

**DETERMINANTS OF FINANCIAL DISTRESS AMONG
SELECTED FIRMS LISTED AT NAIROBI SECURITIES
EXCHANGE: CASE OF KENYA AIRWAYS AND UCHUMI
SUPERMARKETS FROM 2013 TO 2017**

BY

VINCENT MBITI MBAI

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2018

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**A Research Project Report Submitted to the Chandaria
School of Business in Partial Fulfillment of the Requirement
for the Degree of Masters in Business Administration (MBA)**

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2018

STUDENT DECLARATION

I, the undersigned declare that this is my original work and that it has not been submitted to any other College, Institution or University other than the United States International University for academic purposes.

Signed: _____ **Date:** _____

Vincent Mbiti Mbai (ID No. 650530)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: _____ **Date:** _____

Mr. Kepha Oyaro

Signed: _____ **Date:** _____

Dean, Chandaria School of Business

ACKNOWLEDGEMENT

I wish to register my appreciation to all those who contributed in various capacities that enabled me complete my studies. I am greatly indebted to my supervisors for their guidance and support and for their unfailing availability when I sought for consultations.

DEDICATION

This research project is dedicated to my family members who stood with me during my challenges and enabling me to realize my academic dream. Thank you all.

ABSTRACT

The purpose of the study at hand was to establish determinants of financial distress among selected firms listed at Nairobi Securities Exchange: case of Kenya Airways and Uchumi Supermarkets. In order to achieve this, the study was guided by the following three research questions: What is the relationship between financial leverage and financial distress at Kenya Airways and Uchumi Supermarkets? What is the relationship between liquidity and financial distress at Kenya Airways and Uchumi Supermarkets? What is the relationship between profitability and financial distress at Kenya Airways and Uchumi Supermarkets?

The study utilized descriptive research method. The descriptive research design was applicable to the current study because it enabled an investigation in which quantity data was collected and analyzed in order to describe the specific phenomenon in its current trends, current events and linkages between different factors at the current time. It also helped in describing the state of affairs of the problem under investigation and the relationship between the variables. The target population of this study involved all the two financially distressed companies listed at NSE in Kenya. These included: Kenya Airways and Uchumi Supermarkets. The study covered a five-year period, 2013 to 2017. The study used secondary data. The secondary data involved use of quantitative data. The secondary data was extracted from annual financial reports of the two listed commercial and services firms in Kenya for the period of five years from 2013 to 2017.

The financial reports were obtained from the Nairobi Securities Exchange, firms' publications and websites. The study used software known as Statistical Package for Social Sciences (SPSS version 21) for data analysis process. Descriptive data analysis techniques were used to analyze the data. This involved descriptive tools such as means, maximum, minimum and standard deviation. The study also involved running the regression model. The study also tested the significance of the relationship between variables in the model by use of correlation analysis.

The first research question established that financial leverage was positively related to financial distress as such a unit increase in leverage could minimize financial distress. The second research question found that liquidity was correlated to financial distress thus a unit increase in the liquidity leads to a reduction in the financial distress at Kenya Airways and Uchumi. The third research question revealed that profitability has positive

relationship with financial distress; therefore, the firms used profitability to minimize financial distress.

The study concluded that financial leverage, liquidity and profitability have significant positive relationship with financial distress as measured by Altman Z score. This conclusion was supported by regression coefficient results that concluded that a unit increase in leverage, liquidity and profitability leads to a reduction of financial distress as measured by Altman Z scores of the studied firms.

Based on the findings, the study, therefore, recommends that non-financial firms should endeavor to employ more equity and less debt capital to finance their operations. The study recommends that where non-financial firms must consider using debt in their capital structure, non-current debt should be prioritized ahead of short term debt. The study finally recommends that in configuring their profitability structure, financing managers of nonfinancial firms should prioritize the use of internally generated capital such as retained earnings and reserves ahead of externally issued equity and assets.

The study recommends that research be carried out to test financial distress prediction models to non- listed firms, relatively smaller turnover sized firms where the incidences of business failure is greater than larger corporations. This will help determine financial position of all firms in the economy and give more insights to investors on their investment decisions. With this suggestion regulatory bodies like Nairobi Securities Exchange and Capital Market Authority will be able to capture wider market in terms of listing new firms rather than using listed firms as a basis for testing financial distress.

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LIST OF ABBREVIATIONS

CMA:	Capital Market Regulator
GDP:	Gross Domestic Product
NSE:	Nairobi Securities Exchange
ROA:	Return on Asset
ROE:	Return on Equity
SPSS:	Statistical Package for Social Sciences
USIU:	United States International University

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Financial distress is a situation where a firm is unable to meet the financial obligations as they mature or does so with difficulties. Usually, the phenomenon may be heralded by insufficient cash flows, decline in market value, profit breaches and low growth in businesses (Andrade & Kaplan, 2013). Lin, Ko and Blocher (2016) concurs that business failure results in enormous economic consequences. In many cases, the failure is preceded by a period of uncertainty and the financial status of the company is often by financial distress. A firm in financial distress usually falls in a tight cash situation in which it is difficult to pay the owed amounts on the due date. If prolonged, this situation can force the owing entity into bankruptcy or forced liquidation. It is compounded by the fact that financial institutions refuse to lend to those in serious distress (Altman, 2013). When a firm is under financial distress, the situation frequently sharply reduces its market value, suppliers of goods and services usually insist on cash on delivery terms, and large customer may cancel their orders in anticipation of not getting deliveries on time (Almeida & Philippon, 2016).

According to Brennan and Schwartz (2014), due to financial distress, managers, stockholders, lenders, and employees are always concerned about their firm's financial health. The job security of managers and employees is not assured should their firms struggle financially. Stockholders' equity position and lenders' claims are also not guaranteed. The government, as a regulator in a competitive market, has concerns about the consequences of financial distress for firms, and it controls capital adequacy through the regulatory capital requirement (Ming, 2016). This shared interest among managers, employees, investors, and the government creates frequent inquiries and recurrent attempts to answer a relentless question about how to determine financial distress, or what reveals the credit risk of firms.

Gruszczynski (2014) also explains that a company under financial distress can incur costs related to the situation, such as more expensive financing, opportunity costs of projects and less productive employees. The firm's cost of borrowing additional capital will usually increase, making it more difficult and expensive to raise the much needed funds. In an effort to satisfy short-term obligations, management might pass on profitable longer-term projects (Altman & Hotchkiss, 2010). Employees of a distressed firm usually

have lower morale and higher stress caused by the increased chance of bankruptcy, which would force them out of their jobs. Such workers can be less productive when under such a burden thus hampering the performance of the affected firm.

In a rejoinder, Adeyemi (2011) explains that during the period of financial distress, the affected company could incur various costs whether directly or indirectly which often affects its ability to generate returns and consequently lead to a reduction in the value of the entity. Directly attributable costs of financial distress relates to costs incurred by the affected firm in the effort to reverse the precarious situation. Examples of these costs include restructuring fees, auditor's remuneration, management compensation and consultancy fees paid to lawyers, among others. On the other hand, indirect costs are costs incurred by the affected firm principally to react to the actions taken by stakeholders of the company such as employees, suppliers, investors and shareholders (Pandey, 2015).

Asquith, Gertner and Scharfstein (2014) as well postulates that when a firm is in a state of financial distress, principal suppliers become less forbearing and may restrict or suspend their suppliers for fear of losing their funds should the firm be liquidated. Financiers or investors in the other hand shy away from providing all the required capital injection to the entity or provide the finds at stringent terms making the already troubled firm unable to turnaround (Memba & Nyanumba, 2013). Consequently, unavailability of required resources such as supplies and finances to acquire more products hampers the operation of such firms. In addition, shareholders may take a drastic measure of investing the little resources left in risky undertakings with the hope that the projects results in positive cash flows reversing the desperate situation and resulting in gains to them. However, if the projects fail, creditors suffer significant losses.

Lau (2017) further observes that managers of a distressed firm are often tempted to misappropriate entity's assets and resources and at the same time become more and more risk averse. The immediate consequence of this situation is that short-term decisions and interests are given attention as opposed to long-term strategies that would sustain the business in the long run (Bender, 2013). As a result, investments in the quality of the products and support through acquisition of the appropriate assets take a back seat. Further, accountability is not enhanced as the focus shifts to management of liquidity to avoid deepening the crisis. Ultimately, the affected firm fails to take advantage of potential investment opportunities that may reserve the distress situation. The state of

financial distress, therefore, leads to weakening of a financial system of the troubled firm and prejudices the rapport between the firm and various stakeholders (Altman, 2013). There is, therefore, a need to constantly review the financial status of the entity and evaluate whether there are indicators of financial distress so that the adverse effects are eliminated before the actual impact is felt thus the essence of this study to establish the determinants of financial distress in selected supermarket chains in Kenya.

1.2 Statement of the Problem

Kenya has experienced its fair share of companies in the service sector which are in financial distress and almost on the verge of collapsing (Kakah, 2015) and Mburu (2014). These include, Kenya Airways, Mumias Sugar, Uchumi Supermarkets, National Bank of Kenya, Imperial bank, and currently Nakumatt Supermarkets which is the giant service provider in the country. To make matters worse, most of these firms that have experienced financial distress have in the recent past with specific reference to Uchumi has closed down some branches in the country thereby rendering many employees jobless. Further, Kenya Airways which is the national carrier airline has had to cope with lay off of CEO, chairman and senior management staff as they attempted restructure both administrative and financial positions, however, the companies is still making losses. This has demonstrated the extent of deep financial distress among the said companies. The question then arises on to whether these financial crises could have been predicted before the actual events.

Numerous studies on financial distress among various companies have been conducted both locally and internationally. Tan (2012) study found that financially distressed firms performed below average and their market values deteriorated during the season of distress. His study, however, was limited to the period of Asian Financial Crisis of 1997 and 1998 hence the need to conduct a current study to establish whether the findings still hold for a developing financial systems. While many studies have been undertaken on the determinants of financial distress (Tan, 2012, Makini, 2015), few have been undertaken to establish the determinants of financial distress among selected listed firms at NSE with specific attention to Kenya Airways and Uchumi Supermarkets.

