THE EFFECT OF BOARD SIZE ON FINANCIAL DISTRESS IN LISTED COMMERCIAL AND SERVICES FIRMS IN KENYA

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ABSTRACT

Financial distress has been a great concern to managers, investors and practitioners since time immemorial. This is because it can easily lead to insolvency and business failure and in worst cases financial distress leads to liquidation of the firm. In Kenya, companies such as Nakumatt Holdings, Uchumi Supermarkets, Tuskys Supermarkets, Karuturi Ltd, Mumias Sugar Company and Eveready East Africa have faced numerous challenges leading to financial distress and ultimately collapsing. The problem has also affected listed companies where corporate governance principles such as separation of ownership is lacking. Listed firms have exhibited high leverage level that averaged 25.8% oscillating between 22.64 % and 76.2 % between 2011 and 2022. These high levels of debt level suggest high chances of financial distress. Although previous scholars have explored the influence of corporate board structure on financial distress, there seems to be emphasis on board independence and diversity, leaving out the critical aspect of board size. Further previous scholars generalised all listed firms ignoring the fact that they are heterogenous. The objective of this study was therefore to determine the effect of board size on financial distress of listed commercial and services companies in Kenya. To achieve the objectives the study was anchored on agency theory and adopted an explanatory research design targeting 9 listed commercial and services companies in Kenya. Secondary data collected via secondary data collection sheet was utilized. The analysis of quantitative data involved the application of descriptive and inferential statistics which encompass frequencies, means, and standard deviations, whereas inferential statistics encompass regression and correlation analysis. Panel regression model was utilized to test the relationship between board size and financial distress in listed commercial and services companies in Kenya. Findings revealed that board size has a significant negative effect on financial distress ($\beta = -0.6145$, $p = 0.005$), suggesting that larger boards reduce the likelihood of financial distress. It indicates the importance of diverse perspectives in mitigating financial distress. The study thus concluded that optimally structuring the size of the board can significantly reduce financial distress. It is recommended that firms strengthen their governance structures by expanding board size to expand expertise and skills scope in the board.

Keywords: Board Size; Commercial And Services Companies; Financial Distress.

INTRODUCTION

Financial distress poses a major risk to organizations, regardless of their size or nature (Babina et al., 2023). The onset of financial distress comes with a myriad of challenges which includes technical, cash flow and operational insolvency, dilution in earnings and dividends, reduced stock prices, loss of customers and suppliers as well as redundancy and employee turnover. In worst cases financial distress leads to bankruptcy and ultimately liquidation of the firm (Abdu, 2022).

Financial distress is a scenario whereby an enterprise or individual faces difficulty meeting their financial obligations, leading to potential insolvency or an inability to sustain normal business operations. Edward Altman (1986) introduced the notion of financial distress in his Altman Z-Score model to refer to a situation in which a firm is incapable of accomplishing its debt responsibilities. According to ElBannan (2021), financial distress is firm's incapability to fulfil its financial obligations because of insufficient cash flow. In this study, financial distress was used to refer to inability of the company to meet its financial obligations or meeting them with difficulties.

Globally, numerous companies have collapsed due to challenges associated with financial distress. This problem was worsened by the Global Financial Crisis (GSF) of 2007-2008. As a result of this crisis, many economies experienced recession while many companies experienced financial distress due to huge losses associated with overreliance of debt to leverage companies to improve performance. The collapse of Lehman Brothers and other financial institutions in the United States triggered a panic in markets globally. The effect of this crisis was a contagion that rapidly spread to the rest of the world (Hausman et al., 2019). Other companies that have collapsed as a result of financial distress include PT Citra Maharlika Nusantara Corpora Tbk, PT Berau Coal Energy, a firm traded on the Indonesia Stock Exchange (IDX), which faced bankruptcy litigation from creditors due to its inability to settle maturing debts (Dirman, 2020). In China, commercial enterprises are encountering financial difficulties and a recession, primarily due to the fierce rivalry posed by digital platforms. E-commerce giants like Amazon and Alibaba have captured a significant share of the market, resulting in liquidity challenges for traditional commercial companies (Sawe & Makori, 2022).

