

**THE RELATIONSHIP BETWEEN LEVERAGE AND FINANCIAL
PERFORMANCE OF COMMERCIAL BANKS LISTED AT THE NAIROBI
SECURITIES EXCHANGE**

BY

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DECLARATION

This research project is my original work and it has not been presented for any academic award in any university or institution of higher learning.

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This research project has been presented for examination with my approval as University Supervisor.

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DEDICATION

I dedicate this project to my parents Beatrice and Francis Chepkwesi who taught me the value of education at an early age and to my siblings who supported me throughout my study. God bless you all.

TABLE OF CONTENTS

DECLARATION.....	ii
ACKNOWLEDGEMENTS	iii
DEDICATION.....	iv
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT.....	xi
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the study	1
1.1.1 Leverage.....	2
1.1.2 Financial Performance	3
1.1.3 Leverage and Financial Performance.....	5
1.1.4 Commercial banks listed at the Nairobi Securities Exchange.....	6
1.2 Research Problem	8
1.3 Research Objective	10
1.4 Value of the Study	10

CHAPTER TWO	12
LITERATURE REVIEW	12
2.1 Introduction.....	12
2.2 Theoretical Review	12
2.2.1 Modigliani and Miller Propositions	12
2.2.2 Agency Costs Theory.....	13
2.2.3 Pecking Order Theory.....	14
2.2.4 Trade off Theory	15
2.3 Determinants of Financial Performance of Commercial Banks Listed at the NSE	16
2.3.1 Leverage.....	16
2.3.2 Size of the firm.....	17
2.3.3 Credit Risk Management	18
2.3.4 Interest Rates.....	18
2.4 Empirical Review.....	19
2.4.1 International Studies	20
2.4.2 Local Studies.....	22
2.5 Summary of Literature Review.....	23
CHAPTER THREE	26

RESEARCH METHODOLOGY	26
3.1 Introduction.....	26
3.2 Research Design.....	26
3.3 Population	26
3.4 Data Collection	26
3.5 Data Analysis.....	27
3.5.1 Conceptual Model.....	27
3.5.2 Analytical Model	28
3.5.3 Test of Significance	29
CHAPTER FOUR.....	30
DATA ANALYSIS, RESULTS AND DISCUSSION.....	30
4.1 Introduction.....	30
4.2 Descriptive Statistics.....	30
4.3 Correlation Analysis	31
4.4 Regression Analysis.....	32
4.4.1 Regression Output.....	32
4.4.2 Statistical Significance of the Model	33
4.4.3 Estimated Model Coefficients.....	34

4.5 Discussion of Research Findings	35
CHAPTER FIVE	37
SUMMARY, CONCLUSION AND RECOMMENDATIONS	37
5.1 Introduction.....	37
5.2 Summary of Findings.....	37
5.3 Conclusions.....	38
5.4 Policy Recommendations.....	39
5.5 Limitations of the study	40
5.6 Suggestions for further research	41
REFERENCES.....	42
APPENDICES	46
APENDIX I: List of commercial banks listed at the Nairobi Securities Exchange ..	46
APENDIX II: Return on Assets.....	47
APENDIX III: Degree of Financial Leverage	48
APENDIX IV: Non Performing Loans Ratio.....	49
APENDIX V: Bank Size	50

LIST OF TABLES

Table 4.1: Descriptive Statistics	30
Table 4.2: Correlation Analysis	31
Table 4.3: Summary of Regression Output.....	33
Table 4.4: Analysis of Variance.....	34
Table 4.5: Regression coefficients	34

LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
CBR	Central Bank Rate
CMA	Capital Markets Authority
DER	Debt/Equity Ratio
DFL	Degree of Financial Leverage
DR	Debt Ratio
EBIT	Earnings Before Interest and Tax
LDR	Long term Debt Ratio
MCR	Minimum Capital Requirements
NPLR	Non-performing Loans Ratio
NSE	Nairobi Securities Exchange
PG	Prudential Guidelines
ROA	Return on Assets
ROCE	Return on Capital Employed
ROE	Return on Equity
ROI	Return on Investment

ABSTRACT

Leverage is the ratio between a company's debt and equity. Despite wide researches done, there is no agreeable conclusion on whether leverage positively or negatively affects performance. The objective of the study was to investigate and explain the relationship between leverage and financial performance of commercial banks listed at the Nairobi Securities Exchange. Descriptive research design methodology was used covering a 10-year period, 2007 – 2016. Secondary data on the 11 listed commercial banks at the NSE was collected and analyzed using a multiple regression, correlation analysis and descriptive statistics. The independent variables were degree of financial leverage (DFL), non-performing loans ratio (NPLR) and bank size while the dependent variable was return on assets (ROA). Regression results showed that ROA was negatively related to leverage but positively related to bank size and credit risk management. In conclusion, leverage as measured by DFL has a significant negative relationship with financial performance as measured by ROA. Thus, the study recommends that commercial banks should maintain leverage levels at a minimum and increase size so as to maximize performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Various firms have different gearing levels and financial performance differs from one firm to another. Leverage is a key component in firms since it determines the level of internal funding versus external funding and greatly affects the level of the firm's costs. A firm's financial performance is measured by its profitability. A firm's profitability is determined by the difference between its revenues and costs. Other factors held constant, leverage, therefore explains a firm's financial performance (Berger & Patti, 2002).

A firm can finance its operations through internal funding (equity), external funding (debt) or a blend of debt and equity. Leverage is the ratio between a company's debt and equity. Leverage shows use of debt and equity in funding acquisition of firm's resources. An unlevered company uses owner's equity to fund its operations and whereas a levered company's ownership composition entails debt and equity (Andy, Chuck & Alison, 2002). Modigliani and Miller (1963) proposition advocate for the use of debt in order to maximize firm value due to tax shield benefit on gearing. However, trade-off theory asserts that firms conduct cost benefit analyses regarding use of debt compared to equity with an aim of achieving best possible capital constitution in order to maximize performance.

In Kenya, financial institutions are significant players in the economy. Banks are the biggest of the financial institutions. The main function of commercial banks is accepting

deposits, issuing loans, discounting bills. Banks employ a significant percentage of the Kenyan work force. Profitability and financial soundness of banks is therefore critical since it provides livelihood to its employees, returns to the investors and provide critical financial services to all sectors in the economy. There are currently 43 commercial banks in Kenya. Out of these 11 are listed commercial banks at the Nairobi Security Exchange (NSE).

1.1.1 Leverage

In general terms, leverage is the ratio between a company's debt and equity. Pandey (2008) describes financial leverage as presence of debt in a company's capital composition. Financial leverage involves use of debt and preference shares besides the owners' equity (Dare & Sola, 2010). Andy, Chuck and Alison (2002) defined an unlevered business as one whose ownership composition involves shareholders only while a levered company has debt and ownership equity.

Very few firms are all equity firms. Most firms have debt component in their capital structure and are therefore levered firms (Pandey, 2008). The level of gearing/leverage also differs from one firm to another and so is the financial performance. Debt financing has a cost associated with the debt component often incurred by a company in form of interest e.g. loan interest. According to Kraus and Litzenberger (1973), use of too much debt also exposes a firm to financial distress costs. Such costs contribute to the company's total costs which ultimately affects the company's profitability and financial performance. Gearing levels should be monitored to ensure the costs associated with debt financing do not outweigh the benefits of using the debt. The trade-off theory asserts that

firms maximize value by assessing extent of costs associated with the use of equity and debt. Debt in a company's capital configuration has many advantages including the tax shield benefit on gearing. However, use of too much debt exposes a firm to the costs of financial distress (Kraus & Litzenberger, 1973).