Additionally, a review of literature reveals that different studies have provided conflicting results. In studies carried out by Umar, Tanveer, Aslam, and Sajid (2012) found that leverage, liquidity, firm size and efficiency respectively have been shown to be negatively

and significantly related to financial distress. On the other hand, studies by Velnampy (2013) postulated a positive effect of leverage, firm size and efficiency and liquidity on financial distress. However, studies undertaken by Pratheepkanth (2011) and Kodongo, Mokoaleli-Mokoteli, and Maina (2014) concluded that liquidity, efficiency, firm growth and profitability have no effect on financial distress. Such contradictions in empirical observation are puzzling and provide a need to carry out an incisive investigation on the determinants of financial distress with specific attention to Kenya Airways and Uchumi Supermarkets. Evidently, none of the studies specifically relates to the determinants of financial distress at Kenya Airways and Uchumi Supermarkets hence a research gap. This study, therefore, intended to answer the question: what are the possible determinants of financial distress at Kenya Airways and Uchumi Supermarkets?

1.3 Purpose of the Study

The purpose of the study was to establish the determinants of financial distress among selected firms listed at Nairobi Securities Exchange: case of Kenya Airways and Uchumi Supermarkets.

1.4 Research Questions

1.4.1 What is the relationship between financial leverage and financial distress at Kenya Airways and Uchumi Supermarkets?

1.4.2 What is the relationship between liquidity and financial distress at Kenya Airways and Uchumi Supermarkets?

1.4.3 What is the relationship between profitability and financial distress at Kenya Airways and Uchumi Supermarkets?

1.5 Significance of the Study

The findings of the study will be significant to the following groups of people;

1.5.1 Financial Practitioners

The findings of the study will sensitize the practitioners involved in making financing decisions by affording them a vital reference point on the need by corporations to determine and maintain optimal financing framework necessary to cushion firms against instances of financial distress. This will not only maximize the shareholders' wealth but will also boost investor confidence in the Kenyan market.

1.5.2 Capital Market Regulator (CMA) and Other Policy Makers

The study findings will also be of assistance to the capital market regulator (CMA) and other policy makers in formulating appropriate mechanisms necessary to continuously monitor and evaluate the financing aspect of corporations. This could be achieved by identifying specific industry-based debt thresholds that would ensure that firms are not unnecessarily exposed to risk of financial failure that results to erosion of investors' wealth.

1.5.3 Banks and Other Financiers

They may benefit from its findings by understanding how financial distress impact on the performance of companies. This is due to the fact that when companies are in difficult financial position, they are quickly confronted with the dilemma of how to inject capital to fund their restructuring and turnaround strategies. The fact that financial boost may not necessarily lift the company from the troubled situation; these companies are aligned to seeking funds from the banks who must consider these risks when financing companies facing financial distress.

1.5.4 The Government of Kenya

The government may benefit from the findings of this study by understanding how financial distress impacts on the financial performance and will be better placed to formulate and implement policies and regulatory frameworks that not only safeguard companies' liquidity but also improve their financial performance in order to enhance economic growth.

1.5.5 Researchers

They may benefit from the findings of this study because it will act as a point of reference for future researchers who may want to develop further on the study or borrow a leaf from the findings to bolster their study on the same topic or in a relevant field.

1.6 Scope of the Study

The study was carried out in Kenya. The aim of the study was to establish the determinants of financial among selected major supermarket chains in Kenya. With respect to variable scope the study utilized three variables such as financial leverage, liquidity and profitability. The variables were chosen because past studies have arrived at

conflicting results with respect to how they determine financial distress. The study gathered secondary data from the published financial reports of Kenya Airways and Uchumi Supermarkets for a period of five years (2013 to 2017). The five-year period was considered adequate in establishing the existing relationships between leverage, liquidity, profitability (independent variables) and financial distress (dependent variable). The period is also considered appropriate due to the simple reason that it contains more recent information as far as financial distress at Kenya Airways is concerned. The fact that the study used quantitative data (Numerical), therefore, limited the ability to make generalizations of the population as the case of probability sampling.

1.7 Definition of Terms

1.7.1 Financial Distress

Financial distress is a condition where a given firm cannot meet its financial obligations, or has difficulty paying off its financial responsibilities to its creditors as a result of high fixed costs, illiquid assets or revenues related to economic decline (Gruszczynski, 2014).

1.7.2 Financial leverage

It can be defined as the acquisition of assets by a firm with the funds provided by creditors and preferred stockholders for the benefit of common stockholders (Adeyemi, 2011).

1.7.3 Liquidity

This can be described as the degree to which an asset can be quickly bought and or sold in the market to potential buyers or sellers without affecting the asset's price (Baker, 2013).

1.7.4 Profitability

Profitability can be defined as the state or condition of a firm to yield a financial gain (Betker, 2017).

1.8 Chapter Summary

The chapter presented background of the study, statement of the problem, purpose of the study, research questions, significance of the study, scope and definition of terms as well as the chapter summary.

The section has justified the need for the current study and identified research objectives that guided the entire research. The next section is chapter two which addresses literature review followed by chapter three which presents research methodology while chapter four focuses on results and findings. The last section which is chapter five consists of discussions, conclusions and recommendations.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The chapter presents the literature review. It begins with review of the relationship between financial leverage and financial distress; this is followed by presenting the relationship between liquidity and financial distress. The final research objective on the relationship between profitability and financial distress was also highlighted. Finally the chapter addresses the chapter summary.

2.2 Financial Leverage and Financial Distress

Leverage is the firm's ability to buy assets using borrowed funds with believes that income generated from that asset will be more than the cost of borrowing. In this case, the risk of borrowing cost is presumed to be larger than income generated from the asset leading to losses in the long run. During recession firms borrow more funds in order to pay off debts as they mature. Such firms with high leverage are likely to end up with potential risk of bankruptcy (Khalid, 2012). According to Shim & Siegel (2007), leverage is that part of the fixed cost which represents a risk to the firm; it could be operating leverage or financial leverage. The leverage decision depends on the allocation between debt and equity in financing the firm. An "unlevered" firm uses all equity for financing, while a highly levered firm employs more debt to equity financing.

Kumar (2008) postulates that the guiding principle of leverage it to choose the course of action that maximizes the firm's value. Betker (2017) in his study observed that a firm with low leverage today has the subsequent option to increase leverage so as to strengthen its financial muscles in the market and ultimately reduce the chances of being financially distressed. Under their assumptions, the option to increase leverage in the future serves to reduce the otherwise optimal level of leverage today.

In a study aimed at investigating the impact of debt financing on financial distress of firms listed in Palestine stocks exchange, Abu-Rub (2012) used a sample of 28 firms over the five years period (2006 – 2010). In the study, total debt to total assets and total debt to total equity were used as proxies of financial leverage while return on equity represented corporate financial distress. The results showed that debt financing had a positive and significant effect on ROE. The author argued that companies that employed debt to finance their operations benefited from interest-tax savings that helped in building up

more reserves for shareholders. This finding agreed with those by Baker (2013) who found a positive and significant relationship between use of debt and return on assets of industries in Bangladesh and Turkey respectively. The effect of the finding was that increasing use of debt in the companies resulted in significant increase in productivity of the firms' assets.

In another study, Pratheepkanth (2011) studied the 210 Sri-Lankan firms listed in the Colombo stock exchange with a view of establishing how leverage affected financial distress of the firms. The study spanned over the five years period 2005 – 2009. In undertaking the study, leverage was measured by debt-equity ratio and total debt-total capital ratio while gross profit and net profit margins were adopted as measures of financial distress. The study found a negative but weak (insignificant) relationship between the key study parameters. The implication of the finding was that increasing debt use reduced the firms' level of productivity but to a lesser extent. The research result was in consonance with that by Perinpanathan (2014) whose study of John Keells Holdings plc. (Sri Lanka's largest listed firm) during the seven year period 2006-2012 concluded that debt financing had a negative but insignificant impact on the firm's profitability as represented by EBIT to Total assets ratio. These findings were however at variance with those by Yat, Ping, and Chi (2012) who observed that financial leverage had a positive effect on financial distress of firms in the property and construction sectors in Hong Kong as measured by ROE.

Khalid (2012) further employed the firm's dividend record as a criterion of its effectiveness in successfully pursuing its own target financial leverage and an indicative of its underlying earnings' stability in the face of business fluctuations. The study covered a period of 7 years and used multiple regressions. Since financial risk is the risk associated with fixed costs such as debt and preference stock, financial leverage, therefore, is a measure of financial risk, or in other words, a firm's financial risk reflects its financial leverage. The study deduced that financial leverage has inverse relationship with financial distress and the risks associated with the underperformance of companies.

Mahama (2015) assessed the state of financial distress through the application of Altman's Z-score 10 entities listed at the Ghana Stocks Exchange for the period between 2007 and 2013. He noted signs of financial trouble as; company not timely paying creditors; company being sued in collection matters; company suffering a significant

event that is not deemed to recur; company's bank or secured lender threatening to shut down business operations; a union threatening some type of action against the company; a major supplier threatening to terminate services to the company; company not being able to perform its contracts on time or cannot perform at all; liabilities of the company being greater than its assets; and company's business model no longer being viable. Upon carrying out a further analysis by use of correlation, the study found that financial as measured by total debt as divided by total assets had positive but statistical relationship with the financial distress companies listed at Ghana Stocks Exchange for the period between 2007 and 2013.

In another study, Gupta et al. (2014) investigated the effect of financial leverage on financial distress of the 100 firms listed in the Indian National Stocks Exchange over the 5 years period (2006 – 2010). Both the market and book value of debt and equity were adopted as proxies of leverage, while financial distress was measured by return on asset (ROA). The author observed that financial distress was negatively and significantly correlated with debt financing but positively and significantly related with equity capital. The implication of the result was that the highly geared companies exhibited declining financial distress while firms with high levels of equity were more financially sound.

The above findings by Gupta et al. (2014) mirrored the result by Krishnan and Moyer (2017) whose study showed a negative and significant impact of total debt on return equity (ROE) among the 81 Asian corporations studied. However, the findings differed with that by Akhtar et al. (2012) whose similar study on firms in the energy and fuel sectors listed in Karachi Stocks Exchange, Pakistan showed that there was a positive relationship between financial leverage and financial performance, corporate growth and firm size.

Jostova and Philipov (2005) indicate that the leverage of the firm is an important determinant of its equity risk since senior securities have priority over common stock in the distribution of the firm's income as well as in the distribution of its assets in case of bankruptcy. The larger the debt in the firm's capital structure, the higher is the risk of default, and the lower is the valuation of its equity. Omar and Simon (2011) in their study of Corporate Aggregate Disclosures Practices in Jordan used leverage as a determinant of the level of financial risk and disclosures by applying the agency theory. The study found

that financial leverage has statistical positive relationship with level of financial risks a company is faced with.

