EFFECT OF FIRM CHARACTERISTICS ON FINANCIAL DISTRESS AMONG NON-FINANCIAL FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI

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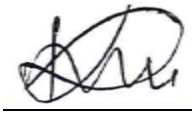
DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed:  Date: 19th November 2021

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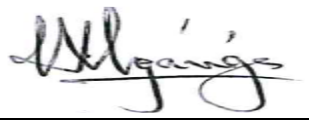
This research project has been submitted for examination with my approval as the University Supervisor.

Signed:  Date: 19th November 2021

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DEDICATION

This research project is dedicated to my son Rein Nillan, my husband Kevin Ochwedo, my mother Margaret Ndinda and my grandparents Mr. & Mrs. Matolo for their unending love, support and encouragement throughout the journey.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
NSE	Nairobi Securities Exchange
ROA	Return on Assets
SPSS	Statistical Package for Social Sciences
US	United States
VIF	Variance Inflation Factors

ABSTRACT

There is an upward trend of failure of Kenyan listed firms. In order for Kenyan economy to achieve its sustainable development goals of becoming industrialized, the contributions from non-financial firms listed at NSE are critical. Despite their significance, several firms have been delisted from NSE. Most of the non-financial listed firms experience challenges in striking a compromise between surplus and shortage of working capital while others have had challenges with excess leverage leading to high interest costs. Consequently, the firms experience failure because of the inability to pay daily expenses of their operations and difficulty of exploiting new markets and undertake profitable projects. This finally leads to financial distress. The goal of the study was to see how firm characteristics affected the distress of NSE-listed non-financial companies. The study's population included all 42 NSE-listed non-financial companies. The predictor variables were financial leverage, defined as the total debt to total assets ratio in a particular year, liquidity was assessed by the current ratio, total assets natural log measuring company size, and management efficiency was measured by the ratio of total revenue to total assets per year. Altman's Z score served as the response variable for financial distress. Secondary data was collected on a yearly basis for five years (January 2016 to December 2020). The research variables were analyzed using a descriptive design. SPSS software being utilized to conduct the analysis. The conclusions yielded a 0.469 R-square value, indicating that variations in the chosen independent variables account for 46.9 percent of changes in financial distress amongst non-financial firms, whereas other factors accounting for 53.1% of variance in financial distress amongst NSE listed non-financial firms. Independent variables had a strong relationship with company distress (R=0.685) in this study. The F statistic was significant at 5% with $p<0.05$, according to the ANOVA results. This demonstrated that the overall model was effective in establishing the variables' relationships. Leverage had a positive as well as statistically significant impact on financial distress, but liquidity as well as management efficiency had a negative as well as statistically significant impact on the distress of the NSE listed non-financial companies. In this research, the size of the firm had no statistical significance. This suggestion is that NSE-listed non-financial companies should focus on achieving the best degree of leverage, improving liquidity positions, and improving management efficiency, as the three factors have a substantial impact on their financial distress.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The importance of predicting financial distress has been increasing to corporate governance due to its severe effects on the operation of a firm, its environment (management, credit institutions, stockholders, investors, employees) and the whole economy (Arnold, 2007). Based on the facts, the troubled businesses have a significant decrease in market value (Warner, 1977). Success is important, but it's also important to concentrate on indicators of distress, the reasons, and potential solutions before a crisis occurs (Harlan & Marjorie, 2002). As a result, the adoption of an early warning system to predict financial health is essential to making an accurate assessment of a company's overall financial strength. Similarly, many businesses that are poor now will be successful in the future.

This study was guided by; agency theory, trade off theory and operating cycle theory. The tradeoff theory stated by Myers (1977) was the anchor theory because it claims that the receipt of tax savings combined with the use of debt financing will usually lead to positive employment outcomes. This proposition asserts that the current market value of the cash flows results in greater company value and enhanced financial stability. Although, theorists believe that borrowing often incurs financial problems, such individuals are more likely to be in financial difficulty. Jensen and Meckling (1976) theory of agency signals that the success of firm decisions requires that goals of principals and those of agents are well aligned and that they are focused towards wealth creation and maximization. According to operational cycle theory by Weston and Brigham (1979), this study's findings may be explained by the following hypothesis:

The smooth operating cycles that are generated as a result of efficient liquidity management would decrease the chances of financial hardship.

NSE-listed non-financial corporations will be the focus of this study. CBK regulates capital and liquidity decisions for financial companies, although non-financial enterprises are not subjected to these rules despite being a part of the Capital Markets Authority (CMA). Thus, because non-financial corporations are theoretically free to choose any leverage and liquidity configuration in order to finance their operations, it follows that these companies may adopt any leverage and liquidity configuration of their choosing. Non-financial companies are predisposed to gearing too much and incurring severe financial hardship because of this laissez-faire attitude (Bitok, Masulis, Graham, & Harvey, 2017).

1.1.1 Firm Characteristics

There are features specific to businesses, which are referred to as company characteristics. It is implied that this is true for all businesses in the same industry (Yin & Yang, 2013). Almajali (2012) refers to the notion of company characteristics as micro variables since they are only known by the companies operating in that particular nation. The qualities that businesses may control are referred to as company characteristics. They owe their existence to managerial choices that directed the company's resources. For clarity, it should be emphasized that managerial decision-making is motivated by the aim of organization-wide success. On Kusa and Ongore's analysis, the following are some of the important company characteristics: profitability, firm size, liquidity, and leverage (Kusa & Ongore, 2013)

Financial leverage is a firm’s level of external borrowing used in financing its short and long term financial deficit (Al-Najjar, 2017). Many businesses rely on borrowing at a

point in time to purchase assets, finance major projects requiring large amounts of capital through research and development (Kumar, 2018). Relative contributions of both debt and equity finance together with any other securities determines financial leverage (Grossman & Hart, 2017). In terms of financial leverage, the most generally recognized indicator debt-assets ratio (Abor, 2015). The more the impact a company has on legal and financial problems, the higher the degree of correlation with the size of the company. Having substantial assets to work with allows a business to grow to a great extent, and great profits as well. When considering the size of a firm, you should consider the total worth of all of the assets of the company that it owns (Amato & Burson, 2017).

The ability to fulfill one's short-term debt commitments with cash or a substitute (i.e. the liquidity of a business). This inventory has an immediate asset-like characteristic. It is readily converted into cash. The manager's capacity to fulfill commitments due without resorting to liquidation of financial assets results in liquidity (Adam & Buckle, 2013). Current ratio has often been used as a metric for measuring a company's liquidity (Almajali et al., 2012).

1.1.2 Financial Distress

Financial distress refers to a situation where a company is put in a position where it is unable to fulfill existing commitments, and it must take remedial action (Ross, Westerfield & Jaffe, 2005). A troubled company may be unable to fulfill the financial commitments that come due or does so by incurring significant costs. Typically, the phenomena may be announced when the flow of money slows, the market value falls, profits are breached, and growth is limited (Andrade & Kaplan, 1998). Financial

distress occurs when a company cannot pay its obligations on schedule (Saleem, Muhammad, & Umara, 2013).

As essential as financial health is for investors and management, it's also a good indication of a company's success. As long as a company's financial health is maintained, investors prefer to invest in businesses that can cover their liabilities. A distressed business incurs numerous expenses, some of which are direct and others that are indirect, which may ultimately influence the profitability of the company and further decrease the distressed entity's worth (Kanyugi, 2016). When you are in financial difficulty, the direct expenses are the fees that are paid to accountants and attorneys to restructure the company and pay their fees. Financial hardship incurs indirect costs. These expenses are paid by the business when it takes action in response to the decisions made by stakeholders, including workers, suppliers, investors, and shareholders (Pandey, 2010).

For many decades, experts have debated the subject of quantifying financial hardship. Researchers and theorists have refined methods to forecast financial hardship and insolvency throughout the decades. Financial distress prediction methods are based on accounting information or market knowledge, according to Outecheva (2007). In accounting-based models, the information found in the financial accounts is included into the model to ascertain financial distress, whereas in market-based models, securities traded in the capital market are taken into consideration. The current study will employ the Altman’s Z-score which measures volatility of emergent economies to explain the financial distress among the studied companies. This choice is based on the finding that the model is able to provide superior accuracy in predicting financial distress (Zouari & Abid, 2000).

1.1.3 Firm Characteristics and Financial Distress

Finance theory holds that liquidity management directly influences profitability of any firm (Raheman & Nasr, 2007). Firms whose profits are consistently positive may face bankruptcy if their liquidity management procedures are inaccurate (Karger & Bluementhal, 1994). Excessive liquidity levels may contribute to subpar asset returns, while inadequate liquidity levels may present issues with running day-to-day operations. Small and medium-sized businesses with strong growth requirements, especially those that operate in liquid markets, use liquidity as a primary source of financing businesses' short-term access to financial markets overcomes their capital market disadvantage (Wambugu, 2013). A business that has a lot of working capital has more flexibility in meeting its short-term commitments. The consequence of this is increased capacity of the firm to borrow and reduced default risk. This in turn leads to decreased cost of capital and reduced probability of financial distress (Wambugu, 2013).

