

## **EFFECT OF BOARD SIZE ON FINANCIAL DISTRESS OF NON-FINANCIAL LISTED FIRMS IN THE NAIROBI STOCK EXCHANGE**

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**Abstract:** *The Nairobi Securities Exchange (NSE) is a major contributor of revenue to Gross Domestic Product (GDP). However, financial performance of listed firms generally remains poor indicating high levels of financial distress. Non-financial listed firms have been shown to have higher levels of financial distress which has led to suspension and listing of a number of them from the Exchange. While there have been attempts by stakeholders to solve the problem of financial distress among these firms, the effect of board composition on financial distress has not been investigated. The study therefore sought to analyse the effect of board composition on financial distress of non-financial firms listed at the NSE. The specific objectives was to establish the effect of board size on financial distress of non-financial firms listed at the NSE. The Agency theory and the Stakeholders theory guided the study. Correlational research design was employed with target population of 51 non-financial firms. Secondary data for the years 2016 to 2019 for the 47 firms was collected using document analysis from the published financial statements of the firms. The collected data was tested for validity and reliability using expert opinion. Results showed that Board Size has a negative significant effect ( $\beta = -0.370$ ,  $t = -3.109$ ,  $p = 0.007$ ) on financial distress of the listed firms implying that holding all factors constant, a unit increase in Board Size leads to a 37.0% significant decrease in financial distress at the non-financial listed firms at the NSE.*

**Keywords:** *Board Characteristics, Financial Distress, Non-Financial Firms*

### **Background to the Study**

Financial distress is a major threat to the operational existence of many firms around the world today. Liquidity of corporate entities has become an issue of great concern to stakeholders. Companies today are increasingly facing challenges in fulfilling contractual and financial obligations resulting in exposing stakeholders to a raft of detrimental events. Mizan and Hossain (2014), states that the financial health of a business firm is the main concern of its stakeholders. Listed companies worldwide continue to grapple with financial distress even as stock markets and financial regulators continue to put in place stringent regulatory measures to govern the sector. Business failure often leads to heavy losses both financially and non-financially.

Financial distress is evident in firms whose financial statements show signs of: general sales declining, negative cash flows, stretched account receivables, slowing inventory turnover margin compression, missed projections, and breached bond covenants. However, beyond the information found on financial statements, management will also see signs of managerial and operational

distress. This is when there are indicators of: product and service quality deteriorating, changes in supplier terms, sudden departure of key employees or managers, and dramatic shifts in strategy. It is therefore critical that prediction of business failure be conducted in a timely and accurately manner in order to help managers, government, suppliers, employees, lenders, and shareholders to make informed decisions (Mizan *et al.*, 2014). Moreover, it is critical that firms do rapidly identify and address liquidity problems before they exacerbate, as most business failures can be traced back to challenges arising years prior to corrective action being taken. The issue of financial distress is therefore experienced by listed firms on global, regional and local scales.

### **Global Perspective of Financial Distress of Non-Financial Listed Firms**

Firms globally list on stock markets in order to raise capital. The study Balasubramaniam (2019), points out some of the reason's companies raise capital from listing in stock markets: to fund research and development (R&D), to fund capital expenditure, and pay off existing debts. Listed companies have a duty to safeguard the investments of shareholders by acting in the best interest of their shareholders, or what is known as fiduciary interests. A major setback firm's face in taking higher levels of debt is that it increases the risk of financial distress and can ultimately lead to liquidation of a firm. This has detrimental effects on both equity holders and debt holders.

Recent studies have shown that there is an increase in corporate failures globally today due to financial distress of business entities. Recently in the United States of America (USA), large corporates have struggled to stay afloat for example, Philip Holzmann, Enron Corporation, WorldCom, Xerox, Lehman brothers, AIG, American Airlines, Dunlop, General Motors, Kodak, Polaroid. In Europe we have notable examples such as: Swiss Air, Marks & Spencer, Nokia, Parmalat, Woolworths, and Thomas Cook. Corporates in Asia and Pacific have not been spared of financial distress either with a number of firms staring at insolvency such as Pacific Gas & Electric, Shandong Jintai, Yinyi Group, Hong Kong Airlines, Jet Airways, OEM Suzlon, and Sichuan Joint WIT Medical. This shows that the firms were in financial distress.

