FINANCIAL DISTRESS AND PROFITABILITY OF TIER THREE COMMERCIAL BANKS IN KENYA

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JULY, 2018
DECLARATION

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

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(D53/CTY/PT/31892/2015)

Declaration by Supervisor

I confirm that the work in this project was done by the candidate under my supervision

Signature ........................................... Date ...........................................

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Kenyatta University
DEDICATION

This research project is dedicated to my parents who instilled in me the love for education and the hunger to pursue knowledge.
ACKNOWLEDGEMENT

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# TABLE OF CONTENTS

DECLARATION .................................................................................................................................................. ii

ACKNOWLEDGEMENT ....................................................................................................................................... iv

LIST OF TABLES ............................................................................................................................................... viii

LIST OF FIGURES ............................................................................................................................................ ix

ABBREVIATIONS AND ACRONYMS ................................................................................................................ x

OPERATIONAL DEFINITION OF TERMS ......................................................................................................... xi

**CHAPTER ONE: INTRODUCTION** .............................................................................................................. 1

1.1 Background of the Study ............................................................................................................................ 1

1.1.1 Financial Distress .................................................................................................................................... 1

1.1.2 Profitability ......................................................................................................................................... 3

1.1.3 Financial Distress and Profitability ......................................................................................................... 4

1.1.4 Tier Three Banks in Kenya .................................................................................................................... 5

1.2 Statement of the Problem .......................................................................................................................... 7

1.3.1 General Objectives: ............................................................................................................................. 8

1.3.2 Specific Objectives: ............................................................................................................................. 9

1.4 Research Hypotheses .................................................................................................................................. 9

1.5 Significance of the Study ........................................................................................................................... 9

1.6 Scope of the Study ..................................................................................................................................... 10

1.7 Limitations of the study ............................................................................................................................ 10

1.8 Study Organization ................................................................................................................................... 11

**CHAPTER TWO: LITERATURE REVIEW** .................................................................................................. 12

2.1 Introduction ............................................................................................................................................... 12

2.2. Theoretical Framework ............................................................................................................................ 12

2.2.1 The Financial Accelerator Theory ........................................................................................................ 12

2.2.2 Capital Irrelevance Theory ................................................................................................................... 14

2.2.3 Keynesian Theory of Money ................................................................................................................ 15

2.3 Empirical Review .................................................................................................................................... 16

2.3.1 Non-Performing Loans and Profitability ............................................................................................... 16

2.3.2 Liquidity and Profitability .................................................................................................................... 18
2.3.3 Leverage and Profitability ................................................................. 20
2.4 Summary of Literature Review and Research Gaps .................................. 21
2.5 Conceptual Framework .......................................................................... 24

CHAPTER THREE: RESEARCH METHODOLOGY ........................................ 26
3.1 Introduction .............................................................................................. 26
3.2 Research Design ...................................................................................... 26
3.3 Target Population .................................................................................... 26
3.4 Sampling Technique ................................................................................. 27
3.5 Operationalisation and Measurement of Variables .................................... 27
3.6 Data Collection Instruments ................................................................... 28
3.7 Data Analysis .......................................................................................... 28
3.8 Diagnostic Tests ....................................................................................... 29
3.8.1 Normality Tests .................................................................................. 29
3.8.2 Multicollinearity ............................................................................... 29
3.8.3 Heteroskedasticity ............................................................................ 30
3.9 Ethical Considerations ............................................................................. 30

CHAPTER FOUR: DATA ANALYSIS, INTERPRETATION, AND DISCUSSION..... 32
4.1 Introduction .............................................................................................. 32
4.2 Response Rate ......................................................................................... 32
4.3 Diagnostic Tests ....................................................................................... 32
4.3.1 Normality Test ................................................................................ 32
4.3.2 Multicollinearity .............................................................................. 33
4.3.3 Heteroskedasticity .......................................................................... 34
4.4 Inferential Analysis .................................................................................. 35

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS ..... 40
5.1 Introduction .............................................................................................. 40
5.2 Summary of Findings .............................................................................. 40
5.3 Conclusion ............................................................................................... 41
5.4 Recommendations ................................................................................... 41
5.5 Areas for Further Research .................................................................... 42
REFERENCES .......................................................................................................................... 44
APPENDICES .......................................................................................................................... 51
Appendix I: Tier Three Commercial Banks in Kenya .......................................................... 51
Appendix II: Data ..................................................................................................................... 53
Appendix III: Research Approval Kenyatta University ......................................................... 54
Appendix IV NACOSTI Approval .......................................................................................... 54
Appendix V : NACOSTI Approval ....................................................................................... 54
LIST OF TABLES

Table 2.1: Summary of Research Gaps........................................................................................................... 22
Table 3.1: Operationalisation and Measurement of Variables..................................................................... 27
Table 4.1: Results of Normality Test.............................................................................................................. 33
Table 4.2: Multicollinearity Test .................................................................................................................. 34
Table 4.3: Test for Heteroskedasticity ........................................................................................................ 35
Table 4.4: Model Summary .......................................................................................................................... 35
Table 4.5: Results of Anova Analysis........................................................................................................... 36
Table 4.6: Regression Coefficients ............................................................................................................... 37
LIST OF FIGURES

Figure 2:1 Conceptual Framework ........................................................................................................ 25
## Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>CAR</td>
<td>Capital Adequacy Ratio</td>
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<td>CBK</td>
<td>Central Bank of Kenya</td>
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<td>DA</td>
<td>Discriminant Analysis</td>
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<td>DER</td>
<td>Debt to Equity Ratio</td>
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<td>DR</td>
<td>Debt Ratio</td>
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<td>DSE</td>
<td>Dar es Salaam Stock Exchange</td>
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<td>ICR</td>
<td>Interest Coverage Ratio</td>
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<td>KS</td>
<td>Kolmogrov-Smirnov</td>
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<td>LLRGL</td>
<td>Loan Loss Reserve to Gross Loan</td>
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<td>NIM</td>
<td>Net Interest Margin</td>
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<td>NPLGL</td>
<td>Nonperforming Loan Ratio</td>
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<td>NSE</td>
<td>Nairobi Securities Exchange</td>
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<tr>
<td>OLS</td>
<td>Ordinary Least Squares</td>
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<tr>
<td>ROAA</td>
<td>Return on Assets Average Assets</td>
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<td>ROA</td>
<td>Return on Assets</td>
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<td>ROCE</td>
<td>Return on Capital Employed</td>
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<td>ROAE</td>
<td>Return on Average Equity</td>
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<td>ROE</td>
<td>Return on Equity</td>
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<tr>
<td>SACCOS</td>
<td>Savings and Credit Co-operative Societies</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Packages for Social Sciences</td>
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<td>UBA</td>
<td>United Bank of Africa</td>
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OPERATIONAL DEFINITION OF TERMS

Bank Profitability  This is the ability of a banking institution to earn more money than what they pay in expenses. The major portion of a bank's profit comes from the fees that it charges for its services and the interest that it earns on its assets. Its major expense is the interest paid on its liabilities.

Capital Adequacy Ratio  This measure has been recommended by Basel for assessing the asset quality and credit risk management of commercial banks. It is the ratio of total capital to risk adjusted assets of the bank. A high ratio indicates good capital adequacy.

Capital Structure  Capital structure refers to the particular distribution of debt and equity that makes up the finances of a company.

Financial Distress  This is the condition where a company cannot meet, or has difficulty paying off, its financial obligations to its creditors, typically due to high fixed costs, illiquid assets or revenues sensitive to economic downturns.

Interest Coverage Ratio  This ratio is indicating the ease with which the firm can pay interest on outstanding debts. It is computed by dividing the earnings before interest and taxes and the interest expenses.

Leverage  This refers to the firm’s ability to buy assets using borrowed funds with believes that income generated from that asset was more than the cost of borrowing.

Liquidity  This describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price.

Non-performing loan  It’s a sum of money borrowed upon which the debtor has not made effort to repay for at least 90days. A non-performing loan can either be in default or close to default.