Theory of agency is pertinent to the current study from the viewpoint of the financial manager. The financial manager acts as the agent of the owners of a company. The theory informs the variables of liquidity and leverage management. Failure to address the principal agent problems may lead to poor liquidity and leverage management. Cash mismanagement practices like fraudulent practices arise. Economic order quantity will not be observed under inventory management. Receivables and payables will not be collected and paid respectively when they fall due under principal agent problems. These negative practices brought about by principal agent problems lead to financial distress of listed firms.

A factor causing business financial hardship in most cases is a poorly managed working capital, extreme competition, harsh economic conditions, and the structure of the capital. In their study, Parker, Peters, and Turetsky (2002) showed that a lack of robust working capital management — encapsulated in mishandling of capital — leads to financial collapse and fraud. Industry rivalry was shown to contribute to a decrease in sales turnover and a consequent reduction in profitability for the impacted companies in their research (Kapopoulos & Lazaretou, 2007). According to the authors, firms face liquidity constraints, leading to financial hardship, when these conditions persist.

1.1.4 Non-Financial Firms Listed at the Nairobi Securities Exchange

The only organization tasked with listing companies in Kenya is the Nairobi Securities Exchange (NSE). NSE was incorporated in 1954, and its articles of incorporation (called stock certificates) were registered under the Companies Act (Act 486) of the laws of Kenya. The listed firms cannot carry any transactions without the supervision and facilitation of NSE. NSE has over a decade been left to determine which sector will produce the next biggest number of firms, with insurance, services & commercial, automobiles, and other goods, petroleum & energy, banking, investments, manufacturing and allied, agriculture, construction, technology and telecommunications (NSE, 2020). Twenty two banking and insurance businesses were included on the list, while 42 other companies were listed outside of the financial industry.

Kenya has emphasized the damaging impact of financial crisis among non-financial businesses since the 1980s. This is shown by the many businesses which have had their management and financial positions examined via receivership, comprehensive reorganization, or being delisted from the NSE entirely. In addition to these major

companies, additional businesses that are prominent in the Kenyan economy include: Uchumi Supermarkets, Theta Group, Regent Undervalued Assets Ltd, East African Packaging, Dunlop Kenya, Lonhro EA Ltd, Mumias Sugar Company among others (CMA statistics bulletins, 2001 – 2019). Despite a later investigation performed by government authorities determining that this occurred as a result of aggressive funding, people and experts alike reject these theories because of their political expediency and lack of evidence backing the claim. Because the actual connection between firm features and financial distress indicators of companies is not established, the argument among finance experts is further muddled. In this context, a research study examining the link between financial distress and characteristics of Kenyan non-financial listed companies is critical.

1.2 Research Problem

A firm's capacity to remain viable is believed to be strongly connected to characteristic such as liquidity, financial leverage, and profitability. Notable, however, is the fact that despite the key company features described here being factors that drive a business into financial difficulty, previous empirical investigations have been unable to establish this as fact. Several studies have been done on specific firm characteristics and financial distress. These studies have found contradictory empirical evidence. Amongst them the studies include Falope and Ajilore (2009) and Kaddumi and Ramadan (2012). Even while indications of financial distress including liquidity, company value, profitability and increase in stock returns were studied and used in various research, they failed to reach a consensus.

An increasing trend in failure rates of Kenyan listed companies has been observed. The long-term sustainable development objectives of being industrialized in Kenya will

depend on the growth of Kenya's industrial sector, the contributions from non-financial firms listed at NSE are critical. Despite their significance, several firms have been delisted from NSE. These are; Mumias sugar, Eveready, Lonrho East Africa, and Uchumi supermarket (CMA, 2018). Most of the non-financial listed firms experience challenges in striking a compromise between surplus and shortage of working capital while others have challenges with excess leverage leading to high interest costs. As a result, the businesses suffer due to their inability to cover daily costs and lack of opportunity to enter new markets and create lucrative ventures. This finally leads to financial distress.

Studies on financial distress in Kenya have focused on Local Authorities (Ntoiti, 2013; Ouma, 2011), insurance companies (Kosikoh, 2014) and causes of financial distress (Memba & Abuga, 2013). Studies on non-financial firms largely focused on financial performance of these firms. Specifically the studies focused on the effect of micro/macro-economic factors, financial factors, innovation, internal controls and other firm specific characteristics on financial performance of firms. Such studies include; (Kamau & Oluoch, 2016; Karagu & Okibo, 2014; Kariuki, 2013; Al-tamimi, 2010; Malik, 2011 among others). However, some of these studies were based on data from other countries and their findings may not be applied to the non-financial firms listed at the NSE. On the other hand, local studies failed to show the extent to which firm characteristics affect financial distress of listed non-financial firms. The current research was based on these gaps and attempts to answer the research question; how do firm characteristics affect financial distress among NSE listed non-financial firms?

1.3 Research Objective

This research objective was to establish the effect of firm characteristics on financial distress among non-financial firms listed at the NSE.

1.4 Value of the Study

NSE listed non-financial companies may discover new knowledge on the link between company characteristics and financial hardship. Companies are likely to develop a clear strategy for improving their management and administration strategies. The companies can utilize the information in order to enhance their characteristics such as liquidity and leverage to strengthen their resilience against financial distress.

The study's findings may likewise help the structuring and legislature of Kenyan policies and regulations that help companies to advance their administration conveyance via improved and progressively effective procedures. This is helpful in making reasonable changes and improve the industry with a general point of advancement of the economy.

Scholars as well as academicians can even use the outcomes of the research to further investigate and undertake research in this area in order to extrapolate the issues raised. The conclusions will back the body of knowledge in existence related to the aspects of firm characteristics and be able to link their relationship with financial distress among non-financial publicly traded companies. As a result, future academics and academicians could use this research as a reference point in their research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter clarifies the theories on which firm characteristics and financial distress is based. It further discusses the previous empirical studies; knowledge gaps identified and summarizes with a conceptual framework and hypotheses displaying the expected study variable relationship.

2.2 Theoretical Framework

This segment examines theories which underpin the study of firm characteristics and financial distress. Operating cycle, Trade-off theory and agency theory are all dealt with in theoretical reviews.

2.2.1 Trade-off Theory

This study is anchored by this theory proposed by Myers (1977). A fundamental assumption of structure of firm's capital is its optimum financing mix consists of finding the best trade-off between debt financing and losses or profits that may be obtained by this financing. This theory builds on Modigliani and Miller (1963) followed the heavy criticism leveled against their irrelevance theory on account of their perfect market assumptions. By accepting that taxes exist in the real world arbitrage activities are not always sustainable, the authors showed leverage indeed affected market valuation. By incorporating the effects of corporate taxes and relaxing the assumption on existence of arbitrage, they argued that interest on debt; being tax deductible provides extra cash flows to the levered firm in form of interest tax savings; increasing the firm's market worth in the process. The theory therefore contended that in situations of permanent debt, constant cost of debt and static marginal tax rate, leveraged firms

have more market value than unlevered firms. This is attributed to the present value of interest tax shields connected with debt financing.

Modigliani and Miller (1963) concluded that debt provides the principal advantage of tax-shielding benefits, which come from deductibility of interest charges. When it comes to determining how much debt inflate the cost of distress, the Theory uses the models of Scott (1976), Kraus and Litzenberger (1973), and combined with Litzenberger and Scott's (1976) cost framework to estimate how much debt affects bankruptcy costs..

These factors include legal and administrative expenses as well as subtler expenses such as the loss of consumer confidence and trust as a consequence of market uncertainty. Nonetheless, the prevailing opinion is that it is impossible to calculate the costs of bankruptcy in isolation since many other variables have to be taken into consideration in a broader cost-benefit analysis of debt (Ju, Parrino, Poteshman, & Weisbach, 2005). For this reason, the Jensen and Meckling (1976) framework for determining the cost of an agency is also included into the trade-off model.

This theory offers clarity for understanding how debt financing influences company value by allowing for the deductibility of debt interest. The theory also presents the idea of agency costs and how leverage may increase the financial hardship on the company due to the fact that it adds to agency costs.

2.2.2 Agency Theory

Jensen and Meckling (1976) agency theory describe an ‘agent' as someone who works on behalf of another person. The problem with the principal-agent relationship is that principals cannot contractually specify what the agent can do in any case (Moenga, 2015). Three factors can exacerbate the problems that arise from the principal-agent

relationship: opportunism, sunk costs, and secret facts (Njau, 2016). Hidden information happens when agents have knowledge that the principal does not have and the agent has an opportunity to keep the knowledge hidden from the principal, all other factors held responsible. Hidden knowledge has the effect of allowing the agent to 'shirk' or minimize efforts to the disadvantage of the principal. Agency theory has implications for why corporate governance best practice structures can provide productivity benefits and competitive advantages to organizations are thus based on the convention that corporate governance is required to ensure agent action is directed toward principal interests (Aimone & Butera, 2016).