Leverage is measured through leverage ratios/gearing ratios. Other than measuring the degree of debt financing, these ratios also measure a firm's financial risk. Huge debts directly reflect the proportionality of the financial risk a firm has (Brigham & Gapenski, 1996). The three most commonly used leverage ratios are degree of financial leverage, debt ratio and debt/equity ratio. Degree of financial leverage measures how sensitive the operating income changes with changes in leverage levels (Earnings Before Interest and Tax/Earnings Before Interest and Tax – Interest Expense). Debt ratio shows the proportion of a firm's asset that has been financed by debt (total liabilities/total assets). Debt/equity ratio compares the amount financed by debt relative to that financed by the owners (total liabilities/net worth) (Myers, 1984).

1.1.2 Financial Performance

According to Erasmus (2008), monetary performance is the assessment of how efficient a company is in generating revenues from its assets. It's usually measured over a given period of time, usually one year. Shareholders measure financial performance by comparing how better they are at the end of a financial period compared to how they were at the start of the period (Berger & Patti, 2002). This performance is determined using ratios obtained from financial statements primarily the statement of financial position, the income statement and stock market prices. These ratios indicate whether the

firms are meeting the shareholder's objectives of wealth maximization. The ratios also evaluate firms in the same industry or trends over time. However, use of ratios to measure financial performance without measuring intellectual capital is regarded as an inadequate measure of performance. This is because the main reason for a shareholder's investment in a firm is to grow their wealth. Therefore, an adequate performance measure should account for the benevolence of shareholders' investments on their wealth.

Financial performance is a measure of the business financial health and financial soundness. Financial soundness aspects of assets quality, capital adequacy, management, earning, equity, liquidity and sensitivity analysis are all affected and determined by financial performance. According to Brigham and Houston (2005), shareholders' wealth in an investment is explained through the firm's financial performance and shows whether shareholders' needs of wealth maximization are being met.

Financial performance is measured through financial ratios obtained from financial statements primarily the balance sheet and the profit and loss statement. There exist different classes of financial ratios including profitability, liquidity, activity, leverage and equity ratios. Profitability ratios assess the effectiveness through which a business uses its resources to earn profit (Brigham & Houston, 2005). In particular, profitability ratios of Return on Assets (ROA), return on capital employed (ROCE) and return on return on equity will be of key focus in this study.

1.1.3 Leverage and Financial Performance

Research conducted on the association amid leverage and financial performance has given varied responses on this subject. Some studies indicate positive relationship connecting leverage and financial performance while some found a negative association. Some scholars have analyzed the studies further and conclude that over a short term period, the relationship may be positive but negative over a long term period (Mesquita and Lara, 2003). Hutchinson (1995) argues that a positive link exists between financial leverage and ROI provided that the interest cost of debt does not exceed the company's assets earning potential. According to Donaldson (2005), for industries, debt and profitability has a positive relationship. Another study on leveraged buyouts had similar results. The connection amid firm's financial prosperity and total debt as a fraction of the total buyout-financing package was found to be positive according to Brigham and Houston (2005).

However, negative relationship has been found in some studies. Majumdar (2009) argues that the association between leverage and fiscal prosperity is negative. He further explained that with the excessive use of debt agency problems do arise between shareholders and creditors. Existence of such agency costs could be detrimental to a firm's profitability and performance. The link amid debt and firm's profitability is negative, Hammes (2003). In this study, he compared Polish and Hungarian firms capital structure and performance to a large sample of firms in industrialized countries. He concluded that debt level in general is what matters, the type of debt does not affect performance. According to Mesquita and Lara (2003), for long-standing financing, the

association between debt and rates of return is negative however the relationship is positive for short-term financing and equity.

1.1.4 Commercial banks listed at the Nairobi Securities Exchange

The banking industry is a very crucial industry in every economy particularly in developing economies like Kenya. This is because, in most economies and for a majority of the firms, banks are the important sources of finance and they provide generally accepted means of payments. Other main functions of commercial banks, which are crucial to any economy, are accepting deposits since they are the main depository for the economy savings, issuing loans and discounting bills. There are currently 43 commercial banks in Kenya. Of the 43, 11 are listed at the Nairobi Securities Exchange. The 11 listed are considered to be the biggest in terms of assets, customers and branch network. Out of the 43 commercial banks, the government of Kenya holds controlling stakes in 3 commercial banks while the other 40 are privately owned. Of the 40 privately owned, 24 banks are locally owned while 16 are foreign owned (CBK, 2017).

Central Bank of Kenya (CBK) is the regulator of commercial banks. The licensing and operation of commercial banks is done by CBK. In exercising its power as the regulator, CBK is guided by the Banking Act and the Regulations and Prudential Guidelines (PG). The CBK also sets out the various capital requirements that any commercial bank should operate with by setting up minimum capital requirements. CBK Prudential Guidelines (PG) (2013) part 3 provides for a change in a bank's capital requirements. It allows for variations in capital requirements depending on the banks risk profile. This risk profile is what determines a bank's capital requirements (CBK, 2017). CBK assesses exposure risk

using capital structure however it does not take into consideration the impact these requirements on the bank's profitability.

The CBK Prudential Guidelines (2013) require that every bank in Kenya must have a minimum core capital of Ksh 1 billion by 31st December 2012 (CBK, 2017). This has affected some banks especially the small banks which have been forced to seek other forms of financing in order to raise this minimum requirement. As a result, the capital structure and leverage levels of these banking institutions are affected. Use of debt to meet capital requirements raises the gearing level. Excessive debt results to financial distress costs which reduces profitability. Larger banks with a bigger asset base meet the capital requirements easily without having to increase their debt level. As such, larger banks are shielded from the negative effects of using excessive debt. On the other hand, Modigliani and Miller (1963) hold a contrary view with the use of debt. They advocate for the use of debt because of the benefit of tax shield as a result of gearing. Interest on debt is a tax deductible expense which a company enjoys and as such financial performance improves by using debt.

The Nairobi Securities Exchange (NSE) develops and controls commercial activities within the securities marketplace, lists companies from different economic sectors with the approval of the Capital Markets Authority (CMA). The CMA ensures responsible trading activities within Kenya's capital marketplace. Currently, there are 11 commercial banks listed at the NSE (NSE, 2017).

1.2 Research Problem

Previous studies on leverage and financial performance have given varied responses on this subject. Some researches indicate positive relationship amid leverage and financial productivity whereas some portray a negative association hence no clear conclusion on the relationship. Also, limited information is available on how banks select their gearing levels and determinants of their borrowing behavior. Brav (2009) gives an insight by highlighting that one of the main determinants of leverage is size. Firm Size usually is in direct relationship with leverage, according to the principle “too big to fail” means that as the size is higher the firm is going to have more leverage as it will be easier for it to borrow (Onofras, 2012).