Tier Three Banks  This is the third category of bank ranking according to Central Bank of Kenya that consists of banks with a smaller market share, smaller asset base and smaller number of customer deposits.
ABSTRACT

The financial system in Kenya has seen tremendous growth over the years. This growth has spurred growth in all the other sectors in the economy enabling Kenya’s economy to emerge as East Africa’s largest economy. The growth in the financial sector has been driven by the innovation and dynamism of the banking sector. As compared to the other banks in the region, Kenya’s banking sector shows significant depth, diversity, and sophistication. Despite the impressive growth, dynamism, sophistication and depth, the banking sector in Kenya has faced numerous challenges. The most significant challenge facing this sector in the recent past is financial distress. During the period 2015 - 2016 three commercial banks faced financial distress which resulted in financial closure. Amongst the banks were Dubai bank which was closed in August 2015, Imperial bank which collapsed in October 2015 and Chase bank which closed down in April 2016. Of the three commercial banks that faced financial distress, two are in the tier three category of commercial banks. These closures point to the susceptibility of this category to financial distress. This study aimed at analysing the effect of financial distress on the profitability of tier three commercial banks in Kenya. The specific objectives of the study were to establish the effect of non-performing loans on the profitability of tier three commercial banks in Kenya; to determine the effect of liquidity on the profitability of tier three commercial banks in Kenya; and to evaluate the effect of leverage on the profitability of commercial banks in Kenya. The study was anchored on the financial accelerator theory, capital irrelevance theory, and Keynesian theory of money. The study sampled twenty commercial banks and used the casual research design. The study used secondary data collected from the audited financial statements and reports published by the individual commercial banks and the Central Bank of Kenya. The study estimated a multiple regression linear model. The study established that non-performing loans have a negative and statistically significant effect on the financial performance of tier three commercial banks in Kenya. The study found that leverage had a positive and statistically significant effect on the profitability of tier three commercial banks. The study determined that liquidity had a positive and statistically insignificant effect on the profitability of tier three commercial banks in Kenya. The study concluded that financial distress in tier three commercial banks is most likely to be caused by non-performing loans. The study recommends that tier three commercial banks should review their loan procedures and criteria in order to reduce the cases of default. The study also recommends that tier three commercial banks should increase the amount of leverage as leverage is positively associated with profitability. Further, the study recommends that the government should review the liquidity requirements of banks as the liquidity does not help in generating income.
CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The financial system in Kenya has seen tremendous growth over the years. This growth has spurred growth in all the other sectors in the economy enabling Kenya’s economy to emerge as East Africa’s largest economy (Central Bank of Kenya, 2017). The growth in the financial sector has been driven by the innovation and dynamism of the banking sector. As compared to the other banks in the region, Kenya’s banking sector shows significant depth and sophistication. Despite the impressive growth, dynamism, sophistication and depth, the banking sector in Kenya has faced numerous challenges. The most significant challenge facing this sector is financial distress (Kithinji & Waweru, 2017). The most severe cases of financial distress were experienced during the 1980s and 1990s. During that period, the sector was faced with a large volume of non-performing loans and weak corporate governance; this resulted in the collapse of several commercial banks (Kithinji & Waweru, 2017). Albeit a decline in the number of bank collapses in the recent past, the banking sector still faces challenges mostly associated with financial distress.

1.1.1 Financial Distress

Platt and Platt (2006) established that a company is in financial distress when it cannot meet its financial, operational, and/or legal demands when and as they fall due. Graham, Hazarika and Narasimhan (2011) in their research found that when the fixed costs of a firm are high it becomes sensitive to an economic recession and thus prone to financial distress. According to Hotchkiss & Altman (2013), financial distress in banks is stimulated by variables that contribute to the profitability of commercial banks. Banks are said to be distressed when they
are technically insolvent or illiquid or have a very high-level of leverage (Damar, Gropp & Mordel, 2014). There are also other factors that cause financial distress in banks they include insider lending, lending to high risk borrowers, macroeconomic instability, exogenous adverse changes in the economic conditions of banks, intrinsic weakening of the bank condition, and managerial incompetence (Kalani & Waweru, 2007; Zeituni, Tian & Keen, 2007; Babalola, 2009; Aasen, 2011).

Several approaches have been used to indicate and measure financial distress. Beaver (1966) developed the Business Financial Predictive (BFP) model that could be used to predict the success or failure of a business. Beaver (1966) model consisted of the following ratios: cash flow to total debt, net income to total assets, total debt to total assets, working capital to total assets, current assets to current liabilities and no credit interval. In 1968 Altman modified the model developed by Beaver (1966) and introduced Discriminant Analysis (DA). In the model, Altman (1968) used the Z score which was computed using the ratios of working capital to total assets, retained earnings to total assets, market values of owners equity to book value of total liabilities, and sales to total assets.

A firm with a Z score of more than 2.99 was considered healthy, Z score of less than 1.81 was considered to be financially distress, and those with scores between 2.99 -1.81 were thought to be in grey areas requiring monitoring. Present day researchers are using various variables to indicate financial distress this include: non-performing loans, leverage, liquidity, firms growth levels, default risk indicator, risk-adjusted default probabilities derived from corporate bond spreads (Sabato & Altman, 2005; Almeida & Philippon, 2006; Salehi & Abedini, 2009; Paranowo, 2010; Kihooto, Omagwa, Wachira, & Emojong, 2016). This study measured financial distress using non-performing loans, leverage, and liquidity.
1.1.2 Profitability

Profit is that sum which is left of the revenue a business generates after it pays all expenses directly related to revenue generation such as production and other expenses related to the conduct of the business activities (Niresh, 2012). Bank's major profit comes from the fees that it charges for its services and the interest that it earns on its assets with the major expenses being the interest paid on its liabilities. The major assets of a bank are its loans and advances to individuals, businesses, and other organizations and the securities that it holds, while its major liabilities are its deposits and the money that it borrows, either from other banks or by selling commercial paper in the money market (Gurov, 2014).

According to Niresh (2012), the profitability of an organisation is critical given that it indicates the actual performance against the plans and targets. According to Gharaiibeh (2015), the factors determining the profitability of banks fall into two main groups. The first category is one that is unique to each bank and more often than not is as a direct result of managerial decisions these are asset structure, asset quality, capitalization, financial structure, efficiency, size, and revenue diversification. The second category relates to the industrial structure and to the macroeconomic environment within which the banking system operates, such as industry concentration, economic growth, inflation, and interest rates.

To determine the profitability of a firm, profitability ratios are normally used to measure earnings generated by a firm for a certain period of time. These ratios are based on the firm’s sales level, capital employed, assets and earnings per share (EPS). Profitability ratios are also used to measure the firm’s earning capacity and considered as a firm’s growth and success indicator (Majed & Behzad, 2013). There are three main ratios used to measure the
The performance of commercial banks. The first measure is the return on equity (ROE) which indicates the amount the bank earns relative to the amount of shareholders equity (Ongore & Kusa, 2013). The second ratio is the net interest margin ratio (NIM) which compares the interest income generated against the interest paid out; the higher the NIM the higher is the banks’ profitability (Khrawish, 2011). The third and most commonly used profitability ratio is the return on assets (ROA). Return on assets determines the amount of the profit earned per shilling of assets held by the firm. In the banking sector, the ROA reflects the efficiency with which the bank’s managers use bank’s investment resources or assets in the generation of income. Return on assets simply connotes the management efficiency and depicts how effective and efficiently the bank management operate as they employ the organization’s assets into the earnings. A high return on assets ratio is a clear indicator a good performance or profitability of a banking entity (Obamuyi, 2013). This study measured profitability using ROA.

1.1.3 Financial Distress and Profitability

Financial distress has been shown to have a significant impact on profitability at each stage of the business cycle. Financial distress impacts significantly on the firm’s operation and profitability through its cost implications with include administrative costs (Hotchkiss & Altman, 2013). Financial distress leads firms to a low level of profitability and shortage of cash. Furthermore, financial distress may stimulate profitability problems on firms through cash flow deterioration and deterioration of revenue or operating income perpetually. It is expected that financial distress in firms will have an effect on operating income causing short-term insolvency which reduces the firm’s ability by constraining working capital and increasing indebtedness.
Various researchers have analysed the effect of financial distress on the financial performance of firms. Tan (2012) using leverage as a proxy for financial distress established that financial distress results in the decline in the profit margins of companies. Irungu (2013) established that increase in non-performing loans which contribute to increase in financial risks in amongst banks does not impair the earning capability of firms. However, Irungu (2013) noted that the rising risks were a concern as it could stimulate financial collapse. However, other researchers established that financial distress does not significantly affect financial performance. Hassan and Al-Mazrooei (2007) and Zaabi (2011) found that financial distress does not affect performance in studies conducted on Islamic banks in the United Arab Emirates (UAE). According to Al-Mazrooei (2007) and Zaabi (2011) financial performance was most affected by corporate governance practise and performance levels of the UAE banks.

1.1.4 Tier Three Banks in Kenya

The Central Bank of Kenya (CBK) classifies commercial banks in Kenya into three tiers. This classification is based on market share, asset base, amount of capital, and the number of customer deposits (CBK, 2016). Tier 1 consists of large banks which have billions of shillings in assets, capital, and customer deposits. In Kenya, there are currently 6 banks classified as tier 1. These six banks control approximately 65.4% of the commercial bank market, 66.7% of total deposits, 90.3% deposit accounts, and 94.10 of loan accounts (CBK, 2017). The second tier consists of eleven commercial banks which control 26% of the commercial banking market, 0.25% total deposits, 7.6% of deposit accounts, and 3.8% of total loan accounts (CBK, 2017). Tier three commercial banks consist of twenty-three banks
which control 8.9% of the commercial bank market share, 8.2% of total deposits, 1.8% of deposit accounts, and 1.8% of loan accounts (CBK, 2017).

Over the last few years, the banking sector has shown robust growth. Total net assets grew by 5.8% in 2016 from Kshs3.5 trillion to Kshs. 3.7 trillion, gross loans increased by 5.6% from Kshs 2.17 trillion in 2015 to Kshs. 2.2 trillion in 2016 (CBK 2016; 2017). The pre-tax profits for the sector increased by 10.91% from Kshs 134.0 billion in 2015 to Kshs 147.4 billion in December 2016. However, when analysed by tier classification, it was established that the pre-tax profits of tier three commercial banks decreased by 2.2% during the period 2015 to 2016. This decline was attributed to five commercial banks in this category posting losses. First community bank realised a loss of Kshs. 41.0 million, Jamii Bora Bank realised a loss of Ksh.490.0 million, and Consolidated Bank realised a loss of Kshs. 277.0 million (CBK2016;2017). While Dubai Bank and Imperial Bank were placed under receivership for their failure maintains adequate capital and liquidity ratios, large non-performing loans and weak corporate governance structures.