Notwithstanding, agency theory has inherent limitations. The agency theory is not able to sway so many of the complexities and difficulties that the agents face in their attempts to discharge their responsibilities and assignment of the principal. Furthermore, the control mechanisms proposed in relation to agency theory are not only costly, but also ineffective economically, because shareholders' interest protection mechanisms can interfere with the implementation of strategic decisions, restrict collective activities, change investment plans, and neglect other stakeholder interest, resulting in a reduction in their commitment to the development of economic value (Segrestin & Hatchuel, 2011).

Suitability of agency theory to this research is because it clarifies how management, as the agent, is supposed to fulfill their ideal fiduciary duty of acting in principals' best interests and to prepare and offer principals with financial reports. As a result, agency theory is thought to provide a sound theoretical basis for the research's primary objective which is the affiliation between firm characteristics and financial distress.

2.2.3 Operating Cycle Theory

Work of John Weston and Richard Brigham gave rise to operational cycle theory (1979). This idea is based on the company's operating cycles. It's advocating that an increase in the firm's capacity to liquidate is created by increasing the amount of stability in its ability to get liquidation value in order to incorporate compensation measures related to the firm's operational operations. Information on liquidity provided by including records receivables and stock turnover in the operational cycle is more relevant than just using the present as well as looking at dissolvability indicators (Weston & Brigham, 1979). The number of times that the typical receivables venture of a company is turned into money is calculated by calculating the total number of records receivable generated. Normal and extraordinary debtors experience some adjustments with respect to yearly deals when there are alterations to credit as well as when there is an accumulation strategy.

Adding the stock exceptional period from the current day to the total number of outstanding days results in the operating cycle. For the company's annual sales, the average outstanding accounts receivable amount is impacted by changes in credit and collection policies. With more credit sales, the receivables will increase, resulting in a longer receivable collection time. This will lead to less liquidity in the receivables turnover. An inescapable option that shows the higher percentage of basic and present analysis is created in the event of results from a business that opts for having higher typical receivable exposure over a drawn out time period (Richards & Laughlin 1980).

One researcher counters the operational cycle theory of Richards and Laughlin (1980) by alleging that it ignores liquidity requirements that are imposed on a business. However, this theory applies to our research since it proposes that well-planned

liquidity management would minimize financial hardship and therefore increase overall company value.

2.3 Determinants of Financial Distress

There are many reasons that lead to financial distress for a business; either these concerns are related to the business on the inside or outside. Firm-specific internal factors might be influenced within the company. They are firm characteristics such as firm size, leverage, age, efficiency of management, profitability and liquidity. Factors outside a firm that influence financial distress include; regulatory environment, tax rates, political stability, corruption amongst others (Athanasoglou et al., 2005).

2.3.1 Financial Leverage

This intuition makes it quite easy to determine the presence of an optimum leverage. Inadequate debt capacity exists because companies take into consideration both the benefits received in the form of reduced taxes as well as the overall expenses that would be paid in the case of bankruptcy (Kraus & Litzenberger, 1973). If corporate bankruptcy was expensive, Senbet (2012) said, then it fulfilled a key gap between the Modigliani-Miller tax-adjusted model and the known fact that financial debt financing is only used a small percentage of the time (Senbet et al., 2012).

Using debt offers tax advantages for a company, which is part of the trade-off hypothesis. This is one of two sets of findings, with findings from other research demonstrating that greater leverage results in increased volatility in share prices with regard to private information; a company's final destiny relies on problems that remain undisclosed to the broader public (Nyamboga, Omwario & Muriuki, 2014).

This (possible) scenario was developed by Eckbo (2008) and described as a rise in the price of default results to a reduction in the amount of debt that's optimal. It's in line

with previous theories on debt that reference increases in non-debt taxes, which protect against higher levels of debt, and taxes on personal equity, which increase the optimal debt level.

As a marginal rise in the tax on bondholder returns is equated with a lower optimum level of debt, an increase in this tax tends to have an optimum leverage, decrease the quantity of debt (Eckbo, 2008). Even though risk may be unclear, even if uncertainty is considered to be regularly distributed, the impact of risk is equivocal. Cohn (2008) explained that the debt ratio and volatility typically go hand in hand in a negative manner.

2.3.2 Firm Size

Company size has been defined in finance literature as the quantity and diversity of productive ability and capacity possessed by an organization or the diversity and amount of services a company ought to offer simultaneously to consumers (Mule, Mukras, & Nzioka, 2015). It denotes to how small or big the company is and constitutes one of the most important determinants organization's financial robustness (Surajit & Saxena, 2009). In empirical research, different measures have been adopted to operationalize firm size. Measures such as logarithmic of total sales, logarithmic expression of total assets, as well as natural logarithm of total employees have been extensively employed with success to depict the size of the firm in empirical research (Kodongo et al., 2014; Mwangi et al., 2014).

The conventional neoclassical conception of the company and the notion of economies of scale provide the theoretical underpinnings for the argument that firm size is linked to corporate financial hardship. Economies of scale can occur for several causes, for example financial (due to large quantity of goods purchased. One of the two key ways

large corporations can obtain better interest and discount rates is organizational: using specialization and division of labor to cut down on costs. The other method is technical: the large corporation divides high expenses among a large cluster, thereby lowering the overall cost (Papadogonas, 2006).

2.3.3 Firm Liquidity

Cheluget, Gekara, Orwa, and Keraro (2014) argued that a link exists between insurance companies' financial distress and their liquidity and found that financial distress is substantially determined by liquidity. Firm liquidity and solvency indicators had a substantial influence on increasing cost efficiency; businesses with higher bought input expenditures comparable to capital have less chance to become efficient when solvency and liquidity are taken into account (Arif, 2012).

When solvency and solvency indicators are taken into account, businesses with higher spending on bought inputs compared to capital are less likely to increase efficiency (Levi, Russell, & Langemeier, 2013). According to Liang Fu (2016), Balance sheet liquidity is another term for company liquidity, refers to amount of liquid assets held in the books of accounting. When dealing with companies with liquidity risk, the corporate investment behavior of family firms has a reduced financial distress risk tolerance, as shown by their much greater degree of corporate liquidity (Liang Fu, 2016).

2.3.4 Management Efficiency

The efficiency of management of a business is defined by the research conducted by Olalere et al. (2015) as the capacity of the company to provide high-quality goods and services at the lowest feasible cost to consumers. Higher competitiveness and improved resource utilization seem to be supported by management efficiency. The use of

operational efficiency as a measure of management efficiency in banks is often seen in the literature on bank performance. Other outside influences and qualities may affect a manager of an airport's operational control (Sarkis, 2000). Many in the industry say that a firm's decision makers should improve the company's physical assets' overall profitability (Saleh, 2015).

This finding agrees with the ideas presented by Pranowo and Manurung (2010), who claim that measurements of efficiency at a company show how effectively the firm is utilizing its assets and activities. Additionally, operational ratio refers to the efficiency with which a business sells its shares and the amount of cash it obtains for every transaction. Operational ratios, including assets turnover, stock turnover, debtor's day, and working capital to sales, are examples of operating ratios. The number of days that consumers take to pay for credit purchases appears on the Debtor's Day tab. The next day where debtors are treated has a huge impact on cash flow. It is a signal of possible savings for the next period.

2.4 Empirical Review

Local as well as global researches have determined the relation between firm characteristics and financial distress, the objectives, methodology and prior research results have been discussed in this segment.

2.4.1 Global Studies

Pratheepkanth (2011) studied the 210 Sri-Lankan corporations which were publicly listed on the Colombo stock exchange with a view of establishing how leverage affected firms' financial distress. The study spanned over the five years period 2005 – 2009. In undertaking the study, leverage was measured by dividing equity and debt as well as dividing sum of capital and sum of debt while both net profit and gross profit margins

were adopted as measures of financial distress. The study found an inverse but weak (non-significant) connection among 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.

An extensive investigation of financial hardship and business performance data from the Asian financial crisis by Tan (2012) was conducted. A test was conducted on the connection that linked business performance and financial distress by examining the sample of 277 companies from eight East Asian countries. As a result, there were decreased endogeneity problems due to the crisis, which gave rise to a non-endogenous shock. Organizations owing minimal financial leverage exhibited superior performance as compared to firms having high leverage as a consequence of the study's findings. It was also shown that financial hardship led to higher levels of company performance after the Asian Financial Crisis of 1997-1998. According to research, leveraged businesses have poorer financial results amid a crisis. Results from this research cannot be extended to the Kenyan economy, since it is based on the Asian financial crisis.

In another study, Gupta et al. (2014) investigated how financial performance is influenced by financial distress of the 100 listed firms throughout the five-year period between 2006 and 2010 in India National Stock Exchange. Both the market and book value of debt and equity were adopted as proxies of leverage, while financial distress was measured by ROA. The author observed that financial distress was inversely and substantially correlated with debt financing but optimistically and substantially 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.