### **Local Perspective Financial Distress of Non-Financial Listed Firms**

In Kenya specifically, several firms have been delisted from stock market; Mumia sugar, Eveready, Lonrho East Africa, Pearl dry cleaners, East African Packaging and Uchumi supermarkets are good examples. Mumias Sugar Company currently has been undergoing serious financial distress. The company has been in the news lately with reported incidences of directors being taken to court. The share price of the company has dropped significantly from a high of Sh. 60 per share to the current average of Sh. 2 per share. This has caused investors panic triggering capital flight. Currently the government has revamped the company by injecting additional capital to prevent its closure. Uchumi supermarket having over 30 years of operation was declared bankrupt in 2006 and was put under specialized receiver manager (SRM) and interim management. Through government intervention in 2010, the company had a turnaround and was relisted in NSE (NSE 2010). Currently the firm has closed down. The question then arises on what factors really cause financial distress in Kenya? The present study sought to answer this question by investigating the effect of board composition on financial distress of the non-financial listed firms.

### **The Nairobi Securities Exchange**

Firms globally list on stock markets in order to raise capital. The study Balasubramaniam (2019), points out some of the reasons companies raise capital from listing in stock markets: to fund research and development (R&D), to fund capital expenditure, and pay off existing debts. Listed companies have a duty to safeguard the investments of shareholders by acting in the best interest of their shareholders, or what is known as fiduciary interests. A major setback firms face in taking higher levels of debt is that it increases the risk of financial distress and can ultimately lead to liquidation of a firm. This has detrimental effects on both equity holders and debt holders. Even when a firm manages to avoid liquidation, its relationship with suppliers, customers, employees and creditors may be seriously eroded. The non-financial firms' industry is a capital-intensive sector and firms here need a lot of liquidity to acquire state of art machinery and infrastructure. Firms in the sector tend to list on stock markets instead of borrowing in order to focus on expanding their huge production capacities without bearing the burden of paying expensive commercial loans. One principal distinct advantage of equity over commercial borrowing is that equity financing carries no repayment obligation and further provides extra working capital that can be used to grow a business (Maverick, 2019). Equity financing has become a preferred choice of capitalization for the firms because it does not place a financial repayment burden on firms.

The Nairobi Securities Exchange is the single major open capital market in Kenya from which listed firms gain access to long-term finance (Mule and Mukras, 2015). The listed firms are important drivers of the economy with the listed firms averagely contributing 18% of revenue to Gross Domestic Product (GDP) annually during 2013 and 2018 (NSE, 2019). Empirical investigation indicates that non-financial firms listed in NSE face challenges which exposes them to shocks emanating from uncertainty of policy and macroeconomic environment. The studies have ineffectively addressed these challenges by focusing on either general corporate governance practices, investor apathy, or stiff competition from the developed markets.

### **Statement of the Problem**

Non-financial firms play a key role in the economic growth of a nation. In Kenya the importance of firms in the sector can be drawn from data from the Kenya Association of Manufacturers (2018), where report places the non-financial sectors contribution to the national GDP of Kenya historically at around 10% of the gross domestic product (GDP). There is however renewed interest by the current ruling regime in the manufacturing sector in which most of the non-financial firms are through their Big Four Agenda that seeks to increase the GDP contribution by the sector to 15% by 2022. However, Kenya's publicly listed non-financial entities are gradually facing imminent demise because of financial distress. Many of these financially distressed firms are increasingly petitioning the exchequer for bailout, citing their strategic national importance. The ensuing scenario is one of the firms contributing to national economic decline instead of growth of the national economy. This worrying trend could be averted if financial distress prediction strategies are put in place before such listed companies run into financial headwinds. In any event that they are found to be already in financial distress, effective rescue strategies should be engaged. Kenya has experienced a fair share of listed non-financial companies facing financial distress, notable examples are Sameer Africa, Mumias sugar, Athi River Mining, East Africa Portland Cement, and the East Africa Cables.