This indicates that tier three commercial banks in Kenya have challenges that can result or do result in financial distress. The recent challenges related to bank distress have strongly reinforced that a crisis in the banking sector can cause serious detriment to the economy. Berger and Bowman (2014) assert that the banking industry is a major sector through which instability may be transmitted to other sectors in an economy. The global crisis of 2007/08 served to re-emphasized the importance for policymakers to conduct forward-looking assessments of bank performance.
1.2 Statement of the Problem

The financial system in Kenya has seen tremendous growth over the years. This growth has spurred growth in all the other sectors in the economy enabling Kenya’s economy to emerge as East Africa’s largest economy (Central Bank of Kenya, 2017). Despite the impressive growth, dynamism, sophistication and depth, the banking sector in Kenya has faced numerous challenges. The most significant challenge facing this sector is financial distress (Kithinji & Waweru, 2017). Albeit a decline in the number of bank collapses in the recent past, the banking sector still faces challenges mostly associated with financial distress. During the period 2015 - 2016 three commercial banks faced financial distress and financial closure amongst them was Dubai bank (August 2015), Imperial bank (October 2015) and Chase bank (April 2016). Two of the three commercial banks were listed in tier three category. This indicates that perhaps this category of banks is susceptible to financial distress.

Various researchers have analysed the effect of financial distress on the profitability of firms. Tan (2012) using leverage as a proxy for financial distress established that financial distress results in the decline in the profit margins of companies. Irungu (2013), established that increase in non-performing loans which contribute to increase in financial risks in amongst banks does not impair the earning capability of firms. Irungu (2013) noted that the rising risks were a concern as it could stimulate financial collapse. However, other researchers established that financial distress does not significantly affect profitability. Hassan and Al-Mazrooei (2007) and Zaabi (2011) found that financial distress does not affect profitability in studies conducted on Islamic banks in the United Arab Emirates (UAE). According to Al-Mazrooei (2007) and Zaabi (2011) profitability was most affected by corporate governance
practise and performance levels of the UAE bank. The differences in the results obtained are attributed to conceptual, contextual, and methodological differences (Saleh & Abedini, 2009).

Kariuki (2011) conducted a study on the effect of financial distress on the financial performance of commercial banks in Kenya. Kariuki (2011) established that financial distress effect was very small. In the study, Kariuki (2011) evaluated financial distress using Altaman’s Z-score and sampled 22 of the 43 licensed commercial banks. Most of the 22 sampled banks had above average performance and had not shown signs of financial distress. The study by Kariuki covered the period 2008-2011 which coincided with the global financial crisis. This study found that there were conceptual, contextual, and methodological gaps in the work of Kariuki (2011). This research study filled the methodological gaps by only focusing on the variables that cause financial distress amongst banks which according to literature were identified as non-performing loans, leverage, and liquidity. The study filled the conceptual gaps by focusing only on the segment of the commercial banking sector that had shown vulnerability to financial distress. This meant the exclusion on tier one and tier two commercial banks which have a history of robust growth and stability. The study filled the contextual gaps by focusing on the period after the global financial crisis.

1.3 Study Objectives

1.3.1 General Objectives:

The general objective of the study was to analyse the effects of financial distress on the profitability of tier three commercial banks in Kenya.
1.3.2 Specific Objectives:

The study was guided by the following specific objectives:

(i) To establish the effect of non-performing loans on the profitability of tier three commercial banks in Kenya.

(ii) To establish the effect of liquidity on the profitability of tier three commercial banks in Kenya.

(iii) To establish the effect of leverage on the profitability of commercial banks in Kenya.

1.4 Research Hypotheses

This study sought to resolve the following null hypotheses:

(i) There is no statistically significant relationship between non-performing loans and the profitability of tier three commercial banks in Kenya.

(ii) There is no statistically significant relationship between liquidity and the profitability of tier three commercial banks in Kenya.

(iii) There is no statistically significant relationship between leverage and the profitability of tier three commercial banks in Kenya.

1.5 Significance of the Study

The study findings are of great significance to the government and banking sector regulators and policy makers. The study brings into perspective various factors that contribute to distress in financial institutions and may enable stakeholders to put measures in place to mitigate the particular challenges in tier three commercial banks in order to enhance profitability.

The results of this study are also of great significant to the management of various tier three commercial banks across the country as it may enable the bank managers formulate
strategies that may enhance improved performance among tier three commercial banks. The findings of the study make a great contribution to the body of knowledge in the area of financial distress and profitability of tier three commercial banks in Kenya as pertains reconciliation of theory to reality as well as forming the basis for further studies in future.

1.6 Scope of the Study

This study focused on Tier Three Commercial Banks in Kenya. The study only focused on tier three commercial banks given that most of the banks experiencing financial distress in Kenya have been in this category. The study was guided by specific objectives which are to establish the manner in which distress factors such as non-performing loans, liquidity, and leverage affect the profitability of tier three commercial banks. The study was conducted in a span of one month and covered the period 2010-2016. The study elected to focus on the period after the global financial crisis.

1.7 Limitations of the study

The study was limited to the effect financial distress has on the profitability of the selected Tier Three commercial banks in Kenya and therefore the findings, analyses and recommendations cannot be linked to the whole banking industry in Kenya. Perhaps research into other banks will yield dissimilar outcome. Further, the study encountered challenges when collecting data from all the tier three commercial banks in Kenya. This was occasioned by the fact that some had been sold to other companies while others had rebranded. Request for information from some of the commercial banks was also not forthcoming.
1.8 Study Organization

This research project is organised into five chapters. Chapter one contains the background of the study, problem statement, the objectives of the research, research questions, justification of the research, as well as the limitations of the study. Chapter two gives the literature review that examines the theoretical framework and empirical literature on the research topic of this research proposal. Chapter three provides the research methodology. Chapter four provides the results of the data analysis and an interpretation of the results. Chapter five contains the summary, conclusions, and recommendations.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter provides an analysis of the theoretical and empirical literature on the effect of financial distress on profitability. This chapter also provides the research gaps and provides the conceptual framework for the study.

2.2. Theoretical Framework

This section provides the theories put forward to support the research objectives. These include the Financial Acceleratory Theory, Capital Irrelevance Theory, and Keynesian Theory.

2.2.1 The Financial Accelerator Theory

The concept of financial accelerator has its roots in macroeconomics whereby severe negative shocks to the economy may be made worse by deteriorating capital markets; that is difficult conditions in the real economy and financial markets precipitate financial and macroeconomic downturns (Korinek, 2011). The supposition that minor shifts in the demand can result in significant changes in output (which is the underlying principle of the accelerator theory) was first put forward by Aftalion in 1913 (Aftalion, 1913). The works of Fisher (1933) further enhanced the idea of acceleration. Fisher (1933) found that debt and deflation were underlying factors that contributed to the great depression. The down turn in the economy was stimulated by too much debt held by individuals and businesses and further enhanced by the cycle of debt, liquidation of assets and goods, price deflation, net worth deterioration, and economic contraction (Fisher, 1933).
In 1996, Bernanke, Gertler, and Gilchrist developed the term financial accelerator. In their work Bernanke et al. (1996), demonstrated that significant changes in macroeconomic activity can in some instances be promulgated by a seemingly small shock; this rationalizes the postulations of the existence of an accelerator mechanism. According to Bernanke et al. (1996), the financial accelerator is induced by changes in the credit market, which has an impact on the intrinsic cost of borrowing and lending that is associated with asymmetric information. The financial accelerator theory is best rationalized by the principal- agent problem (Bernanke et al., 1996; Kiyotaki & Moore, 1997).

The principals and agents accessing the credit market take into consideration the costs associated with lending and borrowing particularly with regard to the information asymmetry between both groups. In the credit markets, the principals are the lenders and the agents are the borrowers. The lenders are often not able to obtain information on investment opportunities (project returns), characteristics (creditworthiness) or actions (risk taking behaviour) of the agents without costs. The agency costs are characterised by three conditions which result in the financial accelerator. Firstly, outside financing is often more expensive than internal financing unless the external debt is fully collateralised; this results in the agency cost disappearing as the loan is fully secured. Secondly, the costs associated with borrowing increases as the amount of borrowing increases, the costs are inversely related to the borrowers’ net worth which identifies the ability to repay. Thirdly, a decline in the borrower’s net worth reduces the base for internal finance and raises the need for external finance at the same time raising the cost of it.
Further, this theory postulates that the less amount of wealth that the borrower contributes to a project, the more their interest will not be in line with the supplier of the external funds. The borrowers have a higher tolerance for riskier projects which often have high profits. However, to the lender these projects are not favourable as they bear all or most of the cost in case of low project returns. Further, the theory suggests that economic shocks may impair the ability of the borrower to make repayments (Bernanke et al., 1996).

Gertler and Kiyotaki (2010) critiqued the financial accelerator theory developed a general equilibrium model in which the financial accelerator effect emerges due to an asymmetric information problem that constrains the ability of banks to obtain funds from depositors in retail as well as in wholesale (“inter-bank”) financial markets. Since banks enter the deposit market as borrowers and given that they can go bankrupt as well as firms, there is no reason to assume that banks’ ability to collect funds and/or the costs of the funds will not be influenced by their net worth (bank capital). This theory was relevant to this study as it provided an understanding of the effect that macroeconomic shocks such as changes in interest rates can have on the ability of the borrower to meet their obligations to the lender. This theory indicates how non-performing loans affect the financial performance of the banks.