Kiesewetter and Manthey (2017) surveyed the connection between tax avoidance and corporate governance. At the cutoff, the analysis discovered a major divergence in the corporate governance level of practices. When compared to the smaller companies, the larger companies have better corporate governance. Good corporate governance features lower the effective rate of tax for the companies, according to the report. Governance and taxation are inextricably linked, the paper adds to established studies. This study presents a contextual gap as it was conducted in a developed country that social and economic setting is different from Kenya

Firm size and profit were examined by Amato and Burson (2017) in the UK financial services industry. Firm size had a detrimental effect on profitability, regardless of whether it was modeled using a linear or cubic relationship. As businesses grew, they often increased debt in the firm's leverage rather than their small-sized counterparts. Reduction in efficiency and profitability ensued as a consequence of this.

Lee (2019) studied the relationship between company size and the profitability of the publicly traded companies in the United States. In order to validate the results of the fixed effect dynamic panel data model and a sample of more than 7000 entities, the study used fixed effect dynamic panel data and the sample size was larger than 7000 in order to ensure accurate results. This revealed that absolute firm size (total assets) had a significant nonlinear relationship with profitability measures; meaning that growth in profitability was smaller for larger firms. The results revealed that bigger companies financed their assets with greater amounts of borrowed capital, because they had higher borrowing ability.

2.4.2 Local Studies

Kariuki (2013) discovered how stress in the financial sector impacted the ability of commercial banks to function. A population of forty-four banks was sampled to arrive at a total of twenty-two banks. Eleven NSE-listed financial institutions were included, while eleven NSE-unlisted institutions were included. Data was gathered from the financial statements of the banks and the Central Bank of Kenya's reports. Return on assets ratio was employed to evaluate financial performance, and Altman's Z-score model was used to calculate financial distress. Banks which did not go public, which experienced more financial difficulty, as opposed to those who went public and did well, showed up in the research. Kariuki (2013) also found that low financial performance correlated with financial hardship, such that poor performance outcomes may be attributed to low financial performance. Altman Z-score model, created for manufacturing companies with assets greater than $1 million, was used in the research.

The study by Baimwera and Muriuki (2014) analyzed the financial distress determinants proposed by Altman (1968) for non-financial companies listed on the Nairobi Securities Exchange, which are liquidity, leverage, growth, and profitability, in relation to financial distress. A descriptive research methodology was used for a three-year time period, spanning 2007 to 2010, which collected financial data from financial statements. It used multivariate and univariate methods to predict financial stress. Correlation and regression analysis of the Pearson product moment correlation and regression analysis were performed to investigate the strength and character of the connection between financial distress drivers and corporate financial distress. Corporate financial hardship has no substantial impact on liquidity and leverage. To this end, both growth and profitability had a major impact. An insurance company executive in Kenya wanted to learn about the factors that caused financial hardship in

the insurance sector, particularly profitability, liquidity, efficiency leverage, and firm size. Descriptive research approach was used to investigate insurance firms in Kenya as of December 31, 2013. Companies were selected for inclusion in the sample via purposive sampling. The research claims that insurance firms in Kenya experience financial hardship as a result of factors related to independence. A research on financial hardship in Kenya revealed that efficiency and liquidity are the most significant factors.

This study by Meeme (2015) sought to find out whether the degree of adherence to the Basel III agreement by commercial banks in Kenya correlates with their financial strain condition. Using a census to gather secondary data from all the commercial banks over the course of two years, this study used a descriptive research methodology. Financial hardship was first shown to be strongly associated with the Basel III agreement using a multiple regression model. It was discovered that criteria such as capital and leverage restrictions, as well as liquidity requirements, are positively correlated with commercial bank financial hardship. The research determined that base III has a significant impact on the financial distress of commercial banks in Kenya, and that in order to execute the Basel agreement, banks would need to devise strategies to assist them put in place the measures mandated by the Basel accord.

Muigai (2016) conducted research on non-financial businesses listed on the NSE to find out if leverage affects financial distress. Leverage, debt maturity, equity structure, and asset structure were studied as independent factors that were expected to affect the companies' financial distress independently, while company size was expected to influence the interaction between these variables. Ten year audited financial statements spanning 2004-2013 were utilized for the research, which utilised audited financial statements as secondary data. Using a census from 41 of the Fortune 500 firms, together

with a quantitative research methodology, the study investigated this topic. According to Muigai (2016), asset tangibility, external equity, and financial leverage do not aid in the recovery of non-financial businesses during financial crisis. As part of the research, the data collected showed that although internal equity and long-term debt have a significant influence on mitigating the impacts of financial distress in non-financial companies, the size of the company and the industry in which it is listed had a marginal impact on this connection.

2.5 Summary of the Literature Review and Research Gaps

The theoretical reviews showed the predicted relation between firm characteristics and the financial distress. Major influencers of financial distress have been discussed. From the reviewed studies, there is a knowledge gap requiring to be filled. From the studies reviewed, there are varied conclusions regarding the relation between firm characteristics and financial distress. The differences from the studies can be explained on the basis of different operationalization of firm characteristics by different researchers thereby indicating that findings are dependent on operationalization model. Further, the prior studies concentrated on the influence of firm characteristics on performance leaving a gap on financial distress which is the current research focus.

Additionally, many studies done employed different designs for which some relied on empirical review to conclude while others relied on existing literature in measuring how the variables relate. Researchers showed varied inconclusive findings and failed to indicate the exact relationship that firm characteristics as measured by financial leverage, firm size, firm liquidity, management efficiency and profitability has on financial distress. This shows the need for more research in future studies to close the gap by conceptualizing the effect of firm characteristics on financial distress.

2.6 Conceptual Framework

Figure 2.1 displays the predicted relation between the variables. Firm characteristics being the predictor variable was characterized by financial leverage, firm size, firm liquidity and management efficiency. Financial distress was the response variable given by Altman's Z-score index.

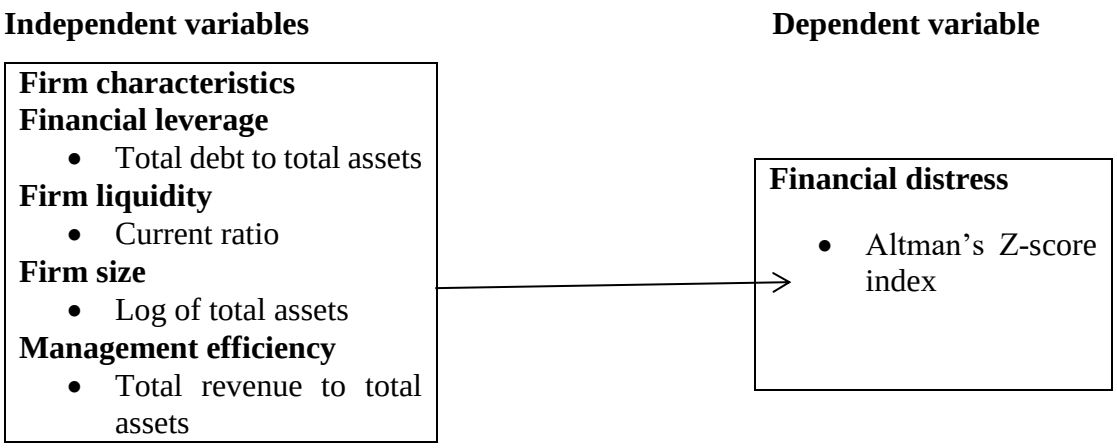

Figure 2.1: The Conceptual Model

Source: Researcher (2021)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the ways in which research was carried out to fulfill the objective which was to determine how firm characteristics affect financial distress. In particular, the study highlights the design, diagnostic tests, data collection as well as analysis.

3.2 Research Design

To determine how non-financial firm characteristics and financial distress were related, a descriptive approach was used. A descriptive design was adopted to determine how firm characteristics and financial distress of NSE listed non-financial firms relate. This design was appropriate since the nature of the phenomena is of key interest to the researcher (Khan, 2008). It was also sufficient in defining the interrelationships of the phenomena. This design also validly and accurately represents the variables thereby giving sufficient responses to the study queries.

3.3 Population

A population is all of the observed elements from a collection of events, which include things like research inquiries (Burns & Burns, 2008). All the 42 NSE listed non-financial firms as of December 2020 formed current study's population (see appendix I).

3.4 Data Collection

In this inquiry, secondary sources were used, which were retrieved from annual published financials of the listed non-financial firms from 2016 to 2020 and recorded in a secondary data collection schedule. The publications were drawn from CMA

publications reports of the specific sampled listed companies. The specific data collected included total assets, retained earnings, net income, current liabilities, earnings before interest and tax, total debt, current assets, equity and total revenue.

3.5 Diagnostic Tests

To ascertain model viability, a number of diagnostic tests were done, like normality, stationarity, multicolinearity, homogeneity and autocorrelation. The assumption of normality was that the dependent variable's residual was normally distributed and closer to the mean. This was accomplished by use of the Shapiro-wilk test or Kolmogorov-Smirnov test. If a variable had no normal distribution, it was adjusted using the logarithmic adjustment methodology. Stationarity test was utilized in determining if the statistical properties such as variance, mean, as well as autocorrelation change with the passage of time. This property was ascertained using the augmented Dickey Fuller test. In the event the data does not meet this property, the robust standard errors were utilized (Khan, 2008).

