THE EFFECTS OF FINANCIAL DISTRESS ON THE VALUE OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

I hereby declare that this project is my original work and has not been presented to any university or an institution of higher learning for an award of a degree.

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DEDICATION

This research project is dedicated to my dear wife, Veronica Njoroge and daughters Leesah and Leenah for their support and encouragement.

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ABBREVIATIONS

CDSC	Central Depository and Settlement Scheme
EBITDA	Earnings before Interest, Tax, Depreciation and Amortization
EBIT	Earnings before Interest and Tax
GDP	Gross Domestic Product
ICDC	Industrial and Commercial Development Corporation
IFRS	International Financial Reporting Standards
IPO	Initial Public Offering
NSE	Nairobi Securities Exchange
REIT	Real Estate Investment Trusts
ROA	Return on Assets
ROE	Return on Equity
SPSS	Statistical Software for Social Scientists

ABSTRACT

The subject of corporate financial distress has become increasingly important to stakeholders of any business as management of the precarious situation can lead to either turnaround or total collapse of the business. This study aimed at establishing the effects of financial distress on the value of firms listed at the NSE. The objectives of the study were to determine whether financial distress had any notable impact on the value of the firms listed at the NSE and whether distress risk was adequately priced by the market. Particularly, the study focussed on financial distress as predicted by Altmanôs Z-score model and value of firm, proxy of which being market capitalisation. Secondary data was collected from the annual reports and financial statements of 34 companies listed at the NSE over a five-year period spanning between 2011 and 2015. Data was analysed using Microsoft Excel 2013 and SPSS version 20.0.0.0. Regression and correlation tests were conducted on the data to determine the nature and extent of the relationship between the independent variable (financial distress) and dependent variable (value of firm). Moderating variables in the study included financial leverage, profitability and quality of assets. The study revealed a strong positive relationship of 74% between the log of market capitalisation and the Altmanôs Z-score. Further, the study shown that there existed a positive beta value of 0.2054 between the two variables indicating that a unit increase in Altmanôs Z-score (an indicator of reduction in the level of financial distress) would lead to 0.2054 increase in the log of market capitalisation with other factors held constant.

CHAPTER ONE
INTRODUCTION

1.1 Background

Business failure results in enormous economic consequences. The impact is especially colossal for stakeholders of listed entities (Lin, Ko & Blocher, 1999). In many cases, the failure is preceded by a period of uncertainty and the financial status of the company is often by financial instability and distress. Andrade and Kaplan (1998) found out that there was a direct relationship between firmôs level of borrowings and probability of being financially distressed. Their study revealed that high-borrowing levels was the primary cause of financial distress in many organisations.

Liquidity, a key component in the success of any business is critical in the effective running of various segments of any business (Buseretse, 2015). Financial distress becomes evident when a firm defaults on its obligations when they fall due (Platt 2002). While research has shown that levered firms have a tax shield advantage compared to those that are not, management and those charged with governance of these firms must ensure that the firms are optimally leveraged to avoid the adverse effects of financial distress, which may lead to a reduction of shareholderôs wealth (Pandey, 2010). In the last decade, a number of entities listed at the NSE have had to deal with financial distress emanating from a myriad of systematic and unsystematic variables.

A number of empirical studies (Andrade & Kaplan, 1998; Asquith et al., 1994; Theodossiou et al., 1996; Whitaker, 1999) have provided some evidence that financial distress arises mainly from endogenous risk factors, such as mismanagement, high leverage, poor corporate governance, poor products offering, demotivated staff and inefficient operating structure. The correlation between financial distress and these factors is, according to capital market theory, of unsystematic nature and diversifiable. However, financial distress may also be caused by exogenous factors, which are not within the control of the organisation such as high interest rates, unfavourable changes in government policy and high borrowing rates.

1.1.1 Financial Distress

Platt and Platt (2006), through an empirical study concluded, that a firm is said to be in financial distress when it gets into a demanding situation whether financially, operationally or legally such that it cannot honour its obligations when they fall due. He provided a multidimensional approach of determining whether an entity is financially distressed by checking whether it has reported negative earnings before special items such interest, depreciation, amortization and tax. This implied that entities, which were financially distressed often, reported a loss from their key operational activities.

(Hofer, 1980) noted that in many cases, entities in financial distress strive to get out of the difficult situation by executing different turnaround strategies such as downsizing, elimination of loss making product lines, hiring of experts, restructuring, disposal of unproductive assets as well as improving the working capital cycle. Different researchers have embraced different definitions of financial distress depending on the specific aspects of the business being considered in the studies. Lau (1987) interprets financial distress as evidence of layoffs, restructurings, or missed dividend payments for consecutive periods. Asquith, Gertner and Scharfstein (1994) define financial distress as a low interest coverage ratio while Whitaker (1999) refers to financial distress as a condition when the entity is operating with negative working capital. In this study, Altmanôs Z-score was used as an indicator of the level of financial distress; whereby a firm with a score of less than 1.8 was considered to be financially distressed.

1.1.2 Value of Firm

Firm valuation is essential for various reasons, the most important being the determination of the stock prices (Keys & Biggs, 1990) which reflect the performance of the firm. Similarly, the value of a firm is determined through different parameters, (Precha, 2004) but the most important ones relate to profitability and liquidity. Depending on the requirements of the particular valuation (mergers and acquisitions,

restructurings, takeovers etc.), different valuation techniques can be employed, with a special consideration of the intended purpose.

The simplest method of valuation is the book value. This method is easy to use but it has several shortcomings, the fundamental one being that it depends on historical aspects of the assets and does not take into consideration expected future cash flows to be generated by the assets. Further, the values are determined based on interpretation of accounting standards that often require a certain level of judgement. This, therefore, may lead to values that are significantly different from the realizable values (Goosen, Jensen, & Wells, 1999. The second method is determination of the present value of all the expected future cash flows expected to flow from the assets and discounted at a reasonable discounting rate (Miller & Modigliani, 1961). Their hypothesis was however qualified by certain assumptions which many scholars have often criticised as unrealistic such as existence of a perfect market where all the participants are well informed, rational and access information instantaneously hence eliminating the room for arbitrage profits.

The third measure is accounting net worth adjusted for any exceptional items such as depreciation, amortization and other elements that are chiefly driven by accounting rules in the simulation. These adjustments generally depend on the specific aspects of the simulation though generally accepted rules can be defined in the simulation matrix. Other methods involve application of certain levels of judgement to determine certain values that are against ratings along a psychometric scale. The outcomes interpreted based on certain scale are converted to monetary values through by application of certain mathematical formulae (Precha, 2004). The fourth method of valuation is the determination of the market value of its outstanding shares, simply referred to as the market capitalisation. This is a common method of determining the value of companies whose stocks are traded publicly. Its application, however, requires an efficient real market for shares such as the Nairobi Securities Exchange with a considerable number of frequent rational participants to achieve reliable valuation (Precha, 2004). For purposes of this study, log of market capitalization was used as the proxy for value of firms listed at the NSE.

1.1.3 Financial Distress and Value of Firms in Kenya

An entity is said to be in a financial distress state if it faces operating, investing and financing difficulties to the extent that it is not able to settle its obligations when they fall due (Adeyemi, 2011). During the period of distress, the entity incurs 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 the entity in the effort to reverse the precarious situation. Examples of these costs include restructuring fees, auditorôs remuneration, management compensation and consultancy fees paid to lawyers, among others. On the other hand, indirect costs are costs incurred by the entity principally to react to the actions taken by stakeholders of the company such as employees, suppliers, investors and shareholders (Pandey, 2010).

The state of financial distress in any organization reduces employeesô motivation and creates an opportunity for them to agitate for revision of the terms of service. In most cases, they spend their time looking for better opportunities as they may feel that the company in its financial distress situation may not meet their personal growth targets. Consequently, most of the talented employees are offered attractive compensation packages by the competitors, which compel them to either leave the company or renegotiate their compensation packages. Reduced productivity coupled with replacement of talent results in a direct cost on the business and often destroy the companyôs reputation and value. The other possible outcome of financial distress state is the loss of the market share to competition as the competitors may execute an aggressive strategy aimed at attracting customers of the troubled entity through price wars and the distressed entity may be driven out of the market (Natalia, 2007).