2.2.2 Capital Irrelevance Theory

In their seminal work, Modigliani and Miller (1958) postulated that in an efficient and effective capital market, where the firms paid no taxes, had no taxes, where the operating environment has homogeneous risk, where firms have 100% dividend pay-out, and the investors can borrow and lend at the same rate as capital, then the capital structure has no effect on financial distress. They defined the capital structure as being equity and leverage
(debt). Modigliani and Miller (1958) concluded that financial distress was as a result of business risk which was mainly indicated by the cost of capital and the earning capacity of the firm which was indicated by the return on assets.

However, this theory faced a lot of criticism from various academicians. The main area of disagreement was on the assumptions of the perfect market (Stiglitz 1969; Jensen & Meckling, 1976, Frank & Goyal, 2003). The assumption that the firms face similar risks, have similar income was proved to be unrealistic given that no firm operates in a homogeneous business environment; the assumption that the individuals can borrow at the same rate as corporations was discredited given that there are considerations that determine the borrowing rate of individuals and corporations (Muigai, 2016). However various financial economists contend that despite the imperfections of the theory, the work of Modigliani and Miller was and is a major contribution to the theory of capital structure by providing an explanation of why the equity and debt conditions of a firm matter (Brealey, Myers, & Allen, 2016). The theory was found to be relevant to this study as it provides a relationship between leverage and financial distress. This provided a platform for empirical analysis of the effect of financial distress, occasioned by leverage, on financial performance.

2.2.3 Keynesian Theory of Money

In “The general theory of employment, interest, and money”, Keynes (1936) asserted that there are three reasons why firms and individuals maintain liquid assets. Firstly, Keynes (1936) indicated that there is the speculative motive whereby the firm or individual holds cash in order to be able to take advantage of situations of arbitrage (for example fluctuation of exchange rates or interest rates). Funds for speculative purposes are obtained from reserves, ability to borrow, and marketable securities for banks and most firms. The second
motive for holding cash is for precautionary purposes; the liquid funds are needed for safety and act as a financial reserve. However, there is no need to hold substantial amounts of cash for precautionary purposes. The third motive for maintaining liquidity is for transaction purposes. The firms and individuals need to hold cash to pay bills such as wages, debts, taxes, and dividend.

Maintaining a portion of assets in liquid form indicates that the funds are not available for investment or operational use which often yields higher returns (Bhani, 2010; Niresh, 2012). This theory has been criticised as being indeterminate because liquidity curve is difficult to locate without knowing the level of income. What the Keynesian formulation regarding the rate of interest tells us is the various schedules of liquidity preference at various levels of income and not what the rate of interest is. Thus it is imperative that the banks management maintain a balance between the liquidity objective and the profit objective. This theory was relevant to this study given that it establishes the reasons for maintaining liquidity and the resultant impact on profits.

2.3 Empirical Review

2.3.1 Non-Performing Loans and Profitability

Manyuanda (2014) studied the effect of non-performing loans on the financial performance of Savings and Credit Co-operatives (SACCOs) in Nairobi County. The study sample all the Sacco’s operating in Nairobi country. The independent variables of the study included firm size, leverage, and non-performing loans. The dependent variable performance was measured using Return on Assets. The researcher preferred to use ROA as a measure of financial performance as it clearly indicates how well the organisation is using its assets. The study established that a one unit increase in the level of non-performing loans resulted in a 22.9%
decline in the level of performance; this decline was found to be statistically significant at the 5% confidence level. Similarly, the study established that a one unit increase in the level of leverage resulted in a 23.3% decline in performance; this decline was found to be statistically significant at the 5% level. The effect of the firm size which was measured by the natural log of assets base was found to be positive and statistically significant. Specifically, a one unit increase in the firm size will result in a 159% increase in profitability. That study established that there is a relationship between non-performing loans and financial performance of Saccos. This study aimed to establish the relationship between non-performing loans and profitability of tier three commercial banks.

Noman, Pervin, Chowdhury and Banna (2015) used effect model, generalized least squares, and generalized methods moments to establish the effect of nonperforming loan ratio (NPLGL), ratio of loan loss reserve to gross loan (LLRGL), capital adequacy ratio (CAR) on the profitability of 18 commercial banks in Bangladesh during the period 2003- 2013. Profitability was measured using the return on average assets (ROAA), return on average equity (ROAE), and net interest margin ratio (NIM). The study established that the effect of NPLGL, and LLRGL on profitability was negative and statistically significant. The effect of CAR on ROAA was positive and statistically insignificant, on ROAE the effect was negative and statistically significant, and on NIM the effect was positive and significant. That study is relevant to this study as it provided indicators for financial distress.

Isanzu (2017) developed a multi-linear balanced panel regression model for the purposes of establishing the effect of credit risk on the financial performance of Chinese Banks. The study targeted the five largest banks in China and covered the period 2008-2014. Credit risk
was measured using nonperforming loans, capital adequacy ratio, impaired loan reserve, and loan impairment charges. The dependent variable financial performance was measured using ROA. That study established that nonperforming loans have a negative and significant effect on the banks ROA; a one-unit increase in nonperforming loans was established to result in a 0.10 unit decrease in ROA. Capital adequacy was found to have a positive and significant effect on ROA; a one-unit increase in capital adequacy resulted in a 0.06 unit increase in the ROA. The beta coefficient for impaired loans reserve ratio was 0.006 and statistically significant at the 5% confidence level. The loan impairment charges were found to have a positive and statistically significant effect on the ROA. That study is relevant to this study as it provides a framework for understanding the effect of nonperforming loans on profitability.

2.3.2 Liquidity and Profitability

Ibe (2013) motivated by the need to find a solution to the liquidity management problems faced by commercial banks in Nigeria conducted a study to evaluate the impact of liquidity management on the profitability of commercial banks. The study covered the period 1995-2010. The study sample was composed of three commercial banks namely United Bank of Africa (UBA), Diamond Bank PLC, and Afri bank. In the study, liquidity was measured using the variables cash and short-term funds, bank balances, and treasury bill and certificates. Profit after tax was used as the measure of profitability. The study used regression analysis to estimate the relationship between the dependent and the independent variables. That study established that cash and short term funds had a negative effect on the profitability of the three banks. The effect of bank balances and treasury bills was found to have an insignificant effect on performance. That study is relevant to this study as it provides an indication of the variables that can be used to represent liquidity.
Kariuki (2013) estimated the Z equation developed by Altman (1968) to determine the effect of financial distress on the performance of commercial banks in Kenya. The equation estimated was given as

\[ Z = 6.56T_1 + 3.26T_2 + 6.72T_3 + 1.05T_4. \]

Where \( T_1 \) denoted the ratio of (current assets – current liabilities)/Total assets, \( T_2 \) denoted the ratio of Retained earnings to Total assets, \( T_3 \) denoted the ratio of Earnings before interest and tax to Total assets, and \( T_4 \) denoted the ratio of Book value of Equity to Total liabilities. Financial performance was given by the Return on Assets (ROA). The study sampled twenty-two banks, eleven of which were listed on the Nairobi Securities Exchange (NSE) and the others were non-listed. The study covered the period 2008-2012. The study established that most of the banks under study had financial distress, with the non-listed banks suffering more from financial distress compared to the listed banks. The study established that financial distress has a significant and negative effect on the financial performance of banks selected for the study. The study by Kariuki (2013) measured financial distress using Altman’s Z score. However, the non-performing loans, leverage, and liquidity are important indicators of financial distress, especially for commercial banks. Thus excluding them from the study means that the results are not comprehensive. This study purposed to fill this research gap.

Ibrahim (2017) studied the impacts of liquidity on profitability in the banking sector of Iraq. The study focused on five commercial banks that were listed on the Iraq Stock Exchange. The study covered the period 2005-2013. The banks were selected using random sampling. The liquidity was measured by loan deposit ratio, deposit asset ratio, and cash deposit ratio, while profitability was indicated by the return on assets. The study was conducted using OLS. The study found that the effect of liquidity on profitability was positive. These findings
are not consistent with theoretical literature which postulates that liquidity has a negative effect on profitability. That study was conducted in Iraq which suffers from insurgency and civil strife. This study aimed to address the contextual and methodological gaps.

**2.3.3 Leverage and Profitability**

Kihumba (2013) studied the effect of capital structure on the financial performance of listed cement manufacturing companies in Kenya. Financial performance was measured by the net profit margin, return on capital employed (ROCE) and return on equity (ROE). The capital structure was given as the ratio between debt and equity and the ratio of debt to total funds. Data for the study was collected from the financial statements of the three cement factories listed on the Nairobi Securities Exchange. The study used longitudinal research design. Kihumba (2013) used Pearson correlation coefficient and estimated a regression equation. The study established that the capital structure had influence on financial performance, although not exclusively. The total debt was found to have a significant effect on net profit and ROCE. While long-term debt and total debt were found have an insignificant effect on financial performance. This study purposed to fill the research gap left by Kihumba (2013) by establishing the effect of leverage on the profitability of tier three commercial banks.