Tan (2012) conducted a study on financial leverage and financial distress with a focus on the Asian Financial Crisis of 1997-1998. His sample comprised of 277 entities and noted that the crisis had caused an exogenous shock, which changed the focus of management from dealing with internal issues such as financial performance and leverage. The study reaffirmed the findings by other researchers that high financial leverage contributed to a great extent the decline in the value of the firms. It was clear from the findings of his study that entities with low financial leverage outperformed those with high financial leverage and they were better placed to withstand external shocks vis-à-vis financial distress.

Umar et al. (2012) on the other hand undertook a study on 100 firms consecutively listed in the Karachi Securities exchange during the period 2006 – 2009. The study used total debt to total equity as well as total liabilities to total assets ratios as proxies of leverage while EBIT, Net profit margin and EPS represented financial distress. The study found that all the proxies of leverage had a significant and negative impact on profitability measure of financial distress. This findings mirror that by Xin (2014) who found a significant negative relationship between financial leverage (debt equity ratio) and growth in earnings per share (EPS) among the Vietnamese firms.

Mwangi et al. (2014) undertook a study to identify the relationship between financial leverage and profitability of the 42 non-financial firms quoted at the NSE over the period 2006 – 2012. Financial leverage was measured by current assets to total assets ratio and total debt to total capital ratio while profitability was observed through both ROA and ROE. The study found a statistically significant negative association between the two study variables with the implication that increased debt use lowered the firm's profitability as measured by ROA and ROE. This finding is in agreement with those by Zeitun and Tian (2014) and Maina and Ishmail (2014) who showed a negative and significant relationship between debt and profitability among the Jordanian and Kenyan listed firms. The findings however differ with that by Kiogora (2000) whose study showed a positive relationship between financial leverage and financial distress as represented by ROE among the Kenyan listed firms.

Kodongo et al. (2014) undertook a study that sought to find out the effect of financial leverage on firm value of firms listed in Nairobi securities exchange, Kenya. The study that covered the period 2002 – 2011 adopted debt equity ratio, total debt to total assets ratio and long-term debt to equity ratio as proxies of leverage while Tobin's Q ratio was used to measure the firm value. Upon controlling for the Gross Domestic Product (GDP) growth, firm size, tangibility and growth in sales, the study found that financial leverage had no effect on the Tobin's Q. This finding was in agreement with the pioneering capital structure irrelevance hypothesis postulated by Modigliani and Miller (2015) but differed with that by (Zeitun and Tian, 2014) whose similar study of 167 Jordanian companies during the period 1989–2003 showed a significant negative relationship between debt ratios (leverage) and Tobin's Q.

2.3 Liquidity and Financial Distress

Liquidity determines the ability of an organization to take immediate advantage of profitable investments. An organization that is adequately funded is better placed to negotiate for better terms of trade as most suppliers would want to deal with it. Funding, therefore, is a prerequisite for success of organizations especially in a highly competitive market. Dang (2011) through an empirical analysis of financial distress, risks, financial performance and firm investment noted that adequate level of funding and liquidity was positively correlated to financial stability and improved financial performance. He concluded that high liquidity is advantageous to the organization's level of investment and improves the organization's growth opportunities and consequently reduced financial distress.

Liquid assets can be converted into cash quickly and cheaply Brealey, Leland, and Pyle (2014). The liquidity of a firm is measured by its ability to satisfy its short-term obligations as they come due. Liquidity refers to the solvency of the firm's overall financial position the ease with which it can pay its bills. Because a common precursor to financial distress and bankruptcy is low or declining liquidity, these ratios are viewed as good leading indicators of cash flow problems (Gitman, 2013). The most common ratios for measuring liquidity according to Dang (2011) are quick ratio (current assets to current liabilities) and total assets to total liabilities. In this study, we focused on these ratios among others.

Empirical studies have provided evidence that some of the factors that determine financial distress are liquidity, firms' growth, market value, profitability, cash flow and leverage among other determinants. Despite the many determinants of financial distress that exists, the study at hand will utilize liquidity, leverage and profitability as the factors that will guide the study.

Zulkarnain (2015) study to formulate a model that predicts corporate financial distress and apply the model to trace the potential failure Malaysian financially distressed firms due to the Asian Crisis in 1997. The data has been evaluated by Z score with a new model: Distress-Grey area distress Grey area non distress. He found 5 out that financial ratios significant to discriminate distress and non distress are total liabilities to total assets, assets turnover, inventory to total assets, sales to inventory, cash to total assets. The author concluded that firm liquidity is inversely proportionate to financial distress. Said and Tumin (2010) however find no relationship between liquidity and financial distress amongst Chinese and Malaysian banks.

The dependence of the risk of default on the change in liquidity can be illustrated by the results of an empirical investigation of firm longevity by Turetsky and McEwen (2011). They examine the factors influencing the shift from the upper to the lower level of the downward spiral. Results show that the volatile decrease in cash flows from positive to negative has an enormous impact on subsequent default: a one-unit increase in liquidity measured by the current ratio reduces the risk of default by approximately 47%. The study therefore suggested that an increase in liquidity leads to a decrease in financial distress. This, therefore, calls for conception of mechanisms relating to liquidity that could help in the stabilization of financial performance.

Rayan (2010) conducted a 10-year longitudinal study of 113 firms listed in the Johannesburg Stocks Exchange, South Africa with a view to determine the relationship between financial liquidity and firm distress and firm value. The debt-equity ratio was used as a construct for financial liquidity while ROE, ROA, EPS, P/E ratio and EVA were used to proxy firm value. The study found a negative correlation between use of debt in relation to equity and all measures of firm value; with the result that increased liquidity decreased the financial distress among the Southern African firms. He attributed this positive relationship to excessive use of liquidity financing by firms in a bid to benefit from tax shields.

Pasaribu (2008) conducted a study that aimed at establishing the characteristics of financially distressed entities listed at the Jakarta Stock Exchange. His study focused on the entities listed in the trading segment of the Exchange. The empirical results of his study showed that companies that were characterized by a lack of economic value-add, illiquidity, low efficiencies at the operating level as well as high level of debt had a high probability of being financially distressed. He concluded that though there were many possible contributors of financial distress in an organization, liquidity was a key indicator.

Anggraini (2014) conducted a study to establish an appropriate financial distress prediction model for Indonesian companies with the added variable of corporate governance. The research involved 42 companies, which were consistently in the performance index for Stock Exchange in Indonesia within 3 years (2011-2013) period. The estimation model used was panel data regression, with Fixed Effect Method approach. He concluded that while managerial ownership had an inconsequential effect on financial distress, institutional ownership had a substantial effect on the ability of the entity to withstand financial distress. Liquidity as a moderating variable had no significant influence towards the financial distress of the financial institutions studied.

Pranowo et al. (2014) on their research identified the weakness on following are causes of financial distress for the firm, current ratio, efficiency and equity are statistically significant and have positive influence on the financial distress, whereas liquidity has significant but negative influence to financial distress. The result also indicates that the dummy good corporate governance has no significant impact on the debt service coverage. However, upon subjection to advanced analysis, the study established that liquidity linearly correlates with financial distress in an organization.

In a study of firms in the U.S banking industry, Berger and Di Patti (2006) examined the dualistic relationship between liquidity and firm distress. They used a parametric measure of profit efficiency as an indicator of the agency costs. The study found that higher debt levels were associated with better firm distress. Margaritis and Psillaki (2007) considered a similar relationship for a sample of New Zealand small and medium sized enterprises (SMEs) using distance functions as a measure of firm performance. The study also found that liquidity firms have higher financial performance.

Outecheva (2017) made an empirical research to public companies in USA which are under financial distress. The empirical result developed an integral concept of financial

distress which can be used as a theoretical basis for developing more complex and sophisticated models. The researcher generally classified two important factors: First, financial distress implies that the value of a firm's equity in such situation lies below the value of debt due to underfunding. He revealed that the firm does not have enough coverage to borrow additional debt through the bank. Second, percentage of firms recovered from financial distress varies from 10% to 34% dependent on the sample selection length of time series and economic condition. The study concluded that liquidity has linear positive relationship with financial distress among USA firms.

Taliani (2012) study used liquidity measures such as net working capital, current ratio, quick ratio to predict financial distress. The independent variables used were; turn over ratios, activity ratios, profitability and leverage ratio. The study revealed the ability of financial ratios in determining the firm going concern. The study used secondary data obtained from the banks' financial statements. The study used a discriminant model and incorporated all the above ratios. The study revealed that, none of activity and turn over ratios was critical in predicting financial distress in commercial banks in Kenya. However, the study differed with those of Altman (2013) who concluded that profitability and efficiency ratios were most crucial and that liquidity ratios were not significant. The study however relied on financial ratios only ignoring other factors.

Kipruto (2013) adopted the Multivariate Discriminant Analysis (MDA) statistical technique as used by Altman. He was concerned with testing the validity of Altman's model for predicting financial distress in Uchumi supermarkets. He found out that the model was a good predictor of financial distress. The company recorded 21 declining Z score values indicating that it was experiencing financial distress and hence the reason for its delisting from the NSE in 2006. The study further concluded that liquidity which he measured using current asset as divided by current liability was positively and statistically significantly related to the witnessed financial distress in Uchumi supermarkets. Hence an increase in financial leverage could result to reduction in financial distress.

Mohamed (2013) conducted a study that aimed at predicting bankruptcy of entities listed at the NSE using Altman's Z-score model on a sample of nine successful firms and seven failed firms. By use of regression analysis, the study found that current assets and liabilities appropriately predicated whether a firm is in financial distress or not as such the variable was found to be positively linked to financial distress. She noted that though the

model is ideal for predicting financial distress and has been widely used in different markets, it wrongly classified 25.7% of the observed firms as safe even though they were delisted from NSE. Her study shows that the model should be used with caution and a multi-discriminant analysis model should be used as it incorporates other variables and hence can yield a higher predictive accuracy.