Autocorrelation is a measure of how similar one time series is when compared to its lagged value across successive timings. The measure of this test was done using the Wooldridge test and in the event that the presumption was breached the robust standard errors were used in the model. Multicollinearity exists when a perfect or near perfect linear relation is made between a number of independent variables. Variance Inflation Factors (VIF) and tolerance levels were utilized. Any multicolinear variable was eliminated and a new measurement used in place of the variable that has co-linearity. If the variance errors in a regression are distributed among the independent variables, heteroskedasticity confirms this. This was tested using the Breuch Pagan test and if data

does not meet the homogeneity of variances assumption, robust standard errors were employed (Burns & Burns, 2008).

3.6 Data Analysis

Version 24 of the SPSS software was utilized for data analysis. Quantitatively, the tables present the results. In calculating central tendency and dispersion measurements, including a standard deviation and mean for each variable, descriptive statistics were used. Correlation and regression were the basis of inferential statistics. The correlation determined the scope of the relationship between the study variables and the cause and effect of the variables was determined by a regression. The relationship between independent and dependent variables was determined linearly by a multivariate regression.

3.6.1 Analytical Model

The following equation was applicable:

$$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y = Financial distress as given by Altman's Z-score index of financial distress.

The model adopted will be; $Z = 3.25 + 6.56Y_1 + 3.26Y_2 + 6.72Y_3 + 1.05Y_4$

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

Y_1 = dividing total assets and net working capital

Y_2= dividing total assets and retained earnings

Y_3 = dividing total assets and the sum of Earnings before Interest and Taxes/

Y_4= dividing Total liabilities are valued at their book value and equity valued at their book value

Zones of discrimination: $Z > 5.85$: Safe zone, $4.15 < Z < 5.85$: Grey Zone, $Z < 4.15$: Distress zone. This model has been used before by Begley and Ming (2007)

β_0 = the slope of the regression equation's y intercept.

$\beta_1 \ldots \beta_4$ = coefficients of regression

X_1 = Financial leverage calculated by dividing total debt by total assets

X_2 = Liquidity calculated by dividing current assets by current liabilities

X_3 = Firm size as given by logarithmic expression of total assets

X_4 = Management efficiency calculated by dividing total revenue by total assets

ε =error term

3.6.2 Tests of Significance

Parametric tests were used to establish the general model's relevance as well as the significance of specific coefficients. The F-test determined the meaning of the overall model and this was done with ANOVA. A t-test assessed the importance of each variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND FINDINGS

4.1 Introduction

This chapter looks into CMA data to see how firm characteristics affect the financial distress of listed non-financial firms. Correlation and regression data were represented in tables utilizing descriptive statistics, as indicated in the segments below.

4.2 Descriptive Analysis

This study presents the average, maximum, minimum, and standard variables. Table 4.1 displays the variable statistics. For all 42 non-financial firms whose data was gathered, SPSS was utilized in the analysis from 2016 to 2020. The figures are listed below.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial Distress	210	.7046	21.8845	2.935340	2.5374046
Leverage	210	.025	1.419	.48380	.248798
Liquidity	210	.3431	10.0893	2.210831	1.5149257
Firm size	210	7.654	11.577	9.72299	.903608
Management efficiency	210	.343	11.648	2.13803	1.859024
Valid N (listwise)	210				

Source: Research Findings (2021)

4.3 Diagnostic Tests

On the data gathered, diagnostic tests were run. The research utilized a 95% confidence interval or a 5% significance threshold to obtain variable information. Diagnostic tests were helpful in determining if the data was false or true. As a result, the closer the confidence interval is to 100 percent, the more correct the data utilized is assumed to

be. The tests performed in this example were normality, multicollinearity, heteroskedasticity as well as autocorrelation.

4.3.1 Normality Test

This study included the Shapiro-Wilk test. This criteria stated that data was considered normal if the probability was higher than 0.05.

Table 4.2: Normality Test

			Shapiro-Wilk
	Statistic	Df	Sig.
Financial distress	.869	210	.853
Leverage	.918	210	.822
Firm size	.881	210	.723
Liquidity	.874	210	.812
Management efficiency	.882	210	.724
a. Lilliefors Significance Correction			

Source: Research Findings (2021)

Since the p values are above 0.05, the aforementioned findings indicate that the data was regularly distributed. As a result, the normal distribution null hypothesis was accepted, indicating that the researcher fails to reject the null hypotheses.

4.3.2 Multicollinearity Test

William et al (2013) defined this characteristic as correlations between the predictor variables. This attribute was tested using VIF. Field (2009) says that VIF values over 10 suggest that this feature exists.

Table 4.3: Multicollinearity Test

Variable	**VIF**	**1/VIF**
Leverage	2.435	0.411
Firm size	2.866	0.349
Liquidity	2.111	0.474
Management efficiency	3.024	0.331

Source: Research Findings (2021)

Table 4.3 shows the VIF values that were discovered to be less than ten, indicating that Multicollinearity was not present, as per Field (2009).

4.3.3 Heteroskedasticity Test

The error process in cross-sectional units may be homoscedastic, yet vary across units called groupwise Heteroskedasticity. Breuch Pagan is calculated for each group using the hettest program. Heteroskedasticity is a term used to describe the heteroskedasticity of residuals. According to the null hypothesis; $\sigma^2_i = \sigma^2$ for i =1...Ng, where Ng is the cross-sectional units.

Table 4.4: Heteroskedasticity Test

Modified Wald test for group wise heteroskedasticity in regression model
H0: sigma(i)^2 = sigma^2 for all i
chi2 (210) = 296.41
Prob>chi2 = 0.3973

Source: Research Findings (2021)

The null hypothesis of Homoskedastic error terms is not rejected, according to the results in Table 4.4, which are supported by a 0.3973 p-value

4.3.4 Autocorrelation Test

The Breusch-Godfrey autocorrelations test was employed to detect serial correlations in a model's idiosyncratic term since typical serial correlation biases make the results more efficient.

Table 4.5: Autocorrelation Test

Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation
F(1, 210) = 0.499
Prob> F = 0.3956

Source: Research Findings (2021)

Table 4.5 shows that the null hypothesis of no serial connection is not rejected since the p-value of 0.3956 is significant.

4.4 Correlation Analysis

To identify the connection between variables, correlation analysis is employed. The Pearson correlation was utilized to investigate the connection between non-financial sector distress and variables (leverage, liquidity, firm size, and managerial efficiency).

Table 4.7: Correlation Analysis

		Financial Distress	Leverage	Liquidity	Firm size	Management efficiency
Financial Distress	Pearson Correlation	1				
	Sig. (2-tailed)					
Leverage	Pearson Correlation	.675**	1			
	Sig. (2-tailed)	.000				
Liquidity	Pearson Correlation	-.106	-.005	1		
	Sig. (2-tailed)	.127	.939			
Firm size	Pearson Correlation	-.125	.196**	.028	1	
	Sig. (2-tailed)	.071	.004	.689		
Management efficiency	Pearson Correlation	-.100	.076	.205**	.000	1
	Sig. (2-tailed)	.147	.271	.003	.995	

**. Correlation is significant at the 0.01 level (2-tailed).
b. Listwise N=210

Source: Research Findings (2021)

The correlation results reveal that leverage has a positive and significant association with financial distress (r =.675, p =.000). Liquidity, size and management efficiency all showed negative but not significant relationship with non-financial company financial distress (r =-.106, p =.127; r =-.125, p =.071; r =-.100, p =.147), according to the findings.

4.5 Regression Analysis

Leverage, liquidity, firm size, and managerial efficiency were the variables upon which distress was modeled. The significance level for the analysis was set at 5%. The regression result was contrasted to the crucial value from the F – table. The results are listed below.

Table 4.8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.685[a]	.469	.459	1.8669684

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

Source: Research Findings (2021)

The R square depicts the variables of the response variable because of the predictor variables changes. R square was 0.469, showing that differing leverage, liquidity, size and managerial effectiveness represent 46.9% of the variability in non-financial companies' financial distress. 53.1% of the financial distress variation may be ascribed to factors outside the model. Furthermore, as demonstrated by a 0.685 correlation coefficient(R), the independent factors had a high link with financial distress.

Table 4.9: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	631.088	4	157.772	45.264	.000[b]
	Residual	714.542	205	3.486		
	Total	1345.630	209			

a. Dependent Variable: Financial Distress
b. Predictors: (Constant), Management efficiency, Firm size, Liquidity, Leverage

Source: Research Findings (2021)

The significance level is set at 0.000, which is much below p=0.05. This means that the model was satisfactory to assess the leverage, liquidity, firm size and managerial efficiencies of NSE-listed businesses in non-financial sector.