In Africa, numerous firms have also encountered financial distress. Notably, ESKOM in South Africa, South African Airways, Arik Airlines in Nigeria, Ghana Co-op Bank, Spencon, Uganda Steel Rolling Mills, Civil Engineering and Construction Company (CIVICON), Umeme Uganda, and Crane Bank Uganda Ltd have recently experienced significant financial difficulties (Isayas, 2021). In contemporary Ethiopia, the insurance sector has experienced a higher incidence of distress compared to other industries, attributable to adverse governmental policies, inflationary pressures, exchange rate volatility, political instability, and insufficient social and infrastructural amenities, amongst other factors (Isayas, 2021).

In Kenya, a number of enterprises have also had financial difficulties leading to the collapse. This includes enterprises listed under commercial and services in Kenya, namely Uchumi and Kenya Airways, have received significant attention in recent years. Other companies include Mumias Sugar, Muhoroni Sugar, Athi River Mining Ltd, Deacons, EAP Cement Ltd, Uchumi Eveready EA, Imperial Bank, Dubai Bank, KCC, and Nakumatt Holdings Ltd. Some companies such as Centum Investment Plc and Express Kenya Plc. have been suffering losses and has consistently reported negative returns (NSE, 2023). Additionally, as a result of financial distress numerous companies in Kenya such as KaluWorks ltd, Nakumatt Holdings, Uchumi Supermarkets, Tuskys Supermarkets, Karuturi Ltd, Mumias Sugar Company and Eveready East Africa have collapsed (Dirman, 2020).

Besides, owing to financial challenges, ARM Cement was put under receivership in 2018 (NSE, 2023). Other companies such as Kenya Airways have for several years been on the verge of collapsing, save for bailout by the national government. In other cases, companies have been forced to restructure or be absorbed by other companies due to problems associated with financial distress. For instance, CMC Motors Group restructured in 2021, Pan African Insurance Holdings was acquired by Sanlam while Sameer Africa sold 50% stake to Apollo Tyres. Most recently, TransCentury (TCL) Plc and its subsidiary East African Cables (EAC) Plc had to obtain court protection against being put under receivership and administration by Equity bank because of insolvency (NSE, 2023).

The question that lingers, is whether it is possible to predict financial distress in advance so as to prevent more companies from collapsing and how the situation can be mitigated. Financial distress occurs when organizations have a high level of financial risk due to excessive reliance on borrowed capital. Consequently, companies with substantial debts in proportion to their size are more prone to experiencing financial distress. It was determined that leverage level of firm listed on the NSE averaged 25.8% oscillating between 22.64 % and 76.2 % between 2011 and 2022. These high levels of debt level suggest high chances of financial distress (Nairobi Stock Exchange, 2023).

Financial Distress Measurement

There are several models that may be used in measuring financial distress. However, the most common quantitative models are the Altman Z-Score Model postulated by Altman (1986), the Fulmer (1984) model and Springate Model postulated by Springate in 1978. Altman's Z-Score is a prevalent model that uses many financial measures to forecast the likelihood of a firm having financial distress. It is computed by summing the ratios of Working Capital to Total Assets and Retained Earnings to Total Assets, EBITs/Total Assets, Equity Market Value /Book Value of Total Debt and Sales/Total Assets (Prasetiyani & Sofyan, 2020). The model posits that if an entity possesses a Z-Score of more than 2.7 the firm is considered healthy and has no chance of failure. If the score lies between 2.7 and 1.8 there are chances of falling in financial distress. However, if Z-Score is less than 1.8 there are high chances of falling into financial distress in the next two years (Cındık & Armutlulu, 2021). The model can accurately forecast bankruptcy 94% of the time one year ahead of time and 72% of the time two years ahead of time (Swalih, Adarsh & Sulphey, 2021).

