

**ASSESSING THE FINANCIAL DISTRESS RISK OF LISTED NON-FINANCE FIRMS  
IN NIGERIA: THE CEO DIMENSION**

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*Correspondence: [nnekaibida@gmail.com](mailto:nnekaibida@gmail.com)*

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**Nneka J. Ibida<sup>1</sup> Joshua K.J. Onuora<sup>2</sup>  
Nkechi Theresa Ofor<sup>3</sup>**

<sup>1</sup>Research Scholar <sup>2</sup>Professor, <sup>3</sup>PhD,  
Department of Accountancy, Chukwuemeka  
Odumegwu Ojukwu University, Igbariam,  
Nigeria.

1. Email: [nnekaibida@gmail.com](mailto:nnekaibida@gmail.com)

2. Email: [jk.onuora@coou.edu.ng](mailto:jk.onuora@coou.edu.ng)

3. Email: [tn.ofor@coou.edu.ng](mailto:tn.ofor@coou.edu.ng)

**ABSTRACT:**

*The study assesses financial distress in the context of CEO attributes by employing samples from listed non-finance firms in Nigeria between the periods of 2012-2021. CEO turnover and CEO Gender are the CEO characteristics employed in this study as the explanatory variables while financial distress risk measured in terms of Altman Z-score Model and the Zmijewski's Model are the dependent variables. Longitudinal research design was employed since the study sought to examine the effect of CEO characteristics on firm financial distress risk of 70 listed non-financial firms in Nigeria from 2012 – 2021. The data were sourced from related companies' annual financial reports for the periods as well as the Nigerian Exchange Limited Websites (secondary data). Overall, mixed empirical findings were obtained while assessing the effect of CEO characteristics on financial distress risk of listed non-finance firms in Nigeria. The study concluded that CEO gender has a significant positive effect on financial distress risk when proxied in terms of Altman Z-score of listed firms in Nigeria. The study further documents that CEO gender has a significant positive effect on financial distress risk when proxied in terms of Zmijewski score of listed firms in Nigeria during the period under study. As for CEO turnover, study concluded that it has an insignificant positive effect on financial distress risk when proxied in terms of Altman Z-score and Zmijewski score of listed firms in Nigeria during the period under study. Since female CEOs have lower leverage, less volatile earnings, and a higher chance of survival than firms with male CEOs, this study therefore advocates the promulgation of policies that will encourage women act as CEOs' which will go a long way to extend firms' life spans.*



## **1. INTRODUCTION**

There is little doubt that businesses operating in any market are increasingly exposed to both domestic and international risks, especially in today's world of ambiguous legal tariffs and the looming threat of uncertainties (Bhaiyat & Garrow, 2015). Responding to these increasing levels of risk, is a risk in itself, as the emergence of the internet and social media have made companies constantly under scrutiny from the public and are exposed to heavy criticism and backlash. The upper management of a company is comprised of different influential people whose main goal is to ensure the company's longevity and prosperity and do their utmost to achieve this. According to the 2018 Nigerian Code of Governance, upper management often consists of a Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Operating Officer (COO), and Chief Strategy Officer (CSO), and are appointed/recruited by a board of directors to run a company on behalf of its shareholders. The people in these positions are responsible for running different aspects of a company's day-to-day activities, as well as the implementation of long-term strategic goals. All the lower management staff (managers and Heads of Department) have the responsibility of reporting to the CEO, who has, as the name implies, executive power for decision-making. The CEO is ultimately responsible for all aspects of the company and making the strategic choices that will determine the future and success of the business.

Therefore, the financial distress of a company can be reflective of the CEO's attributes (GrusuwmyNidu, 2015). Ojeka, Adegboye, and Dahunsi (2021) alluded to the fact that the CEO's position is prime to the determinant of firm performance. The CEO who is also the team leader exercises critical strategic control, monitoring, and decision-making attributes (Barno, 2017). The CEO monitors from an agent perspective and often requires a diversity of skills for effective company management. Some of the traits that have shown varied influence on CEO performance include age, ethnicity, level of education, gender, work experience, and office tenure (Barno, 2017; Bhaiyat & Garrow, 2015; Croci & Jankensgard, 2014 and Dittmar & Duchin, 2012). Barno (2017) concluded that age and gender have a negative but statistically significant influence on firm performance while tenure needs to be elongated to enable the CEO to gain a deeper understanding of the company's business. Age may be viewed as an indication of an individual's risk tolerance and capacity for taking on risks. Bhaiyat and Garrow (2015) maintain that one of the striking characteristics that have captured a lot of attention is the age of a CEO. They argued that CEOs' age may be analytically correlated to risk preferences due to varying motivations over the CEO's career and fluctuating CEO physiological and psychological characteristics as the CEO gets older. Görts (2016) on the other hand, contends the influence of CEOs' age. Görts argued that age has no effect on financial strategy implying that age does not influence financial decision-making.



The occurrence of financial distress weakens managerial power, as financial distress introduces interference and scrutiny by other stakeholders who act in a manner so as to know/advise strategic steps in reversing the performance (Barno, 2017). Gathaiya (2017) analysed issues affecting collapsed firms in Kenya between 2015 to 2016 and concluded that the major contributors to financial distress in most firms related to insider lending, weak corporate governance practices, weaknesses in regulating and supervising bodies, weak or no risk management strategies, ineffective internal control systems and conflict of interest. All those contributors point to the leadership of the institutions 'who is the CEO'. The role of the CEO then becomes critical if the occurrence of financial distress must be curbed. Barno (2017), asserted that CEOs have the overall mandate of the firms they have been appointed to provide leadership. Although organizations exist to achieve goals, there is a belief that management essentially entails the application of acquired skills in systems suggesting that CEOs have a greater role in a firm financial performance (Kumar, 2015). Zheng, Sarker, and Nahar (2018) maintained that it is critical for regulators to check financial health to safeguard against failure. According to Jahur and Quadir (2012), the roots of financial distress and corporate failure are often a complex mixture of complications and indicators that need to be addressed. Based on the foregoing, this study examines the effect of CEO Characteristics on the financial distress risk of non-financial firms in Nigeria.