The R-square indicated the way the variables were connected. The significance of the link between responder and predictor factors was shown by the p-value of the sig. column. The confidence interval of 95% indicates a p-value of less than 0.05. As a consequence, a p-value above 0.05 indicates that the predictor and response variable are unrelated. The results are listed below.

Table 4.10: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.133	.078		-4.704	.000
	Leverage	.258	.029	.527	8.780	.000
	Liquidity	-.032	.008	-.239	-3.996	.000
	Firm size	-.002	.004	-.036	-.598	.551
	Management efficiency	-.019	.015	-.214	-3.897	.000

a. Dependent Variable: Financial distress

Source: Research Findings (2020)

All other factors, except for company size, have generated significant findings (high t-value, $p < 0.05$). Because a p value greater than 0.05 is displayed, the business size generated a negative but modest result.

The following equation was created:

$Y = -0.133 + 0.258X_1 - 0.032X_2 - 0.019X_3$

Where,

Y = Financial distress

X_1= Leverage

X_2= Liquidity

X_3= Management efficiency

The constant = -0.133 in the model indicates that distress would be -0.133 if the variables (leverage, liquidity, company size, as well as management efficiency) were all zero. While firm size was insignificant, a unit rise in leverage resulted in a 0.258 rise in distress, but a unit rise in liquidity or managerial efficiency resulted in 0.032 and 0.019 decreases in financial distress, respectively.

4.7 Discussion of Research Findings

The research examined how leverage impacts NSE non-financial firms' distress. The independent variables were leverage operationalized as the ratio of total debt to total assets, liquidity measured by current ratio, firm size as natural log of total assets and management efficiency measured by total sales to the overall assets. Altman's Z score was used to measure financial distress which was the response variable.

The correlation coefficient of Pearson showed that leverage has a significant positive association with distress measured by Altman's Z score. NSE Non-financial businesses' distress showed a negative but not substantial connection to liquidity. The research too exhibited that the correlation between firm size and managerial efficiency with the financial distress of NSE non-financial companies has been negative but not substantial.

The result shows that 46.9% of changes in the response variable according to R^2, which implies other factors other than the model explain 53.1% of distress changes. The predictor variables of leverage, liquidity, size of a business and efficiency explained 46.9% of changes in Altman's Z score. With an F-value of 45.264, the model was significant at 95% confidence interval. This shows that the connections between the variables were represented by a sufficient model.

The findings are consistent with the study by Baimwera and Muriuki (2014) who analyzed the financial distress determinants proposed by Altman (1968) for non-financial companies listed on the Nairobi Securities Exchange, which are liquidity, leverage, growth, and profitability, in relation to financial distress. A descriptive research methodology was used for a three-year time period, spanning 2007 to 2010, which collected financial data from financial statements. It used multivariate and univariate methods to predict financial stress. Correlation and regression analysis of the Pearson product moment correlation and regression analysis were performed to investigate the strength and character of the connection between financial distress drivers and corporate financial distress. Corporate financial hardship has no substantial impact on liquidity and leverage. To this end, both growth and profitability had a major impact

The study also concurs with Muigai (2016) who conducted research on non-financial businesses listed on the NSE to find out if leverage affects financial distress. Leverage, debt maturity, equity structure, and asset structure were studied as independent factors that were expected to affect the companies' financial distress independently, while company size was expected to influence the interaction between these variables. Ten year audited financial statements spanning 2004-2013 were utilized for the research, which utilised audited financial statements as secondary data. Using a census from 41 of the Fortune 500 firms, together with a quantitative research methodology, the study investigated this topic. According to Muigai (2016), asset tangibility, external equity, and financial leverage do not aid in the recovery of non-financial businesses during financial crisis. As part of the research, the data collected showed that although internal equity and long-term debt have a significant influence on mitigating the impacts of financial distress in non-financial companies, the size of the company and the industry

in which it is listed had a marginal impact on this connection.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The facts, conclusions, as well as limitations discovered during the research are summarized in this chapter. It also makes policy recommendations that will help policymakers raise the expectations of publicly traded non-financial companies in order to attain better results. The findings of the research too include future research suggestions.

5.2 Summary of Findings

The research's goal was to see how NSE's financial distress is affected by firm characteristics. Leverage, liquidity, business size, and managerial efficiency were the variables studied. This was accomplished using a descriptive cross-section design. SPSS was used to analyze secondary CMA data. Annual data for 42 non-financial corporations was obtained during a 5-year period from their annual reports.

The correlation coefficient of Pearson showed that leverage has a significant positive association with distress measured by Altman's Z score. NSE Non-financial businesses' distress showed a negative but not substantial connection to liquidity. The research too depicted that the correlation between firm size and managerial efficiency with the financial distress of NSE non-financial companies has been negative but not substantial.

As depicted by 0.469 R square, indicating that differences in leverage, liquidity, business size, and management efficiency account for 46.9% of the variance in NSE listed non-financial enterprises distress. 53.1% of financial distress variation is

attributable to variables outside the model. The results showed that the predictor parameters selected were significantly linked with the business results of non-financial companies (R=0.685). The F value was calculated as 5% above the crucial value whereas the p value was 0.000 and showed that the model included data on the effects of the four independent variables on NSE listed firms.

The regression outcomes suggest that distress would be -0.133 if the variables (leverage, liquidity, company size, as well as management efficiency) were all zero. While firm size was insignificant, a unit rise in leverage resulted in a 0.258 rise in distress, but a unit rise in liquidity or managerial efficiency resulted in 0.032 and 0.019 decreases in financial distress, respectively.

5.3 Conclusion

The financial distress of publicly traded non-financial businesses is affected significantly by leverage. The conclusions indicate that a unit increase in that variable has a substantial positive effect on non-financial business distress. Company liquidity has a strong negative distress connection and therefore greatly reduces financial distress. The survey also showed a statistically significant impact of management efficiency on financial distress and suggested that management efficiency is significantly affecting the distress of the companies examined. Furthermore, business size has a favorable but modest financial distress impact, meaning that corporate size is not a big predictor of firm size.

The results indicate that the selected factors, leverage, liquidity, size, and managerial efficiency, significantly affected businesses' financial distress. These factors influence significantly on non-financial companies' financial distress, since ANOVA's p value is below 0.05. The finding that the chosen variables account for 46.9% of variance in

distress indicates that other non-model factors account for 53.1% of variance in non-financial companies' financial distress.

This study concurs with Pratheepkanth (2011) who studied the 210 Sri-Lankan corporations who were publicly listed on the Colombo stock exchange with a view of establishing how leverage affected firms' financial distress. The study spanned over the five years period 2005 – 2009. In undertaking the study, leverage was measured by dividing equity and debt as well as dividing sum of capital and sum of debt while both net profit and gross profit margins were adopted as measures of financial distress. The study found an inverse but weak (non-significant) connection among 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.

5.4 Recommendations

The study results revealed that leverage has a positive impact on financial distress. Policy reforms include: non-financial companies listed in NSE shall assess fiscal advantages and bankruptcy costs connected with loan funding. Levels of debt should be kept at appropriate levels because a high debt level has been shown to increase financial distress. This will assist in achieving the objective of enhancing shareholder value.

Financial distress and liquidity were found to have a negative relationship in the research. The suggestion is that a detailed examination of the liquidity condition of publicly traded non-financial firms be performed to ensure that the firms are functioning at adequate levels of liquidity, consequently lowering financial distress. The rationale for this is that liquidness is extremely vital since it has an impact on how a company operates.

The NSE's non-financial operations performed much better as a result of improved management efficiency. The proposal is that non-financial companies establish optimal personnel management methods to ensure that skilled and devoted employees be attracted and retained, since this would help reduce financial distress. Talent management methods such as staff planning, recruiting, learning and development should be given special consideration as should employee perks and payments.

5.5 Limitations of the Study

The research looked at some of the elements thought to affect the NSE-listed non-financial companies' distress. The research focused on four explanatory variables in particular. Nevertheless, additional factors, some of which are internal, like the firm's age and corporate governance, though others which lack management's regulation, like rate of exchange, economic growth, balance of trade, as well as rate of unemployment, are influential in determining financial distress of companies.

The research used quantitative secondary data. The research also overlooked qualitative data that may explain additional variables influencing the connection between leverage and non-financial company distress. Qualitative techniques like focus groups, open surveys and interviews may help to provide more definitive results.

The research focused on a span of 5 years (2016 to 2020). It is not clear whether the outcomes will last longer. It is also uncertain if same results can be expected beyond 2020. A multivariate linear regression model for data analysis was used. The investigator cannot correctly extrapolate results due to the model's shortcomings, such as misleading conclusions from a change in variable financial distress. When data is added into the model, conflicting outcomes may occur.

5.6 Suggestions for Further Research

The research uses secondary data to examine at the impact of the leverage on NSE non-financial firms' distress. In order to complement this research, same survey on the basis of primary data obtained through thorough surveys as well as interviews on all 42 NSE listed non-financial corporations might suffice.