The Fulmer model is based on nine ratios that accurately describes a healthy and a failed business. Fulmer (1984) employed multiple discriminant analysis to assess the outcomes of organizations, determining whether they were successful or unsuccessful. The ratios used include V1=Retained Earning/Total Assets, V2=Sales/Total Assets, V3=EBT/Equity, V4=Cash Flow/Total Debt, V5 = Debt/Total Assets, V6=Current Liabilities/Total Assets, V7=Log Tangible Total Assets, V8=Working Capital/Total Debt. V9=Log EBIT/Interest. As per the model if the H factor is less than 0, then the firm is considered to be in financial distress and may fall into bankruptcy. However, if the H factor is more than 0, then the firm is considered to be in a state of good health and financially stable. However, this model is only accurate within one year suggesting that it may not help the management to avoid business failure.

The Springate model employs a discriminant analysis methodology and utilizes financial ratios to quantify the prospect of a firm encountering financial distress. The model considers four accounting rations that were viewed as most relevant in predicting bankruptcy. The Springate model is stated as: S=1.03A+3.07B+0.66C+0.4D. Whereby A represents net working capital/total assets, B is EBIT/total assets, C is profit before tax/current liabilities and D is the ration of total sales revenue to total assets (Husein & Pambekti Joshi, 2020). According to the model a score of 0.862 or more suggests that the firm is financially sound, otherwise, it is failed and is likely to fall into financial distress in less than two years. This study adopted the Springate Model because it uses stepwise discriminant analysis to analyse the scores. Besides the model has been used by previous scholars such as Prasetiyani and Sofyan (2020) in bankruptcy analysis in retail dealing firms traded in Indonesia Stock Exchange, Shalih and Kusumawati (2019) in forecast of financial distress in manufacturing sector, Manurung, Tiara and Ovami (2019) in forecasting financial distress of listed firms in United States of America.

Board Size

The board's structure serves as the cornerstone of a corporation's policymaking, playing a pivotal role in governance. It oversees management, curbs agency costs, selects top executives, and ensures ample resources for the company's strategic planning (Edirisinghe, 2019). In the modern corporate landscape, the board structure stands as a formidable hub of authority, wielding significant influence over company operations. It shoulders the responsibility of crafting corporate strategy, assessing managerial performance, steering strategic direction, implementing governance policies, and guaranteeing satisfactory returns for shareholders (Huang and Lu, 2024) As the essence of corporate governance evolves, the dynamics and demographics of the board structure take the centre stage. According to Oruke et al. (2020) at the heart of the ongoing debate about the efficacy of corporate governance in both the governmental and commercial sectors lie the structure of board of directors. The directors' board structure provides a roadmap for structuring firm operation to foster transparency, accountability, and enhanced performance. Board's structure involves elements such as board's size, the number of autonomous directors, the division of chairman and CEO roles, and the regularity of board meetings, collectively known as structural diversity (Sudirman et al., 2022). According to Puni and Anlesinya (2020), board size is critical in achieving an effective board.

This is because a very lean board is prone to compromise by the management while a very large board is associated with inefficiency and high costs.

It has been postulated that the performance of firms varies relative to the size of their board of directors. Specifically, when the board comprises a greater number of directors, firms are afforded increased access to a diverse array of resources, as opposed to scenarios where the board size is limited (Yameen et al., 2019). A larger board encompasses a more extensive pool of experienced and knowledgeable individuals, which facilitates more meticulous learning and decision-making processes, thereby enhancing overall firm performance (Onyina & Gyanor, 2019). It can also be contended that the size of a firm's board of directors has a beneficial effect on the firm's success by diminishing financial leverage. Furthermore, the size of the board is crucial in enhancing the firm's success, as it allows the company to effectively monitor and supervise its managers (Abdullah et al., 2022). Martin and Herrero (2018) posit that organizations can benefit from having large boards if they include individuals from varied backgrounds. This can help address environmental concerns and promote resource conservation. The primary benefit of having a greater number of directors is the increased collective information available to the board, which leads to improved outcomes. Ensuring the appropriate board size with an appropriate blend of know-how and experience optimized business efficiency and minimize expenses.

Commercial and Services Sector

Most companies classified under commercial and services sector are under the category of medium sized companies which heavily rely on working capital in financing their operations. Since the Springate model recognises current liabilities as a key element of the company's working capital which may affect its liquidity level, the study found the model to be more appropriate. While current liabilities themselves do not directly increase leverage, relying too heavily on short-term liabilities might leave the company vulnerable due to its inability to meet its immediate financial obligations, which can result in financial difficulty (Cındık & Armutlulu, 2021).