Pandey (2010) postulates that when an entity 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 entity be liquidated. Financiers or investors in the other hand

shy away from providing the all required capital injection to the entity or provide the finds at stringent terms making the already troubled entity unable to turnaround. Consequently, unavailability of required resources such as supplies for use in the production line and finances to acquire new assets or replace impaired ones hampering the production process. In addition, shareholders may take a drastic measure of investing the little resources left in risky undertakings with the home 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.

Pandey (2010) further observes that managers of a distressed firm are often tempted to misappropriate entityôs 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. 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 entity 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 entity and prejudices the rapport between the entity and various stakeholders including the employees. Employees become strained and their motivation levels reduce resulting in a negative impact on the entire organisation structure. Loss of key employees is detrimental to the survival of the already strained entity and can easily force the entity into liquidation (Natalia, 2007). There is, therefore, a need to constantly review the financial status of the entity and evaluate whether there are indicators of distress so that the adverse effects are eliminated before the actual impact is felt.

1.1.4 Nairobi Securities Exchange

In Kenya, dealings in shares and stocks dates back to 1922 when an informal exchange was launched in the Exchange Bar at the Stanley Hotel in Nairobi. However, the market was not formal, as there did not exist any rules and regulations to govern stock broking activities. Trading took place on a ógentleman's agreement.ô Standard commissions were charged with clients being obligated to honour their contractual commitments of making good delivery, and settling relevant costs. At that time, stock broking was a side-line business conducted by accountants, auctioneers, estate agents and lawyers who met to exchange prices over a cup of coffee (https://www.nse.co.ke/nse/about-nse.html). In 1951, the first professional stock broking firm was established and in 1953, NSE was recognized as an overseas stock exchange.

In 1954, NSE was registered as an association of stockbrokers under the Societies Act. Trade was conducted by telephone and prices determined through negotiation. In 1988, the first privatisation through the NSE was realised through a successful sale of a 20% government stake in Kenya Commercial Bank and in 1991, NSE was registered as a private company. The company has achieved significant milestones such as automation of clearing and settlement of shares under Central Depositor and Settlement Corporation (CDSC) in 2004 and on Monday, 11th September 2006, live trading on the automated trading systems of the Nairobi Stock Exchange was implemented. NSE has continued to innovate and has introduced different market segments as well as new products such as the Real Estate Investment Trusts (REITs).

1.2 Research Problem

Evaluating the capability of a company to remain a going concern in the foreseeable future is an area of significant interest to investors, creditors, auditors and other stakeholders. The significance of this issue has stimulated a lot of research concerning financial distress and formulation of various theories such as the Credit Risk Theory

hypothesised by Merton in 1974. This theory asserts that a credit risk arises when a borrower does not repay the borrowed funds when they fall due and the lender is exposed to a potential loss due to default. Defaulting on settling obligations when they fall due is an indicator of financial distress, which leads to loss of value (Tan, 2012).

A number of organizations listed at the NSE such as Uchumi Supermarkets Limited, Kenya Airways, Mumias Sugar Limited, and Express Kenya Limited etc. have gone through cycles of financial distress in the recent past arising from a myriad of factors. A research project on the effect of financial distress on the value of the firm, therefore, presents a pool of knowledge for companies listed at the NSE to establish if they are in distress and if so, how their values are affected and how to rectify the situation. Further, this study presents a perfect opportunity for assessing how firms operating in highly turbulent and competitive environment as well as with inherent operational risks may be affected by financial distress. These circumstances may be worsened if the firms are highly leveraged. High operational risks coupled with high debt levels may lead to financial distress leading to negative return on equity. These factors exacerbated by negative perception in the market, loss of market share and imminent low investor confidence often lead to depreciation of the value of the company (Tan 2012).

Numerous studies on prediction of corporate bankruptcy or financial distress have been conducted both locally and internationally. Tan (2012) did a study to evaluate the correlation between financial distress and value of the firms in Asia. He concluded 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 developed financial systems. Mohamed (2013) conducted a study on bankruptcy prediction of firms listed at the NSE using Altmanôs Z-score model. Her findings were congruent with those of Makini (2015) who conducted a study to test the validity of Atmanôs Z-score model in predicting financial distress of firms listed at the NSE. The two researchers concluded that while Altmanôs Z-score model is a popular bankruptcy prediction model, it is qualitative in nature and does not

take into account other factors that may lead to corporate failure such as corporate governance, changes in the competitive environment, product failures, adverse changes in legislation among others which ultimately affect the value of the firms. These findings were similar to those of Lin, Ko & Blocher (1999) in their study on predicting corporate financial distress who concluded that financial distress precedes bankruptcy.

While many studies have been undertaken on the prediction of financial distress (Andrade & Kaplan, 1998, Lin, Ko & Blocher, 1999, Tan, 2012, Makini, 2015), few have been undertaken to establish the impact of financial distress on the value of the firms. This study, therefore, intends to answer the question: what are the possible indications of financial distress and how does financial distress impact on the value of the firms listed at the NSE?

1.3 Objectives of the Study

Financial distress, whether resulting in insolvency or not, has many direct and indirect costs on the business. For instance, investors may shy away from supplying required capital injection to the business or provide funds at high cost coupled with unfavourable repayment terms making it difficult for the business to raise funds required to take advantage of profitable investments. Similarly, shareholders who have limited liability of the company may decide to invest in more risky projects, which are deemed to offer more returns with whatever cash the firm may be left with (Pandey, 2010). Managers of these firms must therefore strive to strike a balance between taking advantage of tax shield on interest expense and the possible impact of financial distress. It is against this backdrop that this research endeavours to establish the impact of financial distress on the value of entities listed at the NSE and whether the distress risk is adequately priced in the market.

1.4 Importance of the Study

Many research projects on the characteristics of financially sound businesses have been conducted over time. However, research financial distress is relatively young and the

subject has not been conclusively research to create an adequate pool of knowledge. The findings of this study are, therefore, important to several parties including commercial banks that provide short term and long term financing to organizations listed at the NSE, potential investors, the Government of Kenya and researchers.

Banks and other financiersô benefit from its findings by understanding how financial distress impact on the value of organizations listed at the NSE. 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, (Natalia, 2007); these companies are aligned to seeking funds from the banks who must consider these risks when pricing their products.

The Government of Kenya benefits from the findings of this study by understanding how financial distress impacts on the financial performance and value of entities listed at the NSE and is better placed to formulate and implement policies that not only safeguard companiesô liquidity but also improve their financial performance. Other companies listed at the NSE benefit from the findings of this study by understanding the challenges facing financially distressed firms and how they can position themselves to overcome them (Thuo, 2012). This is due to the fact that several empirical studies have indicated that financial distress is largely unsystematic (Andrade & Kaplan, 1998; Asquith et al., 1994; Theodossiou et al., 1996; Whitaker, 1999), and therefore can be diversified successfully.

Researchers on the other hand benefit from the findings of this study because it fills the current research gap where current studies reveal that public listed firms encounter financial distress from time to time (Muthamia, 2013) but do not conclusively determine whether or not such situations effect the value of these firms and whether distress risk is adequately priced in the market.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines the relevant literature relating to predicting, signs and effects of financial distress as well as the funding and liquidity of firms as a prerequisite for alleviating or minimizing the effects of financial distress. Section 2.2 presents the theoretical literature review while section 2.3 outlines the determinants of financial distress and value of a firm. Section 2.4 presents empirical literature from international and local studies while section 2.5 shows the conceptual framework and finally section 2.6 draws a conclusion based on the reviews.

2.2 Theoretical Literature Review

This section reviews theoretical literature on business funding and liquidity which are essentially the main theories on capital structure, credit risk and cash management. We have, therefore, focused on Capital Structure Theory, Trade-off Theory, and Credit Risk Theory.

2.2.1 Capital Structure Theory

Capital Structure Theory also referred Modigliani-Miller Theory or simply MM theory, was developed by two great scholars, Modigliani and Miller in 1958. The theory postulates that capital structure is irrelevant as far as the returns on investments are concerned and that leverage of the firm has no effect on the market value of the firm (Modigliani & Miller, 1958). It is however, founded on certain assumptions such existence of a perfect market where the participants are rational, which have been criticised by scholars. Their study and argument makes this theory particularly relevant in this study as most of the companies listed at the NSE are highly leveraged in their capital structure raising the question of when a balance should be achieved between the benefit of tax shield on the interest expense and the adverse effect of financial distress.