Further, Warutere (2013) conducted a study on the applicability of logistic regression in financial distress prediction in Nairobi security exchange. The study was conducted on sixteen companies between the ranges 1997-2011. The findings revealed that Logit regression was successful in prediction of business failure one year before it occurred. The study relied on secondary data obtained from CMA and Nairobi Securities Exchange (NSE). The study used financial ratios in financial distress prediction. The study financial ratios used were quick ratio and current ratio as independent variables. The study found that both variables were significantly and positively related to financial distress.

Memba and Job (2013) in their study on causes of financial distress in firms financed by ICDC Kenya established that financial distress was largely caused exogenous factors. They identified a number of these factors, the key ones such as firm size, earnings and liquidity. Other factors included endogenous factors such as improper use of resources, inappropriate capital structure, and difficulties in accessing affordable credit, shortage of capital and poor human resources policies and practices leading to unwarranted legal battles. In conclusion the study found out that liquidity had the most impact on the financial distress in the firms financed by ICDC Kenya. Their findings were in tandem with the findings of Tan (2012) on financial distress of companies in Asia.

2.4 Profitability and Financial Distress

Financial distress plays a significant role in a firm's profitability through the influence of cost implications, such as administrative and legal costs associated with the bankruptcy process such as direct financial distress costs or increased costs of debt like indirect financial distress costs (Betker, 2017). Therefore profitability can be termed as the ratio of gross profit to total sales, this indicate how large the ratio of gross profit to sales generated by operating activities in order to cover the company's debt and other fixed charges (Beaver, 2016). The firm's profitability ratios are used to measure the firm's return on its investments. The research conducted on financially distressed firm suggests taking actions of adjusting the business to increase profitability (Chang-e, 2016). There

were some researchers such as Hotchkiss (2015) who explored the achievement of bankrupt reorganization firms in US of America and focus on profitability.

Salehi and Abedini (2009) investigate the relationship between profitability and financial distress prediction of listed companies on Tehran Stock Exchange (TES). For this reason, they use the multiple regressions as the model. Valuation models made using the data from the two groups. The first group consists of 30 companies which do not have any financial difficulties, and for the second group, likewise, contain of 30 companies facing the financial difficulties. Their study find that profitability has negative significant relationship with financial distressed.

Geng, Bose and Chen (2013) studies the prediction of financial distress for 107 Chinese companies that received the label 'special treatment' from 2001 to 2008 by the Shanghai Stock Exchange and the Shenzhen Stock Exchange. They use data mining techniques to build financial distress warning models based on 31 financial indicators and using three different time windows by comparing these 107 firms to a control group of firms. The results find an important role of profitability in predicting financial distress.

Kahl (2011) has also examined the role of financial distress as a selection mechanism. He challenges the question of whether financial distress efficiently selects between troubled companies which should be liquidated and the firms which should survive as independent entities. Results of his research show that the poor operating performance of economically weak companies is not tolerated for long by the market. The regression results further found that return on asset and return on equity as indicators for profitability positively relates with financial distress. This therefore meant that an increase in firm profitability could lead to reduction in financial distress in an organization.

Forsaith and McMahon (2012) conducted a study of 871 Australian manufacturing SMEs aimed at identifying the manner in which different sources of return on equity finance influenced their growth levels over the five year period 1994 - 1998. Internal equity was proxied by the ratio of retained earnings to total assets while issued share capital to total capital represented external equity. Growth level was measured by year-on year growth in turn-over. After controlling for firm size and GDP growth, the regression results showed significant positive coefficient on internal return equity variable while the coefficient for external equity was significant and negative at 10% significance level. The findings showed that while internal equity increased the profitability, external equity was not

favorable to the firms. The results were consistent with those by Cosh and Hughes (2014) whose study of 217 UK firms over the period 2010 – 2013 depicted use of internal equity as profitable to the firms.

Sabato and Altman (2005) developed a distress prediction model specifically for the SME sector and to analyze its effectiveness compared to a generic corporate model in the US. The behavior of financial measures for SMEs was analyzed and the most significant variables in predicting the entities' credit worthiness were selected in order to construct a default prediction model. Using a logit regression technique on panel data of over 2,000 US firms (with sales less than \$65 million) over the period 1994-2002, they developed a one-year default prediction model. This model had an out-of-sample prediction power which is almost 30 percent higher than a generic corporate model. An associated objective was to observe the model's ability to lower bank capital requirements considering the new Basel Capital Accord's rules for SMEs. The study found that return on asset, return on equity and other financial ratios determined the financial distress of the SMEs. However, return on asset and return on equity were found to have negative association with financial distress while the financial ratios were found to have positive relationship with financial distress.

Szilagy, Hilsche, and Campbell (2010) study aim to examine the factors that determine individual and corporate financial problem of public companies listed on the Kamakura Risk Information Services (KRIS). They use logit model as the method. The result is similar with some previous researchers which find that profitability has a negatively significant relationship with financial difficulties.

Taliani (2012) study used financial ratios to predict financial distress. The independent variables used were; turn over ratios, activity ratios, profitability (ROA and ROE). The study revealed the ability of financial ratios in determining the firm going concern. The study used secondary data obtained from the banks' financial statements. The study used a discriminant model and incorporated all the above ratios. The study revealed that, none of activity and turn over ratios was critical in predicting financial distress in commercial banks in Kenya. However, the study differed with those of Altman (1968) who concluded that profitability and efficiency ratios were most crucial and that liquidity ratios were not significant. The study however relied on financial ratios only ignoring other factors.

Jiming and Weiwei (2011) carried out a study focusing on 50 manufacturing firms listed in China stock market during 2005-2007. The study incorporated financial and non-financial variables and used Logit regression model. The independent variables used were; profitability operating capacity, cash-flow indicators, ownership concentration and board characteristics. The findings revealed that, the model with non-financial indicators proved to be more reliable in financial distress prediction and the timeliness and long-run validity of the mix model was much better in comparison with the model with only financial indicators. The study significantly found that profitability as measured by ROE positively associates with financial distress. However, the study ignored the macro-economic variables which contribute significantly, specifically during business cycle period.

In a study on assessing corporate financial distress in South Africa, Bothwell (2010) investigated to develop a model for bankruptcy prediction. The study used simple random sampling design and used multiple discriminant model methodology. The study used 28 companies and grouped 64 ratios, classifying firms into failed and non-failed firms. The independent variables used were ROA, ROI and ROE. The findings revealed that the model correctly classified about 75% of failed and non-failed firms. The study found all the indicators of profitability contributed negatively to financial performance.

Cuong (2014) undertook a study aimed at assessing how debt maturity terms and profitability influenced financial distress in the Seafoods manufacturing enterprises listed in the Vietnamese Stocks Exchange. The study used 552 observations from the sampled 92 firms during the period 2005-2010. In the study, non-current liabilities to total assets ratio was used to proxy long term borrowing and ROE represented the profitability measure. Upon controlling for firm size (\ln total assets) and firm growth ($\text{total revenue} - \text{total revenue } t-1 / \text{total revenue } t-1$), they used the panel threshold regression model to test for relationship between the variables. The study revealed that a multiple-threshold effect existed between long term debt ratio and profitability and that the two variables had long term relationship with financial distress. Specifically, the study found that firms with more than 59.27% debt exhibited a significant positive relationship between the two variables while firms with less than 59.27% of long term debt demonstrated a significant inverse relationship. The implication of the study was that debt maturity had a nonlinear relationship with profitability represented by a convex Parabola whereas both had linear relationship with financial distress.

In a study conducted to test financial distress prediction and profitability in the mobile Telkom industry in Ghana, Kpodoh (2010) used Z score bankruptcy prediction model. The study used qualitative and quantitative data (modified single case design) which was collected using questionnaires issued using survey method. Secondary data was obtained from financial statements. The findings revealed the strength of Z score in bankruptcy prediction. It also confirmed the correlation between profitability and corporate failure. The study however concludes that an increase in the profitability of the studied firms led to reduced financial distress of the firms.

Samira (2012) investigated on listed companies in Nairobi security exchange from 1996 to 2012. The study tested the utility of statistical technique majorly multiple discriminant analysis (MDA) in bankruptcy prediction on these listed firms. The firm used profitability ratios to determine bankruptcy levels. The study used descriptive research designs and relied on secondary data. The finding from the study revealed the accuracy of the Z score multi discriminant financial analysis model in bankruptcy prediction of non-manufacturing firms. This study was only limited to profitability ratios excluding other non-financial variables which also contribute to financial distress.

However, in their study, Maina and Ishmail (2014) study found that the asset tangibility is negatively related to financial distress of the firm. By using ROA as a measure of corporate profitability, the authors argued that highly tangible firms naturally have more collateral at their disposal. The high collateral makes the firms attractive to the financial institutions and subsequently increases their appetite for debt. The authors stated that this tendency to over-borrow exposes the firm to higher risks of financial distress and subsequent failure. The finding concurs with that by Sciascia and Mazzola (2013) whose study of 317 Italian firms revealed that firms with high proportions of external equity performed better in terms of profitability and hence stock returns as compared to internally funded firms. He attributed this trend to improvement in governance and discipline among managers.

2.5 Chapter Summary

The chapter presented the review of literature as per research questions based on the three variables; financial leverage, liquidity and profitability. The subsequent chapter three presents research methodologies that guided the entire study.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that the researcher employed in this study. It also entails in it the research design, the population, data collection methods, research procedures and data analysis methods that were used.

3.2 Research Design

A research design is appropriate in research because it provides an opportunity for the researcher to hypothetically relate variables of the study with existing theories to make deductive reasoning concerning the problem under investigation. The study utilized descriptive research method. According to De Vaus (2013), a descriptive research is used to obtain information concerning the current status of the phenomena to describe what exists with respect to variables under study. The descriptive research design was applicable to the current study because it enabled an investigation in which quantity data was collected and analyzed in order to describe the specific phenomenon in its current trends, current events and linkages between different factors at the current time. It also helped in describing the state of affairs of the problem under investigation and the relationship between the variables.

3.3 Population and Sampling Design

The target population of this study involved all the two financially distressed companies listed at NSE in Kenya. These included: Kenya Airways and Uchumi Supermarkets. The study covered a five-year period, 2013 to 2017.

3.4 Data Collection Methods

The study used secondary data. The secondary data involved use of quantitative data that had been previously collected by other people for a different purpose. The secondary was obtained through financial statements and statistics of the selected companies for a period of five years, 2013 to 2017. Financial leverage was computed by dividing total debt by total assets. Liquidity was computed by dividing current assets by current liabilities. Profitability was measured by return on equity which was achieved by dividing net profits by the shareholders' average equity whereas firm size which was used as control variables

was computed by natural log of total assets and financial distress was computed by Altman Z score.