The findings of this study will be beneficial to management, regulators, shareholders, investors, financial institutions, and academicians/researchers. To the management, the study would enable them to achieve the desired goals of the organization. The findings and recommendations of the study enable management to know the CEO characteristics that have the highest level of influence on financial distress and encourage its use for their benefit. The study would aid policy formulation that would foster the growth and stability of non-financial sector firms in Nigeria, thus contributing to the realization of the overall objectives of the government. Furthermore, the findings of this study are very useful for regulators and policymakers as they provided insights into symptoms of firm financial distress risk. Furthermore, this study would be beneficial to the shareholders and other investors as this would enable them to identify the CEO attribute that has the highest level of influence on interested firms during the consideration and investment decision-making processes.

### **1.1 Objectives of the Study**

The main objective of this study is to assess the financial distress risk of listed non-finance firms in Nigeria. However, the specific objectives of the study are to;



- i. investigate the effect of CEO gender on the financial distress risk of listed non-financial firms in Nigeria.
- ii. determine the effect of CEO turnover on the financial distress risk of listed non-financial firms in Nigeria.

## **1.2 Hypotheses**

The following null hypotheses guided the study:

- H<sub>01</sub>: CEO gender has no significant effect on financial distress risk of listed non-finance firms in Nigeria.
- H<sub>02</sub>: CEO turnover has no significant effect on financial distress risk of listed non-finance firms in Nigeria.

## **2. LITERATURE REVIEW**

### **2.1 Conceptual review**

#### **2.1.1 Financial Distress Risk**

Financial distress is a condition in which a company experiences a stage of decline in financial conditions before bankruptcy (Boyer & Marin, 2013). Cybinski (2001) proposed the financial distress continuum theory which is when companies experience various stages of distress before failure or recovery. As a result, Sewpersadh, 2020 theorized that companies should therefore be viewed on a success-failure continuum. However, studies on failure prediction have placed firms distinctly into failed and non-failed categories, which do not account for the various financial distress stages. Financial distress can be temporal, whereas recovery depends on early distress detection and the success of turnaround strategies, the failure of which pushes the company into a severely declined state, in which it becomes insolvent and not viable, leading to a corporate failure (Sewpersadh, 2020). Financial distress represents the decline of a company's earning power, increasing the probability that it may not settle its obligatory payments, such as interest and debt capital, consequently affecting its credit risk profile (Gordon, 1971).

It's an extremely negative/unpleasant event for any economy, firm, or business enterprise when they experience financial distress which may lead to bankruptcy (Madhushani & Kawshala, 2018). It causes a ripple effect which eventually turns out to be humongous (Chen, Miu, Qiu, & Charupat, 2014). Stakeholders are usually affected which may include the employees/staff of the firms, managers, shareholders, creditors, the government, etc. (Baimwera & Muriuki, 2014). Lender and investor confidence are seriously eroded thereby affecting firms adversely (Koech, Akuno, & Mugo, 2018), other effects include depletion/loss of shareholders' wealth (Mwangi, Muathe & Kosimbei, 2014), increasing probability of financial risks (Baimwera & Muriuki, 2014), fall in



market value (Almeida & Philippon, 2006; Viswanatha, 2012; Mahama & Campus, 2015). The effects of financial distress on firms are devastating and should be discouraged/avoided.

### **2.1.2 CEO Characteristics**

CEO's responsibility includes but is not limited to ensuring their firm's performances are according to the objectives of the firms which is occasioned by the high responsibility and commitment of their respective stakeholders. As a result, CEOs would hereby require to possess certain qualities and criteria to fit into the role. Hambrick (2007) argued that the intellectual base and values of individual executives go a long way to influencing the basis of their personalized perception and interpretations of the strategic situations they encounter. It's a confirmation of a person's knowledge base, skills, values, and ability to process information, which influences the quality and process of making decisions. Shefrin (2001) indicated that managers' sociological and physiological characteristics are likely to impact various management decisions.

Many characteristics of the CEOs have been identified in previous studies, such as gender, education, expertise, tenure, age, career background, experience, shareholding, and duality, these characteristics/attributes have been proven as well to impact the CEO's behaviour (Bamber, Jiang, & Wang, 2010; Jiang, Zhu, & Huang (2013). Further studies have revealed that CEOs' characteristics also include CEO age and the ability to raise volumes of capital (Badru, Ahmad-Zaluki, & Wan-Hussin, 2017), the CEO's demographic characteristics (e.g., experience, age, education, professional experience, and gender) on corporate risk-taking (Frag & Mallin, 2018) and the CEO power on corporate social responsibility disclosures (Muttakin, Khan, & Mihret, 2018). For this study, the researcher conceptualized the CEO as an executive officer (who is a board member and at the same time serves as the head of the company management team) who is basically in charge of making major/strategic corporate decisions and who manages the entire operations and resources of the institution. These duties are delegated by the board of directors. They (either male or female) are usually the communication link between the corporate operations and the board of directors. They serve as the public-facing executive of the institution as they are also the highest-ranking officer of the institute.

### **2.1.3 CEO Gender**

CEO gender is measured in this study as a dichotomous variable of "1" where the firm CEO is a female and "0" for otherwise. However, given the current dearth of female CEOs and directors, studies such as that of Campbell and Minguez-Vera (2008) seem to suggest that correcting the gender imbalance in corporate leadership will result in high marginal benefits. In addition, multiple studies indicate that female leadership contributes in non-monetary ways, at times by



complementing the male counterparts. Firms with more women in senior positions suffer less in times of economic downturn, which suggests that gender diversity makes an important contribution to performance (Eversheds, 2011). Female CEOs cultivate a more female-friendly workplace environment and promote the payment of equal wages to newly hired workers (Yang & Tate, 2012). Female directors affect the dynamics of the board of directors, and behave differently from their male counterparts, significantly impacting board inputs and firm outcomes and strengthening monitoring efforts (Adams & Ferreira, 2009).