Commercial banks listed at the NSE have exhibited significant differences in financial performance over the last few years. Analysis of their capital structure shows differences in their leverage levels too. For commercial banks to operate in Kenya, they have to meet the minimum capital standards outlined by the CBK and the Prudential Guidelines. As such, the commercial banks’ capital structure and leverage levels are influenced by CBK requirements. High leverage levels and excessive debt is associated with agency problems and financial distress which reduces profitability (Majumdar, 2009). On the other hand, Hutchinson (1995) asserts that financial leverage positively impacts productivity given that the profitability potential of the firm's assets supersedes the cost thereof.

There exists a number of international studies done on this topic. Abubakar (2015) researched about the connection amid financial leverage and financial productivity of

deposit taking banks in Nigeria. Rajkumar (2014) conducted a study on effect of financial leverage on financial success of John Keells Holdings plc in Sri Lanka. Enkwe et al. (2014) conducted a study on the impact of financial leverage on financial prosperity of listed pharmaceutical firms in Nigeria. The above researches were done in different regions hence may not suit explanation for the Kenyan context. Also, Rajkumar's study focused on one company, John Keells Holdings, hence the findings from this study cannot be generalized.

Local studies have also been done too. Kuria (2013) researched on the effect of capital constitution on the financial productivity of commercial banks in Kenya. Kale (2014) researched on the effect of financial leverage on company performance with a focus on non-financial institutions. This study gives powerful insights on this topic however it was conducted on non-financial firms whose results may be different from commercial banks hence findings may not be applicable to the proposed study. Mutheu (2012) researched on the effect of capital make-up on organizational performance with emphasis on firms listed at the NSE. The study is very helpful since listed companies from different industries were studied. The study results give a general overview of capital structure and firm performance. However, generalization of the results may not be applicable since different industries have different regulations which affect their capital structures. To this regard, this research intends to study and address the question, "what is the relationship between leverage and financial performance of commercial banks listed at the NSE?"

1.3 Research Objective

- i. To study the association between leverage and financial performance of commercial banks listed at the NSE.
- ii. To explain the relationship between leverage and financial performance of commercial banks listed at the NSE.

1.4 Value of the Study

The research will be valuable and will help various stakeholders in the industry and the economy. The beneficiaries will be banks' management & investors, the regulator (CBK), academicians and the Kenyan economy.

The study is intended to help Commercial banks' management have a clear understanding of how leverage impacts on financial performance. Results obtained from the study is expected to advise on the optimal leverage levels for maximum financial performance and maximization of the shareholders' return.

The study will show how the regulator's, The Central Bank of Kenya (CBK), requirements affects leverage and financial performance of the commercial banks. It will show whether the requirements objective of promoting financial soundness in the banking industry also promote financial performance of the banks.

The study is anticipated to benefit the Kenyan economy as a whole. By recommending the optimal leverage levels for maximum financial performance of the banks, economic growth and stability will be promoted. Economic growth and stability will be achieved

through the ripple benefits of employment, availability of credit services and availability and assurance of safe and secure means of payment.

The study will contribute immensely to existing knowledge and literature on leverage and financial performance by explaining the relationship between the two. In addition, study paves the road for further research on the topic under study. Researchers can do similar studies on different industries to see if the relationship, results and explanation are the same as the one obtained in this study. If the results are the same then a general conclusion on the relationship can be made irrespective of the industry or region.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section provides a review of information on leverage and financial success in organizations. The first part examines various theories on leverage which are relevant to this study. The theories examined include Modigliani and Miller theory, trade-off theory, agency costs theory and pecking order theory. This will represent the theoretical review of the study. The second part examined the determinants of financial performance among banks. The third part was a review of various empirical studies that have been carried out by various scholars. Lastly was a summary of the reviews in context of this study.

2.2 Theoretical Review

The following theories are important in explaining leverage, capital structure and financial performance. They are Modigliani and Miller theory, agency costs theory, pecking order theory and trade-off theory.

2.2.1 Modigliani and Miller Propositions

Research by Franco Modigliani and Melton Miller on capital composition in a company is regarded as the seminal paper in Capital Structure. Until 1958, capital structure theories were largely based on assertions about investor behavior rather than on formal statistical studies. Modigliani and Miller (1958) addressed the questions, “Can a company increase its value by replacing some of its equity with debt?” and “Exactly how much

debt should the firm use?”. Modigliani and Miller assumed an ideal capital marketplace where markets are frictionless without transactional or tax-related costs. The authors argued that the worth of any business is determined by capitalizing probable earnings at a fixed rate that is appropriate for the company's risk category. They concluded that in a situation where there were no taxes, the value of a business and the total cost of capital are not influenced by its capital configuration. The value of the firm is therefore not dependent on its capital composition.

Modigliani and Miller (1963) extended their analysis to include corporate taxes. They assert that with the introduction of taxes there is an advantage on gearing as a result of tax shield that result subtraction of interest charges from the use of debt with a company's capital composition. The tax shield advantage is cumulative; the more highly geared a company is the more tax relief it gets and the higher the firm value. The worth of a levered business is equivalent to value of an unlevered company plus the benefit from leverage (tax rate * amount of debt). Therefore, a firm's value is maximized when debt is used over equity. The study shall empirically test the relevance of this theory by comparing financial performance against capital as depicted in this theory for the various commercial banks listed at the NSE.

2.2.2 Agency Costs Theory

This theorem is built on the aspect of agency costs; expenses that arise from distinction of ownership and management and disagreement of interest amid the principal and the agent. The shareholders are the principals whereas the managers are the agents. One of the causes of the disagreements between the owners and managers is free cash flows.

According to Berger and Udell, (2002), in companies that have high cash flows and profitability, managers may misuse the high cash flow for their own individual benefits. In such companies, increasing debts is used as a disciplinary measure to reduce the scope of managers. High leverage levels reduce cash available for managers' spending and forces managers to act more responsibly and consequently reduce agency costs. Therefore, the firm's earnings will be high when debt ratios are high.

However, there exists a challenge that agents could not get all the benefits of their work. This challenge exists when the managers' shareholding in a business is small. When the managers' shareholding is high, this inefficiency reduces. With the use of debt, other challenges also arise. In as much as use of debt reduces inefficiency by limiting the managers' use of funds, companies with high debts will have less investment opportunities compared to firms with less debt (Brigham & Houston, 2005). The proposition of agency cost theory in this research is that leveraged companies are better for owners as debt can be used for appraising the managers. High leverage reduces agency costs, reduces inefficiency and results to augmented organizational performance (Akintoye, 2008).

2.2.3 Pecking Order Theory

This proposition works on the principle that businesses have a preferred order for their funding decisions. Companies increase their worth through choosing to fund their assets or resources using the least costly capital sources. Retained earnings are considered first before outside funding and if needed, debt is prioritized to equity due to lesser costs resulting from use of debt.

Where internal financing (use of retained earnings) is the option, costs associated with financing are expected to be low compared to external financing. This is because for internal financing, there is more information compared to new equity holders in the case of external funding. The new shareholders will anticipate a superior return on funds invested leading to costly equity finance to the business than using retained funds because of information asymmetry. Also, internally generated funds do not incur any floatation costs. Myers (1984) posits that firms would only use equity as a last alternative when their debt capability is below the required standard. Myers (1984) further suggests that if a company has to use external resources for funding operations, then the order will be: debt, convertible financial instruments, preferential shares, and then ordinary stock.