3.5 Research Procedures

The secondary data was extracted from annual financial reports of the two listed commercial and services firms in Kenya for the period of five years from 2013 to 2017. The financial reports were obtained from the Nairobi Securities Exchange, firms' publications and websites. The study found that the end result information detailing determinants of financial distress among listed companies was achieved. Financial leverage was computed by dividing total debt by total assets. Liquidity was computed by dividing current assets by current liabilities. Profitability was measured by return on equity which was achieved by dividing net profits by the shareholders' average equity whereas firm size which was used as control variables was computed by natural log of total assets and financial distress was computed by Altman Z score.

3.6 Data Analysis Methods

The collected was analyzed in five steps. Step one involved compiling data. Step two entailed computation of ratios, averages and standard deviations described under data collection stage. The study used SPSS (Version 21) for data analysis. Descriptive data analysis techniques were used to present the data. This involved descriptive tools such as means, maximum, minimum and standard deviation. Step three involved running the regression model. Step four involved testing the significance of the relationship between variables in the model by use correlation analysis. In step five, the regression model actual results of the parameters was compared with the theoretical prediction model and this was concluded by interpretation and discussion of the findings.

3.6.1 Descriptive Analysis

Descriptive statistics are ways of summarizing large sets of numerical information to give relevant meaning to data (Babbie, Halley, Wagner and Zaino, 2012). The study, therefore, used descriptive statistics to analyze quantitative data in the format of tables. The descriptive statistics consisted of mean, frequencies, minimum, maximum and standard deviation to enhance presentation and interpretation.

3.6.2 Correlation Analysis

Pearson's product moment correlation tests were chosen because it assessed whether there was association between independent and dependent variables. Pearson correlation was preferred for the study since it identified the relationship between two variables, in this case it helped to reveal the associational statistical significance level between the variables under study (Hox & Boeije, 2015).

The formulae for Pearson product moment correlation took the form of;

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}}$$

Where:

- N = number of pairs of scores
- $\sum xy$ = sum of the products of paired scores
- $\sum x$ = sum of x scores
- $\sum y$ = sum of y scores
- $\sum x^2$ = sum of squared x scores
- $\sum y^2$ = sum of squared y scores

3.6.3 Multiple Regression Analysis

Multiple linear regression model analysis was used to estimate the relationship between dependent and independent variables of all the 2 listed firms in Kenya. The regression was chosen due to the fact that it has the ability to determine the relative influence of one or more predictor variables to the criterion value (Cooper and Schindler, 2016). The functional form of regression model is given as follows:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e_i$$

Where:

- Y – Financial distress (Altman Z score)
- α_0 – Is the constant
- X_1 – Financial leverage
- X_2 – Liquidity
- X_3 – Profitability

X_4	–	Firm size
$\beta_1, \beta_2, \beta_3 \& \beta_4$	–	Coefficients'
e_i	–	Is the residual error term

3.6.4 Altman's Z score for Emerging Markets

According to Altman Z Score model, the lower the score, the higher the odds are that a company is headed for bankruptcy. A Z-score of lower than 1.8, in particular indicates that the company is heading for bankruptcy. Companies with scores above 3 are unlikely to enter financial distress. Scores in between 1.8 and 3 lie in a gray area (Altman, 2013). Here is the formula which is built out of the four weighted financial ratios;

Z-Score financial distress model (emerging markets), therefore, took the form of;

$$Z = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

Where:

Z-Score = Financial distress index (emerging market score),

X_1 = Financial Leverage

X_2 = Liquidity

X_3 = Profitability

X_4 = Firm size

$Z > 3.0$ -Safe zone

$1.8 < Z < 3.0$ -Grey zone

$Z < 1.8$ –Distress zone

3.7 Chapter Summary

The chapter has basically presented the research designs, target population, Data Collection Methods and Research Procedures. The chapter also covers data analysis procedures that were used in the study. The next chapter presents study findings in as far as research objectives are concerned.

CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the data analysis and interpretation as per research findings. The results and findings based on descriptive analysis were presented firstly. The chapter then presents results and findings from correlation analysis and this is followed by multiple regression results. The study finally presented results and findings for the Altman Z score for the two companies for a period of five years, 2013-2017. The results are presented in line with the research questions.

4.2 Descriptive Statistics for Kenya Airways

The study was interested in obtaining data about the financial leverage, liquidity, profitability, and firm size of for Kenya Airways for a period of five (5) years. The obtained data was analyzed using descriptive statistics and the results are as shown in Table 4.1.

The results in table 4.1 indicate that Kenya Airways had an average financial leverage of 0.7628 with a standard deviation of 0.0370061 and a range of minimum 0.1102 to a maximum of 0.9225 financial leverages. It is also evident that the Kenya Airways had average liquidity of 1.8324 in a year with a standard deviation of 0.5171100 and a minimum range of 0.2204 to a maximum range of 1.0901. The study also found that the firm had average profitability of 0.5478, a standard deviation of 0.2230081 and a minimum range of 0.0395 to a maximum of 1.5487. The study finally established that firm size averaged at 11.1078 with a standard deviation of 6.210691 having a minimum range of 1.6711 to a maximum of 18.035.

Table 4.1: Descriptive Statistics for Kenya Airways

	N	Minimum	Maximum	Mean	Std. Deviation
Leverage	5	.1102	.9225	.7628	.0370061
Liquidity	5	.2204	1.0901	1.8324	.5171100
Profitability	5	.0395	1.5721	.5487	.2230081
Firm size	5	1.6711	18.0348	11.1078	6.210691
Valid N (listwise)	5				

4.3 Descriptive Statistics for Uchumi Company Ltd

The results in table 4.2 indicate Uchumi had an average financial leverage of 0.363 with a standard deviation of 0.136 and a range of minimum 0.180 to a maximum of 0.523 financial leverages. It is also evident that Uchumi had average liquidity of 1.220 in a year with a standard deviation of 0.677 and a minimum range of 0.490 to a maximum range of 1.998. The study also found that the firm had average profitability of 0.247, a standard deviation of 0.213 and a minimum range of 0.030 to a maximum of 0.572 years' experience. The study finally established that firm size averaged at 10.864 with a standard deviation of 7.566 having a minimum range of 1.491 to a maximum of 18.035.

Table 4.2: Descriptive Statistics for Uchumi Company Ltd

	N	Minimum	Maximum	Mean	Std. Deviation
Leverage	5	.1802	.5226	.362944	.1359860
Liquidity	5	.4904	1.9981	1.219924	.6770099
Profitability	5	.0295	.5721	.246767	.2130084
Firm size	5	1.4911	18.0348	10.864162	7.5656095
Valid N (listwise)	5				

4.4 Correlation Analysis for Kenya Airways

Table 4.3 below presents the results of correlation analysis method. Correlation is a statistical measure that indicates the extent to which two or more variables fluctuate together. A positive correlation indicates the extent to which those variables increase or decrease in parallel; a negative correlation indicates the extent to which one variable increases as the other decreases.

The correlation results in table 4.3 above indicate that financial leverage is positively correlated to liquidity at 0.561 and statistically insignificant at 0.325. The study indicates that financial leverage is negatively correlated to profitability with Pearson of -.033 with a positive statistical insignificance level of 0.958. Again, financial leverage was found to be negatively correlated to firm size with a Pearson of -.718 and also insignificant to each other at 0.172. However, the study found that financial leverage was positively related to financial as measured by Altman Z score with a Pearson correlation of 0.736 and statistically significant at 0.015. These findings are supported by another study by

Kiogora (2000) whose study showed a positive relationship between financial leverage and financial distress as represented by ROE among the Kenyan listed firms.

Regarding the relationship between liquidity and other variables, the study found that it is negatively correlated to profitability with a Pearson of $-.481$ and statistically significant to each other at $.412$. It was also found that liquidity is negatively correlated to firm size with a Pearson of $-.951^*$ and but statistically significant to each other at 0.013 . This was an indication that correlation is significant at the 0.05 level of confidence. The same variable was found to be correlated to financial distress as measured by Altman Z score with a Pearson of $.940^*$ and statistically significant to one another at 0.017 . This therefore implies that that correlation is significant at the 0.05 level of confidence. These findings are in support of another by Outecheva (2017) who found that liquidity has linear positive relationship with financial distress among USA firms.

The study established that profitability is correlated to firm size with a Pearson correlation of $.399$ and also statistically insignificant to each other at 0.506 . Profitability was also found to be correlated to financial distress (measured by Altman Z score) with a Pearson of $.383$ and statistically significant at 0.024 . The findings are in line with another study by Jiming and Weiwei (2011) who found that profitability as measured by ROE positively associates with financial distress.

Again the findings in the correlation table show that firm size is correlated to financial distress with a Pearson of 0.991^{**} and statistically significant at a 0.000 which means correlation is significant at the 0.01 level of confidence. From the findings it can be said that all the variables; financial leverage, liquidity, profitability and firm size are linearly correlated to financial distress (indicated by Altman Z score) and also statistically significant to the dependent variable.

Table 4.3: Correlations for Kenya Airways

		Leverage	Liquidity	Profitability	Firm size	Distress (Altman Z score)
Leverage	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	5				
Liquidity	Pearson Correlation	.561	1			
	Sig. (2-tailed)	.325				
	N	5	5			
Profitability	Pearson Correlation	-.033	-.481	1		
	Sig. (2-tailed)	.958	.412			
	N	5	5	5		
Firm size	Pearson Correlation	-.718	-.951*	.399	1	
	Sig. (2-tailed)	.172	.013	.506		
	N	5	5	5	5	
Distress	Pearson Correlation	.736	.940*	.383	.991**	1
	Sig. (2-tailed)	.015	.017	.024	.000	
	N	5	5	5	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.5 Correlation Analysis for Uchumi Company Limited

The correlation results in table 4.4 above indicate that financial leverage is positively correlated to liquidity at 0.962 and statistically significant at a 0.002 level of confidence. The study indicates that financial leverage is also positively correlated to profitability with Pearson of 0.953 with a positive statistical significance level of 0.004. Again, financial leverage was found to be positively correlated to firm size with a Pearson of 0.899 and also positively and statistically significant to each other at 0.001. The above results means that as the value of one variable increases the value of the other variable decreases.