Stiglitz (1969) approved the validity of the MM theory under their assumptions saying that the theory formed a starting point for a thorough appreciation of the funding function of a business. Kraus and Litzenberger (1973) also supported the theory within the assumptions of risk-free debt and costless bankruptcy. McDonald and Koch (2006) in their extensive research on bank management, argue that since banks operate with less equity than non-financial companies, they are faced with increased financial leverage and volatility of earnings. Since earnings affect the value of a firm, McDonald and Koch (2006) effectively appear to challenge the Modigliani-Miller theory. Durand (1963) also criticized the Modigliani-Miller theory on grounds of its assumptions saying that they were unrealistic and do not exist in modern economies.

2.2.2 Trade-off Theory

The trade-off concept hypothesised by the trade-off theory is applied in a situation where the firm works towards striking a balance between taking advantage of tax shield on interest expense arising from debt financing and the actual cost of the debt. A number of considerations are made such as agency costs and potential cost of distress to ensure that the organization arrives at an optimal capital structure incorporating debt and equity financing. Trade-off theory has received support and criticism in equal measure especially due to debates over validity of MM theory. Trade-off theory postulates that when corporate taxes are incorporated in the MM theory, the tax shield on interest expense is an added benefit to the business making debt financing more preferred compared to equity financing (Mokhova & Zinecker, 2013).

On the one hand, evidence from empirical studies suggest that even though preferred level of leverage may exist, it is not as critical as since many studies reveal that leverage reduces with profitability which contradicts the trade-off prediction; that more profitable organisations should borrow more to take advantage of tax shield. Managers, therefore, are confronted with the dilemma of taking advantage of tax shield and the adverse effects and costs of financial distress. In order to deal with this dilemma, the organisation trades-

off between tax benefits and the risks associated with of financial distress. This assertion is of particular importance in this study as most of the firms listed at the NSE have some level of leverage in their capital structure. Hewlege and Liang (1996) in their study on the validity of pecking order theory finds the ease of raising finance for business operations does not depend of the level of retained earnings and organizations that could easily acquire bank loans often preferred equity financing instead.

2.2.3 Credit Risk Theory

Credit risk theory, otherwise referred to as the Structural Theory was introduced by Merton in 1974. The theory explains that default is likely to arise through a diffusion process characterised by certain external parameters, usually refereed by the theory as, structural models. Through these models, default risk is inherent and as a result, actual default on the agreed terms can occur at any time during the period of the debt instrument and not necessarily on maturity (Longstaff & Schwartz, 1995). This implies that, credit risk must be assessed continuously and actions taken to avert any adverse effects.

Credit, in most cases, involve two parties, the lender (who bears the credit risk in case of default) and the borrower. The two parties get into a mutual agreement such that the lender agrees to provide goods and services or provide financing and the payments to be made a later date with or without an interest component. In as much as the two parties agree to abide by the agreement, credit risk arises as not all borrowers manage to repay the borrowing amounts when they fall due (Cornett & Saunders, 2006). The lenders are exposed to credit risk, which is simply the risk of partial or total loss whether financially of otherwise when the situation is not addressed and reversed in good time (Nyunja, 2011). This assertion is significant for purposes of this study as financial distress is one of the factors that may lead to default on the contractual obligations between the lender and the borrower. .

2.3 Determinants of Financial Distress and Value of Firms

The contributors or causes of financial distress in a firm can be been divided into endogenous and exogenous factors (Pandey, 2010). Endogenous factors are associated with individual firmôs internal characteristics that affect performance and are within the firmôs control. Karels and Plakash (1987) stated that endogenous factors, which are the main contributors to financial distress, can be accredited to poor corporate governance and mismanagement of company resources. External factors are chiefly the macroeconomic influences that are beyond the control of the firm. These external risk factors are universal and generally affects all companies irrespective of the industry they are operating in provided the entire market is affected. Empirical studies have provided evidence that some of the external risk factors are unfavorable interest and exchange rates, high inflation, unfavorable legislation among others. These factors do not depend on the level of experience or competence of the management (Karels & Plakash, 1987).

2.3.1 Capital Adequacy and Quality of Assets

Capital is defined as the level of equity funds provided to support the business operations and act as cushion against unprecedented losses (Athanasoglou, Sophocles & Matthaios, 2005). It is a source of liquidity given that most deposits are prone to fluctuations in amounts and pricing. It has also a direct effect on performance because it allows expansion into risky but profitable business opportunities (Sangmi & Nazir, 2010) and acquisition of assets to generate revenues.

On the other hand, the quality of assets held by a firm determines its ability to generate cash flows necessary to invest in more profitable projects or retire debts. This implies that the quality of the assets portfolio determines the firmôs profitability, in that a good quality of assets is an assurance of future cash flows (Natalia, 2007). A good portfolio mix of assets means that the firm can generate revenues more efficiently without having to necessarily incur huge costs in terms interest costs.

2.3.2 Management Efficiency

Management efficiency in the use of company resources is sometimes used as a measure of quality. It is reflected in the level of operating expenses, with a lower level of operating expenses being an indicator of higher level of management efficiency, profitability and value of the firm (Athanasoglou et. al., 2005). There are other measures used to evaluate the management efficiency such as the level of motivation of staff, extent of deterrence and detection of fraud, strength of the internal control systems, management culture, consistency and perception in the market.

When a firm is financially distressed, managers may be tempted to misappropriate assets and misuse entity resources in the form of incentives and generally avoid risky investments. They may start focusing on the short-term rather than long-term strategies which would be in the best interest of the firm (Pandey, 2010). These decisions often aggravate the already delicate situation of the company leading to further loss in value.

2.3.3 Funding/Liquidity Management

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 leverage, debt maturity and firm investment noted that adequate level of funding and liquidity was positively correlated to profitability. He concluded that high leverage is disadvantageous to the organizationôs level of investment and limits the organizationôs growth opportunities.

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. Said and Tumin (2010) however find no relationship between liquidity and profitability amongst Chinese and Malaysian banks.

2.3.4 Macroeconomic Factors

Macroeconomic factors are generally the factors that universally affect all the businesses in the industry such as high interest rates, high inflation levels, unfavorable government legislation and political environment. These factors have a direct impact on the profitability of the organizations and their effects cannot be diversified away as they are not organizational specific. When the economy is experiencing a season of boom, empirical studies have shown that appetite for loans to support the growth is usually high compared to season of economic recession. Athanasoglou et al. (2005) argue that the correlation between inflation and profitability and hence the value of a firm is debatable, an argument also supported by Vong and Hoi (2009).

Pan & Pan (2014) in their comprehensive study on macroeconomic factors and profitability of commercial banks in China conclude that macroeconomic environment had a significant effect on the ability of commercial banks in Chine to generate returns for the shareholders. They noted that profitability of the banks sampled had a directly relationship with the level of vibrancy of the economy, interest rates, liquidity levels in the market and inflation levels. On the other hand, they noted a negative correlation between the total market capitalization of the stocks have negative correlations and profitability. From their study, they concluded that while there are many macroeconomic variables that affect the level of profitability in the market, economic vibrancy measured by the level of money supply and growth was the most obvious.

2.4 Empirical Literature Review

This section reviews the international and local studies on financial distress and their relevance to this study. Similarities and differences in the findings by the various researchers are also drawn.

2.4.1 International Studies on Financial Distress

Natalia (2007) conducted an empirical on the distress risk in the organizations that faced a certain level of financial distress. She noted that financial distress is generally disproportionate and depends on many factors including the general performance of the market. During seasons of economic boom, distressed stocks attract investorsô attention as they foresee an opportunity to enjoy huge returns after a successful implementation of turnaround strategies. However, during seasons of economic recession, investors are usually conscious of the losses they are likely to make should the situation worsen and become more risk averse.

Pasaribu (2008) conducted a study that aimed at establishing the characteristics of financially distressed entities listed at the Jakarta Stock Exchange. His study focussed on the entities listed in the trading segment of the Exchange. The empirical results of his study showed that companies that were characterised 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, high leverage was a key indicator.

Tan (2012) conducted a study on financial distress and financial performance 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.

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 ownership structure.

Mahama (2015) assessed the state of financial distress through the application of Altmanôs 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; companyôs 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 companyôs business model no longer being viable.