2.2.4 Trade off Theory

The trade-off presumption emerged as a result of a debate on the Modigliani-Miller theory. The static trade-off theory states that companies have favorable capital compositions, which is determined by conducting a cost-benefit assessment regarding use of debt relative to equity (Modigliani & Miller, 1958). The use of debt is associated with debt tax shield advantage. On the contrary, use of debt is associated with the expenses of fiscal distress particularly in cases where there is much reliance on debt by the company.

It is important to note that agency costs arise from division of possession and management between the owners and managers. Therefore, embedding agency expenses within the static trade-off theory implies that an organization ascertains its capital configuration by assessing the costs and benefits associated with using much debt. Similarly, the firm trades off the agency expenses of debt relative to those associated with

using equity. Firms therefore target their capital composition, based on the optimal capital structure and will regulate the level of debt and equity as it deems fit. If the leverage ratio varies from the optimal value, the firm will use its funding sources in a way that readjusts it to an equilibrium or optimum level.

2.3 Determinants of Financial Performance of Commercial Banks Listed at the NSE

Firms do exist with the primary objective of maximization of the shareholders' value. This objective is achieved through profit maximization. Financial performance of companies is measured through profitability. Profitability is determined by matching the company's revenues against the costs associated with generating the revenues. There are various factors that determine profitability and financial prosperity of commercial banks listed at the NSE. The factors include leverage levels, size of the firm, credit risk management and interest rates.

2.3.1 Leverage

The impact of leverage on financial success of firms is still a puzzle in finance literature. Various scholars have divergent views on the topic and there is no clear stand on whether leverage impacts positively or negatively on a firm's financial performance. Modigliani and Miller (1963) argue that there is an advantage on gearing as a result of tax shield. The tax shield, due to tax deduction of interest expenses, advantage is cumulative; the more highly geared a company is the more tax relief it gets and the higher the firm value due to reduced costs.

Agency costs theory also supports the proposition that high leverage leads to better financial performance. The theory puts forward that in companies with high profitability, managers may misuse the firm's resources for their own individual benefits. As such, use of debt is used a disciplinary measure to reduce the scope of managers by reducing cash available for the managers' spending and forces managers to act more responsibly and consequently reduces agency costs. Therefore, high leverage is anticipated to reduce agency expenses, decrease inefficiency, and facilitate increase in firm's performance (Akintoye, 2008).

On the contrary, Brigham and Gapenski (1996), however, hold a view insolvency expenses could increase a trade-off is done amid debt and equity. By relying on too much debt, highly leveraged firms incur financial distress cost. Financial distress costs include legal fees, loss of tax shield, accountancy fees and administrative costs which reduce the profit margins. Therefore, according to this proposition, there is a negative association between leverage and financial performance.

2.3.2 Size of the firm

There is no clear definition of firm size however firm size is associated with asset value, amount of revenue, production capacity and ability of the firm to produce different products to its customers. According to Brav (2009), the size of a firm could positively influence performance as a larger business could secure access to diverse sources of funding; the concept of economies of scale. This concept enables huge firms to produce their commodities at lower costs relative to smaller firms. Also, large firms can obtain

cheap funding hence a lower cost of capital. Therefore, borrowing from this idea, a positive connection amid firm size and financial productivity is probable.

Mesut (2013) found positive connection amid firms' size determinants and financial performance of organizations. However, there are also diseconomies of scale which negatively affect a firm's performance. In a study by Niresh and Velnampy (2014), they observed no indicative association between company size and financial prosperity. The results concluded that firm size has no profound impact on profitability.

2.3.3 Credit Risk Management

Credit risk is inherent in lending business and as such banks face credit risks. Credit risk arises when a borrower defaults on the loan payment agreement. The solvency, health and profitability of a bank is at risk when credit risk is high as a result of specific risk factors especially non-performing loans. It is therefore important for commercial banks to monitor indicators of assets quality by monitoring overexposure to specific risks trends especially non-performing loans. Banks that have borrowers who default on loan repayments face cash flow problems and as such it's liquidity position and profitability are negatively affected through increased bad debts.

2.3.4 Interest Rates

The main source of revenue for commercial banks is interest on customer loans while their biggest costs are interest paid on customer deposits (CBK, 2017). Banks make profits by maintaining a spread between interest charged on loans against interest paid out on customer deposits. Often, the interest charged on loan is usually at higher rate

compared to the interest paid on the customers' deposits. An increase on interest rate increases the revenues earned by the bank in form of interest on loans. Depositors also earn more when interest rates rise and as such costs to the banks rise.

Banks charge interest based on a customer's risk profile. The rate is based on the base lending rate plus a risk premium associated with the customer thus the interest rate will be high to a risky borrower. The spread between lending interest rate and interest on deposits determines the profits. In practice, banks charge a higher rate of interest on loans than they charge on deposits hence an increase on interest rates positively impacts performance of banks through increased revenues compared to a smaller increase in the costs (Abubakar, 2015). In 2016, the CBK introduced interest rate cap where the lending rate is capped at CBR rate plus 4% and a minimum interest on deposits at 70% of CBR. The CBR is currently at 10.5% hence lending interest rate is capped at 14.5% and interest rate on deposits at least at a minimum of 7.35% (CBK, 2017).

2.4 Empirical Review

The relationship between leverage and financial performance is still considered a puzzle in finance literature. Despite wide research done both locally and internationally, no agreeable conclusion has been arrived at on this topic. The various international and local studies done are discussed below.

2.4.1 International Studies

Rajkumar (2014) conducted a study on effect of financial leverage on financial success of John Keells holdings plc in Sri Lanka. The objective of the research was ascertaining the interrelationship between financial leverage and financial productivity. It was a case study on John Keells Holding plc that used data for 7 years from the year 2006-2012 using regression and correlation analysis. A negative relationship amid the variables under investigation was established. The findings also showed that financial leverage has a great effect on the productivity of the company studied. The scope of this research is small since the research was conducted on one company hence researchers should replicate the study on other companies or industries.

Enekwe et al. (2014) conducted a research with an objective of ascertaining the connection amid financial leverage and financial performance of listed pharmaceutical firms in Nigeria. The research used ex-post factor research design on selected six quoted pharmaceutical companies in Nigeria. Correlation and multiple regression analysis study was conducted on a 12-year financial reports data for the period 2001–2012. The analysis found an insignificant effect between independent variables and financial performance of the sampled companies. The period of study is long enough to give reliable findings however the population sample was small to give a conclusive recommendation. Future studies on the topic should be done on a bigger population sample to give more reliable findings.

Abubakar (2015) conducted a study on the link between financial leverage and financial success of banks in Nigeria. The study used a selective sample of 11 out of the 23

deposit-taking banks in Nigeria and covered 9-year period from the year 2005-2013. Regression analysis was used and results showed that there exists a considerable relationship amid debt-equity ratio and return on equity. Similar studies should be conducted and tested using other ratio measures other than the ones studied above.