However, the study found that financial leverage was positively related to financial distress as measured by Altman Z score with a Pearson correlation of 0.912 and statistically significant at 0.003. These findings are supported by another study by Kiogora (2000) whose study showed a positive relationship between financial leverage and financial distress as represented by ROE among the Kenyan listed firms.

Regarding the relationship between liquidity and other variables, the study found that it is correlated to profitability with a Pearson of 0.952 and statistically significant to each other at 0.000. It was also found that liquidity is correlated to firm size with a Pearson of 0.960 and also statistically significant to each other at 0.007. This was an indication that correlation is significant at the 0.01 level of confidence.

The same variable was found to be correlated to financial distress as measured by Altman Z score with a Pearson of 0.969 and statistically significant to one another at 0.006. This therefore implies that that correlation is significant at the 0.01 level of confidence. These findings are in support of another by Outecheva (2017) who found that liquidity has linear positive relationship with financial distress among USA firms.

The study established that profitability is correlated to firm size with a Pearson correlation of 0.954 and also statistically significant to each other at 0.005.

Profitability was also found to be correlated to financial distress (measured by Altman Z score) with a Pearson of 0.960 and statistically significant at 0.000. The findings are in line with another study by Jiming and Weiwei (2011) who found that profitability as measured by ROE positively associates with financial distress.

Again the findings in the correlation table show that firm size is correlated to financial distress with a Pearson of 0.855 and statistically significant at a 0.999 which means correlation is significant at the 0.002 level of confidence. From the findings it can be said that all the variables; financial leverage, liquidity, profitability and firm size are linearly correlated to financial distress (indicated by Altman Z score) and also statistically significant to the dependent variable.

Table 4.4: Correlations for Uchumi Company Limited

		Leverage	Liquidity	Profitability	Firm size	Distress (Altman Z score)
Leverage	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	5				
Liquidity	Pearson Correlation	.962**	1			
	Sig. (2-tailed)	.002				
	N	5	5			
Profitability	Pearson Correlation	.953**	.952**	1		
	Sig. (2-tailed)	.004	.000			
	N	5	5	5		
Firm size	Pearson Correlation	.899**	.960**	.954**	1	
	Sig. (2-tailed)	.001	.007	.005		
	N	5	5	5	5	
Distress	Pearson Correlation	.912**	.969**	.960**	.999**	1
	Sig. (2-tailed)	.003	.006	.001	.002	
	N	5	5	5	5	5

** . Correlation is significant at the 0.01 level (2-tailed).

4.6 Multiple Regressions for Kenya Airways

In this section the study presents further analysis in multiple regressions. Regressions were to determine the relationship between the variables. The results are analyzed in the model summary, ANOVA and regression coefficients' tables in the subsequent sections.

As presented in table 4.5, a coefficient of determination is 81.9; this means that 81.9% of the variation in firm financial distress at Kenya Airways can be explained by the independent variables (Firm size, Leverage, Profitability, and Liquidity). This means that there is a presence of very strong positive relationship between independent and dependent variables. The unaccounted for percentage 8.1% can be explained by other variables that were not utilized by the study. The fact that both the R square and adjusted R square is high can be interpreted to mean that there is a high variation that can be explained by the model. The findings augment with another study by Turetsky and

McEwen (2011) who found that liquidity, leverage, profitability and firm size leads to a decrease in financial distress.

Table 4.5: Model Summary for Kenya Airways

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823 ^a	.819	.735	3.50979

a. Predictors: (Constant), Firm size, Leverage, Profitability, Liquidity

In table 4.6 below, the study used analysis of variance (ANOVA) to test if the regression model was a good fit for the data analysis procedures. The ANOVA results in table 4.5 shows that the significance of the F statistics (112.121) is 0.000^b, it is actually less than 0.05. This implies that there is a significant relationship between independent variables and dependent variables.

Table 4.6: ANOVA^a for Kenya Airways

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4292.018	4	3122.231	112.121	.000 ^b
	Residual	231.106	56	7.114		
	Total	4523.124	60			

a. Dependent Variable: Financial Distress

b. Predictors: (Constant), Firm size, Leverage, Profitability, Liquidity

Based on the coefficient results in table 4.7 below, it is evident that a unit increase in leverage by a factor of 0.712 could lead to a reduction of financial distress at Kenya Airways. It was also found that a unit increase in liquidity by a factor of 1.231 would lead to a reduction of financial distress at Kenya Airways. The coefficient results again show that a unit increase in the profitability by a factor of 1.122 would lead to an improvement or reduction of financial distress at Kenya Airways. The study again found that an increase in firm size by a factor of 0.975 could minimize financial distress at Kenya Airways. At 5% level of significance and 95% level of confidence, all the tested variables had a p-values confidence level of 0.012 for financial leverage, 0.032 for liquidity, 0.000 for profitability and 0.040 for firm size. Therefore, it can be said that the regression

results obtained shows that there exists a direct positive relationship between all the variables. The findings are in agreement with yet another study by Kahl (2011) whose regression results found that profitability, financial leverage, firm size liquidity positively relates with financial distress. This, therefore, meant that an increase in the independent variables could lead to reduction in financial distress at Kenya Airways.

The regression formula took the form of; $Y = \alpha_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + ei$

Therefore, the formula is presented as financial distress = $\alpha_0 + 0.712Leverage + 1.231Liquidity + 1.122Profitability + 0.975Firm\ size + ei$

Table 4.7: Coefficientsa for Kenya Airways

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	34.471	3.103		7.301	.045
Leverage	.712	.112	.315	6.643	.012
Liquidity	1.231	.091	.583	111.801	.032
Profitability	1.122	.107	.411	9.653	.000
Firm size	.975	.223	.337	7.734	.040

a. Dependent Variable: Financial Distress

4.7 Multiple Regressions for Uchumi Company Ltd

In this section, regressions were to determine the relationship between the variables. The results are analyzed in the model summary, ANOVA and regression coefficients' tables in the subsequent sections.

As presented in table 4.8 below, a coefficient of determination is 0.969; this means that 96.9% of the variation in firm financial distress can be explained by the independent variables (Firm size, Leverage, Profitability, and Liquidity). This means that there is a presence of very strong positive relationship between independent and dependent variables. The unaccounted for percentage 3.1% can be explained by other variables that were not utilized by the study. The findings augment with another study by Turetsky and

McEwen (2011) who found that liquidity, leverage, profitability and firm size leads to a decrease in financial distress.

Table 4.8: Model Summary for Uchumi Company Ltd

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969 ^a	.939	.934	2.40957

a. Predictors: (Constant), Firm size, Leverage, Profitability, Liquidity

In table 4.9 below, the study used analysis of variance (ANOVA) to test if the regression model was a good fit for the data analysis procedures. The ANOVA results show that the significance of the F statistics is 0.006^b. This implies that there is a significant relationship between independent variables and dependent variables.

Table 4.9: ANOVA^a for Uchumi Company Ltd

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4970.634	4	1242.659	214.030	.006 ^b
	Residual	325.136	56	5.806		
	Total	5295.770	60			

a. Dependent Variable: Financial Distress

b. Predictors: (Constant), Firm size, Leverage, Profitability, Liquidity

Based on the coefficient results in table 4.10 below, it is evident that a unit increase in leverage by a factor of 0.862 could lead to a reduction of financial distress at Uchumi Company limited. It was also found that a unit increase in liquidity by a factor of 1.103 would lead to a reduction of financial distress at Uchumi Company limited. The coefficient results again show that a unit increase in the profitability by a factor of 1.101 would lead to an improvement or reduction of financial distress at Uchumi Company limited. The study again found that an increase a unit increase in firm size by a factor of 0.984 could minimize financial distress at Uchumi Company limited. At 5% level of significance, all the tested variables had a p-values confidence level of 0.000 for financial leverage, 0.022 for liquidity, 0.040 for profitability and 0.000 for firm size. Therefore, it can be said that the regression results obtained shows that there exists a direct positive

relationship between all the variables. The findings are in agreement with yet another study by Kahl (2011) whose regression results found that profitability, financial leverage, firm size liquidity positively relates with financial distress. This therefore meant that an increase in the independent variables could lead to reduction in financial distress in an organization.

The regression formula took the form of; $Y = \alpha_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + ei$

Therefore, the formula is presented as financial distress = $\alpha_0 + 0.862Leverage + 1.103Liquidity + 1.101Profitability + 0.984Firm\ size + ei$

Table 4.10: Coefficientsa for Uchumi Company Ltd

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.494	3.193		7.359	.000
	Leverage	.862	.119	.305	7.243	.000
	Liquidity	1.103	.089	.493	12.410	.022
	Profitability	1.101	.105	.411	10.478	.040
	Firm size	.984	.129	.329	7.601	.000

a. Dependent Variable: Financial Distress

4.8 Altman Z' Score for Kenya Airways and Uchumi Supermarkets

Data concerning the Altman Z Score of all the two listed commercial and service firms was computed over the study period of five years in order to predict the likelihood of bankruptcy in each company. The results of the data obtained in this regard were as summarized in Table 4.11.

From the study, the findings in table 4.11 shows that Kenya Airways was in financial distress in 2013 and 2014 as depicted by values of 1.63 and 1.66 respectively. However, in 2015 and 2016 the company was in gray zones which were an indication that the company was moving towards safe zone and this could be attributed to the turnaround

strategies that the national carrier had initiated. The results show that the company experienced upward performance in 2017 as indicated by an Altman Z score of 3.67 which is considered by the current study as a safe zone.

On the other hand, Uchumi Supermarkets was found to be experiencing financial distress for the five years, 2013 to 2017 and this was witnessed in presence of Altman Z scores of 0.82 for 2013, 0.96 for 2014, 1.27 for 2015, 1.05 for the year 2016, and 1.54 for the year 2017. These could be interpreted to mean that despite the fact that measures such as government interventions and the many turnaround mechanisms that had been put in place by various stakeholders the company was still experiencing financial distress during the period the study was carried out.

Table 4.11: Altman Z" Score for Kenya Airways and Uchumi Supermarkets

Altman Z" Score		
	Kenya Airways	Uchumi Supermarkets
2013	1.63	0.82
2014	1.66	0.96
2015	2.12	1.27
2016	2.58	1.05
2017	3.67	1.54

Key: $Z > 3.0$ refers to Safe zone; $1.8 < Z < 3.0$ refers to Grey zone and $Z < 1.8$ refers to Distress zone

4.9 Chapter Summary

The chapter basically analyzed and interpreted data. The chapter explicitly found out that an increase in profitability, liquidity, firm size and financial leverage is an indicator that the companies could demonstrate financial safety in the present or in the near future. The subsequent chapter looks at summary, conclusions, recommendations and suggested areas for further study.