2.4.2 Local Studies on Financial Distress

Bwisa (2010) tested the usefulness and validity Altmanôs revised model in predicting financial distress for entities in Kenya. He noted that the model was reliable as it resulted high level of prediction accuracy with 60% of the analysed sample showing an overall 70% validity of the model. He concluded that the model was a good tool that can be applied by organisations in various sectors to determine if they were in distress so that appropriate corrective actions such as hiring of turnaround managers can be taken in good time.

Kipruto (2013) adopted the Multivariant Discriminant Analysis (MDA) statistical technique as used by Altman. He was concerned with testing the validity of Altmanôs 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.

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 endogenous factors. They identified a number of these factors, the key ones poor corporate governance coupled by weak internal control systems. Other factors included improper use of resources, inappropriate capital structure, difficulties in accessing affordable credit, shortage of capital and poor human resources policies and practices leading to unwarranted legal battles. Their findings were in tandem with the findings of Tan (2012) on financial distress of companies in Asia.

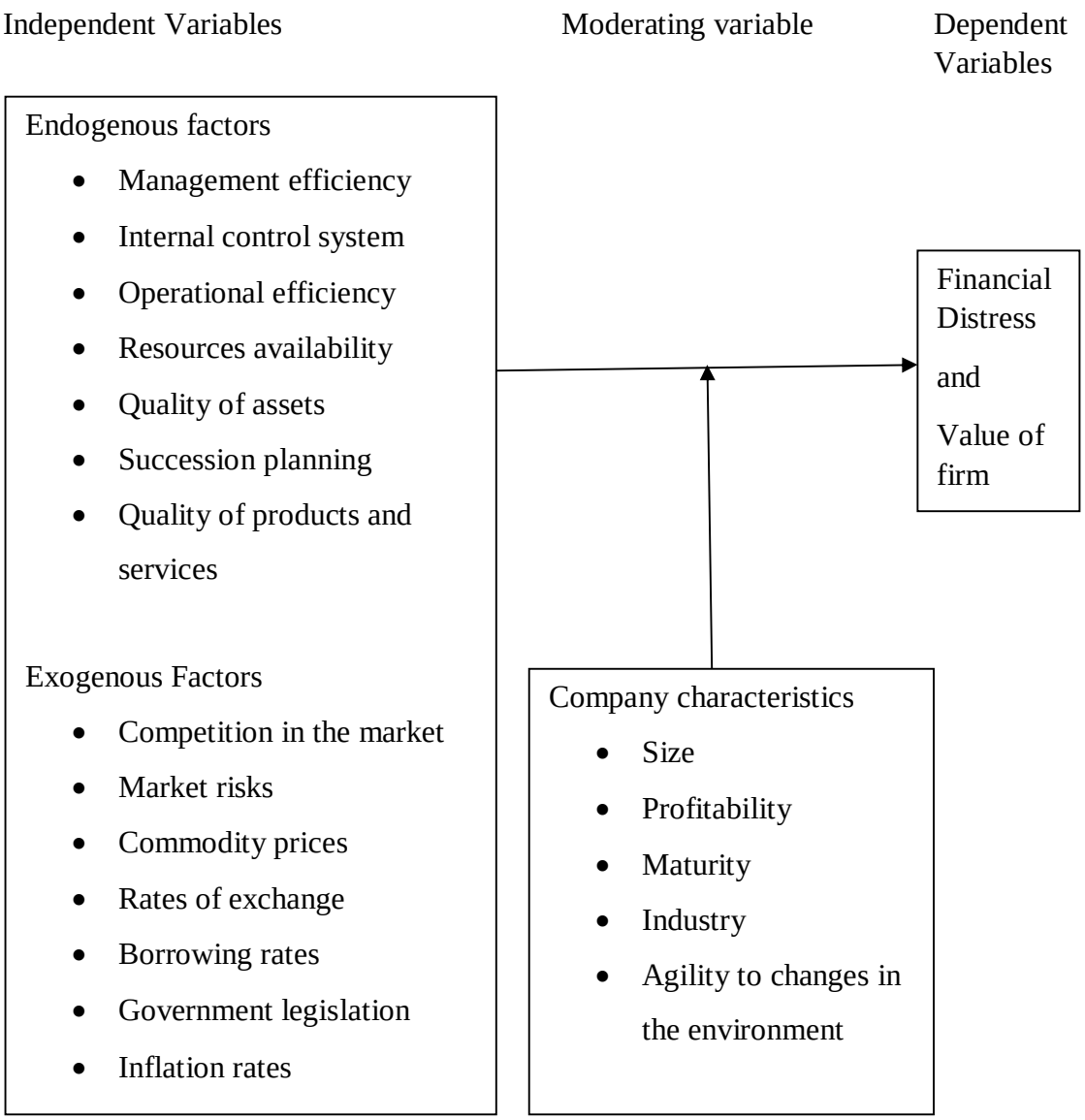
Mohamed (2013) conducted a study that aimed at predicting bankruptcy of entities listed at the NSE using Altmanôs Z-score model on a sample of nine successful firms and seven failed firms. She noted that though the model is ideal for predicting financial distress and has been widely used in different 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.

2.5 Conceptual Framework

According to Pandey (2010), determinants of financial distress with or without insolvency can be divided into internal (intrinsic) and external (extrinsic) factors. The intrinsic factors refer to challenges within the firm and only affect the particular firm or simply firm specific challenges. Examples are poor management of firmôs resources, misappropriation of assets and fraud. On the other hand, extrinsic factors are universal

and generally impact all the businesses operating in the given market. They emanate from adverse changes in macroeconomic variables (Karels & Plakash, 1987). Figure 1 shows the conceptual model illustrating how the various variable contribute to the subject of this study, the independent variable being financial distress and dependent variable being the value of firm.

Figure 1: Conceptual Model



Source: Pandey, I. M. (2010). Financial Management (10th Ed)

This study focused on the impact of financial distress on the value of firms listed at the NSE. The independent variable was financial distress while the dependent variable was the value of the firms. Moderating variables included the level of leverage, profitability and the quality of the assets. The independent and moderating variables in this study were largely driven by the company characteristics and were therefore driven largely by endogenous factors listed above. The nature and quality of the assets of the company determines the quality of the products and services and the ability of the company to command a competitive edge in the industry in which it operates as well as agility to the changes in the operating environment. These factors contribute to the capability of the company to attract strategic investors who provide the financial muscle required in times of distress (Ooghe & Prijcker, 2008).

Empirical studies have supported a strong positive correlation between the level of returns and the investment in quality assets implying that if the assets were utilised efficiently, the entity would always generate a corresponding return to the investment in assets. Further, the quality of the assets enables the company to innovate, expand the product and services range and adapt to the changes in the environment with ease. In this study, therefore, quality of the assets as measured by ROA as well as profitability as measured by ROE were adopted as moderating variables.

2.6 Summary of Literature Review

Existing literature identifies a strong positive link between financial distress and return on equity and consequently the value of the firms. However, some of the empirical studies do not lead to the same conclusion such as the study of Said and Tumin (2010) on the empirical review of performance of Malasian and Chinese banks. There is also a growing debate as to whether poor performance and loss of value in financially distressed institutions is as a result of the financial distress situation itself or other factors that would need isolation. The question of whether distress risk is adequately priced by the market also arise and it is against this back drop that this study seeks to examine the effects of financial distress on the value of firms listed at the NSE.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter reviews the methodology of the study. Section 3.2 highlights the research design while section 3.3 discusses population and sample adopted in the study. Section 3.4 reviews the sources of data and the collection instruments employed in the study. The chapter culminates with section 3.5 which presents data analysis, conceptual and analytical models.

3.2 Research Design

The objectives of this study were to find out the effects of financial distress on the value of firms listed at the NSE and whether the distress risk was adequately priced in the market. Shukla (2010) defines research design as the roadmap for carrying out a research project. It gives a general structure of how the research should be conducted and assists the researcher to keep the big picture in mind throughout the research process. A well throughout research design is critical as it reminds the research the key aspects especially when there are temptations to wander away from the initial outline of the study. This study employed a correlational study design with a focus on companies listed at NSE

Mugenda and Mugenda (2003) presents a correlational research design as a specific type of non-experimental design used to describe the association between two variables or among many variables that could be positive, neutral or negative. This design was considered appropriate for this study as it assisted the researcher in establishing the nature and strength of the relationship among the variables. The study made use of correlation and regression techniques as they were considered the best tools for analyzing relationships and predictions among financial or economic variables (Mugenda and Mugenda, 2003). The study involved more than one independent variables and therefore made use of multivariate econometric technique to establish relationships among

variables. Besides finding out if there were any relationships, these techniques also helped in determining the strength and directions of the relationships.