Zahoor et al. (2015) researched on the effect of financial leverage on performance of Pakistani firms. The goal of the research was to ascertain the impact of financial leverage on efficiency of firms in Pakistan. Panel data from 154 textile firms quoted at the Karachi Stock Exchange (KSE) over a 6-year period between the years 2006 to 2011 was used. Descriptive statistics, correlation and multiple regression analysis methods of data analysis were used. The findings showed a negative link amid leverage the performance of firms. The scope of this study is big enough since it covers all textiles firms listed at the Karachi Stock Exchange. Similar studies should be conducted in other regions and also in different industries.

Mohammad (2014) conducted a research on the association between financial leverage and financial success of listed chemical companies of Pakistan. Data from 20 quoted organizations from Chemical Sector of KSE over 8-year period from 2006-2013 was used. Descriptive statistics, correlation and regression analyses were adopted to reach the study's objectives. The findings portrayed positive connection between ROA, Net Profit margin and ROCE with debt to equity ratio, while negative association of ROE with debt to equity ratio. The debt to equity ratio was the only metric of leverage used. Other ratios such debt ratio and long term debt ratio should be tested on similar studies.

2.4.2 Local Studies

Gweyi and Karanja (2014) conducted a research on the impact of financial leverage on financial success of deposit taking savings and credit co-operative in Kenya. Convenient sampling was used to select 40 out of 135 Savings and Credit Co-operative Societies licensed in Kenya. Data for 3 years 2010-2012 was used. The study adopted both descriptive and analytical design. Correlation analysis was used and test was done at 99% confidence interval where a insignificant positive connection was established amid debt to equity ratio and ROA. The findings could not be generalized due to the smaller sample size and limited scope of organizations investigated.

Kale (2014) conducted a research on the effect of financial leverage on performance non-financial businesses in Kenya. The data consisted of firms listed in the NSE 20 share index excluding financial firms as at 1st August 2014. 6-year data from 2008-2013 was used. The study adopted descriptive design and regression analysis model. The study findings showed significant negative link amid leverage and firm performance with ROA as the performance metric. The study findings must be interpreted with caution since it only focused on firms in the NSE 20 share index excluding financial firms. As such the results cannot be generalized.

Kuria (2013) did a research on the impact of capital structure on the financial performance of commercial banks in Kenya. Data from all 44 banks over a 5-year term 2008-2012 was used. The study adopted descriptive and multiple regression analyses using SPSS. The findings portrayed a substantive link amid capital structure and financial

performance. Negative relationship exists amid growth in assets and profitability. When ROE and core capital were tested, a negative associated was noticeable.

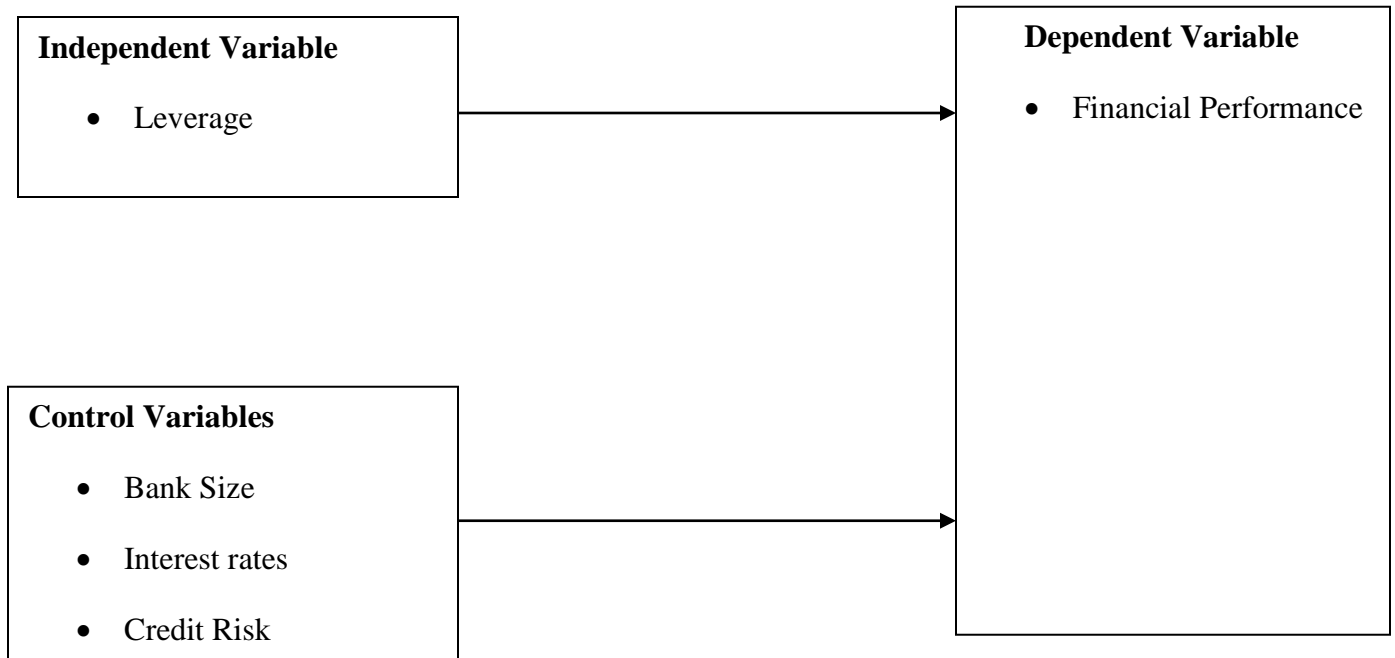
Amenya (2015) researched on the connection between capital composition and financial productivity of firms quoted at the NSE. Data on 26 randomly selected firms out of the 61 firms listed at the NSE was collected over a 6-year period from 2008-2013. The study adopted descriptive design, correlation and regression analysis. The study indicated that financial leverage has a negative influence on firm productivity as measured by ROE. The study applied secondary data. A review of the same case using primary data sources involving the experts in the stock market might bring out different outcomes.

2.5 Summary of Literature Review

The literature review indicates that studies conducted so far hold contradictory views on the connection amid financial prosperity and a company's financial leverage. The theoretical review looks at various theories on leverage and capital structure. Modigliani and Miller theory (1963) concluded that there is an advantage on gearing as a result of tax shield due to tax deductibility on interest charges. Agency costs theory asserts that levered firms perform better than unlevered since use of debt is used as a disciplinary measure and forces managers to act more responsibly. As such, use of debt reduces agency costs, reduces inefficiency and improves performance. The trade off theory posits that a favorable capital constitution exists and companies arrive at it by conducting a cost-benefit analysis of using debt against equity or vice versa. Pecking order theory asserts that companies have a preferred order of financing new investments and will start with the cheapest funding source; internal sources before using external sources.

The factors that underpin financial success of commercial banks are leverage, size of the firm, credit risk management and interest rates. It is diagrammatically shown in the conceptual framework below. Empirical studies on leverage and financial performance have given varied results. This could be attributed to the fact that they were conducted on different industries and focusing on different variables. Both local and international studies reviewed gave varied and contradicting results. Most of the researches conducted point towards a negative link amid leverage and financial success of organizations. Most studies also showed a strong significant relationship. However, a few studies indicate that there is a positive relationship between leverage and financial performance. A few studies concluded that there is no significant relationship between leverage and financial performance. Most studies on the relationship between leverage between leverage and financial are international studies. Very few local studies have been done on this topic. The existence of these gaps probes this study. This study would like to investigate this relationship in the context of Kenyan local banks listed at the Nairobi Securities Exchange. Commercial banks are significant players in the Kenyan economy hence a study on a factor affecting banks' financial performance will be of great benefit to the banking industry, policy makers, regulators and the Kenyan economy.

Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section highlights the research design, population, sample design, data collection technique, data analysis and tests of significance.

3.2 Research Design

Descriptive research design was used in this study. In particular correlation study was used to examine the connection between leverage and financial prosperity. The design was chosen due to the reliability of results associated with it. It is very good in describing linkages between different factors and variables as it emphasizes on accuracy in measurement of phenomena and require unbiased and reliable observations.

3.3 Population

The research's population involved all the 11 commercial banks listed at the NSE. Since the study was a census, no sampling was required (Appendix I).

3.4 Data Collection

The study used documented data from the audited, published financial reports of the respective companies. The data for the study was extracted from the balance sheet and income statements from 2007 to 2016. This data was obtained from the respective companies' websites. Leverage was measured through degree of financial leverage (DFL)

while financial performance was measured through Return on Assets (ROA) as it is considered a robust measure of firm financial performance.

3.5 Data Analysis

This study used multiple regression analysis and correlation analysis to study the relationship between leverage and financial performance. Return on Assets (ROA), a measure of performance, was the dependent variable while the independent variables were degree of financial leverage (DFL), firm size and non-performing loans ratio (NPLR). Degree of financial leverage was the measure of leverage while firm size and non-performing loans ratio were the control variables measuring size and credit risk management respectively. The significance of the relationship was tested using a 95% confidence level. The data was also analyzed using descriptive statistics measures of mean, median and standard deviation.

3.5.1 Conceptual Model

This model is of the form:

$$y = f(x_i) \text{ where } i \text{ is}$$

1.....n

$$y = \text{financial performance} = \text{ROA}$$

$$x_1 = \text{DFL}$$

$$x_2 = \text{Bank Size (Total Assets)}$$

$$x_3 = \text{NPLR}$$

The above model is based on the assumption that financial performance is a function of leverage.

3.5.2 Analytical Model

The multiple regression equation model that was used for this study was:

$$\text{Financial Performance (Y)} = \beta_0 + \beta_1 \text{DFL} + \beta_2 \text{SIZE} + \beta_3 \text{NPLR} + \varepsilon$$

Where:

$$Y = \text{Return on Assets (ROA)} = \text{Net Profit After Tax} / \text{Total Assets}$$

β_0 = The intercept of the equation (the factor affecting performance when ROA is zero)

β_i = Coefficient of the independent variable

DFL = Degree of Financial Leverage = Earnings Before Interest and Tax / (Earnings Before Interest and Tax – Interest)

SIZE = Bank Size measured as a natural logarithm of total assets – Control variable

NPLR = Non-performing loans ratio = Non-performing loans / Total loans – Control variable

ε = Random error term

3.5.3 Test of Significance

The regression model helped in determining if there was relationship between leverage and financial performance of commercial banks listed at NSE. ANOVA test was used to determine the effect the independent variables have on the dependent variable in a regression analysis. ANOVA helped in establishing the reliability of the regression model in analyzing the variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter contains data analysis and the study findings. Study data was extracted from the balance sheet and income statement of the respective companies for a ten-year period, 2007 – 2016. Regression analysis was applied to the data to arrive at the research findings.

4.2 Descriptive Statistics

This section shows results of the descriptive statistics analyzed over the ten-year period. The table below shows descriptive statistics summary of the variables that was obtained from the analysis.

Table 4.1: Descriptive Statistics

	ROA	DFL	NPLR	SIZE
Mean	0.0318	2.0806	0.1138	18.5203
Median	0.0301	1.6901	0.0401	18.7243
Standard Deviation	0.0163	2.6088	0.4144	0.8312
Sample Variance	0.0003	6.8059	0.1717	0.6909
Kurtosis	7.5561	86.6696	49.2882	0.5426
Skewness	1.4927	8.7876	7.0061	-0.8206
Minimum	-0.0096	-2.4831	0.0013	16.1180
Maximum	0.1180	27.6626	3.1059	20.0396

The descriptive statistics above show that over the study period, financial performance measured through return on assets (ROA) had a mean of 3.18% with a standard deviation of 1.63%. The maximum ROA was 11.8% while the minimum was -0.96% indicating that there is a significant difference in financial performance of the commercial banks listed at the NSE due to leverage. Degree of financial leverage (DFL) had a mean of 2.08 with a standard deviation of 2.61. This shows that for every change in leverage, operating income for commercial banks listed at the NSE changes by 2.08 times.

Non-performing loans ratio (NPLR) had a mean of 11.38% with 41.44% standard deviation. Size as measured by total assets had a mean of 18.52 with a standard deviation of 0.83. The maximum size was 20.04 while the minimum size was 16.12 implying that commercial banks listed at the NSE are close in size.

4.3 Correlation Analysis

Correlation analysis was done on the study variables to test the degree of association amongst the variables. The table below shows correlation analysis results.

Table 4.2: Correlation Analysis

	ROA	DFL	NPLR	Size
ROA	1			
DFL	-0.19732	1		
NPLR	0.546711	0.186341	1	
Size	0.002656	-0.16026	-0.42508	1

Multicollinearity test is necessary to ascertain whether any two variables are highly correlated. The correlation coefficient between any two independent variables should not be greater than 0.7 otherwise multicollinearity problem exists. If greater than 0.7, one of the independent variables should be omitted in the regression model.

From the table above, DFL has a weak negative correlation against ROA. NPLR has a positive correlation against both ROA and DFL. Size has a weak positive correlation against ROA and a weak negative correlation against both DFL and NPLR. There isn't a multicollinearity problem in the above study variables since all correlation coefficients are below the threshold limit of 0.7.

4.4 Regression Analysis

Multiple regression analysis was done to establish the relationship between leverage and financial performance of commercial banks listed at the NSE. Regression analysis was conducted using MS excel tool.

4.4.1 Regression Output

The table below shows regression output summary.

Table 4.3: Summary of Regression Output

Regression Statistics	
Multiple R	0.667736416
R Square	0.445871921
Adjusted R Square	0.43018905
Standard Error	0.012311042
Observations	110

The correlation coefficient, R, indicates the nature of the relationship between the variables in the study. From the table above, results show there is a strong positive correlation of 0.67. The coefficient of determination, adjusted R squared, shows the variance level in the dependent variable changes that can be explained by independent variable changes. From the table results above, adjusted R squared was at 0.43. This implies that 43% of profitability changes in commercial banks listed at the NSE is caused by leverage, credit risk and bank size. It can be further deduced that 57% of profitability of commercial banks listed at the NSE is caused by other factors not discussed in this study hence the need for further research on this topic.

4.4.2 Statistical Significance of the Model

The table below is a presents a summary of the significance of the model.

Table 4.4: Analysis of Variance

ANOVA					
	Df	Sum of Square	Mean Square	F	Significance F
Regression	3	0.012926931	0.004308977	28.43050511	1.44047E-13
Residual	106	0.016065545	0.000151562		
Total	109	0.028992476			

Results of ANOVA from the above table showed that the population parameters significance level was 0.00%. This indicates that the data is perfect for deriving conclusion on the study variables since the significance level is less than 5%. Since the model is significant, it shows that leverage, credit risk and bank size are significantly related to financial performance of commercial banks listed at the NSE.