Females are more likely than males to adopt a strict ethical stance, exhibit ethical behaviour in the workplace (Bernardi & Arnold, 1997; Lund, 2008; Valentine & Rittenburg, 2004), speak out against unethical behaviour (Miethe & Rothschild, 1994; Vermeir & Van Kenhove, 2008), and become internal whistle blowers (Rothschild & Miethe, 1999). Examining the gender differences in a competitive environment, researchers have found that men and women behave differently in negotiations. A majority find that women tend to underperform men in negotiations of different settings. Just like in their works Niederle and Vesterlund (2007) and also, Van der Grift and Yavas (2009) reported that from experiments, women tend to shy away from competition, although there is no difference in task performance between the two sexes. Eckel, Oliveira, and Grossman (2008) report that women tend to be more egalitarian than men and often ask for less in negotiation. They also find that women are more sensitive to the context of the negotiation and are less likely to fail to reach an agreement than men. For this study, CEO gender has been included as one of the characteristics of the CEO to be studied as affecting firm financial distress risk. This would be considered a dummy variable. If CEO's gender is female '1' otherwise '0'.

#### **2.1.4 CEO Turnover**

CEOs are usually hired when companies desire that their leadership take a new dimension. CEO turnover is a situation where a company changes a CEO within the year. CEO turnover decision is likely one of the most important corporate decisions given the significant impact it has on all aspects of a firm's operations. Prior literature suggested that, compared with CEOs groomed internally, CEOs airdropped from the outside have a stronger desire to achieve an immediate performance improvement after their appointment, so that they can demonstrate their value to the board and shareholders clearly and quickly. First, relative to internally sourced CEOs, external CEO successors may encounter greater pressure from the board and the market to demonstrate their managerial abilities by achieving quick results (Friedman & Saul, 1991; Shen & Cannella, 2002).



A key aspect of corporate governance is embodied in the decision rights granted to a firm's board of directors to hire, compensate, and fire the Chief Executive Officers (CEO). These decision rights are manifested in comprehensive incentive schemes that include both a formal compensation contract and an option, exercisable at a board's discretion, to fire and replace incumbent CEOs. Just as important is the corporate board that determines whether to keep or dismiss the CEO, relying on their learning about the CEO's ability, how that ability matches with the firm's current needs, and the labour market for replacement CEOs. The board's CEO recruitment, retention, and termination decisions are among the most important decisions that they make. High CEO turnover is traditionally interpreted as a sign of an active and effective board. However, recent works have started raising doubts on this interpretation, by noting that the decision to fire a CEO may be taken for the wrong reason. Hence, we included CEO turnover as our second and final characteristic of the CEO characteristics that may affect the firm financial distress. CEO Turnover in Dummy (1,0), and this is computed as "1" for Companies that have a change of CEOs in a particular year and "0" otherwise.

## **2.1.5 Hypotheses Development**

### **2.1.5.1 CEO Gender and Financial Distress Risk**

The business and economics literature provides evidence of risk aversion among females. High-risk firms are more likely to appoint female CEOs to modulate risk (Martin, Nishikawa & Williams, 2009). Martin et al. (2009) observed bigger significant reductions in risks when female CEOs are compared to their male CEO counterparts, reflecting the market's perception of female CEOs as relatively risk averse. Female CEOs are perceived to eschew risky financing and investment opportunities. Firms with female CEOs have lower leverage, less volatile earnings, and a higher chance of survival than firms with male CEOs. Just like, Zahra, Khan, and Warraich (2018) their study found that lower-risk firms were associated with a higher proportion of female directors, which could be explained, inter alia, by a risk-aversion hypothesis. A greater number of females are perceived to engage in less risky behaviours, and they choose/give preference to alternatives that involve less risk (Eckel & Grossman, 2008; Jianakoplos & Bernasek, 2007). The risk-aversion of females significantly lowers their earnings with the men folk which in turn reduces the risk of financial distress. They particularly opined that females tend to act emotionally, with concern for others, and passively, making them more accommodating and less competitive in a bargaining situation. This stream of the literature suggested that female CEOs will be more cooperative and capitulate to shareholders' desires to protect their interests. Besides, a female's relatively higher risk aversion may explain her weaker bargaining power. Croson and Gneezy (2009) and Eckel and Grossman (2008) both reported various experimental evidence that women are more risk-averse than men. Since negotiation is a risky environment, personal risk preferences



will affect the negotiator's tactics and outcomes. Martin, Nishikawa, and Williams (2009) found changes in both firm total risk and idiosyncratic risk following a female CEO's appointment which is significantly lower than a male CEO's appointment. Faccio, Marchica, and Mura (2015) found that firms run by female CEOs have lower leverage, less volatile earnings, and a higher chance of survival than firms with male. Hence, we expect that since most empirical literature documents that female CEO are more risk-averse than their male counterpart, a female CEO will reduce the risk of a firm's financial distress. See hypothesis as formulated in section 1.2 above.

#### **2.1.5.2 CEO Turnover and Financial Distress Risk**

To establish whether CEO turnover during financial distress is significantly associated with a firm's survival is an empirical question. The answer is seen to be two-fold. On the one hand, CEO turnover may be expected to be positively associated with firms' likelihood of financial distress for the following two reasons. First, financial distress firms are unlikely to be allowed to spend their already limited corporate resources on CEO recruitment if they believe the firm has little prospect of surviving and are thereby unwilling to change the CEO to avoid further costs. During financial distress, creditors play a more active role in the governance of a firm compared with normal times. While in financially healthy firms with no defaults, creditors are unlikely to have any influence over managerial replacement, in contrast, during financial distress creditors have more influence over managerial retention and turnover (Ayotte & Morrison, 2009). Given creditors' superior access to information about the financial distress firm, they would be unlikely to support a distressed firm in squandering its financial and managerial resources on recruiting a new CEO, unless the creditors believe that the firm has prospects of improving its finances from such recruitment. Therefore, creditors' willingness to support CEO turnover may provide an observable signal to capture their private information and beliefs about the underlying quality of the firm (Bulow & Shoven, 1978; Aivazian & Callen, 1983).