Kenya's commercial and services sector continues to evolve, driven by factors such as technological advancements, demographic changes, and economic policies (Mulumbi, 2021). The study specifically targeted publicly traded commercial and service enterprises in Kenya which include Express Kenya Plc., Kenya Airways Ltd., Nation Media Group Plc., Standard Group Plc., TPS Eastern Africa (Serena) Ltd., WPP Scan group Plc., Uchumi Supermarket Plc., Eveready EA Ltd., Longhorn Publishers Plc., Deacons (EA) Plc., Sameer Africa Plc., Nairobi Business Ventures Ltd. and Homeboyz Entertainment Plc. (Nairobi Stock Exchange Report, 2023).

Statement of the Problem

The study established that numerous listed companies have collapsed in the recent past. Companies such as Nakumatt Holdings, Uchumi Supermarkets, Tuskys Supermarkets, Karuturi Ltd, Mumias Sugar Company and Eveready East Africa have faced numerous challenges leading to financial distress and ultimately collapsing. It was also determined that although the existing once have not collapsed, they have signs of financial distress. For

instance, the study established that leverage level of firm listed on the NSE averaged 25.8% oscillating between 22.64 % and 76.2 % between 2011 and 2022. These high levels of debt level suggest high chances of financial distress. Specifically, three firms registered under commercial and services in Kenya have been suspended from trading on the bourse. Deacons (East Africa), which is insolvent, was suspended from trading on the bourse in November 2018. Uchumi was suspended soon after shutting down its outlets because it was unable to fulfil its financial responsibilities (Kamau, Otinga & Matanda, 2023). In addition, the trading of Kenya Airways (KQ) shares on the NSE has been halted for an additional year due to the airline's ongoing restructuring efforts, as it remains technically insolvent (NSE, 2023).

Although numerous studies have been conducted on the role of the board in preventing financial distress (Freitas et al., 2019; Omware et al., 2020; Agarwal, 2020; Benvolio and Ironkwe, 2022; Ali, 2022; Abdullah et al., 2022: Maria et al., 2023) most of these studies were conducted in other contexts such as United states, United Kingdom and Nigeria. Besides, other studies considered other variables such as board diversity and board independence. Other studies were conducted in the banking sector, health sector and education sector while the current study was conducted in the commercial and services sector. Additionally, most studies used the Altman's model in predicting financial distress while the current study relied on the Springate model. Consequently, it was observed that, despite the existence of extensive research on the concepts of financial distress and corporate board structure, the study identified numerous gaps raging from contextual, conceptual and methodological gaps. This research sought to address these gaps by analysing the effect of board size on financial distress of traded commercial and services companies in Kenya.

Objective of the Study
The general objective was to determine the effect of board size on financial distress in listed commercial and services firms in Kenya.

LITERATURE REVIEW
This section outlines the reviewed literature on the study variables aimed at identifying the research gaps.

Theoretical Review
The study was anchored on agency theory developed by Jensen &Meckling (1976). The theory explains how the management of an entity is influenced by the conflicts of interest among the company's shareholders, managers, and significant debtors. Each of these groups possesses distinct interests and aims. Jensen &Meckling (1976) defined the agency relationship as a contractual agreement between the proprietors and managers of a corporation. Under this setup, the proprietors, functioning as the principal, delegate the task of overseeing the firm to the managers, who act as their agents (Peltokorpi, 2024). The owners anticipate that the agents prioritized the owners' best interests. Corporate governance mechanism, as per agency theory, aims to reduce agency by overseeing and regulating the behaviour of agents. This includes mechanisms such as boards of directors, audits, executive compensation structures, and

performance evaluations. The goal is to synchronize the interests of principals and agents and guarantee that managers operate in the utmost interests of shareholders (Foreman et al., 2020). Agency theory acknowledges that shareholders may need to actively engage in monitoring and influencing managerial decisions. Shareholder activism can take the form of voting at annual meetings, proposing resolutions, or engaging in direct communication with management. Agents must be held responsible to their principal for their decisions and actions. Enhanced accountability is expected to mitigate the agency problem by offering management a stronger motivation (such as gaining incentives or avoiding penalties) to attain performance levels that align with the shareholders' best interests. Agency theory hypothesizes that the main intention of the board is to be certain that the activities of executives align with the interests of the shareholders, who are the owners of a business. This theory was used to explain the board size as a whole on financial distress in listed commercial and services companies in Kenya.