Enekwe, Agu, and Nnagbogu (2014) sought to explain the role of financial leverage on company’s financial performance. This was achieved by conducting a study to determine the effect of financial leverage on the financial performance of pharmaceutical companies in Nigeria. The study covered the period 2001-2012. The study used ex-post facto research design and was estimated using ordinary least squares (OLS). The independent variable financial leverage was measured by three ratios namely debt ratio (DR), debt-equity ratio (DER), and interest coverage ratio (ICR) while financial performance was indicated by the
return on assets. The results of the regression analysis indicated that the effect of DR and DER on ROA was negative and statistically insignificant while ICR had a positive and statistically insignificant effect of the ROA. The regression model indicated that 16.4% of the variation in the dependent variable was occasioned by the independent variables suggesting that 83.6% of variation was not captured by the model. That study was conducted in Nigeria and used the OLS. This study fills the contextual and methodology gaps by using Analysis of Variance (ANOVA) and focusing on commercial banks in Kenya.

Edson (2015) studied the effect of financial leverage on commercial banks profitability in Tanzania during the period 2007-2013. The study sampled commercial banks that were listed on the Dar es Salaam Stock Exchange (DSE). The study sample consisted of only four commercial banks namely Commercial Rural Development Bank (CRDB), National Microfinance Bank (NMB), and Dar es Salaam Community Bank (DCB). Profitability was measured using return on ROAA and ROAE. Leverage was measured using the Debt Ratio. The study established that the commercial banks had large amounts of leverage averaging 89.9%, 87.7% and 80.2% for CRDB, NMB and DCB plc respectively. Furthermore, the profitability measured in terms of ROA for CRDB, NMB and DCB are 3.7%, 5.1% and 3.7% respectively while that which is measured in terms of ROE are 25.4%, 29.6% and 14.5% respectively as mean values. The results of the Anova analysis indicated that the effect of financial leverage on ROAA and ROAE was negative and statistically insignificant at the 5% confidence level.

2.4 Summary of Literature Review and Research Gaps

The problem of the financial distress within organizations and in particular the banking sector has remained unresolved despite the numerous theories and empirical works. The
financial accelerator theory puts forward scenarios that show how small shocks can lead to financial distress for commercial banks. The capital irrelevance theory postulates on the effect of leverage on the value of the firms. The Keynesian theory suggests that firms and individuals hold liquid assets for transaction, speculative, and precautionary purposes. This research study was anchored on these theories.

Table 2.1 provides a summary of the literature that was reviewed and the research gaps identified.

**Table 2.1: Summary of Research Gaps**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Focus of the Study</th>
<th>Findings</th>
<th>Research Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manyuanda (2014)</td>
<td>The effect of non-performing loans on the financial performance of Savings and Credit Cooperatives in Nairobi County.</td>
<td>Non-performing loans had a negative and significant effect on performance.</td>
<td>The study focused on Sacco's in Nairobi county, the study did not look at tier three commercial banks.</td>
</tr>
<tr>
<td>Noman, Pervin, Chowdhury and Banna (2015)</td>
<td>The effect of nonperforming loan ratio (NPLGL), ratio of loan loss reserve to gross loan (LLRGL), capital adequacy ratio (CAR) on the profitability of 18 commercial banks in Bangladesh</td>
<td>The study established that (NPLGL), ratio of loan loss reserve to gross loan (LLRGL), capital adequacy ratio (CAR) had mixed effect on the performance of the commercial banks</td>
<td>The study was conducted in Bangladesh which is a developing country in Asia. This study will seek to assess the impact in a developing country in Africa.</td>
</tr>
<tr>
<td>Isanzu (2017)</td>
<td>The effect of credit risk on the financial performance of Chinese Banks.</td>
<td>The study found that nonperforming loans have a negative and significant effect on performance. Capital adequacy and loan impairment had positive and significant effect on</td>
<td>The study focused on commercial banks in China which has the second largest economy in the world. This study will provide information about the effects in Kenya which has one of the smallest economies in the world.</td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
<td>Findings</td>
<td>Focus</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ibe (2013)</td>
<td>The impact of liquidity management on the profitability of commercial banks in Nigeria.</td>
<td>Cash and short term funds had a negative effect on the profitability while bank balances and treasury bills were found to have a negative and insignificant effect.</td>
<td>The study focused on the major the largest banks in Nigeria. This study will seek to provide answers about the effects in small banks in Kenya.</td>
</tr>
<tr>
<td>Kariuki (2013)</td>
<td>The effect of financial distress on the performance of commercial banks in Kenya.</td>
<td>The study established that financial distress has a significant and negative effect on the financial performance of banks selected for the study.</td>
<td>The study measured financial distress using the Altman Z score this study will measure financial distress using nonperforming loans, liquidity, and leverage. Additionally, Kariuki (2013) focused on all commercial banks in Kenya; this would have given skewed results given that smaller banks are more susceptible to financial distress.</td>
</tr>
<tr>
<td>Ibrahim (2017)</td>
<td>The impacts of liquidity on profitability in the banking sector of Iraq.</td>
<td>The study found that the effect of liquidity on profitability was positive and significant.</td>
<td>The results of the study are inconsistent with theoretical literature which finds that liquidity has a negative effect on profitability. This study will seek to determine if this relationship holds in commercial banks in Kenya.</td>
</tr>
<tr>
<td>Kihumba (2013)</td>
<td>The effect of capital structure on the financial performance of listed cement manufacturing companies in Kenya</td>
<td>The study established that the capital structure had an influence on financial</td>
<td>The study focused on listed cement companies in Kenya. This study will fill the research gaps on tier three commercial banks in</td>
</tr>
<tr>
<td><strong>Enekwe, Agu, and Nnagbogu (2014)</strong></td>
<td>The effect of financial leverage on financial performance of pharmaceutical companies in Nigeria.</td>
<td>The results of the regression analysis indicated that the effect of DR and DER on ROA was negative and statistically insignificant while ICR had a positive and statistically insignificant effect of the ROA.</td>
<td>The regression model only explained 16.4% variation in performance. This study has increased the variables to include nonperforming loans and liquidity so as to better understand the effects of financial distress indicator on the financial performance of a firm.</td>
</tr>
<tr>
<td><strong>Edson (2015)</strong></td>
<td>The effect of financial leverage on commercial banks profitability in Tanzania.</td>
<td>Anova analysis indicated that the effect of financial leverage on ROAA and ROAE was negative and statistically insignificant at the 5% confidence level.</td>
<td>The findings of Edson (2015) are inconsistent with those of Kariuki (2013). This study will focus on tier three commercial banks which are similar so as to establish the relationship between leverage and financial distress.</td>
</tr>
</tbody>
</table>

Source: Researcher (2017)

### 2.5 Conceptual Framework

According to Gough, Oliver, and Thomas (2017), every research study should develop a conceptual framework as this helps to structure the research questions and identify the appropriate research design to be used in the study. The conceptual framework is the working hypothesis that can be confirmed by the research. It identifies the key relationships. The main objective of the study was to establish the effect of financial distress on the profitability of tier three commercial banks in Kenya. In the study, financial distress was indicated by non-performing loans, liquidity, and leverage. Thus, the independent variables for the study
include non-performing loans, liquidity, and leverage. The dependent variable for the study was profitability which was measured using earnings after tax. Figure 2.1 presents the conceptual framework.

**Independent Variables**

- **Non-Performing Loans**
  - Ratio of Total Loans in Default to Total Loans Advanced

- **Leverage**
  - Ratio of Total debts to Total Equity

- **Liquidity**
  - Ratio of Total current assets to Total current liabilities

**Dependent Variable**

- **Profitability**
  - Return on Assets

---

**Figure 2:1 Conceptual Framework**

Source: Researcher (2017)
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
This chapter presents the research methodology that was used to conduct the study. This chapter contains the research design, the population, operationalisation and measure of variables, and the analytical model.

3.2 Research Design
The research design refers to the approach to be used to bring together the different components of the study in a logical and coherent manner in order to ensure that the objectives of the study are met (Bachman & Schutt, 2016). The research design determines the method of data collection, the Operationalisation and measurement of terms, and analysis of data. The research design is dictated by the research questions. The casual research design was adopted for this study. According to Beach and Pedersen (2016), this approach is suitable for understanding a phenomenon which has a conditional form If X, then Y. Wangige (2016) recommends the use of the casual research design because it measures the effect a specific change will have on existing norms and assumptions. The casual effect is present when change in one phenomenon, usually the independent variable, typically results in change on another phenomenon, usually referred to as the dependent variable. This study sought to investigate the effect of the independent variables on the dependent variable.

3.3 Target Population
The research questions provided in chapter one address issues that are of great importance to groups of individuals known as the research population. The target population is generally a large collection of individuals or objects that are the focus of a query (Castillo, 2009). The
target population has similar characteristics; the individuals or objects have certain common, binding characteristics or traits (Alzahrani, 2012). The target population for this study were the 23 banks categorized as tier three by the central bank of Kenya (Appendix 1).

3.4 Sampling Technique

This study employed census sampling whereby all the firms in the target population were used for analysis. This procedure was preferred because the study population was small thus making it possible to collect the data. Additionally, the census solves the accuracy problems associated with sampling.

3.5 Operationalisation and Measurement of Variables

Table 3.1 presents the Operationalisation and measurement of variables to be used in the study.