In contrast, new CEOs can bring additional managerial skillsets and abilities which are valuable during financial distress, such as expertise in restructuring and crisis management, to enhance the firm's chances of survival (Gibbons & Murphy, 1990). As a result, there is evidence to suggest a positive relationship between CEO turnover and financial distress. Even in recent cases of Forever and WeWork, not all financially distressed firms appoint turnaround specialists to steer their firms out of financial distress (Coleman-Lochner & Holman, 2020). In contrast, some financially distressed firms which have slim prospects of surviving and may face liquidation could however be inclined to appoint new executive officers, to obtain much of the needed expertise in crisis management and liquidation to help the firm through the eventual winding-up process. For example, during the bankruptcy proceedings of American Eco Corp in 2000, the firm appointed





crisis-management specialist Thomas Gardner as its new CEO, who later became the firm's, Chief Liquidating Officer. Despite the CEO turnover, the firm was eventually liquidated and did not re-emerge from bankruptcy. This anecdotal evidence suggests that CEO turnover is not necessarily associated with an increase in the firm's likelihood of financial distress. Hence for this study, CEO turnover is expected to be associated with a lower likelihood of financial distress. See hypothesis as formulated in section 1.2 above.

## **2.2 Theoretical Review**

### **2.2.1 Upper Echelon Theory**

The upper echelon theory is a management theory published by Donald C. Hambrick and Phyllis A. Mason in 1984. It states that organizational outcomes are partially predicted by the managerial background/characteristics of the top-level management team. The upper echelon theory postulates that intuitions, values, and perceptions of management inspire strategic choices, hence influencing the performance of the firm. According to Krishnan and Park (2005), reorganization and restructuring are major approaches employed by various firms to achieve organizational goals in the 1990s. It is argued that a strong relationship exists between characteristics of the upper echelon (top management team) and organizational strategies as well as the achievement of an organization's objectives and its overall performance (Krishnan & Park, 2005).

This study is anchored on this theory (Upper Echelon theory) as this directly relates to the characteristics of an entity's Chief Executive Officer (CEO) who is the highest-ranking executive and who is responsible for making decisions, and managing the day-to-day operations and resources of the firm. This theory stipulates that the achievement or outlook of entities is a reflection of the character of the person at the helm of affairs (CEO). Therefore, the theory indicates that the performance which is inclusive of the financial stability of the firm is believed to be affected by the physiological/demographic, cognitive, and sociological attributes of the CEO. This study however using the null hypothesis states that the CEO characteristics of Nigerian and Kenyan non-financial firms do not have a significant effect on the financial distress risk of those firms.

## **2.3 Empirical Review**

Muien, Nordin, and Badru (2022) explored the influence of CEO Reputation on a Company's Financial Distress. The population of the study consisted of all non-financial companies that are listed on the Pakistan stock exchange (PSX). The final sample size was 285 companies and the period covered was from 2006 to 2017. The study employed the panel regression technique to test the hypotheses of the study. The authors noted that based on the upper echelon theory, CEOs can



influence a company's decision-making, influence value creation, and financial reporting decisions based on their specific skills, reputation, and personal characteristics.

Leng, Ozkan, Ozkan, and Trzeciakiewicz (2020) investigated the impact of CEO overconfidence on the probability of corporate bankruptcy. Using a large dataset of UK firms, they discovered that firms with overconfident CEOs face a greater risk of failure. The presence of overconfident CEOs leads to a higher risk of bankruptcy in innovative environments, while the impact is insignificant in non-innovative environments. Moreover, overconfident CEOs can increase the bankruptcy risk of firms with less conservative accounting. They find that banks, as major creditors, seem to play an important role in constraining CEO overconfidence, thereby reducing the likelihood of bankruptcy. Finally, the impact of overconfidence on the probability of bankruptcy is stronger in firms with generalist CEOs than in specialist CEOs.

Liu, Le, and Thompson (2020) examined whether CEO overconfidence could explain cross-sectional heterogeneity in the systemic risk of U.S. bank holding companies. Using measures of overconfidence based on CEOs' options exercise behaviour and language used in the Managerial Discussion and Analysis of the 10K filings, they found that banks with overconfident CEOs have higher systemic risk than their counterparts with non-overconfident CEOs. Banks with overconfident CEOs also have a higher holding of private mortgage-backed securities and higher leverage. During the 2007–2008 financial crisis, banks with overconfident CEOs experienced higher realized systemic risk. Their study shows that the behaviour of overconfident bank CEOs could impose negative externalities beyond individual bank boundaries.

Gupta and Mahakud (2020) tested the impact of Chief Executive Officers (CEOs) personal characteristics on the performance of Indian commercial banks. In addition to that, they also analysed the nonlinear relationship between CEO age and CEO tenure on the bank's performance. A balanced panel data approach was used in their study. The fixed effect estimation technique was specifically used to examine the relationship between CEO characteristics and bank performance during the period 2009–2010 and 2016–2017. The authors concluded that the professional qualification of CEOs in the finance stream enhances performance. Correspondingly, their findings further revealed that the impact of CEO duality had a positive and significant effect on performance, male CEOs are more beneficial for bank performance and well-experienced CEOs contribute to higher performance.

Gottardo and Moisello's (2018) study leverage's effect on a firm's probability of financial distress taking into account different forms of family influence on the business. As family firms are a non-



homogeneous group and their governance and management characteristics may impact risk attitude and financial distress likelihood. The authors also took into account other measures of risks, board and CEO characteristics, accounting variables, and macroeconomic indicators. They addressed the research objectives by analysing a sample of 1,137 Italian family and non-family private firms for the period 2004–2013, covering the pre and post-financial crisis period. The findings point out that these variables have a different significance in family and non-family firms' probability of financial distress. Family firms have a lower probability of incurring financial distress. Leverage has a strong effect on family and non-family firms, but a family's direct influence on the firm, by appointing a family CEO, has a significantly lowering effect on a firm's probability of financial distress when a family exerts its influence directly.