3.3 Population and Sample

Target population refers to the complete cluster of objects to which a researcher intends to generalize the findings or outcomes of the study (Mugenda & Mugenda, 2003). For purposes of this study, companies listed at the NSE comprised the target population. A total of 67 firms, whose securities were offered for trading at the NSE as at 30th September 2016 formed the target population. These companies have been granted approvals by Capital Markets Authority to offer their securities for trading at the NSE after fulfilling certain terms and conditions and are listed in Appendix 1.

Sampling is a thoughtful process of identifying specific objects from the target population for testing while ensuring the selected objects represent fairly the characteristics for the entire population (Orodho & Kombo, 2002). In this study, a purposive sampling model, which is a nonprobability sampling technique, was considered the most appropriate in selecting the specific objects to be tested. This is due to the fact that it gives the researcher a leeway of identifying and testing the specific objects with the required information or characteristics (Mugenda & Mugenda, 2003). The sample selected for this study comprised all the listed companies at the NSE in the automobile, commercial and services, construction, energy and manufacturing sectors because they possessed the required information and Altmanôs Z-score, a proxy for financial distress would apply for these companies. Appendix 2 shows the list of the companies that were sampled for the study.

Empirical evidence from studies on predicting financial distress in companies listed at the NSE show that most of the firms listed at the NSE may have experienced financial distress in one way or another (Makini, 2015). The study focused on 34 companies in the automobile, commercial and services, construction, energy and manufacturing sectors out of the 67 companies listed at the NSE. However, the data that was analyzed related to

those companies that experienced financial distress as predicted by Atmanôs Z-score during the period between 2011 and 2015. These were the companies whose Z-score in any of the years under review was noted to be less than 2.99 as shown by Appendix 3.

3.4 Data and Data Collection Instruments

The study used secondary data which was be obtained from annual audited financial reports, NSE Investor Handbook (2015-2016), and organisationôs records such as in-house magazines, journals, publications as well as websites of firms studied. Financial information of a five-year period between 2011 and 2015 was used since it was considered current and long enough to provide sufficient variables to assist in determining the effects of distress on the value of the firms with the data frequency being yearly.

The data collected was quantitative in nature. Financial information extracted related to working capital, total assets, total liabilities, retained earnings, borrowings, EBIT, the book value of the equity and revenues. The collected data was reorganised and used to determine liquidity and profitability ratios such as the current ratio, ROA, ROE and Leverage. The currency used for reporting the data was the Kenya shillings, abbreviated as KES. The dependent variable was the value of the firm as measured by the log of market capitalization of the shares of the entity.

3.5 Data Analysis

Marshall and Rossman (1999), define data analysis as the process that involves reorganizing the data for purposes of extracting meaningful information that would be used to make deductions. The data was analyzed using Microsoft Excel (MS Excel) and Statistical Software for Social Scientists (SPSS) Version 20.0.0.0. SPSS and MS Excel were preferred as they produce output that find adequate statistical inference and generally easy to use. The output of the data analysis was reported in various tables highlighting the relevant statistics.

3.5.1 Conceptual Model

This section covers the relevant variables that were used to establish the effects of financial distress on the value of firms listed at the NSE over a period of five years between 2011 and 2015. These variables were categorised into dependent (denoted by Y) and independent variables (denoted by X) and their relationship expressed in terms of a mathematical function yields the following:

$$Y = f(X_1, X_2, X_3, X_4)$$

Value of firm = f (Financial Distress, Quality of Assets, Financial leverage, Profitability)

The dependent variable in this study was the value of the firms listed at the NSE. Market capitalisation was used as the proxy for the value of the firm and hence the discriminant variable. It represents the market value of all outstanding shares and requires an efficient real market for shares such as the NSE with a considerable number of frequent participants to achieve reliable valuation (Precha, 2004). At the NSE, market capitalization is measured by the 20 shares index and the All shares index, both of which are a representation of the value of the shares of various companies listed at the NSE and hence the value of those companies.

According to Pandey (2010) financial distress results in many direct and indirect costs and hence a significant impact on the value of the firm. Direct costs may include the insolvency costs which in many cases lead to high legal and administrative costs. Indirect costs on the other hand may relate to the reactions by various stakeholders such as managers and potential investors in situations of distress. These costs of financial distress causes an increase in the expected rate of return by potential investors resulting in a reduction in the value of the firm. For purposes of this study, financial distress was measured by Altman Z-score.

Many local studies have been carried out to determine the validity of Altmanôs Z- score model in predicting financial distress on Kenyan entities. Makini (2015) found a very

strong relationship between the Z-score and the variables. He concluded that the model was applicable for predicting financial distress of firms listed at the NSE. His findings were similar to those of Kipruto (2015), who used the model to predict financial distress in Uchumi Supermarkets Limited. Mohamed (2013) in her study of bankruptcy prediction of firms listed at the NSE concluded that the Altmanôs Z-score was a useful measure for quick determination of the level of financial distress in an organisation.

Altmanôs Z-score model identifies five key independent variables (illustrated below by M_1, M_2, M_3, M_4, M_5) which are used to predict the existence of financial distress in an entity.The Almanôs Z-score is then determined by the following equation.

$$Z=0.012M_1+0.014M_2+0.033M_3+0.006M_4+0.0999M_5$$

Where: M_1 ï Working Capital (WC)/Total Assets (TA)

M_2 ï Retained Earnings (RE) /Total Assets (TA)

M_3 ï Earnings before Interest and Taxes (EBIT) /Total Assets (TA)

M_4 ï Market Capitalization (MC) / Total Liabilities (TL)

M_5 ï Sales (S)/Total Assets (TA)

The resulting Z-score is then interpreted as follows; when Z is greater than or equal to 3.0, the entity is considered to be safe; when Z is between 2.7 and 3.0, the entity is probably safe but this is in the grey area and caution should be taken. However, when Z is between 1.8 and 2.7, the company is likely be fall into trouble situation within two years and when Z is <= 1.8, the company is highly likely to be in financial distress (Altman, 1984).

The other dependent variable for the study was quality of assets which determines the ability of the assets to generate cash flows necessary to invest in more profitable projects or retire debts. In this study, quality of assets was measured by ROA. Return on Assets (ROA) which is a ratio of the income earned by the firm to the assets used in business operations is a key ratio for measuring financial performance. It is commonly defined as the net income (or pre-tax profit) over total assets. ROA shows the ability of management to acquire assets at reasonable costs and spend them in profitable investments (Ahmed,

2009). A higher ROA is an indicator that the firm has efficiently utilized its assets to generate revenues.

Financial leverage as a moderating variable in this study was operationalized as the extent to which firms listed at the NSE maintained a level of leverage that maximized tax advantage of interest deductions and improved company performance while ensuring that the company did not get into financial distress (Gill et al, 2012). It was measured as a ratio of total debt (arising principally from borrowings) to total equity. Profitability on the other hand, as measured by Return on Equity (ROE), was another measurement of financial performance and defined as net profit as a proportion of the total shareholdersô funds injected to the business. ROE was considered an important indicator of a firmôs profitability and growth potential. Unlike ROA which is a measure of financial performance that is important to all providers of funds, ROE is mainly important to equity holders (Ahmed, 2009).

3.5.2 Analytical Model

The relationship between the value of firm and the independent variables which are indicators of financial distress can be expressed through a linear equation of the form illustrated below;

$$Y = Ŭ + ϐ_1 X_1 + ϐ_2 X_2 + ϐ_3 X_3 + ϐ_4 X_4 + Ȧ,$$

Where; Y= Dependent variable (measured by log of market capitalization)

Ŭ= Regression constant

$ϐ_1, ϐ_2, ϐ_3, ϐ_4$ =Regression coefficients (change in Y for every unit change in X)

X_1= Financial distress measured by Altmanôs Z-score

X_2=Quality of Assets (Measured by ROA)

X_3=Financial Leverage (Measured by total debt/Equity)

X_4=Profitability (Measured by ROE)

Ȧ = Error term

3.5.3 Diagnostic tests

The nature and strength of the relationship between the dependent and independent variables was measured through various diagnostic tests such as tests for multicollinearity among the variables and the tests of normality. Correlation coefficient of greater than 0.9 for the various variables was deemed to be an indicator multicollinearity and appropriate adjustments were made. The study made use of the Analysis of Variance (ANOVA) technique to test the hypothesis concerning the relationship between financial distress and the value of firms listed at the NSE. The test which was a two-tailed test was done at a 95% confidence level and, therefore, a 5% level of significance. The regression coefficient of determination was used to test the strength of a cause and effect of the correlation between the dependent variable (value of the firm) and the independent variables (Financial distress, Quality of Assets, Financial Leverage and Profitability).

CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter highlights data analysis, results and discussion of the findings. Section 4.2 highlights the summary statistics while section 4.3 discusses the results of diagnostic tests. Section 4.4 presents the estimated model and section 4.5 discusses the findings of the study. The chapter culminates with section 4.6 which summarizes key findings.

4.2 Summary Statistics

The study sought to determine the effects of financial distress on the value of firms listed at the NSE. The main reason was to assist the researcher to establish whether the distress risk emanating from both endogenous and exogenous factors affecting organizations in Kenya was adequately priced in the market. Table 4.2.1 describes the data used in the study by providing the measures of central tendency, dispersion, skewness and kurtosis.

Table 4.1 Descriptive Statistics

Measure	*Altman's Z-score*	*ROA*	*Leverage*	*ROE*	*Market Capitalization*
Mean	2.074266	-0.001676	0.031933	0.210357	4.783587
Standard Error	0.331291	0.0176736	1.069334	0.217819	0.194436
Median	2.100128	-0.016865	0.816603	0.069599	4.987611
Standard Deviation	0.740789	0.0395195	2.391104	0.487058	0.434773
Sample Variance	0.548769	0.0015617	5.717381	0.237226	0.189028
Kurtosis	0.636698	-0.377294	4.605383	3.826684	4.901204
Skewness	0.210852	0.7334899	-2.11558	1.89268	-2.20966
Coefficient of Variance	0.159715	10.545107	33.48680	1.035473	0.040646
Minimum	1.106401	-0.044759	-4.20012	-0.16632	4.007717
Maximum	3.118146	0.0559436	1.644327	1.054068	5.006949

Source: The data in the table above shows the descriptive analysis of information derived from the audited accounts of firms listed at the NSE between 2011 and 2015

The results from the descriptive statistics of firms with a certain level of financial distress as predicted by Altmanôs Z-Score reveal that for the 25 observations made from 5 companies for the years between 2011 and 2015, average value of firms as measured by the log of average market capitalisation was 4.783. Altmanôs Z-score, leverage, and return on equity had positive mean values while quality of the assets as measured by ROA had a negative mean value. The coefficient of variance (CV) as determined by standard deviation divided by the mean indicated that for the sample selected, there was relatively high variance on leverage and return on assets (CV>1) and a low variance on Atmanôs Z-score, return on equity and market capitalization.

4.3 Diagnostic tests

These tests were used to test the strength of the relationship between financial distress and value of firms listed at the NSE. Section 4.3.1 shows correlation analysis while section 4.3.2 shows regression analysis of the dependent and independent variables.

4.3.1 Correlation Analysis

The correlation between the dependent and independent variables was determined to establish the nature of the relationship. Table 4.2 shows the results of the correlation analysis.

Table 4.2 Correlation Analysis

	Altman's Z-score	*ROA*	*Leverage*	*ROE*	*Market Capitalisation*
Altman's Z-score	1				
ROA	0.800084	1			
Leverage	0.641176	0.084741	1		
ROE	-0.547641	0.033185	-0.992664	1	
Market Capitalisation	0.740831	0.214092	0.989558	-0.967625	1

Source: The data in the table above shows the correlation analysis of information derived from the audited accounts of firms listed at the NSE between 2011 and 2015

The findings as illustrated in the table above show that there were fairly strong positive and negative correlations between the dependent variable (value of firms measured by log of market capitalization) and the independent variables; financial distress (measured by Altmanôs Z-score), quality of assets (measured by ROA), leverage (measured by debt/equity) and profitability (measured by ROE). The strong correlation of 0.74 between market capitalization and Altmanôs Z-score model indicate that as the level of financial distress decrease (as demonstrated by an increase Altmanôs Z-score), the value of the firm most likely increase by almost the same measure provided other factors are held constant. Further, the results indicate a very high positive relationship of 0.99 between market capitalization and leverage and an equally high negative correlation of 0.97 between market capitalization and return on equity. The correction between market capitalization and return on assets is fairly weak at only 0.21.

4.3.2 Regression Analysis

This section presents the model summary, analysis of variance and the model coefficients. From the correlation analysis discussed in the section above, there was a fairly weak correlation between market capitalization and quality of assets as measured by ROA. As a result, the variable was dropped from the model. Tables 4.3 (model summary) and 4.4 (Analysis of Variance) show the results of the analysis which was conducted at 95% confidence level.

Table 4.3 Model Summary

Regression Statistics	
Multiple R	0.9999842
R Square (R^2)	0.9999683
Adjusted R Square	0.9998732
Standard Error	0.0048958
Observations	5

Source: The data in the table above shows the regression analysis of information derived from the audited accounts of firms listed at the NSE between 2011 and 2015

The findings reveal a perfect relationship between the variables as regression coefficient represented by Multiple R in the table above is nearly equal to 1 at 0.99998. The coefficient of determination, demonstrated by R^2, shows that 99.997% of the results fall on the regression line; which demonstrates that the model for the study perfectly describes the relationship between the variables. The adjusted coefficient of determination is equally high at 99.987% demonstrating that model is applicable for the various dependent variables. The standard error which measures the precision within which the regression coefficient is measured is quite low at only 0.0049 signaling a high reliability of the data points.

Table 4.4 Analysis of Variance

	Degrees of Freedom (DF)	*Sum of Squares (SS)*	*Mean Sum of Squares (MS)*	*F-statistic*	*Significance F*
Regression	3	0.756089546	0.252029849	10514.943	0.0071686
Residual	1	2.39687E-05	2.39687E-05		
Total	4	0.756113515			

Source: The data in the table above shows the regression analysis of information derived from the audited accounts of firms listed at the NSE between 2011 and 2015

From the results above, the overall test for the null hypothesis, indicated by F-statistics of 10514.9 and the significance associated with P-value of 0.0071686 (shown by column labelled ñSignificance ï Fò) indicate the existence of a strong relationship between the variables. Since the significance associated with P-value of 0.0071686 is lower than 0.05 (the confidence level assumed for this study), then we reject the null hypothesis.

4.4 Estimated Model

This section provides the estimated model based on the outcome of the study. The statistics considered in arriving at the estimated model are the regression model

coefficients, the standard errors, t-statistics and the resulting p-values. Table 4.5 shows these statistics which form the basis of the estimated model.

Table 4.5 Model Coefficients

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	4.570412274	0.009323919	490.1814645	0.001298741
Altman's Z-score	0.205424423	0.014917638	13.77057287	0.046149441
Leverage	-0.06359731	0.031983859	-1.988418913	0.296648645
ROE	-1.002574338	0.144009007	-6.961886348	0.090822352

Source: The data in the table above shows the regression analysis of information derived from the audited accounts of firms listed at the NSE between 2011 and 2015

The results of the model coefficient reveal that holding the Altmanôs Z-score, leverage and return on assets to a constant zero, log of market capitalisation would be equal to 4.5704. Altmanôs Z-score has a positive beta value of 0.2054 indicating that a unit increase in Altmanôs Z-score (an indicator of reduction in the level of financial distress) leads to a 0.2054 increase in the log of market capitalisation. Conversely, both leverage and ROE have negative beta values indicating that, a reduction in the unit of leverage and return on equity leads to a reduction in log of market capitalisation by 0.0636 and 1.00257 respectively.