Table 3.1: Operationalisation and Measurement of Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Operationalisation</th>
<th>Measurement</th>
<th>Hypothesized Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>Dependent</td>
<td>-Earnings After Tax -Total Assets</td>
<td>Net Profit / Total Assets</td>
<td>Positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Total Loans in Default</td>
<td>Total Loans in Default / Total Loans Advanced</td>
<td>Negative</td>
</tr>
<tr>
<td>Non-Performing Loans</td>
<td>Independent</td>
<td>-Total Loans Advanced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>Independent</td>
<td>-Total Debts -Total Equity</td>
<td>Total Debt / Total Equity</td>
<td>Positive</td>
</tr>
<tr>
<td>Liquidity</td>
<td>Independent</td>
<td>-Total Current Assets -Total Current Liabilities</td>
<td>Total Current Assets/Total Current Liabilities</td>
<td>Positive</td>
</tr>
</tbody>
</table>

Source: Researcher (2017)
3.6 Data Collection Instruments

The study used quantitative secondary data. The data was collected from the financial statements and annual reports of the commercial banks selected for this study. Additionally, the study collect data from publications from the Central Bank of Kenya. The data was collected for the period 2010-2016. The data was collected from the official website of the individual commercial banks and the Central Bank of Kenya. Where the data was not available over the internet, the researcher visited the head offices of the respective banks.

3.7 Data Analysis

The data collected was tabulated, coded, and cleaned before analysis. Tables were used to present the data collected. Multiple regression model was estimated in order to establish the effect of non-performing loans, liquidity, and leverage on profitability. The regression equation was estimated using Statistical Packages for Social Sciences (SPSS).

The study used a multiple linear regression equation to estimate the effect of financial distress on the profitability of tier three commercial banks in Kenya. The study adopted the model similar to that used by Mwangi (2012)

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \] (3.1)

Where \( Y \) denotes profitability, \( \beta_0 \) denotes the constant, \( \beta_1, \beta_2, \) and \( \beta_3 \) denote the regression coefficients which indicates the rate of change of the dependent variable as a function of changes in the independent variable, \( X_1 \) denotes the non-performing loans, \( X_2 \) denotes liquidity, \( X_3 \) denote leverage, and \( \epsilon \) denotes the error term.
3.8 Diagnostic Tests

In order to ensure the validity of the model used in the study, the data collected was subjected to diagnostic tests. The diagnostic tests were performed by evaluating the model’s statistical structure (Everitt & Skrondal, 2010). The diagnostic test can be in form of graphs, qualitative analysis, and hypothesis tests. The study tested the time series data for normality, multicollinearity, and heteroskedasticity.

3.8.1 Normality Tests

These tests are conducted in order to determine the distribution of the data. Data that is not normally distributed provides estimates that have incorrect t-tests, F-tests, and chi-square test results (Razali & Wah, 2011). Non-normal distribution occurs when one of the variables has the wrong functional form. Kolmogorov-Smirnov (KS) Test was used to check for normality. The KS test is defined by the following hypothesis: $H_0$: The data follows normal distribution and $H_A$: The data does not follow a normal distribution (Pennsylvania State University, 2017a). Probabilities that are $>0.05$ indicates that the data is normally distributed while $<0.05$ indicates that the data is not normally distributed.

3.8.2 Multicollinearity

When two or more of the independent variables in the model have a high degree of linear relation, that is, one or more of the independent variables can predict the value of another variable with a high degree of accuracy, then multicollinearity is said to be present. Where multicollinearity is present, the coefficients estimated by the multiple regression models may change erratically due to any small change in the explanatory variables. The presence of multicollinearity does not reduce the reliability of the model but affects the individual predictors. Variance Inflation Factors (VIF) and Tolerance tests were used to test for the
presence of multicollinearity in the model. A VIF of greater than five but less than 10 indicates moderate multicollinearity, VIF level which is higher than 10 indicates serious multicollinearity requiring correction (Pennsylvania State University, 2017b). A VIF value of between 1 and 5 indicates little or no correlation. A high tolerance value indicates an overlap between the variables, the lower the tolerance values indicate high degrees of correlation. According to Hossain (2012) tolerance values of less than 0.2 are as a rule of thumb considered unacceptable. In order to deal with multicollinearity, the data can be transformed into the first difference (Gujarati, 2003).

3.8.3 Heteroskedasticity

Heteroskedasticity is said to be present when the disturbances in the regression model have similar variances (Gujarati, 2003). The presence of heteroskedasticity in the model results in unbiased estimates of the relationship between the dependent and independent variables. However, the standard errors and the inferences may not be accurate. The White Test was used to check for heteroskedasticity. The White-Test is a test of the null hypothesis of homoscedasticity against the heteroskedasticity of an unknown form (Econometrics Views, 2017). The observed $R^2$ and the chi-square are estimated and used to indicate the presence of homoscedasticity. If the calculated chi-squared value obtained for the observed $R^2$ is greater than the critical chi-square value at a chosen level of significance (5%) then the null hypothesis of homoscedasticity is accepted. To deal with heteroskedasticity in the model, a weighted regression can be used (Gujarati, 2003).

3.9 Ethical Considerations

In keeping with the moral principles required of any research work, ethical standards and guidelines were taken into consideration from the inception of the research project to the
completion. The data collected was only used for this. Permission was obtained from the National Commission for Science, Technology, and Innovation.
CHAPTER FOUR
DATA ANALYSIS, INTERPRETATION, AND DISCUSSION

4.1 Introduction
This chapter presents the data analysis, interpretation of the data, and discussions of the findings of the data collected. The study used quarterly data covering the period 2010-2016.

4.2 Response Rate
The study was only able to collect data from twenty of the twenty-three commercial banks. Most of the data was collected over the internet. Information not available electronically was sourced from the hard copies of the financial statements of the commercial banks. However, some commercial banks declined to provide financial statements. According to Mugenda and Mugenda (2003), a sample of 30% of the population is considered representative while a sample of above 50% is considered good. Thus the sample used can be considered adequate for the study.

4.3 Diagnostic Tests
The three main assumptions of any regression models are non-multicollinearity, normality and homoscedasticity (Berenson, Levine & Krehbiel, 2009). The study data was subjected to test for normality, multicollinearity, and heteroskedasticity. In order to ensure that the data collected was appropriate for regression analysis, the data was transformed into logarithmic form. Thereafter, the data was transformed into the first difference. These transformations were made in order to remove bias from the study data.

4.3.1 Normality Test
The test for normality was conducted using SPSS. The null hypothesis for the Kolmogorov-Smirnov (KS) test is that the distribution of the data collected follows a normal distribution.
The alternative hypothesis states that the data collected is statistically different from the normal distribution. The results of the KS test are presented in Table 4.1.

Table 4.1: Results of Normality Test

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
</tr>
<tr>
<td>ROA</td>
<td>.928</td>
</tr>
<tr>
<td>Non-Performing Loans</td>
<td>.544</td>
</tr>
<tr>
<td>Leverage</td>
<td>.797</td>
</tr>
<tr>
<td>Liquidity</td>
<td>.521</td>
</tr>
</tbody>
</table>

Source: Study Data (2017)

The results of the SPSS output summarised in Table 4.1. The significance (sig.) level for the ROA, non-performing loans, leverage, and liquidity were 0.789, 0.608, 0.814, and 0.904 respectively. All the significance values are greater than the 0.05 critical values. Therefore, the null hypothesis is accepted. The data collected was normally distributed.

4.3.2 Multicollinearity

The test for multicollinearity was conducted using SPSS. The results of the VIF and Tolerance tests were analysed in order to establish the presence of multicollinearity. According to Hossain (2012) where the VIF is more than 10 and the tolerance less than 0.2 then the model is considered to have multicollinearity issues. The results of the multicollinearity test are presented in Table 4.2.
Table 4.2: Multicollinearity Test

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
<td>VIF</td>
<td></td>
</tr>
<tr>
<td>Non-Performing Loans</td>
<td>.521</td>
<td>1.921</td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>.385</td>
<td>2.600</td>
<td></td>
</tr>
<tr>
<td>Liquidity</td>
<td>.626</td>
<td>1.597</td>
<td></td>
</tr>
</tbody>
</table>

Source: Study Data (2017)

The results in Table 4.2 indicate that the Tolerance levels for non-performing loans, leverage, and liquidity were 0.521, 0.385, and 0.626 respectively. The tolerance values are greater than 0.2. The VIF values for non-performing loans, leverage, and liquidity were found to be 1.921, 2.600, and 1.597 respectively. The VIF values are less than 10. Given that the VIF values are less than 10 while the tolerance values are greater than 0.2 then the null hypothesis was accepted, the data collected does not suffer from multicollinearity.

4.3.3 Heteroskedasticity
In the White Test, the null hypothesis states that the variance of the residual is constant which would imply that the data is homoscedastic. The alternative hypothesis states that the variance of the residual is not constant which implies the presence of heteroskedasticity (Asteriou & Hall, 2011). The White-Test was conducted using Econometrics View (E-Views) software. The regression model was first run in order to obtain the squared residuals. Thereafter, White Test was conducted in order to obtain the observed $R^2$ and chi-square. Table 4.3 presents the results of the White Test.
Table 4.3: Test for Heteroskedasticity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heteroskedasticity Test: White</td>
<td>25.3751</td>
<td>0</td>
<td>21.2884</td>
<td>0.0001</td>
<td>17.2181</td>
<td>0.0006</td>
<td></td>
</tr>
</tbody>
</table>

The results presented in Table 4.3 indicate that the probability of the chi-square for the observed $R^2$ is less 0.0001 which is less than the critical value of 0.05 thus the null hypothesis is rejected. The alternate hypothesis is thus accepted. The results imply that the data has heteroskedasticity. In order to deal with the problem, weighted regression equation was estimated.