### 3. MATERIAL AND METHOD

This study employed *ex post facto*, causal, and longitudinal research designs. The *ex-post facto* design is used since all the variables used are secondary data. The causal research design is necessary because the study sought to examine the cause-effect of CEO characteristics and firm financial distress risk. Specifically, the study sought to provide evidence of the cause-effect of the independent variable on the dependent variable. Similarly, the longitudinal research design was employed for the study since the study sought to examine the effect of CEO characteristics on firm financial distress of 70 listed non-financial firms in Nigeria from 2012 – 2021. The study utilized data obtained from a secondary source. The data were sourced from the related companies' annual financial reports for the periods as well as the Nigerian Exchange Limited Websites. The population of this study is 109 non-financial firms listed on the floor of the Nigerian Exchange Limited (NGX) as of December 31<sup>st</sup>, 2021. Specifically, as of 31<sup>st</sup> December 2021, there were 109 listed non-financial firms in Nigeria. The sample size for this study consists of 70 listed non-financial firms in Nigeria. These firms were selected based on the purposive sampling technique. The study used this technique since the firms were selected based on certain selection criteria which is basically the availability of their data due to the existence/age of the firm. The study conducted descriptive statistics to provide an understanding of the data in terms of the mean, standard deviation, maximum, and minimum. Correlation analysis is also conducted to express the relationship between the independent and dependent variables employed in this study. However, to achieve the objective of the study, the panel fixed, and random effect regression were employed as specified by the model specification analysis. Based on the theoretical literature and earlier empirical studies, the present study adopted and modified the model of Rono (2018) to express the econometric form of the model is expressed as:

$$ASCO_{it} = \beta_0 + \beta_1 CEOG_{it} + \beta_2 CTRN_{it} + \beta_3 RETA_{it} + \mu_{it} \dots \text{Equation (1)}$$

$$ZSCO_{it} = \beta_0 + \beta_1 CEOG_{it} + \beta_2 CTRN_{it} + \beta_3 RETA_{it} + \mu_{it} \dots \text{Equation (2)}$$

**Where:**

ASCO	=	Altman Z-score
ZSCO	=	Zmijewski's Score
CEOG	=	CEO Gender
CTRN	=	CEO Turnover
RETA	=	Profitability (Return on Asset)
$\beta_0$	=	Constant
$\beta_1$ - $\beta_3$	=	Slope Coefficient
$\mu$	=	Stochastic disturbance
i	=	i <sup>th</sup> company
t	=	time

This study guaranteed the use of CEO attributes such as CEO Gender and CEO turnover, even as it measures financial distress risk using the Altman Z-score Model and Zmijewski's Model. Altman's 1968 model took the following form:  $Z = 1.2A + 1.4B + 3.3C + 0.6D + .999E$ . If  $Z < 2.675$ ; then the firm is classified as "failed" Where: A = Working Capital/Total Assets, B = Retained Earnings/Total Assets, C = Earnings before Interest and Taxes/Total Assets, D = Market Value of Equity/Book Value of Total Debt, E = Sales/Total Assets. The study measures the independent variable of CEO gender as "1" for Companies that have Female CEOs and "0" otherwise following the study of Rono (2018). Similarly, the study measures the CEO Turnover as "1" for Companies that have a change of CEOs in a particular year or a change of CEO before the expiration of his/her tenure and "0" otherwise also in line with the study of Rono (2018). In the case of the control variable of return on asset in percentage is computed as profit after tax divided by the Total asset in line with the studies of Akbarian, Rostamy, Rezaei, and Abdi (2019).

## 4. RESULT AND DISCUSSIONS

### 4.1 Data Analysis

The study assesses financial distress in the context of CEO attributes by employing samples from listed non-finance firms in Nigeria between the periods of 2012 to 2021. CEO turnover and CEO Gender are the CEO characteristics that have been employed in this study as the explanatory variables while financial distress risk measured in terms of Altman Z-score Model and the Zmijewski's Model are the dependent variables. Specifically, to control the model's goodness of fit, the study employed the variable of profitability measured in terms of return on asset.



#### 4.1.1 Descriptive Statistics Analysis

In this section, the study examines the descriptive statistics for both the explanatory and dependent variables of interest. Basically, each variable is examined in terms of the mean, standard deviation, maximum and minimum. Table 1 displays the descriptive statistics for the study.

Table 1: Descriptive Statistics

VARIABLES	MEAN	STAN. DEV.	MIN.	MAX.	NO OBS
ASCO	1.13	1.35	-9.60	8.41	697
ZSCO	-0.84	2.24	-8.11	16.43	697
CEOG	0.07	0.25	0	1	697
CTRN	0.20	0.40	0	1	697
RETA	1.55	16.10	- 179.92	176.27	697

Source: Author (2023)

Table 1 shows the descriptive statistics of this study. From the table, it is observed that the dependent variable financial distress risk when measured in terms of Altman Z-score (ASCO) has a mean of 1.13 and a standard deviation of 1.35. This result implies that on the average, the listed non-financial firms under study are faced with financial distress risk during the period studied. This is in line with Altman (1968) who stated that the lower the z-score the higher the financial distress risk. Concurrently, the result shows that the mean of financial distress when measured in terms of Zmijewski score (ZSCO) was -0.84 and a standard deviation of 2.24. In the case of the independent variables, the table shows the mean of CEO gender, the result shows that the mean of CEO gender (CEOG) was 0.07 and a standard deviation of 0.25. The result implies that on the average, during the period under study about 7% of the CEO of non-finance firms in Nigeria were female. For the independent variable of CEO turnover, the table shows that the mean of CEO turnover (CTRN) was 0.20 with a standard deviation of 0.40. The result implies that on the average, about 20% of the firms under study in Nigeria change their CEO during the financial year. Finally, in the case of the control variable, the study finds that the mean of profitability when measured in terms of return on asset (RETA) was 1.55 and a standard deviation of 16.10. This implies that on the overall, the under-study firms in Nigeria were profitable.

