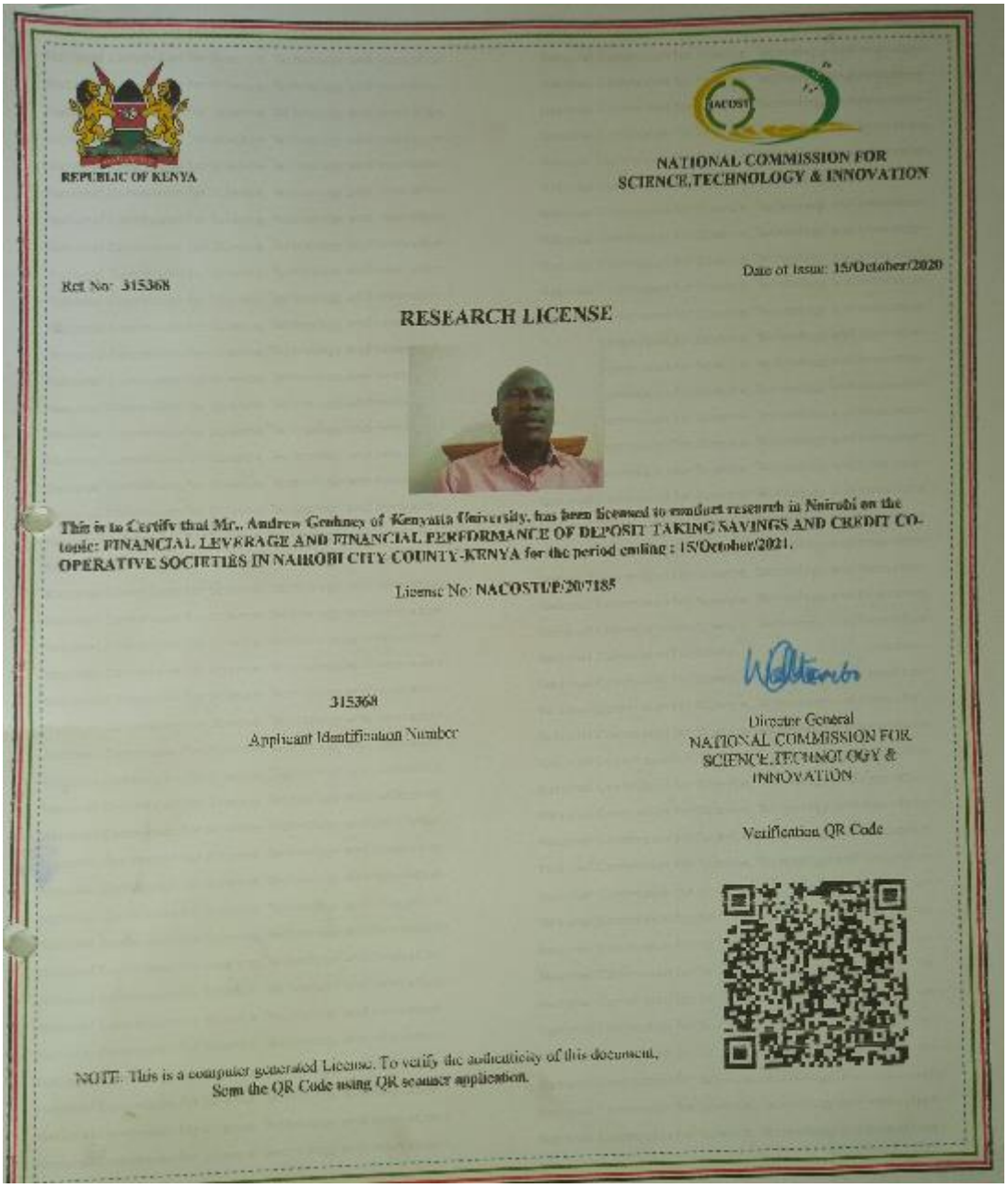
Mr. Odondi intends to conduct research for a M.Sc. thesis Proposal entitled, "Financial Leverage and Financial Performance of Deposit Taking Savings and Credit Co-oporatives Societies in Nairobi City County-Kenya."

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

APPENDIX V: RESEARCH PERMIT FROM NACOSTI



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 315368

Date of Issue: 15/October/2020

RESEARCH LICENSE

This is to Certify that Mr.. Andrew Gonhney of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: FINANCIAL LEVERAGE AND FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES IN NAIROBI CITY COUNTY-KENYA for the period ending : 15/October/2021.

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