4.5 Discussion of Research Findings

Tan (2012) in his study on financial distress and financial performance of 277 Asian Companies from eight countries in the Asian Economy concluded that the relationship between firm performance and financial leverage was negative. Using financial leverage as a proxy for financial distress, the results of his study suggested that financially distressed firms underperformed leading to erosion of their value in the market. This study confirms the conclusion by Tan (2012) as the results show that an increase in a unit of leverage would result in a 0.0636 reduction in the market capitalisation. Correlation

analysis discussed in section 4.3.1 above however seem to contradict this analogy as it shows a very strong relationship between leverage and market capitalisation. It is therefore logical to conclude that contrary to proposition by MM Theory, the value of firm increases with increase in the level of leverage up to a certain point after which distress risk increases leading to reduction in the value of firm with any subsequent increase in level of leverage. Managers must therefore work towards striking a balance between taking advantage of tax shield created by leverage and avoiding adverse effects of financial distress.

The study further confirms the applicability of Altmanôs Z-score model as a tool for predicting financial distress. The results indicate a strong positive correlation of 0.74 between Atmanôs Z-score and market capitalisation, as well as a positive relationship between the two variables with a beta coefficient of 0.2054. Financial distress, therefore, causes a reduction in the value of firms and the key concern for managers should be whether the distress risk is actually priced in the market.

4.6 Summary of Findings

The results of the study show a strong relationship between the value of firms listed at the NSE and financial distress. These results are largely in line with available literature on financial distress and confirms other empirical studies (Natalia, 2007, Andrade and Kaplan, 1998, Mahama, 2015) that have been conducted on the subject. It is therefore possible to conclude that the value of the firm is affected by the level of financial distress whether arising from endogenous or exogenous factors, the level of leverage and the level of firmôs profitability. Further, quality of the assets as measured by ROA does not have a significant impact on the value of the firm as determined by market capitalisation.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of findings, key conclusions and recommendations. Section 5.2 highlights the summary of the study, while section 5.3 discusses the conclusions. Section 5.4 presents the limitations of the study and the chapter concludes with section 5.5 which discusses recommendations for further research.

5.2 Summary of the study

The study sought to establish the effects of financial distress on the value of firms listed at the NSE though a multivariate analysis, with moderating variables being leverage, profitability and quality of assets. The main reason was to assist the researcher establish whether the distress risk emanating from endogenous or exogenous factors is adequately priced in the market. The results of the study indicated a strong positive relationship of 0.7408 between market capitalisation, which was used as the proxy for value of firm, and Altmanôs Z-score, which was the measure of financial distress. The study further revealed that the regression model assumed in the study perfectly described the relationship between the variables as demonstrated by the adjusted coefficient of determination, adjusted R^2, of 99.987%.

This study confirms a number of empirical studies on financial distress (Andrade & Kaplan, 1998; Asquith et al., 1994; Theodossiou et al., 1996; Whitaker, 1999) which reveal that to a great extent, financial distress arises from company specific factors and therefore diversifiable. The data collected for purposes of this study confirms this hypothesis as even though most of the firms listed at the NSE are highly leveraged, not many of them have experienced financial distress to the extent of liquidation. For a number of cases, turn around strategies have been successfully executed reversing the adverse effects of financial distress. In addition, in as much as the value of these firms are

to some extent (about 21%) affected by the level of financial distress, there are other exogenous factors such as competition and general macroeconomic environment that contribute to the overall value of firms.

5.3 Conclusion and Policy Recommendations

The findings strongly confirm a number of studies (Andrade and Kaplan 1998, Natalia, 2007, Mahama, 2015) who concluded that high leverage was a unique characteristic of firms that faced financial distress. However, many researchers on financial distress have had difficulties in estimating the actual impact of financial distress on the value of firms. The challenge is based on the premise that it is probable that reduction in the value of the firm could be attributable to the factors that drove the company to the state of financial distress in the first place and not necessarily the aftermath of financial distress. In support of this hypothesis, Altman (1984) noted that financial distress was characterised by many direct and indirect costs but could not explicitly separate financial distress from the negative shocks in the market arising from myriad of endogenous and exogenous factors. A number of empirical studies on financial distress (Asquith, Gertner, &Scharfstein, 1994, Hotchkiss, 1995, Gilson, 1997, LoPucki & Whitford, 1993) find indirect evidence that financial distress contributes to negative performance of firms.

Overall, the results of this study presents a contribution to the body of evidence that the impact of financial distress on the overall value of the entity can be fundamentally reduced depending on whether the firm successfully executes a turnaround strategy. More universally, the results of this study indicate the level of financial distress as predicted by Altmanôs Z-score increased with general slump in industry performance as shown by reduction in the All Shares Index for securities listed at the NSE in the years 2014 and 2015. This, therefore, begs the question as to whether the net reduction in the value of the firms arises principally from financial distress itself or economic distress. The results show that 60% of the firms in distress recorded positive operating margins at the time of distress that were certainly higher than the industry average. For this reason, the researcher believes that the sample was chiefly financially distressed and not

economically distressed notwithstanding the fact that the economic distress or shocks could not be fully eliminated.

This study concludes that the effects of financial distress are low when management reviews the trade-off between the possible costs of financial distress and the tax advantage of using debt in the capital structure (Andrade and Kaplan, 1998) and strikes a balance. An optimal capital structure should be designed and closely monitored to ensure that while the organisation is taking advantage of potential tax shield on the interest cost, it is not adversely exposed to the dangers of financial distress. The researcher therefore recommends that while there are undoubtedly tax benefits associated with debt, there is an increasing need for constant assessment of the benefits of debts in the capital structure and the adverse effect of financial distress likely to arise as a result of high leverage.

5.4 Limitations of the Study

The study relied on secondary data, which was obtained from annual reports and audited financial statement of the companies, NSE Investor Handbook (2015-2016), and CMA library. In as much as there are generally accepted accounting principles employed in the preparation and reporting of financial statements such as IFRS and The Kenyan Companies Act, these companies used different levels of judgement in designing accounting policies and therefore reliability, comparability and quality of data was not 100% guaranteed. Further, in some cases the data was not readily available in the required format.

The study was limited to financial distress as measured by the Altmanôs Z scores, quality of assets, leverage and profitability. Other qualitative factors that affect the value of firms such as general macroeconomic factors, economic downturn, and government policies such interest rates capping among others were not considered in this study. On the other hand, a more comprehensive and detailed analysis would warrant additional time and certainly the time taken for this study was not sufficient for the level of detail and analysis presented by this study.

The study largely relied on quantitative data spanning a period of five years (2011-2016) which was not adjusted for inflation and any one-off circumstances that could skew the results. It is possible that different results would be derived if the data was adjusted to reflect the impact of inflation. Further, the study had a limitation in terms of scope as it focussed on publicly listed firms and ignored private firms, which are usually small and medium-sized, and prone to financial distress. This may limit fair findings that could have been arrived at, if a bigger number of observations incorporating the private entities could have been analysed. Since the data used is mainly from financial statements of public companies, it is therefore not prudent to conclude that results would be similar for private companies and partnerships without empirical review. Finally, the study does not consider measures taken by the management to reverse the effects of financial distress such as turnaround strategies, which have been confirmed to be largely effective by empirical studies (Natalia, 2007 and Mbogo & Waweru, 2014).

5.5 Recommendations for Further Research

This study focused on financial distress as predicted by the Altmanôs Z score model for manufacturing entities and therefore did not consider entities in the financial sector such as banks, insurance companies and investment firms. There is therefore a need to carry out the research with a focus on these industries and determine whether the results would hold irrespective of the industry being considered. Further, the results would be more convincing if qualitative aspects of the businesses were considered such as changes in management, product failures, negative publicity, industrial actions and union strikes and their impact on the value of the distressed firms assessed. The researcher therefore recommends a repeat of the study but with a focus on these aspects.

The researcher further recommends an in-depth review of firms that are financially distressed to determine whether the distress is largely contributed by unsystematic endogenous risk factors which could be diversified away. This would call for a walk-through of the entities by considering period preceding distress, the period of distress as well as the period after the season of distress if turnaround strategies are implemented.

This would give a wholesome view of the impact of financial distress on the value of the firms. In addition, to complement the results of this study, a review of the effects of financial distress on the value of private entities would be necessary and comparisons drawn.