#### 4.1.2 Correlation Analysis

in examining the association among the variables, the study employed the Pearson Correlation Coefficient (correlation matrix), and the results are presented in the table below.



Table 2: Correlation analysis

VARIABLES	ASCO	ZSCO	CEOG	CTRN	RETA
ASCO	1.00				
ZSCO	-0.47	1.00			
CEOG	0.08	-0.04	1.00		
CTRN	-0.01	0.03	0.03	1.00	
RETA	0.70	-0.62	0.01	-0.01	1.00

Author's computation (2023)

In the case of the correlation between the independent variables and dependent variables of the study, the above results show that CEO gender has a positive association with the dependent variable of financial distress when proxied in terms of Altman Z-score for the sample non-finance firms in Nigeria (0.08). The control variable of profitability as measured in terms of return on asset (0.70) also has a positive association with the dependent variable of financial distress risk when proxied in terms of Altman Z-score. However, the study observed that there is a negative association between the independent variable of CEO turnover (-0.01) and the dependent variable of financial distress risk when proxied in terms of Altman Z-score. On the other hand, results from the correlation analysis shows that there exists a negative association between the independent variable of CEO gender (-0.04) and the dependent variable of financial distress risk when proxied in terms of Zmijewski score. The control variable of profitability as measured in terms of return on asset (-0.62) also has a negative association with the dependent variable of financial distress risk when proxied in terms of Zmijewski score. However, the study observed that there is a positive association between the independent variable of CEO turnover (0.03) and the dependent variable of financial distress risk when proxied in terms of Zmijewski score.

#### 4.2 Regression Analysis

To specifically, examine the cause-effect relationship between the dependent variables and independent variables, this study employed the pool Ordinary Least Square (OLS) regression analysis results and proceeded to validate the estimates of the OLS results. The result obtained are presented below.



Table 3: Regression Results

	ASCO Model (Pool OLS)	ASCO Model (Fixed Effect)	ASCO Model (Random Effect)	ASCO Model (LSDV Regre ssion)	ZSCO Model (Pool OLS)	ZSCO Model (Fixed Effect)	ZSCO Model (Random Effect)	ZSCO Model (LSDV Regres sion)
CONS.	1.012 {0.000} ***	1.033 {0.000} ***	1.029 {0.000} ***	1.847 {0.000} ***	-0.709 {0.000} ***	-0.728 {0.000} ***	-0.721 {0.000} ***	-0.227 {0.529 }
CEOG	0.232 {0.084}	0.117 {0.000} ***	0.135 {0.251}	0.117 {0.000} ***	0.043 {0.859}	0.153 {0.000} ***	0.125 {0.588}	0.153 {0.000 } ***
CTRN	0.028 {0.740}	0.026 {0.655}	0.027 {0.646}	0.026 {0.655}	0.091 {0.556}	0.020 {0.865}	0.026 {0.823}	0.020 {0.865 }
RETA	0.063 {0.000} ***	0.055 {0.000} ***	0.056 {0.000} ***	0.055 {0.000} ***	-0.096 {0.000} ***	-0.080 {0.000} ***	-0.082 {0.000} ***	-0.080 {0.000 } ***
F-Stat/W-Stat	301.19 {0.0000}	394.80 {0.0000}	1241.21 {0.0000}	45.38 {0.0000}	212.61 {0.0000}	212.38 {0.0000 }	687.28 {0.0000 }	29.35 (0.000 0)
R- Squared	0.5659	0.6549	0.6549	0.8396	0.4793	0.5052	0.5052	0.7720
VIF Test	1.01				1.01			
Hetero. Test	13.69 {0.0002}				2.44 {0.0518}			
FE/RE		YES (15.44 {0.0000} )	YES (1026.07 {0.0000})			YES (11.61 {0.0000} )	YES (751.71 {0.0000})	
Hausman		12.34 {0.0063}				13.62 {0.0035 }		

Note: (1) bracket {} are p-values; (2) \*\*, \*\*\*, implies statistical significance at 5% and 1% levels respecti



The table above represents the results obtained from the regression analysis for this study. The result indicates that the pool OLS regression had an R-squared value of 0.5659 when the dependent variable of financial distress risk is proxied in terms of Altman Z-score and 0.4793 when the dependent variable of financial distress risk is proxied in terms of Zmijewski score. This implies that the independent and control variables of the study explained 57% and 48% of the systematic changes in the dependent variable of financial distress when measured in terms of Altman Z-score and Zmijewski score respectively. However, the unexplained part of financial distress risk has been captured by the error term. The result of the F-statistics {(301.19 for the Altman Z-score and 212.61 for the Zmijewski score)} of the pool OLS regression model for the sample firms in Nigeria with their associated p-value of 0.0000 indicates that the pool OLS regression models on the overall are statistically fit at 1% level of significance and can be employed for statistical inferences. However, to further validate the estimates of the pool OLS results, this study also tested for multicollinearity and heteroscedasticity.

#### **4.2.1 Test for Multicollinearity**

The result from the VIF test shows a mean value of 1.01 when the dependent variable of financial distress is measured in terms of Altman Z-score and Zmijewski score. Specifically, the result shows that the mean VIF is within the benchmark of 10 in line with the position of (Gujurati, 2004) indicating the absence of multicollinearity and further show that none of the independent variables should be dropped from any of the models.