CHAPTER FIVE

5.0 SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The summary, discussion, conclusion, and recommendations as well as areas for further research are presented in this chapter. Study discussions, conclusion and recommendations are presented based on each research questions. The chapter concludes by suggested areas for further research.

5.2 Summary

The general objective of this study was to establish the determinants of financial distress among selected firms listed at Nairobi Securities Exchange: case of Kenya Airways and Uchumi Supermarkets. The study was guided by three research questions: What is the relationship between financial leverage and financial distress at Kenya Airways and Uchumi Supermarkets?

The financial leverage was calculated by dividing earnings before interests and tax by earnings before tax of a firm. What is the relationship between liquidity and financial distress at Kenya Airways and Uchumi Supermarkets? The study measured the liquidity variable by dividing total cash by short-term borrowings of a firm. What is the relationship between profitability and financial distress at Kenya Airways and Uchumi Supermarkets? Profitability was measured by return on asset which was subsequently calculated by dividing net income by total assets of a firm.

The study utilized descriptive research method. The descriptive research design was applicable to the current study because it enabled an investigation in which quantity data was collected and analyzed in order to describe the specific phenomenon in its current trends, current events and linkages between different factors at the current time. The target population of this study involved only two financially distressed companies listed at NSE in Kenya. These included: Kenya Airways and Uchumi Supermarkets. The study used secondary data which involved use of quantitative data that had been previously collected by other people for a different purpose. The secondary was obtained

through financial statements and statistics of the selected companies for a period of five years, 2013 to 2017.

The study used SPSS Version 21 to analyze data. In the first step, the collected data was analyzed descriptively. This involved descriptive tools such as means, maximum, minimum and standard deviation. Step second step involved running the regression model. Step three involved testing the significance of the relationship between variables in the model by use correlation analysis. In step five, the regression model actual results of the parameters was compared with the theoretical prediction model and this was concluded by interpretation and discussion of the findings.

In summary, the study found that financial leverage as measured by dividing total debt by total assets was positively correlated to financial distress of Kenya Airways and Uchumi Company limited. The results were also corroborated by the regression results that established that financial leverage was statistically and positively related to financial distress as such an increase in the financial leverage would lead to decrease in the financial distress among studied companies.

Again in summary the study found that liquidity which was computed by dividing current assets by current liabilities was linearly correlated with financial distress at Kenya Airways and Uchumi Companies limited. To affirm the results, the regression results also found that an increase in liquidity leads to decrease in the financial distress at the two studied companies.

Lastly the study found that profitability as measured by return on equity which was achieved by dividing net profits by the shareholders' average equity was positively correlated to financial distress. The results also concurs with the regression results that found that profitability was positively and significantly related to financial distress in the companies as such an increase in the profitability could lead to decrease in the financial distress at Kenya Airways and Uchumi companies.

5.3 Discussions

5.3.1 The Relationship between Financial Leverage and Financial Distress

Regarding the relationship between financial leverage and financial distress among selected firms, the study found that financial leverage is positively correlated to liquidity and also statistically significant to each other. The study indicates that financial leverage

is also positively correlated to profitability and has positive statistical significance levels. However, the study found that financial leverage was positively related to financial distress as measured by Altman Z score with a Pearson correlation and statistically significant. These findings are supported by another study by Kiogora (2000) whose study showed a positive relationship between financial leverage and financial distress as represented by ROE among the Kenyan listed firms. The findings are also in agreement with yet another study by Kahl (2011) whose correlation results found that financial leverage positively relates with financial distress.

In support of the correlation results of positive relationship between financial leverage and financial performance, another study by Mahama (2015) assessed the state of financial distress through the application of Altman's Z-score 10 entities listed at the Ghana Stocks Exchange found that financial leverage as measured by total debt as divided by total assets had positive but statistical relationship with the financial distress of the 10 entities listed at the Ghana Stocks Exchange. Jostova and Philipov (2005) study also found that financial leverage has statistical positive relationship with level of financial risks a company is faced with. Further, a study by Tan (2012) conducted a study on financial leverage and financial distress with a focus on the Asian Financial Crisis of 1997-1998 reaffirmed the findings by the current study that high financial leverage contributed to a great extent the decline in the value of the firms. It was clear from the findings of his study that entities with low financial leverage outperformed those with high financial leverage and they were better placed to withstand external shocks vis-à-vis financial distress.

Based on the regression coefficient results, it is evident that a unit increase in leverage could lead to a reduction of financial distress of the studied firms. These findings were however at variance with those by Yat, Ping, and Chi (2012) who observed that financial leverage had a positive effect on financial distress of firms in the property and construction sectors in Hong Kong as measured by ROE. The findings are in agreement with yet another study by Kahl (2011) whose regression results found that profitability, financial leverage, firm size liquidity positively relates with financial distress. Another study by Abu-Rub used total debt to total assets and total debt to total equity to proxy financial leverage while return on equity represented corporate financial distress. The results showed that debt financing had a positive and significant effect on ROE which corroborates with the study at hand.

The findings of the current study also resonate with those by Baker (2013) who found a positive and significant relationship between return on assets and financial distress of industries in Bangladesh and Turkey respectively. The effect of the finding was that increasing use of debt in the companies resulted in significant increase in productivity of the firms' assets. However, a study by Pratheepkanth (2011) found a negative but weak (insignificant) relationship between the key study parameters. His findings were in consonance with that by Perinpanathan (2014) whose study of John Keells Holdings plc. (Sri Lanka's largest listed firm) during the seven year period 2006-2012 concluded that debt financing had a negative but insignificant impact on the firm's profitability as represented by EBIT to Total assets ratio. This, therefore, meant that an increase in the independent variables could lead to reduction in financial distress in an organization. Therefore, it can be said that the regression results obtained shows that there exists a direct positive relationship between the variables.

5.3.2 The Relationship between Liquidity and Financial Distress

Regarding the relationship between liquidity and other variables, the study found that it is correlated to profitability and statistically significant to each other. It was also found that liquidity is correlated to firm size and also statistically significant to each other. The same variable was found to be correlated to financial distress as measured by Altman Z score and statistically significant to one another. This, therefore, implies that that correlation is significant at the 0.01 level of confidence. These findings are in support of another by Outecheva (2017) who found that liquidity has linear positive relationship with financial distress among USA firms. In support a study by Pranowo et al. (2014) found that liquidity are statistically significant and have positive influence on the financial distress. However, upon subjection to advanced analysis, the study established that liquidity linearly correlates with financial distress in an organization.

Further on the presence of positive relationship between liquidity and financial distress, Outecheva (2017) study also concluded that liquidity has linear positive relationship with financial distress among USA firms. Further, Warutere (2013) study used financial ratios such as quick ratio and current ratio as independent variables to measure liquidity. The study found that both variables were significantly and positively related to financial distress. The correlation results therefore concluded that liquidity had positive correlation with financial distress which is an indication that an current assets and liabilities could

lead to reduction in the financial leverage at Kenya Airways and Uchumi company limited. It was, therefore found that a unit increase in liquidity would lead to a reduction in the financial distress of the studied firms.

The regression coefficient results also show that an increase in liquidity could lead to a reduction in the financial distress as measured by Altman Z score. Therefore, it can be said that the regression results obtained shows that there exists a direct positive relationship between the variables. In support a study by Zulkarnain (2015) concluded that firm liquidity is inversely proportionate to financial distress. A study by Pasaribu (2008) also supports the findings by the current study in as far as regression is concluded that concluded that though there were many possible contributors of financial distress in an organization, liquidity was a key indicator as such liquidity was found to be positively and statistically related to financial distress. This was an indication that an increase in the firm liquidity could lead to decrease in financial distress among the companies that were studied.

Further, in support of the positive association between liquidity and financial distress, Rayan (2010) used debt-equity ratio as a construct for financial liquidity and found a negative association between use of debt in relation to equity and all measures of firm value; however, increased liquidity decreased the financial distress among the Southern African firms. He attributed this positive relationship to excessive use of liquidity financing by firms in a bid to benefit from tax shields. In another research, Pasaribu (2008) study found that though there were many possible contributors of financial distress in an organization, liquidity was a key indicator. Memba and Job (2013) also found out that liquidity had the most impact on the financial distress in the firms financed by ICDC Kenya. In disagreement of the regression results of positive association between liquidity and financial distress, another study by Said and Tumin (2010) however find no relationship between liquidity and financial distress amongst Chinese and Malaysian banks. However, a study by Anggraini (2014) concluded that liquidity which was used as a moderating variable had no significant influence towards the financial distress of the financial institutions studied.

In a nutshell, the study at hand conclude that liquidity has positive relationship with financial distress as such as increase in liquidity of any value would lead to a decrease in the financial distress at Uchumi and Kenya Airways companies that are listed at the

Nairobi Securities Exchange in Kenya. Both the regression and correlation results attest to this relationship.

5.3.3 The Relationship between Profitability and Financial Distress

The study established that profitability is correlated to firm size and also statistically significant to each other. Profitability was also found to be correlated to financial distress as measured by Altman Z score) and statistically significant at each other. The findings are in line with another study by Cuong (2014) who undertook a study aimed at assessing how profitability influenced financial distress in the Seafoods manufacturing enterprises listed in the Vietnamese Stocks Exchange. The study used ROE as the profitability measure. The study revealed that a multiple-threshold effect existed between profitability and that the variable had long term relationship with financial distress. In yet another study, Geng, Bose and Chen (2013) found an important role of profitability in predicting financial distress. He established higher profitability reduces financial distress while the low the profitability the higher the chances of an organization moving towards financial distress. Furthermore, a study by Kahl (2011) found that return on asset and return on equity as indicators for profitability positively correlates with financial distress. This therefore meant that an increase in firm profitability could lead to reduction in financial distress in an organization. Again a study by Kpodoh (2010) affirmed the existence of correlation between profitability and corporate failure. The study however concluded that an increase in the profitability of the studied firms led to reduced financial distress of the firms.