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APPENDICES

Appendix 1: Companies Listed at the NSE

S. NO	SECURITIES	TRADING SYMBOL	TOTAL NUMBER OF ISSUED SHARES
	AGRICULTURAL		
1	Eaagads Ltd	EGAD	32,157,000
2	Kakuzi Ltd	KUKZ	19,599,999
3	Kapchorua Tea Co. Ltd	KAPC	7,824,000
4	The Limuru Tea Co. Ltd	LIMT	1,800,000
5	Sasini Ltd	SASN	228,055,500
6	Williamson Tea Kenya Ltd	WTK	17,512,640
	AUTOMOBILES & ACCESSORIES		
7	Car & General (K) Ltd	C&G	40,103,308
8	Marshalls (E.A.) Ltd	MASH	14,393,106
9	Sameer Africa Ltd	FIRE	278,342,393
	BANKING		
10	Barclays Bank of Kenya Ltd	BBK	5,431,536,000
11	CFC Stanbic of Kenya Holdings Ltd	CFC	395,321,638
12	Diamond Trust Bank Kenya Ltd	DTK	266,321,115
13	Equity Group Holdings Ltd	EQTY	3,773,674,802
14	Housing Finance Group Ltd	HFCK	352,416,667
15	I&M Holdings Ltd	I&M	392,362,039
16	KCB Group Ltd Ord	KCB	3,066,056,647
17	National Bank of Kenya Ltd	NBK	308,000,000
18	NIC Bank Ltd	NIC	639,945,603
19	Standard Chartered Bank Kenya Ltd	SCBK	343,510,571
20	The Co-operative Bank of Kenya Ltd	COOP	4,889,316,295
	COMMERCIAL AND SERVICES		
21	Atlas African Industries Ltd	ADSS	1,497,370,885
22	Express Kenya Ltd	XPRS	35,403,790
23	Hutchings Biemer Ltd	HBER	360,000
24	Kenya Airways Ltd	KQ	1,496,469,035
25	Longhorn Publishers Ltd	LKL	369,940,476

26	Nairobi Business Ventures Ltd	NBV	23,600,000
27	Nation Media Group Ltd	NMG	188,542,286
28	Standard Group Ltd	SGL	81,731,808
29	TPS Eastern Africa Ltd	TPSE	182,174,108
30	Uchumi Supermarket Ltd	UCHM	364,959,616
31	WPP Scangroup Ltd	SCAN	378,865,102
	CONSTRUCTION & ALLIED		
32	ARM Cement Ltd	ARM	495,275,000
33	Bamburi Cement Ltd	BAMB	362,959,275
34	Crown Paints Kenya Ltd	BERG	71,181,000
35	E.A.Cables Ltd	CABL	253,125,000
36	E.A.Portland Cement Co. Ltd	PORT	90,000,000
	ENERGY & PETROLEUM		
37	KenGen Co. Ltd	KEGN	6,243,873,779
38	KenolKobil Ltd	KENO	1,471,761,200
39	Kenya Power & Lighting Co Ltd	KPLC	1,951,467,045
40	Kenya Power & Lighting Ltd 4% Pref 20.00	KPLC.P0004	1,800,000
41	Kenya Power & Lighting Ltd 7% Pref 20.00	KPLC.P0007	350,000
42	Total Kenya Ltd	TOTL	175,028,706
43	Umeme Ltd	UMME	1,623,878,005
	INSURANCE		
44	Britam Holdings Ltd	BRIT	1,938,415,838
45	CIC Insurance Group Ltd	CIC	2,615,538,528
46	Jubilee Holdings Ltd	JUB	65,884,500
47	Kenya Re Insurance Corporation Ltd	KNRE	699,949,068
48	Liberty Kenya Holdings Ltd	CFCI	535,707,499
49	Pan Africa Insurance Holdings Ltd	PAFR	144,000,000
	INVESTMENT		
50	Centum Investment Co Ltd	ICDC	665,441,775
51	Home Afrika Ltd	HAFR	405,255,320
52	Kurwitu Ventures Ltd	KURV	102,272
53	Olympia Capital Holdings Ltd	OCH	40,000,000
54	Trans-Century Ltd	TCL	281,426,593
	INVESTMENT SERVICES		
55	Nairobi Securities Exchange Ltd Ord 4.00	NSE	259,500,000

	MANUFACTURING & ALLIED		
56	A.Baumann & Co Ltd	BAUM	3,840,066
57	B.O.C Kenya Ltd	BOC	19,525,446
58	British American Tobacco Kenya Ltd	BAT	100,000,000
59	Carbacid Investments Ltd	CARB	254,851,988
60	East African Breweries Ltd	EABL	790,774,356
61	Eveready East Africa Ltd	EVRD	210,000,000
62	Flame Tree Group Holdings Ltd	FTGH	161,866,804
63	Kenya Orchards Ltd	ORCH	12,868,124
64	Mumias Sugar Co. Ltd	MSC	1,530,000,000
65	Unga Group Ltd	UNGA	75,708,873
	TELECOMMUNICATION & TECHNOLOGY		
66	Safaricom Ltd	SCOM	40,065,428,000
	REAL ESTATE INVESTMENT TRUST		
67	STANLIB FAHARI I-REIT. Ord.20.00	FAHR	180,972,300

Appendix 2: Companies Sampled for Review

S. NO	SECURITIES	TRADING SYMBOL	TOTAL NUMBER OF ISSUED SHARES
	AUTOMOBILES & ACCESSORIES		
1	Car & General (K) Ltd	C&G	40,103,308
2	Marshalls (E.A.) Ltd	MASH	14,393,106
3	Sameer Africa Ltd	FIRE	278,342,393
	COMMERCIAL AND SERVICES		
4	Atlas African Industries Ltd	ADSS	1,497,370,885
5	Express Kenya Ltd	XPRS	35,403,790
6	Hutchings Biemer Ltd	HBER	360,000
	Kenya Airways Ltd	KQ	1,496,469,035
	Longhorn Publishers Ltd	LKL	369,940,476
7	Nairobi Business Ventures Ltd	NBV	23,600,000
8	Nation Media Group Ltd	NMG	188,542,286
9	Standard Group Ltd	SGL	81,731,808
10	TPS Eastern Africa Ltd	TPSE	182,174,108
11	Uchumi Supermarket Ltd	UCHM	364,959,616
12	WPP Scangroup Ltd	SCAN	378,865,102
	CONSTRUCTION & ALLIED		
13	ARM Cement Ltd	ARM	495,275,000
14	Bamburi Cement Ltd	BAMB	362,959,275
15	Crown Paints Kenya Ltd	BERG	71,181,000
16	E.A.Cables Ltd	CABL	253,125,000
17	E.A.Portland Cement Co. Ltd	PORT	90,000,000
	ENERGY & PETROLEUM		
18	KenGen Co. Ltd	KEGN	6,243,873,779
19	KenolKobil Ltd	KENO	1,471,761,200
20	Kenya Power & Lighting Co Ltd	KPLC	1,951,467,045
21	Kenya Power & Lighting Ltd 4% Pref 20.00	KPLC.P0004	1,800,000
22	Kenya Power & Lighting Ltd 7% Pref 20.00	KPLC.P0007	350,000
23	Total Kenya Ltd	TOTL	175,028,706
24	Umeme Ltd	UMME	1,623,878,005

	MANUFACTURING & ALLIED		
25	A.Baumann & Co Ltd	BAUM	3,840,066
26	B.O.C Kenya Ltd	BOC	19,525,446
27	British American Tobacco Kenya Ltd	BAT	100,000,000
28	Carbacid Investments Ltd	CARB	254,851,988
29	East African Breweries Ltd	EABL	790,774,356
30	Eveready East Africa Ltd	EVRD	210,000,000
31	Flame Tree Group Holdings Ltd	FTGH	161,866,804
32	Kenya Orchards Ltd	ORCH	12,868,124
33	Mumias Sugar Co. Ltd	MSC	1,530,000,000
34	Unga Group Ltd	UNGA	75,708,873

Appendix 3: Companies with Z-score of less than 2.99

S. NO	SECURITIES	Z-SCORE YEAR 2015	AVERAGE Z-SCORE (2011-2015)
	AUTOMOBILES & ACCESSORIES		
1	Car & General (K) Ltd	2.4532	2.5282
	COMMERCIAL AND SERVICES		
2	Kenya Airways Ltd	0.9877	1.8922
	ENERGY & PETROLEUM		
3	KenGen Co. Ltd	0.6850	1.3574
4	Kenya Power & Lighting Co Ltd	1.4061	2.0223
	MANUFACTURING & ALLIED		
5	Mumias Sugar Co. Ltd	1.7475	4.2184