#### **4.2.2 Test for Heteroscedasticity**

The test of the assumption of homoscedasticity of the pool OLS is conducted using the Breusch Pagan module in Stata 14. The result shows a chi2 value of 13.69 with a p-value of 0.0002 for the Altman Z-score model and a chi2 value of 2.44 with a p-value of 0.0518 for the Zmijewski score model. The result shows significant p-values across both models indicating that the assumption of homoscedasticity of the pool OLS regression results have been violated. Hence, the study re-specifies the model to control for this violation by employing the twin panel regression of fixed and random effects as recommended by (Greene, 2003).

#### **4.2.3 Panel Fixed and Random Effect Regression**

The result from the panel fixed effect as presented in table 4 shows an F-statistics value of 394.80 when the dependent variable of financial distress risk is measured using Altman Z-score and 212.38 when the dependent variable of financial distress risk is measured using Zmijewski score. The probability value of 0.0000 for both models of Altman Z-score and Zmijewski score indicate that on the overall, the fixed effect regression models are fits for statistical inference. The result





indicates that the fixed effect regression had an R-squared value of 0.6549 when the dependent variable of financial distress risk is proxied in terms of Altman Z-score and 0.5052 when the dependent variable of financial distress risk is proxied in terms of Zmijewski score. This implies that the independent and control variables of the study explained about 65% and 51% of the systematic changes in the dependent variable of financial distress when measured in terms of Altman Z-score and Zmijewski score respectively. However, the unexplained part of financial distress risk has been captured by the error term. Similarly, the results from the panel random effect shows a Wald statistics value of 1241.21 when the dependent variable of financial distress risk is measured using Altman Z-score and 687.28 when the dependent variable of financial distress risk is measured using Zmijewski score. The probability value of 0.0000 for both models of Altman Z-score and Zmijewski score indicates that on the overall, the random effect regression models are fits for statistical inference. The result indicates that the random effect regression had an R-squared value of 0.6549 when the dependent variable of financial distress risk is proxied in terms of Altman Z-score and 0.5052 when the dependent variable of financial distress risk is proxied in terms of Zmijewski score. This implies that the independent and control variables of the study explained about 65% and 51% of the systematic changes in the dependent variable of financial distress when measured in terms of Altman Z-score and Zmijewski score respectively. However, the unexplained part of financial distress risk has been captured by the error term.

#### **4.2.4 Hausman Specification Test**

The Hausman is based on the null hypothesis that the random effect model is preferred to the fixed effect model. Specifically, a look at the p-value of the Hausman test for Altman Z-score model {12.34 [0.0063]} and the Zmijewski score {13.62 [0.0035]} implies a 5% level of significance. This implies that the study should adopt the fixed effect panel regression results in drawing the conclusion and recommendations. This also implies that the fixed effect results tend to be more appealing statistically when compared to the random effect. Following the above, the discussion of the fixed effect results became imperative in testing the hypotheses. However, fixed effect in itself is a problem due to the presence of time and cross-sectional effect which leads to unobserved heterogeneity. Hence, the study employed the Least Square Dummy Variable Regression to control for the unobserved heterogeneity in the fixed effect regression.

#### **4.2.5 Least Square Variable Regression (LSDV)**

Succinctly, this study has provided interpretation and made policy recommendation with this model. The result indicates that the Least Square Dummy Variable regression had an R-squared value of 0.8396 when the dependent variable of financial distress risk is proxied in terms of Altman Z-score and 0.7720 when the dependent variable of financial distress risk is proxied in terms of



Zmijewski score. This implies that the independent and control variables of the study explained about 84% and 77% of the systematic changes in the dependent variable of financial distress when measured in terms of Altman Z-score and Zmijewski score respectively. However, the unexplained part of financial distress risk has been captured by the error term. The result of the F-statistics (45.38 for the Altman Z-score and 29.35 for the Zmijewski score) of the Least Square Dummy Variable regression model for the sample firms in Nigeria with their associated p-value of 0.0000 indicates that the Least Square Dummy Variable regression models on the overall are statistically fit at 1% level of significance and can be employed for statistical inferences.

#### **4.2.6 Discussion of Findings**

In the case of the independent variables, CEO gender has a positive significant effect on financial distress risk when measured in terms of the Altman Z-score (0.177 {0.000}) and Zmijewski score (0.153 {0.000}). Particularly, we opined that females tend to act emotionally, show concern for others, thus, making them more accommodating and less competitive in a bargaining situation. Researchers also argued that women's enhanced supportive leadership approach might be more fruitful relative to men's competitive techniques (Eagly & Carli, 2003). The women are more conventional and cautious than men (Powell & Ansic, 1997); (Jianakoplos & Bernasek, 1998); (Sunden & Surette, 1998), tend to evade financial detriment and are reluctant to take excessive risks that may lead to financial distress. Finally, the study documents that the independent variable of CEO turnover has a positive insignificant effect on financial distress risk when measured in terms of the Altman Z-score (0.026 {0.655}) and a positive insignificant effect when the dependent variable of financial distress risk is measured in term of the Zmijewski score (0.020 {0.865}). This study negated the view that creditors' willingness to support CEO turnover may provide an observable signal to capture their private information and beliefs about the underlying quality of the firm (Bulow & Shoven, 1978); (Aivazian & Callen, 1983). The study also fails to support the view that new CEOs can bring additional managerial skillsets and abilities which are valuable during financial distress, such as expertise in restructuring and crisis management, to enhance the firms' chance of survival (Gibbons & Murphy, 1990).