4.4.3 Estimated Model Coefficients

The table below shows the regression model coefficients.

Table 4.5: Regression coefficients

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.0616	0.0294	-2.0926	0.0388	-0.1199	-0.0032	-0.1199	-0.0032
DFL	-0.0018	0.0005	-3.9008	0.0002	-0.0027	-0.0009	-0.0027	-0.0009
NPLR	0.0280	0.0032	8.8136	0.0000	0.0217	0.0342	0.0217	0.0342
Size	0.0051	0.0016	3.2211	0.0017	0.0019	0.0082	0.0019	0.0082

From the above table, the equation derived is;

$$\text{ROA} = -0.0616 - 0.0018\text{DFL} + 0.0280\text{NPLR} + 0.0051\text{Size} + \varepsilon$$

From the above table, ROA would be -0.0616 if degree of financial leverage, non-performing loans ratio and bank size are held at a constant zero. It can be observed that financial performance is negatively related to leverage. Credit risk management and bank size are positively related to financial performance. A unit increase in degree of financial leverage would result to 0.18% decrease in return on assets. A unit increase in non-performing loans ratio would result in 2.8% increase in return on assets whereas a unit increase in bank size would result to 0.51% increase in return on assets. In conclusion leverage as measured by degree of financial leverage has a negative relationship with financial performance of commercial banks listed at the NSE as measured by return on assets.

4.5 Discussion of Research Findings

The objective of the research was to study the relationship between leverage and financial performance of commercial banks listed at the NSE. Data analysis was conducted using multiple regression to arrive at the research results. The maximum performance as measured by ROA was 11.8% while the minimum performance was -0.96% indicating that there is a significant difference in financial performance of the commercial banks listed at the NSE due to leverage.

The study results showed that there is a strong positive correlation of 0.67 between the study variables. Further analysis of the model coefficients showed that degree of financial

leverage negatively affects financial performance. This is because higher debt levels result to high interest expense which reduces operating income. The study results coincide with those of Kale (2014) whose study showed a negative relationship amid leverage and firm performance with ROA as the performance metric. The data consisted of firms listed in the NSE 20 share index excluding financial firms as at 1st August 2014. 6-year data from 2008-2013 was used. This study also agrees with Zahoor et al. (2015) who researched on the effect of financial leverage on performance of Pakistani firms. Panel data from 154 textile firms quoted at the Karachi Stock Exchange (KSE) over a 6-year period between the years 2006 to 2011 was used. The findings showed a negative link amid leverage the performance of firms.

However, this study contradicts some studies done. Gweyi and Karanja (2014) researched on the impact of financial leverage on financial success of deposit taking savings and credit co-operative in Kenya. 40 out of 135 Savings and Credit Co-operative Societies were studied for 3 years 2010-2012. The findings showed an insignificant positive connection amid debt to equity ratio and ROA. The study also contradicts Abubakar (2015) study on the link between financial leverage and financial success of banks in Nigeria. 11 out of the 23 deposit-taking banks in Nigeria were analyzed over a 9-year period from the year 2005-2013. The findings showed that there is considerable relationship amid debt-equity ratio and return on equity.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents in summary the results of research findings, conclusions, policy recommendations, limitations of the study and suggestions for further research.

5.2 Summary of Findings

The objective of the research was to study and explain the relationship between leverage and financial performance of commercial banks listed at the Nairobi Securities Exchange. Descriptive research methodology was used. Secondary data from the companies' audited financial statements was analyzed using a multiple regression model and descriptive statistics. The results of the descriptive statistics showed that financial performance, measured through ROA, had a mean of 3.18%. The maximum ROA was 11.8% while the minimum was -0.96% indicating that there is a significant difference in financial performance of the commercial banks listed at the NSE due to leverage. Leverage as measured by DFL had a mean of 2.08. This implies that for every change in leverage, the operating income of commercial banks listed at the NSE changes by 2.08 times.

The study results showed there was a strong positive correlation of 0.67 between the study variables. The population parameters significance level was 0.00% as indicated by ANOVA results. The data is therefore perfect for deriving conclusion on the study variables since the significance level is less than 5%. The coefficient of determination was at 0.43. This showed that 43% of profitability changes in commercial banks listed at

the NSE is caused by leverage, credit risk and bank size. It can be further deduced that 57% of profitability of commercial banks listed at the NSE is caused by other factors not discussed in this study hence the need for further research on this topic.

The resultant regression equation showed that financial performance is negatively related to leverage but positively related to credit risk management and bank size. An increase in DFL would result to a 0.18% drop in ROA. This is because higher debt levels result to higher interest expenses which reduces operating income thereby negatively affecting performance. On the other hand, an increase in bank size would result to 0.51% increase in ROA. In conclusion leverage has a negative relationship with financial performance and as such commercial banks listed at the NSE with high leverage levels have a low return on assets.

5.3 Conclusions

Study findings showed that an increase in degree of financial leverage leads to a decrease in return on assets therefore the study concludes that there is a negative relationship between leverage and financial performance of commercial banks listed at the NSE. The research findings also revealed that credit risk management and bank size positively affect financial performance of commercial banks listed at the NSE. The study results coincide with those of Kale (2014) whose study showed a negative relationship amid leverage and firm performance with ROA as the performance metric. This study also agrees with Zahoor et al. (2015) who researched on the effect of financial leverage on performance of Pakistani firms. The findings showed a negative link amid leverage the performance of firms.

However, this study contradicts with Gweyi and Karanja (2014) who researched on the impact of financial leverage on financial success of deposit taking savings and credit cooperative in Kenya. The findings showed an insignificant positive connection amid debt to equity ratio and ROA. This study also contradicts Abubakar (2015) study on the link between financial leverage and financial success of banks in Nigeria. The findings showed that there is considerable relationship amid debt-equity ratio and return on equity.

Further, this research finding concludes that there is a strong negative relationship between leverage and financial performance of commercial banks listed at the NSE. 43% of profitability of commercial banks listed at the NSE is caused by leverage, credit risk management and bank size. 57% of profitability of commercial banks listed at the NSE is caused by other factors not discussed in this study. This probes the need for further research on this area of study.

5.4 Policy Recommendations

The study concluded that there is a strong negative relationship between leverage and financial performance of commercial banks listed at the NSE. Since the major goal of any firm is to maximize profits, the banks management should ensure that leverage levels are maintained at a minimum. This is because high debt levels result to high interest expenses which reduce operating income thereby reducing profitability. Study findings also revealed that there is a positive relationship between bank size and financial performance. To maximize performance, the banks' management should therefore come up with ways to increase total assets.

The management of commercial banks need study other factors affecting financial performance other than leverage. This is because, from the study findings, 43% of profitability is caused by leverage, credit risk and bank size. 57% of profitability is therefore caused by other factors which need to be investigated.

5.5 Limitations of the study

Research data was obtained from the companies' audited financial statements; the statement of financial position and the comprehensive income statement. Data was extracted in adobe PDF format hence preparing research data in MS excel was time consuming. Also, in as much as the researcher was careful, data capture errors may have been experienced in preparing the excel data for analysis.