However, in their study, Maina and Ishmail (2014) study found that the profitability is negatively related to financial distress of the firm. By using ROA as a measure of corporate profitability, the authors argued that highly tangible firms naturally have more collateral at their disposal. The high collateral makes the firms attractive to the financial institutions and subsequently increases their appetite for debt. The authors stated that this tendency to over-borrow exposes the firm to higher risks of financial distress and subsequent failure. The finding concurs with that by Sciascia and Mazzola (2013) whose study of 317 Italian firms revealed that firms with high proportions of external equity performed better in terms of profitability and hence stock returns as compared to internally funded firms. He attributed this trend to improvement in governance and discipline among managers which then reduced the financial distress among the firms.

The coefficient results again show that a unit increase in the profitability would lead to an improvement or reduction of financial distress of the studied firms. Therefore, it can be said that the regression results obtained shows that there exists a direct positive relationship between the variables. In agreement, a study by Kahl (2011) that examined the role of financial distress as a selection mechanism used regression method and found that return on asset and return on equity as indicators for profitability positively relates with financial distress. In yet another study, Forsaith and McMahon (2012) after controlling for profitability by use return on asset, the regression results showed significant positive coefficient on internal return on equity variable while the coefficient for external equity was significant and negative at 10% significance level.

The findings showed that while internal equity increased the profitability, external equity was not favorable to the firms. The results were consistent with those by Cosh and Hughes (2014) whose study of 217 UK firms over the period 2010 – 2013 depicted use of internal equity as profitable to the firms which then reduces financial distress among the studied firms in the UK. Further, in agreement, Jiming and Weiwei (2011) used profitability operating capacity, cash-flow indicators, ownership concentration and board characteristics. The findings revealed that, the model with non-financial indicators proved to be more reliable in financial distress prediction and the timeliness and long-run validity of the mix model was much better in comparison with the model with only financial indicators. The study significantly found that profitability as measured by ROE positively associates with financial distress. This therefore meant that an increase in firm profitability could lead to reduction in financial distress in an organization.

5.4 Conclusions

5.4.1 The Relationship between Financial Leverage and Financial Distress

Regarding the relationship between financial leverage and financial distress, the study conclude that financial leverage was positively related to financial distress as measured by Altman Z score. Based on the regression coefficient results, the study concluded that a unit increase in leverage could lead to a reduction of financial distress as measured by Altman Z scores of the studied firms.

5.4.2 The Relationship between Liquidity and Financial Distress

The study concludes that liquidity was correlated to financial distress as measured by Altman Z score and statistically significant to one another. It was also concluded that a

unit increase in liquidity would lead to a reduction of financial distress of the studied firms. The regression coefficient results also concluded that an increase in liquidity could lead to a reduction in the financial distress as measured by Altman Z score.

5.4.3 The Relationship between Profitability and Financial Distress

In regard to profitability, the study concluded that the variable was correlated to financial distress as measured by Altman Z score and statistically significant at each other. The regression results also concluded that a unit increase in the profitability would lead to an improvement or reduction of financial distress of the studied firms.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 The Relationship between Financial Leverage and Financial Distress

First, non-financial firms should endeavor to employ more equity and less debt capital to finance their operations. This recommendation is based on the revelation that a reduction in financial leverage is a major recipe for corporate financial distress.

5.5.1.2 The Relationship between Liquidity and Financial Distress

Secondly, the study recommends that where non-financial firms must consider using debt in their capital structure, non-current debt should be prioritized ahead of short term debt. This recommendation is based on the finding that long term debt as measure of liquidity reduces the incidence of financial distress among non-financial firms.

5.5.1.3 The Relationship between Profitability and Financial Distress

Thirdly, the study recommends that in configuring their profitability structure, financing managers of nonfinancial firms should prioritize the use of internally generated capital such as retained earnings and reserves ahead of externally issued equity and assets. This recommendation derives from the observation that an increase in the measures of profitability such as ROE reduces the financial distress among nonfinancial companies. Particularly, the size of the firm as well as sector-specific factors should be carefully considered.

5.5.2 Recommendations for Further Research

The purpose of the study was to assess determinants of financial distress among selected firms listed at Nairobi Securities Exchange: case of Kenya Airways and Uchumi supermarkets from 2013 to 2017. It is suggested that research be carried out to test financial distress prediction models to non-listed firms, relatively smaller turnover sized firms where the incidences of business failure is greater than larger corporations. This will help determine financial position of all firms in the economy and give more insights to investors on their investment decisions. With this suggestion regulatory bodies like Nairobi Securities Exchange and Capital Market Authority will be able to capture wider market in terms of listing new firms rather than using listed firms as a basis for testing financial distress.

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APPENDICES

APPENDIX I: RAW DATA FOR KENYA AIRWAYS (2013 TO 2017)

Year	2013	2014	2015	2016	2017
Total debt	52,260,081	50,944,558	99,956,786	115,664,780	79,922,347
Total assets	100,001,551	105,955,670	218,996,956	255,392,657	154,747,300
Current assets	8,056,771	5,999,115	10,234,566	19,945,678	11,563,243
Current liabilities	4,032,317	3,190,034	5,507,132	11,168,355	6,547,813
Net profits	5,556,711	4,675,432	3,653,599	2,105,065	4,003,236
Shareholders' average equity	11,991,279	11,346,373	9,945,231	5,333,546	6,997,002
Firm size	100,001,551	105,955,670	218,996,956	255,392,657	154,747,300

Appendix IA: Financial Leverage for Kenya Airways

Year	2013	2014	2015	2016	2017
Total debt (TD)	52,260,081	50,944,558	99,956,786	115,664,780	79,922,347
Total assets (TA)	100,001,551	105,955,670	218,996,956	255,392,657	154,747,300
Leverage (TD/TA)	0.5226	0.48081	0.45643	0.45289	0.51647

Appendix IB: Liquidity for Kenya Airways

Year	2013	2014	2015	2016	2017
Current assets (CA)	8,056,771	5,999,115	10,234,566	19,945,678	11,563,243
Current liabilities (CL)	4,032,317	3,190,034	5,507,132	11,168,355	6,547,813
Liquidity (CA/CL)	1.99805	1.88058	1.85842	1.78591	1.76597

Appendix IC: Profitability for Kenya Airways

Year	2013	2014	2015	2016	2017
Net profits (NP)	5,556,711	4,675, 432	3, 653, 599	2, 105, 065	4, 003, 236
Shareholders' average equity (SAE)	11, 991, 279	11, 346, 373	9,945,231	5,333, 546	6,997,002
Profitability (NP/SAE)	0.463396	0.412064	0.367372	0.39468	0.57214

Appendix ID: Firm Size for Kenya Airways

Year	2013	2014	2015	2016	2017
Firm size	100, 001, 551	105, 955, 670	218, 996, 956	255, 392, 657	154, 747, 300
Natural Log	17.9056	17.82068	17.83548	17.932	18.0348

Appendix IE: Altman Z score for Kenya Airways

Year	2013	2014	2015	2016	2017
Z score	1.63	1.66	2.12	2.58	3.67
Zone of discrimination	Distress	Distress	Grey	Safe	Safe

Appendix IF: Final Secondary Data for Kenya Airways (2013 TO 2017)

Year	Financial leverage	Liquidity	Profitability	Firm size	Altman Z" Score
2013	0.52262	1.99805	0.463396	17.9056	1.63
2014	0.48081	1.88058	0.412064	17.82068	1.66
2015	0.45643	1.85842	0.367372	17.83548	2.12
2016	0.45289	1.78591	0.394684	17.93196	2.58
2017	0.51647	1.76597	0.572136	18.03483	3.67

APPENDIX II: RAW DATA FOR UCHUMI SUPERMARKETS (2013 TO 2017)

Year	2013	2014	2015	2016	2017
Total debt (TD)	7,609,760	5,210,905	6,899,004	1,559,046	522,478
Total assets (TA)	24,777,003	18,456,789	31,593,185	7,345,675	2,900,243
Current assets (CA)	9,889,045	6,120,399	4,411,689	3,270,349	1,040,217
Current liabilities (CL)	15,122,713	10,345,678	8,997,022	5,001,223	1,998,344
Net profits (NP)	71,779	382,368	323,250	128,330	104,976
Shareholders' average equity (SAE)	2,435,671	4,889,000	5,444,677	3,111,045	2,111,345
Firm size (Natural log)	24, 777, 003	18, 456, 789	31, 593, 185	7,345,675	2,900,243

Appendix IIA: Financial Leverage for Uchumi

Year	2013	2014	2015	2016	2017
Total debt (TD)	7,609,760	5,210,905	6,899,004	1,559,046	522,478
Total assets (TA)	24,777,003	18,456,789	31,593,185	7,345,675	2,900,243
Leverage (TD/TA)	0.30713	0.28233	0.21837	0.21224	0.18015

Appendix IIB: Liquidity for Uchumi

Year	2013	2014	2015	2016	2017
Current assets (CA)	9,889,045	6,120,399	4,411,689	3,270,349	1,040,217
Current liabilities (CL)	15,122,713	10,345,678	8,997,022	5,001,223	1,998,344
Liquidity (CA/CL)	0.65392	0.59159	0.49035	0.65391	0.52054

Appendix IIC: Profitability for Uchumi

Year	2013	2014	2015	2016	2017
Net profits (NP)	71,779	382,368	323,250	128,330	104,976
Shareholders' average equity (SAE)	2,435,671	4,889,000	5,444,677	3,111,045	2,111,345
Profitability (NP/SAE)	0.02947	0.07821	0.05937	0.04125	0.04972

Appendix IID: Firm Size for Uchumi

Year	2013	2014	2015	2016	2017
Firm size (Natural log)	24, 777, 003	18, 456, 789	31, 593, 185	7,345,675	2,900,243
Natural Log	1.49114	3.32443	5.62637	2.11985	6.55128

Appendix IIE: Altman Z score for Uchumi

Year	2013	2014	2015	2016	2017
Z score	0.82	0.96	1.27	1.05	1.54
	Distress	Distress	Distress	Distress	Distress

Appendix IIF: Final Secondary Data for Uchumi (2013 TO 2017)

Year	Financial leverage	Liquidity	Profitability	Firm size	Altman Z'' Score
2013	0.30713	0.65392	0.02947	1.49114	0.82
2014	0.28233	0.59159	0.07821	3.32443	0.96
2015	0.21837	0.49035	0.05937	5.62637	1.27
2016	0.21224	0.65391	0.04125	2.11985	1.05
2017	0.18015	0.52054	0.04972	6.55128	1.54