Empirical Review

Yameen et al. (2019) researched the impact of corporate governance norms on the profitability of businesses, with a specific emphasis on the Indian tourism sector. The research utilized a panel dataset of 39 hotels that were traded on the Bombay Stock Exchange (BSE) from 2013 to 2016. The OLS regression model was employed to estimate results. The results suggest that the success of Indian hotels is adversely affected by the quantity of board directors when assessed via accounting proxies. On the contrary, the findings also propose that the broader the board of directors, the better the efficiency of Indian hotels when examined utilizing marketing metrics. The study however focused on situation in India whereas this study was based on realities in Kenya.

Onyina and Gyanor (2019) studied the connection between corporate governance practices and the financial health of firms traded on the Ghana Stock Exchange. The analysis utilizes the annual financial reports from 2007 to 2016 for firms that have been authenticated by the Securities and Exchange Commission and are publicly traded on the Ghana Stock Exchange. Utilizing the random effects model, the study found no statistically significant confirmation to suggest that corporate governance characteristics have an impact on the profitability of firms traded on the Ghana Stock Exchange. The analysis discovered insufficient suggestion to substantiate the favorable influence of board size on company profitability. In other words, many of board size models did not significantly influence firm performance. The study covered the period between 2007 and 2016 however this study covered the period between 2019 and 2023.

Omware, Atheru and Jagongo (2020) analyzed the impact of Corporate Governance elements on the Financial Health of banking institutions publicly traded on the NSE, Kenya. This study assessed firm performance using ROE, ROA, and Net Interest Margin (NIM). The analysis employed a cross-sectional research methodology to analyze data from a sample of financial institutions that are traded on the NSE, Kenya. Purposive sampling ensured representation of the population by selecting 5 Chief Executive Officers (CEOs) from the 11 listed banks. Primary data was collected through questionnaires administered to CEOs and Senior Management Officers. To ensure content validity, each questionnaire and interview item

directly addressed the study's objectives. Statistical analysis using SPSS software involved The Spearman's correlation coefficient utilized to assess the magnitude of associations, while multiple regression analysis is employed to forecast financial success. The research outcomes suggest that the size of the board has a notable impact on the profitability of publicly traded banking institutions. The research utilized an explanatory research design rather than a cross-sectional design, in contrast to the prior research.

Abdullah, Aziz and Azani (2022) researched the impact of corporate governance attributes on the financial success of a corporation. The Malaysian Code on Corporate Governance (MCCG) draws heavily from the UK's Hampel Report and Corporate Governance Code, which were designed for markets with more dispersed ownership structures. In order to assess the efficacy of the MCCG in a specific setting, a sample of 70 publicly traded firms in Malaysia from 2016-2020 was randomly chosen and subjected to multiple regression analysis. The data demonstrates a robust and substantial correlation between the board's size and viability. This recommends that expanding the board of directors bolster financial prosperity. The study however placed emphasis on financial performance whereas this study focused on financial distress.

Sudirman, Pratiwi, and Adams (2022) thoroughly analysed the characteristics of a corporation's board, such as board size, board diversity, and the audit committee, in regard to capital structure. They then proceeded to approve the effect of capital structure on corporate viability and value, via ROE as a benchmark for achievement and Tobin's Q as a gauge of firm value. The research utilized a sample of 25 firms that constantly appeared in the LQ45 index during the period from 2015 to 2019. The analytical technique employed in this research was Path Analysis. According to the findings of the hypothesis testing, board size positively impacted capital structure, which in turn positively impacted company performance. The study was based on capital structure, performance and value while the current study related board size to indecencies of financial distress.