4.4 Inferential Analysis
In this research project, multiple regression analysis was conducted in order to determine the effect of financial distress on the profitability of tier three commercial banks in Kenya. Analysis of the study data was performed using SPSS. Table 4.4 gives a summary of the regression model.

Table 4.4: Model Summary

<table>
<thead>
<tr>
<th>Model Summaryb</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.561a</td>
<td>.315</td>
<td>.229</td>
<td>.1168238</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Liquidity, Non-Performing Loans, Leverage
b. Dependent Variable: ROA

Source: Study Data (2017)
The computed R is 0.561. This indicates that the association between the dependent variable and the predictors is 56.1%. The computed $R^2$ is 0.315 which implies that 31.5% of variation in the profitability of tier three commercial banks is explained by financial distress (financial distress being measured by non-performing loans, leverage, and liquidity). The remaining 68.5% is explained by variables not present in the model. The adjusted $R^2$ indicates the fit of the model and can take the value of less than or equal to 1. Values closer to 1 indicate a better fit while negative values indicate that the model terms do not predict the response (Gujarati, 2003). The computed adjusted $R^2$ is 0.229. Indicating that the model terms have predictive power.

Table 4.5 presents the results of the ANOVA test or F-test. The significance of the multiple regressions is indicated by the F-test (Gujarati, 2003).

Table 4.5: Anova

<table>
<thead>
<tr>
<th>ANOVA$^a$</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Regression</td>
<td>.151</td>
<td>3</td>
<td>.050</td>
<td>3.680</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.328</td>
<td>24</td>
<td>.014</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.478</td>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA  

b. Predictors: (Constant), Liquidity, Non-Performing Loans, Leverage

Source: Study Data (2017)

As indicated in Table 4.5 F value was 3.680 and the p value was computed as 0.026. The p value is less than 0.05 which implies that the regression model is significant. The computed F
The statistic is 3.680 which is greater than the critical value 2.95 (the critical value is obtained from the F distribution table). This implies that the data set is appropriate for analysing the relationship between financial distress and profitability. The independent variables non-performing loans, leverage, and liquidity influence the profitability of tier three commercial banks in Kenya.

Table 4.6 provides a summary of the multiple linear regression coefficient estimates including the intercept and the significance levels. The coefficients are the estimates that arise from the regression analysis; they give the variance in the dependent variable attributable to the independent variables (Martin, 2017).

**Table 4.6: Regression Coefficients**

<table>
<thead>
<tr>
<th>Coefficientsa</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-2.010</td>
<td>1.107</td>
<td>-1.815</td>
<td>.082</td>
</tr>
<tr>
<td>Non-Performing Loans</td>
<td>-.098</td>
<td>.221</td>
<td>.739</td>
<td>3.158</td>
</tr>
<tr>
<td>Leverage</td>
<td>.353</td>
<td>.300</td>
<td>.321</td>
<td>1.179</td>
</tr>
<tr>
<td>Liquidity</td>
<td>.264</td>
<td>1.115</td>
<td>.051</td>
<td>.237</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA

Source: Study Data (2017)

The results in Table 4.6 shows that when non-performing loans, leverage, and liquidity are taken into account and the constant held at zero the ROA will be -2.0. However, the significance value is 0.082 which is greater than the critical value of 0.05. This implies that the constant is not statistically significant.
The first specific objective of the study was to determine the effect of non-performing loans on the profitability of tier three commercial banks in Kenya. The results presented in Table 4.6 show that non-performing loans have a negative and statistically significant effect on the financial performance of tier three commercial banks in Kenya \( (\beta = -0.098, \ p = 0.004) \). According to the results computed a 1% increase in the number of non-performing loans will lead to a 9.8% decrease in the profitability of tier three commercial banks in Kenya. These findings are similar to those found by Manyuanda (2014), Norman, Pervin, Chowdhury, and Banna (2015), and Isanzu (2017).

The second specific objective of the study was to establish the effect of leverage on the profitability of tier three commercial banks in Kenya. The results presented in Table 4.6 indicate that leverage has a positive and statistically significant effect on profitability \( (\beta = 0.353, \ p = 0.025) \). This implies that a 1% increase in the amount of leverage will result in a 35.3% increase in the profitability of tier three commercial banks in Kenya. These findings are inconsistent with the findings of Kihumba (2013), Enekwe, Agu, and Nnogbogu (2014) and Edson (2015) who established that leverage has a negative effect on profitability. However, the study findings are consistent with the findings of Maseno (2013) who found that leverage has a positive effect on the profitability of commercial banks in Kenya. According to Maseno (2013), banks increase their percentage of debt, which is often used to finance their operations, as this helps them to achieve higher financial performance. This holds true because the income of the bank is earned by loaning borrowed funds.

The results presented in Table 4.6 indicates that liquidity has a positive but statistically insignificant effect on the financial performance of tier three commercial banks in Kenya.
(β=0.264, p=0.815). This implies that a one percent increase in the liquidity of the tier three commercial banks will lead to a 26.4% increase in the profitability of tier three commercial banks in Kenya. However, the increase is statistically insignificant. This finding is inconsistent to that of Ibe (2015) who established that liquidity has a negative effect on profitability of commercial banks in Nigeria. According to Davis (2011), firms which belong to business groups (most of the commercial banks sampled belonged to business groups) liquidity does not necessary connote higher probability of failure due to the pooling of funds. However, amongst smaller firms, liquidity is negatively related to profitability and is the key reason that these firms fail.

The results of the regression analysis allows for equation (3.1) to be rewritten in the form presented in equation (4.1).

\[ Y = -0.098X_1 + 0.353X_2 \] ..............................(4.1)

The general objective of the study was to establish the effect of financial distress on the financial performance of tier three commercial banks in Kenya. The theoretical and empirical literature suggests that financial distress has a negative effect on the profitability of an organisation. Financial distress may stimulate profitability problems on firms through cash flow deterioration and deterioration of revenue or operating income perpetually. Equation 4.1 indicates that the financial distress is mostly associated with non-performing loans. The level of debt improves the financial performance and hence reduces the chances of distress.
CHAPTER FIVE
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction
This chapter presents the summary of findings, draws conclusions from the study findings and makes recommendations. The conclusions and recommendations are geared at addressing the research objective which was to determine the relationship between financial distress and profitability.

5.2 Summary of Findings
The objective of this study was to establish the effect of financial distress on the financial performance of tier three commercial banks in Kenya. Specifically, the study sought to establish the effect of non-performing loans, leverage, and liquidity which are indicators of financial distress on the profitability of tier three commercial banks in Kenya. The study established that non-performing loans have a negative and statistically significant effect on the financial performance of tier three commercial banks in Kenya.

The study found that leverage had a positive and statistically significant effect on the profitability of tier three commercial banks. The study found that an increase in the amount of leverage will result in an increase in the profitability of tier three commercial banks in Kenya. The results indicate that leverage has a very large effect on the profitability. The study determined that liquidity had a positive and statistically significant effect on the profitability of tier three commercial banks in Kenya. The study established that an increase in the liquidity of the tier three commercial banks will lead to an increase in the profitability of tier three commercial banks in Kenya. However, the increase is statistically insignificant.
5.3 Conclusion

The study found that the non-performing loans have a negative effect on the profitability of tier three commercial banks in Kenya. However, it is necessary for banks to issue loans. For commercial banks, loans form a significant amount of their asset structure. The loans are needed to generate returns. However, when these loans and the interest charged are not recovered results in the income of the bank being used to pay for the loss and to finance any recovery effort. Based on this finding, the study concludes that nonperforming loans which are indicators of financial distress can significantly reduce the profitability of tier three commercial banks.

The findings indicate that leverage has a positive effect on the profitability of tier three commercial banks in Kenya. It is theorised that leverage is used to grow and expand businesses. Additionally, the inclusion of debt in the capital structure has tax benefits. Based on these findings it can be concluded that level of leverage held by tier three commercial banks should be increased so as to increase profitability.

The study found that liquidity has a positive but statistically insignificant effect on the financial performance of tier three commercial banks in Kenya. Based on this finding the study concludes that although liquidity is used by the commercial banks as a means of warding off financial distress, the overall effect is inconsequential to financial performance.

5.4 Recommendations

Based on the findings, this study recommends that the managers of tier three commercial banks review their mix of loans and level of leverage. This recommendation is based on the finding that non-performing loans have a negative effect on profitability while leverage has
positive effects. Where the banks have too many non-performing loans, the amount of loss will exceed the amount of profit realised from using leverage to provide financing for their activities. Further, the study recommends to the managers of the tier three commercial banks that they should increase the level of debt in their balance sheets. This is based on the finding that leverage has a positive effect on financial performance which reduces the chances of financial distress.

At the policy level, the study recommends that the CBK should review the liquidity requirements placed on commercial banks. This is based on the finding that liquidity does not improve the financial performance of the commercial bank. The amount held as liquid assets can be used for investments. The study also recommends that the CBK should vigorously monitor the number of loans and non-performing loans held by tier three commercial banks. The study indicates that non-performing loans could lead to financial distress.