Several empirical studies have attempted to link causes of financial of financial distress. Much of empirical the evidence has relied on financial models in financial distress prediction incorporating different factors. These models have proved that board composition cannot be ignored during decision-making process. Among these models includes Falmer and Toffler models, Akbar (2013) and Altman's model (2008) among others. Memba and Abuga (2013) carried a study on the causes of financial distress and its effects on firms. The study concluded that financial distress is caused by poor capital decisions, poor internal management shortage of skilled labor and lack of access of credit. Mandi (2014) carried out an assessment using Z score model on Kenyan sovereign risk, concluding that financial factors contribute heavily on firm's future direction. Talian (2012) concluded that financial variables were more reliable when predicting financial distress in Kenya.

It is clear from existing studies that the influence of underlying non-financial and macro-economic factors on financial distress has been ignored to the detriment of many firms. This implies that studies conducted on causes of financial distress incorporating firm characteristics have not given proper attention to factors such as board composition. None of the above studies examined the effect of board composition on financial distress of listed non-financial firms in Kenya. This is the research gap that the study sought to fill.

### **Objectives of the Study**

The main purpose of this study was to analyse the effect of board composition on financial distress of non-financial firms listed in the Nairobi Securities Exchange (NSE), Kenya. The specific objectives was to establish the effect of board size on financial distress of non-financial listed firms in the NSE.

### **Research Methodology**

The present research adopted the quantitative paradigm, and since the cause-and-effect relationship between quantitative variables was sought, a correlational research design was adapted. According to Sekaran (2000), a correlational research design is applicable in studies where important quantitative variables associated with the problems are to be delineated. Furthermore, a correlational study is conducted in the natural environment of the organization with minimal interference of the researcher. The target population of the study comprised all the 47 firms listed in the Nairobi Securities Exchange (NSE) as at December 2019. These firms are classified into nine sectors, namely; agricultural, automobiles and accessories, commercial and services, construction and allied, energy and petroleum, investment, manufacturing and allied, telecommunication and technology and growth and enterprise market segment (NSE, 2014). Banking and insurance firms were excluded from the sample since they are highly regulated by the central bank in Kenya and Insurance Regulatory Authority (IRA) respectively.

This study adopted a census approach due to the small number of non-financial firms listed at the NSE. The selected firms were the 47 non-financial listed firms that had consistently been listed in the NSE for the period January 2015 to December 2019. The use of census was appropriate since it allows a longer longitudinal and broader cross-sectional market-wide study using balanced panel data. Cavana *et al.*, (2000) opines that balanced panel data is a more sensitive measurement of changes that could occur between two points in time and the results produced are more robust,

consistent and stable to make generalizations about the population. Document review method was used to collect the secondary data on the study variables.

## Results and Discussions

The collected data was first subjected to descriptive analysis in order to describe it in terms of the mean, median, mode, maximum, minimum and standard deviation. *Table 1* next page shows results for the analysis.

*Table 1: Descriptive Statistics on Study Variables*

<b>Statistic</b>	<b>BSIZ</b>	<b>FDS</b>
<b>Mean</b>	9.030	2.080
<b>Median</b>	9.000	1.868
<b>Maximum</b>	15.000	3.110
<b>Minimum</b>	4.000	1.078
<b>Std. Dev.</b>	2.627	1.053

Results presented in *Table 1* further show that mean board size is 9.030 with maximum and minimum of 15.00 and 4.00 respectively. Board size was measured by the number of directors attending board meetings in a particular financial year. This implies that most of the firms prefer board sizes of about nine members.

The study adopted the Altman's decision rule in predicting financial distress on the dependent variable. A Z score below 1.8 indicated that the company is headed for bankruptcy hence a failed firm, while companies with scores above 3.0 are not likely to go bankrupt hence non-failed firm. The reported Z score mean of 2.080 implies that most firms were doing well above the failed zone of 1.8. However, the maximum Z score value of 3.110 showed that there were some non-financial firms that were doing well in terms of financial performance. The minimum Z score value of 1.078 shows that there are firms that are facing a probability of going bankrupt. The standard deviation of 1.053 shows a big deviation among the firms in terms of financial distress.

Comparative sectoral descriptive statistics was also conducted for the study variables. This was necessary to compare how board characteristics variables and financial distress compare across the different sectors. Results are reported in *Table 2*.