Further research on variables such as growth prospects, industrial practices, business age, political stability, and other macroeconomic variables is required since the study did not cover all of the elements that affect the financial distress of NSE non-financial companies. Policymakers may use a tool that evaluates the influence of different factors on distress to help them make decisions.

The research was restricted to NSE-listed non-financial businesses. Other corporations operational in Kenya should be investigated further, according to the study's recommendations. Future research should look into how firm characteristics affect other factors different from financial distress, such as business value, operational efficiency, and dividend payment, to name a few.

The focus of this research was drawn to the last five years. Future studies may span a lengthy period of time, such as thirty or twenty years, and may have a major effect on this study by confirming or refuting its findings. A longer research has the benefit of allowing the researcher to catch the effects of business cycles like booms as well as recessions.

Lastly, this research relied on model of multiple linear regression that has its own set of drawbacks, including the possibility of erroneous and misleading conclusions due to changes in variable financial distress. To explore the many connections to financial

distress, future research should use alternative models, such as the Vector Error Correction Model.

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APPENDICES

Appendix I: Non-Financial Firms Listed at the NSE

	COMPANY	SECTOR	YEAR OF LISTING
	Deacons (East Africa)	Consumer Services	2016
2.	Nairobi Business Ventures	Consumer Services	2016
3.	Atlas African Industries	Industrials	2014
4.	Flame Tree Group Holdings	Basic Materials	2014
5.	Kurwitu Ventures	Consumer services	2014
6.	Umeme	Utilities	2012
7.	TransCentury	Industrials	2011
8.	Safaricom	Telecommunications	2008
9.	Eveready East Africa	Consumer Goods	2006
10.	KenGen Company	Utilities	2006
11.	WPP Scangroup	Consumer Services	2006
12.	Mumias Sugar Co	Consumer Goods	2001
13.	ARM Cement	Industrials	1997
14.	TPS Eastern Africa	Consumer Services	1997
15.	Kenya Airways	Consumer Services	1996
16.	Sameer Africa	Consumer Goods	1994
17.	Longhorn Publishers	Consumer Services	1993
18.	Crown Paints Kenya	Basic Materials	1992
19.	Uchumi Supermarkets	Consumer Services	1992
20.	Total Kenya	Oil & Gas	1988
21.	Express Kenya	Consumer Services	1978
22.	Olympia Capital Holdings	Industrials	1974
23.	East African Cables	Industrials	1973
24.	Nation Media Group	Consumer Services	1973
25.	Carbacid Investments	Basic Materials	1972
26.	Eaagads	Consumer Goods	1972
27.	East African Breweries	Consumer Goods	1972
28.	East African Portland Cement	Industrials	1972
29.	Kapchorua Tea Kenya	Consumer Goods	1972
30.	Kenya Power & Lighting	Utilities	1972
31.	Williamson Tea Kenya	Consumer Goods	1972
32.	Unga Group	Consumer Goods	1971
33.	Bamburi Cement	Industrials	1970
34.	B O C Kenya	Basic Materials	1969
35.	BAT Kenya	Consumer Goods	1969
36.	Limuru Tea	Consumer Goods	1967

37.	Sasini	Consumer Goods	1965
38.	KenolKobil	Oil & Gas	1959
39.	Kenya Orchards	Consumer Goods	1959
40.	Standard Group	Consumer Services	1954
41.	Kakuzi	Consumer Goods	1951
42.	Car & General (K)	Consumer Services	1940

Source: NSE (2020)

Appendix II: Research Data

Company ID	Year	Financial Distress	Leverage	Liquidity	Firm size	Management efficiency
1	2016	1.9512	0.513	3.9703	10.630	1.766
1	2017	2.1948	0.456	3.9512	10.708	2.909
1	2018	1.4801	0.676	3.9318	10.715	5.958
1	2019	1.3427	0.745	3.9120	10.567	11.648
1	2020	1.3828	0.723	3.8918	10.473	7.503
2	2016	3.6465	0.274	3.9120	10.660	2.123
2	2017	3.0735	0.325	3.8918	10.528	3.237
2	2018	3.4639	0.289	3.8712	10.622	1.082
2	2019	3.3858	0.295	3.8501	10.603	2.279
2	2020	3.6310	0.275	3.8286	10.634	1.303
3	2016	1.5557	0.643	4.3944	9.973	1.594
3	2017	1.5010	0.666	4.3820	9.987	1.438
3	2018	1.5063	0.664	4.3694	9.954	1.013
3	2019	1.5324	0.653	4.3567	9.911	0.911
3	2020	1.5695	0.637	4.3438	9.839	2.355
4	2016	8.6369	0.116	3.1781	9.519	3.047
4	2017	7.5613	0.132	3.1355	9.489	3.001
4	2018	6.0377	0.166	3.0910	9.473	2.807
4	2019	6.7914	0.147	3.0445	9.404	2.973
4	2020	7.8737	0.127	2.9957	9.343	2.834
5	2016	1.4272	0.701	2.0794	9.769	3.249
5	2017	1.4467	0.691	1.9459	9.704	6.252
5	2018	1.4246	0.702	1.7918	9.657	2.076
5	2019	1.5378	0.650	1.6094	9.586	2.051
5	2020	1.8598	0.538	1.3863	9.469	2.674
6	2016	1.3641	0.733	3.5835	9.847	1.940
6	2017	1.5121	0.661	3.5553	9.878	1.022
6	2018	1.6795	0.595	3.5264	9.923	0.721
6	2019	1.6445	0.608	3.4965	9.897	0.699
6	2020	1.8193	0.550	3.4657	9.833	0.803
7	2016	2.6138	0.383	3.9703	10.437	1.052
7	2017	2.8137	0.355	3.9512	10.445	2.357
7	2018	2.4844	0.403	3.9318	10.364	2.297
7	2019	1.7439	0.573	3.9120	10.196	2.681
7	2020	1.7840	0.561	3.8918	10.208	2.348
8	2016	3.4604	0.289	3.9120	8.888	2.620
8	2017	1.8161	0.551	3.8918	9.035	1.316
8	2018	2.3210	0.431	3.8712	9.179	1.196
8	2019	1.3070	0.765	3.8501	8.969	1.174

Company ID	Year	Financial Distress	Leverage	Liquidity	Firm size	Management efficiency
8	2020	1.7232	0.580	3.8286	8.973	1.206
9	2016	4.0349	0.248	4.3944	9.759	1.228
9	2017	4.1574	0.241	4.3820	9.705	1.056
9	2018	2.7954	0.358	4.3694	9.481	1.096
9	2019	4.3777	0.228	4.3567	9.586	1.112
9	2020	4.5228	0.221	4.3438	9.570	1.160
10	2016	1.9440	0.514	3.1781	11.577	1.123
10	2017	1.8881	0.530	3.1355	11.565	4.511
10	2018	1.7047	0.587	3.0910	11.535	6.296
10	2019	1.4421	0.693	3.0445	11.398	10.089
10	2020	1.6472	0.607	2.9957	11.276	4.258
11	2016	1.8704	0.535	2.0794	10.382	8.843
11	2017	1.6881	0.592	1.9459	10.384	1.107
11	2018	1.9699	0.508	1.7918	10.240	1.146
11	2019	1.4420	0.693	1.6094	10.379	1.382
11	2020	1.3107	0.763	1.3863	10.449	1.536
12	2016	1.2575	0.795	2.3571	11.534	1.464
12	2017	1.2742	0.785	2.2968	11.474	1.283
12	2018	1.4346	0.697	2.6813	11.440	1.168
12	2019	1.4978	0.668	2.3480	11.344	1.305
12	2020	1.4644	0.683	2.6204	11.248	1.197
13	2016	0.7649	1.307	1.3164	11.165	1.161
13	2017	0.8136	1.229	1.1960	11.192	1.585
13	2018	0.9683	1.033	1.1739	11.260	0.946
13	2019	1.2344	0.810	1.2056	11.172	1.085
13	2020	1.3411	0.746	1.2276	11.089	1.024
14	2016	6.4264	0.156	1.0562	11.209	1.469
14	2017	5.7551	0.174	1.0962	11.202	0.984
14	2018	2.9794	0.336	1.1120	11.196	1.334
14	2019	3.1039	0.322	1.1601	11.129	1.540
14	2020	2.6519	0.377	1.1233	11.110	1.259
15	2016	2.5445	0.393	4.5106	9.473	1.115
15	2017	2.2505	0.444	6.2963	9.517	4.144
15	2018	2.6009	0.384	10.0893	9.574	6.657
15	2019	3.0533	0.328	4.2579	9.586	7.954
15	2020	3.7098	0.270	8.8431	9.564	8.475
16	2016	7.0186	0.142	1.1065	10.120	3.345
16	2017	9.6407	0.104	1.1464	10.226	0.951
16	2018	11.0559	0.090	1.3815	10.205	1.097
16	2019	5.3156	0.188	1.5359	10.174	1.422