Also, an assumption was made that the auditor's report gave a true and fair view. This may not be the case always since the report may be prone to errors and misstatements.

The research focused only on commercial banks listed at the Nairobi Securities Exchange. A challenge of scope was faced since the study did not cover all commercial banks in Kenya. The study findings may have been slightly different if all commercial banks in Kenya were covered.

Since the study focused on commercial banks listed at the Nairobi Securities Exchange, the study findings cannot be generalized and should be interpreted with caution.

The researcher is a full time employee and as such the research was conducted on a part time basis. This posed a great challenge on quality time to conduct the research. However, despite the above challenges, the research achieved its study objectives.

5.6 Suggestions for further research

The context of the study was commercial banks listed at the Nairobi Securities Exchange. Since the context was limited to commercial banks listed at the NSE, a study should be done investigating the relationship between leverage and all commercial banks in Kenya. Also, 57% of profitability of commercial banks is caused by other factors other than leverage, credit risk management and bank size. There is need to conduct research on these other factors affecting performance which may include technology level, competition level, inflation and economic growth.

The research results agree with other researches previously done but disagree with others. The relationship between leverage and financial performance therefore still remains a puzzle in finance literature. More researches should be done to arrive at a conclusion on the relationship. The research should also be done on other regions or different time periods to observe the trend. Also, similar studies should be conducted on different sectors and industries such as insurance, hospitality, manufacturing and processing, investment, agriculture and energy.

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APPENDICES

APENDIX I: List of commercial banks listed at the Nairobi Securities Exchange

1. Barclays Bank Ltd
2. CFC Stanbic Bank Ltd
3. I&M Bank Ltd
4. Diamond Trust Bank Kenya Ltd
5. Housing Finance Group Ltd
6. KCB Bank Ltd
7. National Bank of Kenya Ltd
8. NIC Bank Ltd
9. Standard Chartered Bank Ltd
10. Equity Bank
11. The Co-operative Bank of Kenya Ltd

APENDIX II: Return on Assets

ROA: NET PROFIT AFTER TAX/ TOTAL ASSETS										
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
BBK	0.027	0.035	0.037	0.037	0.047	0.049	0.061	0.037	0.033	0.031
STANBIC	0.022	0.024	0.030	0.031	0.021	0.012	0.026	0.008	0.008	0.021
I & M	0.040	0.038	0.040	0.043	0.037	0.040	0.041	0.024	0.031	0.030
DTB	0.025	0.025	0.029	0.036	0.032	0.029	0.042	0.029	0.025	0.023
HFCK	0.089	0.118	0.018	0.023	0.018	0.020	0.013	0.027	0.010	0.007
KCB	0.039	0.034	0.042	0.040	0.036	0.035	0.040	0.027	0.021	0.022
NBK	0.001	- 0.010	0.007	0.019	0.011	0.023	0.034	0.028	0.029	0.027
NIC	0.029	0.026	0.029	0.029	0.033	0.030	0.030	0.024	0.024	0.024
SCB	0.036	0.025	0.047	0.043	0.053	0.018	0.038	0.038	0.035	0.038
EQUITY	0.042	0.044	0.062	0.053	0.051	0.055	0.056	0.047	0.049	0.036
COOP	0.005	- 0.003	0.031	0.038	0.037	0.031	0.030	0.027	0.028	0.024

APENDIX III: Degree of Financial Leverage

DFL: Earnings Before Interest and Tax / (Earnings Before Interest and Tax – Interest)										
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
BBK	1.479	1.467	1.271	1.204	1.222	1.107	1.108	1.305	1.475	1.318
STANBIC	2.369	1.776	1.441	1.403	2.114	1.915	1.753	4.445	2.578	1.984
I & M	1.862	1.945	1.753	1.748	2.274	1.543	1.685	2.216	1.930	1.817
DTB	2.141	1.963	1.861	1.768	2.245	1.745	1.717	2.521	2.407	2.293
HFCK	4.422	3.558	3.385	2.950	4.436	2.601	2.916	2.870	3.411	3.620
KCB	1.465	1.643	1.434	1.399	1.705	1.277	1.255	1.448	1.484	1.204
NBK	27.66	- 2.483	4.247	2.420	4.186	1.563	1.394	1.534	1.457	1.481
NIC	2.068	2.064	1.838	1.724	2.282	1.695	1.557	2.317	2.176	2.108
SCB	1.502	1.534	1.297	1.371	1.487	1.262	1.200	1.282	1.332	1.311
EQUITY	1.352	1.348	1.229	1.253	1.398	1.233	1.194	1.251	1.254	1.208
COOP	1.706	1.964	1.722	1.553	1.907	1.731	1.475	1.616	1.515	1.431

APENDIX IV: Non Performing Loans Ratio

NPLR: Non-performing loans / Total loans										
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
BBK	0.052	0.027	0.036	0.030	0.036	0.055	0.026	0.025	0.018	0.027
STANBIC	0.061	0.046	0.034	0.026	0.021	0.013	0.015	0.019	0.021	0.018
I & M	0.020	0.010	0.007	0.005	0.003	0.009	0.009	0.020	0.067	0.016
DTB	0.030	0.026	0.011	0.013	0.014	0.011	0.019	0.020	0.016	0.009
HFCK	3.096	3.106	0.092	0.091	0.077	0.063	0.075	0.125	0.201	0.187
KCB	0.068	0.053	0.046	0.068	0.056	0.052	0.093	0.129	0.108	0.143
NBK	0.451	0.147	0.107	0.105	0.077	0.041	0.043	0.096	0.220	0.474
NIC	0.112	0.113	0.034	0.041	0.007	0.001	0.014	0.012	0.034	0.044
SCB	0.083	0.101	0.072	0.024	0.020	0.010	0.013	0.018	0.035	0.034
EQUITY	0.064	0.023	0.030	0.043	0.023	0.024	0.041	0.068	0.055	0.045
COOP	0.043	0.033	0.043	0.040	0.045	0.038	0.044	0.085	0.125	0.156

APENDIX V: Bank Size

SIZE: Natural Log of Total Assets										
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
BBK	19.37	19.30	19.24	19.15	19.04	18.93	18.97	18.92	18.94	18.88
STANBIC	19.14	19.11	18.96	18.96	18.78	18.83	18.76	18.67	18.53	17.58
I & M	18.92	18.81	18.74	18.52	18.33	18.16	18.28	17.81	17.42	17.20
DTB	19.31	19.07	18.77	18.55	18.36	18.17	17.89	17.67	17.54	17.23
HFCK	16.12	16.12	17.92	17.66	17.52	17.28	17.19	16.72	16.48	16.16
KCB	20.04	19.96	19.75	19.59	19.53	19.46	19.22	18.94	19.02	18.64
NBK	18.56	18.65	18.63	18.34	18.02	18.04	17.91	17.76	17.57	17.54
NIC	18.90	18.87	18.74	18.54	18.44	18.11	17.82	17.61	17.57	17.26
SCB	19.34	19.27	19.22	19.21	19.09	18.92	18.78	18.64	18.41	18.33
EQUITY	19.76	19.65	19.44	19.29	19.19	18.99	18.71	18.39	18.16	17.79
COOP	19.67	19.64	19.46	19.25	19.11	18.94	18.85	18.52	18.24	17.99