Summary of Literature Review

The study established that although numerous studies have been conducted on the concept of board size and financial distress there still exists gaps in literature. For instance, most studies were conducted in other jurisdictions. Yameen et al. (2019) study was conducted in India, Onyina and Gyanor (2019) study was conducted among firms traded on the Ghana Stock Exchange while Abdullah et al. (2022) study was conducted among publicly traded firms in Malaysia. Methodological gaps were also identified. For instance, Omware, et al. (2020) study adopted explanatory research design rather than a cross-sectional design as used in the current study. Similarly, Sudirman et al. (2022) adopted Path Analysis while the current study adopted Panel regression analysis using STATA 14 software. Further conceptual gaps were identified. In the study conducted by Sudirman et al. (2022) correlated board size to capital structure, performance and value while the current study related board size to financial distress.

RESEARCH METHODOLOGY

This section offers an overview of the research methodologies that were used to address the problem being investigated in the study.

Research Design

The research utilized an explanatory research approach. Dawadi, Shrestha and Giri (2021) posit that an explanatory research design deals with the causal effect relationship between the study variables. Explanatory research design utilizes surveys, questionnaires, interviews, or observations to gather data, which is subsequently analysed and condensed to derive conclusions about the target audience (Toyon, 2021).

Study Population

This research was conducted in listed commercial and services firms in Kenya. The study targeted all the 9 listed commercial and services companies in Kenya. The unit of analysis was therefore the 9 listed commercial and services companies. A census was undertaken in Kenya due to the limited number of listed business and services organizations.

Data and Data Collection Instrument

This study collected secondary data using secondary data collection sheet. Data collection sheet was preferred because data was obtained from published sources and therefore it helped in guaranteeing the acquisition of all the necessary data.

Data Analysis

Quantitative data involved the application of descriptive and inferential statistics. The Pearson correlation coefficient was employed to examine the associations between the variables under consideration. Regression analysis was employed to elucidate, discern, and quantify intricate correlations between variables. The analysis revealed the extent of the link between the study variables, as well as the characteristics of this relationship (Kwan & Kan, 2022). Panel regression analysis was employed to analyse the link between the structure of corporate boards and financial distress in commercial and services enterprises listed in Kenya as recommended by Chatterjee and Simonoff (2020).

RESULTS AND DISCUSSION

Descriptive Analysis

The descriptive analysis provides a summary of the key characteristics of the study variable which include financial distress (as measured by the Springate model score), board size (logarithmic transformation) as the independent variable. This analysis offers an overview of the data distribution and the central tendencies of these variables, setting the stage for further statistical analyses.

Table 1: Descriptive Analysis of Study Variables

Variables	Count	Mean	Std	Min	Max
Financial Distress (Springate Score)	45	-0.635	8.966	-57.188	13.161
Board Size (Log)	45	2.103	0.386	1.386	2.708

The findings presented in Table 1 show that financial distress, measured using the Springate Score, varies significantly among the listed commercial and services companies in Kenya. On average, the Springate Score is -0.64, suggesting that many of these companies are on the brink of financial distress. This average, however, masks a wide range of financial conditions, with scores ranging from -57.19, indicating severe distress, to a maximum of 13.16, which reflects financial stability. The standard deviation of 8.97 further emphasizes the substantial variation in the financial performance of the companies, highlighting the diverse economic landscape they operate in. These findings align with the empirical literature, such as the study by Saleh and Natalia (2023), which found that financial distress is significantly impacted by corporate governance structures, including board size. In the Kenyan context, this variability in financial health could reflect the differing levels of corporate governance practices among firms, suggesting that firms with better governance structures are more likely to maintain financial stability.

The analysis of board size indicated that the average board size among the firms is relatively small, with a mean log value of 2.10, corresponding to approximately 8 directors. The standard deviation of 0.39 suggests some variation in board sizes, but most firms tend to have board sizes within a similar range. This finding is consistent with the study by Abdullah, Aziz, and Azani (2022), which highlighted the importance of board size in enhancing financial performance. However, while their study focused on the positive impact of larger boards in the Malaysian context, the relatively smaller board sizes in Kenya might reflect a different corporate governance approach or resource constraints that limit the number of directors. The implications of board size on financial distress, as observed in the Kenyan context, could differ from those in other regions, underscoring the need for localized studies on corporate governance.