*Table 2: Sectoral Descriptive Statistics on Study variables*

<b>Sector</b>	<b>Firms</b>	<b>BSIZ</b>	<b>FDS</b>
<b>Agriculture</b>	4	6.024	74.52
<b>Automobile</b>	2	7.222	56.83
<b>Commercial</b>	7	10.75	60.00
<b>Construction</b>	4	9.958	58.25
<b>Energy</b>	3	6.260	33.48
<b>Investment</b>	2	9.040	40.50
<b>Manufacturing</b>	6	10.67	62.25

Table 2 shows that the commercial sector has the highest number of firms while the automobile and investment sectors had the lowest number of firms. The high representation of firms from the commercial sector among the listed non-financial firms is presumed to be due to the firms' operating nature, which requires that they raise huge capital for investment from the NSE.

### Correlation Analysis

To establish whether there was a relationship between the variables, a correlation analysis was conducted. The correlation analysis shows the direction, strength, and significance of the relationships among the variables of the study (Sekaran and Bougie, 2010). A positive correlation indicates that as one variable increases, the other variables will also increase. On the other hand, a negative correlation indicates that as one variable increases the other variable decreases (Sekaran, 2003). The research model that was used in the study was:

$$FDS_{it} = \beta_0 + \beta_1 BSZ_{it} + \beta_2 BIND_{it} + \beta_3 BGDIV_{it} + \beta_4 BEDU_{it} + \varepsilon_{it}$$

Where;

$\beta_0$ : The intercept,

$\beta_j$ : The regression coefficients to be estimated

$BSZ_{it}$ : Board Size of firm i during time t;

$FDS_{it}$ : Financial distress for firm i in time t.

$\varepsilon_{it}$ : The idiosyncratic disturbance term for firm i during time t assumed to have a mean of zero and constant variance.

Results of the correlation are shown in *Table 3*.

*Table 3: Correlation between Study Variables*

	<b>BSIZ</b>	<b>FDS</b>
<b>BSIZ</b>	1	
<b>FDS</b>	-0.749***	1

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

From the results in *Table 3*, several conclusions can be drawn. First, the correlation coefficient between the explanatory variable is less than 0.80 in general and therefore there is no issue of multicollinearity between the independent variables. According to Gujarati and Porter (2009), multicollinearity exists in a set of data if the correlation coefficient is above 0.80 beyond which the variables will yield spurious results. Second, it has been indicated that board size is significantly and negatively correlated with financial distress among the listed non-financial firms. This is indicated by the correlation coefficient of -0.672 that is significant ( $p < 0.01$ ). The inference here is that if board size increases by one unit, there is likely to be a significant decrease in the financial distress in the listed non-financial firms by 0.672. This is a likely indication that the relatively small sizes of boards in Kenya are affecting the financial performance of the firms leading to financial distress.

*Table 4: Regression Coefficients*

<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t-stat</b>	<b>Sig.</b>
	<b>Beta</b>	<b>Std. Error</b>	<b>Beta</b>		
1 (Constant)	0.211	0.086		2.453	.032
<b>BSIZ</b>	-0.370	0.119	-0.345	-3.109	.014

#### **Dependent Variable: FDS**

The objectives of the study was to establish the effect of board size on financial distress of non-financial listed firms in the NSE. From *Table 4* above, several inferences can be derived. The constant term in the regression equation of 0.211 ( $p = 0.032$ ) indicates the level of financial distress that is in existence in the listed non-financial firms.

On the regression between board size (*BSIZ*) and financial distress, *Table 4* shows that Board Size has a negative significant effect ( $\beta = -0.370$ ,  $t = -3.109$ ,  $p = 0.007$ ) on financial distress of the listed firms. This implies that holding all factors constant, a unit increase in Board Size leads to a 37.0% significant decrease in financial distress at the non-financial listed firms at the NSE.

After the results in *Table 4*, the fitted model based on the study findings is as follows:

$$Y = 0.211 - 0.370X_1$$

Where the variables are defined as:

$Y$  – Financial Distress

$X_1$  – Board Size

## Summary of Findings

The results showed that Board Size has a negative significant effect ( $\beta = -0.370$ ,  $t = -3.109$ ,  $p = 0.007$ ) on financial distress of the listed firms. This implies that holding all factors constant, a unit increase in Board Size leads to a 37.0% significant decrease in financial distress at the non-financial listed firms at the NSE.

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