Company ID	Year	Financial Distress	Leverage	Liquidity	Firm size	Management efficiency
16	2020	3.3893	0.295	1.4639	9.957	1.486
17	2016	1.7183	0.582	1.2832	9.649	1.736
17	2017	1.8915	0.529	1.1679	9.644	1.237
17	2018	1.7577	0.569	1.3048	9.639	0.950
17	2019	2.1655	0.462	1.1971	9.613	0.935
17	2020	1.9743	0.507	1.1606	9.619	0.968
18	2016	2.2906	0.437	1.5853	10.580	1.224
18	2017	2.1493	0.465	0.9464	10.559	1.643
18	2018	2.0586	0.486	1.0851	10.534	1.032
18	2019	2.0192	0.495	1.0237	10.512	0.923
18	2020	1.6250	0.615	1.4691	10.602	0.897
19	2016	0.9941	1.006	0.9836	10.273	1.157
19	2017	1.2539	0.797	1.3339	10.277	0.502
19	2018	1.0350	0.966	1.5404	10.277	0.465
19	2019	2.7334	0.366	1.2591	10.339	0.563
19	2020	2.2444	0.446	1.1154	10.377	1.400
20	2016	0.7046	1.419	4.1442	9.699	0.624
20	2017	1.1528	0.867	7.9538	9.807	0.740
20	2018	1.9223	0.520	8.4745	9.838	0.693
20	2019	2.1047	0.475	3.3451	9.746	0.563
20	2020	2.1442	0.466	0.9506	10.011	0.636
21	2016	2.6262	0.381	1.0966	9.964	2.205
21	2017	2.6139	0.383	1.4218	9.938	2.524
21	2018	2.5402	0.394	1.4858	9.905	3.374
21	2019	2.1242	0.471	1.7358	9.909	2.833
21	2020	3.5892	0.279	1.2374	10.054	3.020
22	2016	3.5072	0.285	0.9502	10.085	4.402
22	2017	3.3921	0.295	0.9346	10.104	2.328
22	2018	3.7606	0.266	0.9684	10.077	1.771
22	2019	3.5754	0.280	1.2242	10.059	1.895
22	2020	3.6087	0.277	1.6434	9.348	2.131
23	2016	4.1615	0.240	1.0320	9.347	0.955
23	2017	3.8246	0.261	0.9226	9.366	1.219
23	2018	4.1587	0.240	0.8973	9.362	1.156
23	2019	4.6190	0.216	1.1574	9.420	1.116
23	2020	1.2193	0.820	0.5021	10.824	1.078
24	2016	1.1264	0.888	0.4648	10.791	1.524
24	2017	1.2492	0.801	0.5627	10.826	1.488
24	2018	1.1693	0.855	1.4005	10.798	1.277
24	2019	1.1516	0.868	1.0634	10.761	1.300

Company ID	Year	Financial Distress	Leverage	Liquidity	Firm size	Management efficiency
24	2020	12.7784	0.078	0.6245	8.965	1.100
25	2016	10.9949	0.091	0.7402	8.881	0.630
25	2017	6.7643	0.148	0.6930	8.633	1.595
25	2018	5.2237	0.191	0.5634	8.649	1.487
25	2019	4.1875	0.239	0.6361	9.978	1.285
25	2020	3.7726	0.265	2.2050	9.922	1.410
26	2016	4.5210	0.221	2.5238	9.951	0.343
26	2017	4.3696	0.229	3.3740	9.932	0.672
26	2018	3.9450	0.253	2.8332	9.931	2.973
26	2019	3.3024	0.303	3.0200	9.308	2.834
26	2020	3.4021	0.294	4.4016	9.331	3.249
27	2016	3.5698	0.280	2.3280	9.297	6.252
27	2017	3.5172	0.284	1.7710	9.285	2.076
27	2018	2.6162	0.382	1.8952	9.318	2.051
27	2019	3.5296	0.283	2.1309	8.418	2.674
27	2020	3.6897	0.271	0.9554	8.451	2.828
28	2016	3.7398	0.267	1.2192	8.497	2.910
28	2017	4.2414	0.236	1.1561	8.530	3.463
28	2018	4.1496	0.241	1.1158	8.535	3.601
28	2019	0.8781	1.139	1.0780	8.574	4.359
28	2020	1.0650	0.939	1.5236	8.579	1.766
29	2016	1.3733	0.728	1.4882	8.645	2.909
29	2017	1.4853	0.673	1.2774	8.679	5.958
29	2018	1.7039	0.587	1.2997	8.682	11.648
29	2019	2.1012	0.476	1.1003	10.243	7.503
29	2020	2.2896	0.437	0.6298	10.230	2.123
30	2016	2.5799	0.388	1.5950	10.199	3.237
30	2017	2.8840	0.347	1.4871	10.202	1.082
30	2018	2.8918	0.346	1.2846	10.208	2.279
30	2019	2.8702	0.348	1.4099	10.139	1.303
30	2020	2.8831	0.347	0.3431	10.130	1.594
31	2016	3.2266	0.310	0.6717	10.096	1.438
31	2017	2.8017	0.357	0.7048	10.123	1.013
31	2018	2.7128	0.369	1.0983	10.105	0.911
31	2019	1.4632	0.683	1.0861	8.157	2.355
31	2020	1.4721	0.679	2.3685	8.191	3.047
32	2016	1.6847	0.594	2.2713	8.048	3.001
32	2017	1.3114	0.763	1.8378	7.900	2.807
32	2018	1.3267	0.754	2.3583	7.654	2.973
32	2019	0.9196	1.087	2.5221	9.651	2.834

Company ID	Year	Financial Distress	Leverage	Liquidity	Firm size	Management efficiency
32	2020	0.9492	1.053	1.3097	9.594	3.249
33	2016	0.9893	1.011	1.1747	9.587	6.252
33	2017	1.1034	0.906	1.1699	9.570	2.076
33	2018	1.1246	0.889	1.1666	9.486	2.051
33	2019	1.8863	0.530	1.1380	8.147	2.674
33	2020	1.8997	0.526	0.4479	8.708	2.271
34	2016	1.8622	0.537	1.0423	8.781	1.838
34	2017	2.2106	0.452	1.0590	8.712	2.358
34	2018	2.4822	0.403	1.1121	8.109	2.522
34	2019	21.8845	0.046	1.1251	9.324	1.310
34	2020	13.3715	0.075	1.0611	9.304	1.175
35	2016	13.3695	0.075	1.1587	9.283	1.170
35	2017	11.8634	0.084	1.1441	9.227	1.167
35	2018	2.7470	0.364	1.1447	9.060	1.138
35	2019	1.7867	0.560	1.0939	10.251	0.448
35	2020	1.9066	0.524	1.0332	10.267	1.042
36	2016	1.9008	0.526	1.2705	10.271	1.059
36	2017	1.8025	0.555	1.2776	10.261	1.112
36	2018	4.0606	0.025	1.1715	10.230	1.125
36	2019	1.3929	0.718	1.1658	10.428	1.159
36	2020	1.4091	0.710	1.5334	10.310	1.144
37	2016	1.5721	0.636	1.6234	10.372	1.145
37	2017	1.7637	0.567	1.6385	10.436	1.094
37	2018	2.0358	0.491	1.6048	9.269	1.033
37	2019	2.0307	0.492	1.5050	9.271	1.271
37	2020	2.2312	0.448	1.2653	8.838	1.278
38	2016	2.3648	0.423	1.2875	8.877	1.172
38	2017	2.2899	0.437	1.2781	8.836	1.166
38	2018	2.0573	0.486	1.2225	9.358	1.558
38	2019	2.5530	0.392	1.1691	9.396	1.623
38	2020	3.5660	0.280	1.1254	9.293	1.638
39	2016	1.8878	0.530	1.0996	8.741	1.605
39	2017	2.1368	0.468	1.0417	8.267	1.505
39	2018	2.2222	0.450	1.2396	8.316	1.265
39	2019	2.2624	0.442	2.2624	8.354	1.287
39	2020	2.9326	0.341	2.9326	8.382	1.278
40	2016	3.5336	0.283	3.5336	8.414	1.222
40	2017	2.5000	0.400	2.5000	8.267	1.047
40	2018	3.1447	0.318	3.1447	8.316	1.169
40	2019	2.5063	0.399	2.5063	8.354	1.125

Company ID	Year	Financial Distress	Leverage	Liquidity	Firm size	Management efficiency
40	2020	2.5000	0.400	2.5000	8.382	1.100
41	2016	2.9851	0.335	2.9851	8.414	1.042
41	2017	3.0675	0.326	3.0675	8.291	1.240
41	2018	2.9586	0.338	2.9586	8.343	1.198
41	2019	2.6596	0.376	2.6596	8.347	1.159
41	2020	2.9674	0.337	2.9674	8.369	1.148
42	2016	2.1739	0.460	2.1739	8.399	1.081
42	2017	1.4728	0.679	1.4728	8.035	2.095
42	2018	2.4155	0.414	2.4155	8.083	2.365
42	2019	1.3569	0.737	1.3569	8.164	2.520
42	2020	1.8315	0.546	1.8315	8.219	2.253