Correlation Analysis

The study computed Spearman correlation analysis to establish the strength and the direction of the relationship between the dependent and the independent variables. The findings were as presented in Table 2.

Table 2: Correlation Analysis

	Financial Distress	**Board Size**
Financial Distress	1.000	
Board Size	-0.725**	1.000
	0.000	

Board Size has a strong negative correlation with Financial Distress ($r = -0.725$, $p < 0.05$). This suggests that larger boards are associated with lower levels of financial distress, contrary to what was initially expected. A possible explanation is that larger boards may provide better oversight and more robust decision-making, thereby mitigating financial distress. This finding aligns with the study by Omware et al. (2020), which highlighted that larger boards in the banking sector were associated with improved financial health due to enhanced governance and reduced risk of distress.

Regression Analysis

The study employed simple linear regression analysis to examine the relationship between the dependent variable (Financial Distress, as measured by the Springate Score) and the independent variable (board size). The objective was to determine the extent to which board size influences financial distress. Table 3 provides a comprehensive summary of the results from the ANOVA and the model summary, offering insights into the overall fit and statistical significance of the regression model.

Table 3: ANOVA and Model Summary

xtreg Financial_Distress Board_Size

Random-effects GLS regression	Number of obs	= 18
Group variable: Firm_ID	Number of groups	= 9
R-sq: within = 0.9803		
between = 0.9954		
overall = 0.9813		
Obs per group: min = 2		
avg = 2.0		
max = 2		
Wald chi2(2) = 12833.03		
Prob > chi2 = 0.0000		
corr(u_i, X) = 0 (assumed)		

The regression model summary is presented in Table 3. The model was used to test if board size significantly predicted financial distress. The model's R-squared value, which explains the proportion of variance in the dependent variable accounted for by the independent variables, was 0.9813, suggesting that 98.13% of the variation in financial distress can be explained by changes in board size. This high R-squared value indicates a strong explanatory power of the model. The model's overall significance was confirmed by a Prob > Chi2 value of 0.000, which is less than the selected significance level of 0.05, indicating that the model is statistically significant.

To further understand the influence of board size on financial distress, the coefficients table was computed. The regression coefficients indicate how much the dependent variable (financial distress) is expected to change with a one-unit change in the board size, holding other factors constant.

Table 4: Coefficients of Study Variables

Variable	Coefficient (β)	Standard Error	z-value	p-value	95% Confidence Interval
Constant	15.9524	2.2315	7.15	0.000	[11.5798, 20.3250]
Board Size	-0.6145	0.2214	-2.78	0.005	[-1.0485, -0.1805]

The regression equation based on the coefficients is as follows:
Financial Distress = 15.9524 − 0.6145 Board Size

The coefficient for Board Size is -0.6145, with a p-value of 0.005, indicating a statistically significant negative relationship with financial distress. This suggests that larger boards are associated with lower financial distress, potentially due to better decision-making and oversight. This finding is consistent with Abdullah, Aziz, and Azani (2022), who found that board size positively impacts financial performance, indicating that well-governed firms with larger boards might be less prone to financial distress.

Conclusions

The study concludes that Board Size has a significant negative effect on financial distress. Larger boards, with their diverse expertise and perspectives, enhance governance and reduce the likelihood of financial distress. Therefore, firms should consider expanding their boards to improve decision-making and oversight.

Recommendations for Policy and Practice

Based on the findings, the study offers several recommendations aimed at improving governance and reducing financial distress in listed commercial and services companies. The study recommends that firms consider increasing the size of their boards to enhance governance and reduce financial distress. Larger boards bring diverse skills and perspectives, which are

crucial for effective decision-making and risk management. Firms should aim for a balanced board size that allows for diverse input while maintaining efficient decision-making processes.

Contribution of the Study to the Body of Knowledge

This study contributes to the body of knowledge by demonstrating that larger boards are associated with lower financial distress, filling a gap in previous research that focused primarily on the impact of board size on firm performance rather than financial distress. This improves on the understanding of how board size influences financial distress in listed commercial and services companies in Kenya.

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