5.5 Areas for Further Research

This study provides insight into the relationship between financial distress and financial performance of tier three commercial banks in Kenya. The results indicate that the indicators of financial distress namely non-performing loans, leverage, and liquidity occasion only 31.5% of the variation in the level of financial performance. This indicates that there are other factors that impact the level of financial performance. These factors include interest rates, exchange rates, economic growth, employment level, amongst others. Altman avers that financial distress is indicated by a number of endogenous and exogenous factors. This study recommends that further studies should be conducted that incorporate the other variables.
This study sought to provide an empirical understanding of the effect of financial distress indicated by non-performing loans, leverage, and liquidity on tier three commercial banks in Kenya. The study was necessitated by the fact that the banks in this category have been hard hit by financial distress which eventually led to failure. However, the practice world over is to have the other tiers of commercial banks which do not face financial distress be included in the study. The inclusion of tier one and tier two commercial banks in the study would provide a better platform for analysis and comparison. The study, therefore, recommends that the effect of financial distress on tier one and tier two commercial banks be included in further studies.

Further, the study was undertaken in Kenya which represents the context of an emerging economy with economic, regulatory, and political characteristics that are unique to the country. Additionally, the study of only 23 commercial banks could be considered not to be representative of the businesses operating within the economy. The application of the study results may, therefore, be considered to be too restrictive. Therefore, the study recommends that future studies should cover broader jurisdictions, taking into consideration the unique characteristics of those economies.
REFERENCES


49
### APPENDICES

**Appendix I: Tier Three Commercial Banks in Kenya**

<table>
<thead>
<tr>
<th>Bank Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guaranty Trust Bank Ltd Small</td>
</tr>
<tr>
<td>Gulf African Bank Ltd</td>
</tr>
<tr>
<td>African Banking Corporation</td>
</tr>
<tr>
<td>Victoria Commercial Bank Ltd</td>
</tr>
<tr>
<td>Sidian Bank Ltd</td>
</tr>
<tr>
<td>Giro Commercial Bank Ltd</td>
</tr>
<tr>
<td>Fidelity Commercial Bank Ltd</td>
</tr>
<tr>
<td>Development Bank of Kenya Ltd</td>
</tr>
<tr>
<td>Jamii Bora Bank Ltd</td>
</tr>
<tr>
<td>Equatorial Bank Ltd</td>
</tr>
<tr>
<td>First Community Bank Ltd</td>
</tr>
<tr>
<td>Guardian Bank Ltd</td>
</tr>
<tr>
<td>Consolidated Bank of Kenya Ltd</td>
</tr>
<tr>
<td>Habib Bank A.G. Zurich</td>
</tr>
<tr>
<td>Trans-National Bank Ltd</td>
</tr>
<tr>
<td>Habib Bank Ltd</td>
</tr>
<tr>
<td>Paramount Universal Bank Lt</td>
</tr>
<tr>
<td>Oriental Commercial Bank Ltd</td>
</tr>
<tr>
<td>Credit Bank Ltd</td>
</tr>
<tr>
<td>Bank Name</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>UBA Kenya Bank Ltd</td>
</tr>
<tr>
<td>Charterhouse Bank Ltd</td>
</tr>
<tr>
<td>Dubai Bank Ltd</td>
</tr>
</tbody>
</table>

Source: Central Bank of Kenya (2016)
### Appendix II: Data

<table>
<thead>
<tr>
<th>Variables</th>
<th>2010 Kshs. (000)</th>
<th>2011 Kshs. (000)</th>
<th>2012 Kshs. (000)</th>
<th>2013 Kshs. (000)</th>
<th>2014 Kshs. (000)</th>
<th>2015 Kshs. (000)</th>
<th>2016 Kshs. (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings After Tax Total</td>
<td>134,073.00</td>
<td>311,033.00</td>
<td>418,730.00</td>
<td>350,125.00</td>
<td>533,648.00</td>
<td>470,210.00</td>
<td>446,832.00</td>
</tr>
<tr>
<td>Total Assets</td>
<td>132,388,794.50</td>
<td>148,398,270.67</td>
<td>144,621,886.30</td>
<td>174,785,126.50</td>
<td>224,681,189.00</td>
<td>229,806,751.00</td>
<td>238,235,379.00</td>
</tr>
<tr>
<td>Total Non-Performing Loans</td>
<td>8,246,918.39</td>
<td>8,162,519.88</td>
<td>21,705,258.20</td>
<td>26,725,654.50</td>
<td>14,481,266.00</td>
<td>18,786,823.00</td>
<td>18,436,383.00</td>
</tr>
<tr>
<td>Total Loans</td>
<td>63,484,031.04</td>
<td>78,118,798.82</td>
<td>93,104,730.80</td>
<td>108,675,075.50</td>
<td>134,589,938.00</td>
<td>139,265,197.00</td>
<td>144,344,781.00</td>
</tr>
<tr>
<td>Total Equity</td>
<td>20,627,331.43</td>
<td>24,885,046.25</td>
<td>22,114,066.50</td>
<td>29,766,903.00</td>
<td>32,715,820.00</td>
<td>41,295,121.00</td>
<td>43,681,256.00</td>
</tr>
<tr>
<td>Total Current Assets</td>
<td>40,836,089.69</td>
<td>48,067,886.10</td>
<td>60,424,343.00</td>
<td>57,085,595.50</td>
<td>65,553,363.00</td>
<td>64,573,417.00</td>
<td>60,788,212.00</td>
</tr>
<tr>
<td>Total Current Liabilities</td>
<td>96,631,042.67</td>
<td>118,201,121.08</td>
<td>137,457,911.20</td>
<td>155,780,251.50</td>
<td>168,147,041.00</td>
<td>166,846,443.00</td>
<td>158,362,488.00</td>
</tr>
</tbody>
</table>

Source: Study Data (2017)
Appendix III: Research Approval Kenyatta University

KENYATTA UNIVERSITY
GRADUATE SCHOOL

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

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

Our Ref: D53/CTY/PT/31892/2015
DATE: 22nd November, 2017

Dear Sir/Madam,


I write to introduce Ms. Caroline M. Kimathi who is a Postgraduate Student of this University. She is registered for M.B.A degree programme in the Department of Accounting and Finance.

Ms. Caroline M. Kimathi intends to conduct research for a M.B.A Project Proposal entitled, “Effect of Financial Distress on the Profitability of Tier Three Commercial Banks in Kenya”.

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL
Appendix IV: NACOSTI Approval

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Reference: NACOSTI/P/17/12289/20544
Date: 8th December, 2017

Caroline Mwendwa Kimathi
Kenyatta University
P.O Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Effect of financial distress on the profitability of tier three commercial banks in Kenya” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for the period ending 7th December, 2018.

You are advised to report to the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

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

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

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

Nasional Commission for Science, Technology and Innovation (ISO9001, 2008 Certified)
THIS IS TO CERTIFY THAT:
MISS. CAROLINE MWENDWA KIMATHI
of KENYATTA UNIVERSITY, 15-618
Nairobi, has been permitted to conduct
research in Nairobi County

on the topic: EFFECT OF FINANCIAL
DISTRESS ON THE PROFITABILITY OF
TIER THREE COMMERCIAL BANKS IN
KENYA

for the period ending:
7th December, 2018

Permit No: NACOSTI/P/17/12289/20544
Date Of issue: 8th December, 2017
Fee Recieved: Ksh 1000

[Signature]
Applicant’s

[Signature]
Director General
National Commission for Science,
Technology & Innovation
KENYATTA UNIVERSITY
GRADUATE SCHOOL
CERTIFICATION OF CORRECTION OF MASTERS’ PROJECT

NB: The fully signed Certificate of Correction should be forwarded to the Dean, Graduate School for clearance together with one (1) hard bound copy and a soft copy (CD) of the Project.

PART I: STUDENT DETAILS

Department: Accounting & Finance
School: Business
Degree Title: MBA Finance
Candidates’ Name: CAROLINE NAMANDWA KINATHI
Registration No.: B531141PT1289219815
Signature: [Signature]
Title of Project: Financial Distress and Profitability of Tier Three Commercial Banks in Kenya

PART II: DECLARATION BY SUPERVISOR(S) OVERSEEING CORRECTIONS

I / we, the undersigned Supervisor(s) of Corrections do hereby confirm that I / we have closely looked at the corrections as instructed by the candidate’s Examiners and I / we do hereby certify that ALL the corrections have been effected as advised.

NAME: [Supervisor’s Name]
SIGN: [Signature]
DATE: 25/03/2018

NAME: [Supervisor’s Name]
SIGN: [Signature]
DATE: [Date]

PART III: CONFIRMATION BY CHAIRMAN OF THE DEPARTMENT

I confirm that the Supervisor(s) have overseen the corrections as per the instructions of the Internal Examiners and have authorized final Binding of the Project.

NAME: [Chairman’s Name]
SIGN: [Signature]
DATE: [Date]

PART IV: SUBMISSION OF FINAL BOUND PROJECT

I confirm receipt of the signed Certificate of Correction, one (1) hard bound copy and a soft copy (CD) of the Masters’ Project.

NAME ___________________________ DATE & STAMP ___________________________
DEAN, GRADUATE SCHOOL