#### **CONCLUSION AND RECOMMENDATIONS**

The occurrence of financial distress weakens managerial power due to greater scrutiny from other stakeholders in a bid to know strategic steps being taken to reverse performance. The role of the CEO then becomes critical if the occurrence of financial distress must be curbed. CEOs have the overall mandate on the firms they have been appointed to provide leadership. Although organizations exist to achieve goals, there is an essential belief that management entail application of acquired skills into systems suggesting that CEOs have greater role in firm financial



performance. It is critical for the regulators to check financial health to safeguard against failure. Overall, the empirical findings of this study are mixed in proving the effect of CEO characteristics on financial distress of listed non-finance firms in Nigeria. From the findings of the study, the study concludes that CEO gender has a significant positive effect on financial distress risk when proxied in terms of Altman Z-score of listed firms in Nigeria during the period under study. Furthermore, the study documents that CEO gender has a significant positive effect on financial distress risk when proxied in terms of Zmijewski score of listed firms in Nigeria during the period under study. Finally, the study concludes that CEO turnover has an insignificant positive effect on financial distress risk when proxied in terms of Altman Z-score of listed firms in Nigeria during the period under study. Furthermore, the study documents that CEO turnover has an insignificant positive effect on financial distress risk when proxied in terms of Zmijewski score of listed firms in Nigeria during the period under study. The result implies that CEO turnover insignificantly improves financial distress risk when proxied in terms of Altman Z-score and Zmijewski score measure of financial distress of the listed non-finance firms in Nigeria during the period under investigation.

This study supports the adoption of policies on “gender quotas” by non-finance firms in Nigeria. Specifically, the study recommends that the services of a female CEO should be engaged since female CEOs are found to avoid risky financing and investment opportunities. Furthermore, since female CEOs have lower leverage, less volatile earnings, and a higher chance of survival than firms with male CEOs, this study carefully recommend advocates for policies that will allow women act as CEOs’ which will go a long way to extend the firms’ lives span. Finally, this study opines that CEO turnover has no significant effect on the risk of financial distress. Notwithstanding, this study advocates for CEO turnover especially for poor performing firms. The study recommends that for non-finance firms whose performance appears to be dwindling, old CEOs should be replaced since new CEOs can bring additional managerial skillsets and abilities which are valuable during financial distress, such as expertise in restructuring and crisis management, to enhance the firms’ chance of survival. However, this recommendation should be interpreted with caution since it is documented in this study that CEO turnover has no significant effect on the risk of financial distress.

**REFERENCES**

- Adams, R. B., & Ferreira, D. (2009). Women in the Boardroom and Their Impact on Governance and Performance. *Journal of Financial Economics*, 94(1), 291–309.
- Aivazian, V. A., & Callen, J. L. (1983). Reorganization in bankruptcy and the issue of strategic risk. *Journal of Banking & Finance*, 7(1), 119–133. [https://doi.org/10.1016/0378-4266\(83\)90060-2](https://doi.org/10.1016/0378-4266(83)90060-2)
- Akbarian, S., Rostamy, A. A., Rezaei, N., & Abdi, R. (2019). Corporate Governance and Credit Risk in the Iranian Banking Industry. *Journal of Money and Economy*, 14(1), 85-100.
- Almeida, H., & Philippon, T. (2006). *The Risk-Adjusted Cost of Financial Distress*. (Doctoral dissertation, New York University). Retrieved from [https://web-docs.stern.nyu.edu/glucksman/docs/Almeida\\_Philippon.pdf](https://web-docs.stern.nyu.edu/glucksman/docs/Almeida_Philippon.pdf)
- Altman, E. I. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *The Journal of Finance*, 23(4), 589–609.
- Altman, E. I. (1984). A Further Empirical Investigation of the Bankruptcy Cost Question. *The Journal of Finance*, 39(4), 1067–1089. doi: 10.1111/J.1540-6261.1984.TB03893. X.
- Ayotte, K. M., & Morrison, E.R. (2009). Creditor Control and Conflict in Chapter 11. *Journal of Legal Analysis*, 1(2), 511–51. doi: 10.1093/JLA/1.2.511.
- Badru, B.O., Ahmad-Zaluki, N.A., & Wan-Hussin, W.N. (2017). CEO characteristics and the amount of capital raised in Malaysian IPOs. *International Journal of Management Practice*, 10(4), 327-360
- Baimwera, B., & Muriuki, A. M. (2014). Analysis of corporate financial distress determinants; A survey of non-financial firms listed in the NSE. *International Journal of Current Business and Social Sciences*, 1(2), 58–80.
- Bamber, L.S., Jiang, J., & Wang, I.Y. (2010). What’s my style? The influence of top managers on voluntary corporate financial disclosure. *The Accounting Review*, 85(4), 1131-1162.
- Barno, L. J. (2017). Impact of managers' characteristics on capital structures among firms listed in Nairobi Securities Exchange, Kenya. *International Journal of Economics, Commerce, and Management*, 5(7), 487-503
- Bernardi, R. A., & Arnold, D.F. (1997). An Examination of Moral Development within Public Accounting by Gender, Staff Level, and Firm. *Contemporary Accounting Research*, 14(4), 653–68. doi: 10.1111/J.1911-3846.1997.TB00545. X.
- Bhaiyat, F., & Garrow, N. (2015). Evaluating the effect of top management attributes on the probability of default. *Proceedings of International Conference on Research and Business Sustainability*, 226-232. Great Noida, India: IIT Roorkee
- Boyer, M. & Marin, M. (2013). Financial Distress Risk and the Hedging of Foreign Currency Exposure. *Quarterly Journal of Finance*. 3. doi: 10.1142/S201013921350002X.



- Bulow, J., & Shoven, J. (1978). The bankruptcy decision. *The Bell Journal of Economics*, 1(1), 437–456. <https://www.jstor.org/stable/3003592>
- Campbell, K., & Mínguez-Vera, A. (2008). Gender Diversity in the Boardroom and Firm Financial Performance. *Journal of Business Ethics*, 83(3), 435–51. doi: 10.1007/s10551-007-9630-y.
- Chen, D., Miu, P., Qiu, J., & Charupat, N. (2014). *Three Essays on Financial Distress and Corporate Bankruptcy* [Essay]. McMaster University.
- Coleman-Lochner, L., & Holman, J. (2020, February 25). Forever 21 Taps H&M's Daniel Kulle to Take Over as CEO. *Bloomberg*.
- Croci, E., & Jankensgård, H. (2014). CEO age, risk incentives, and hedging instrument choice. *Knut Wicksell Working Paper Series, Lund University*, 3.
- Crosan, R., & Gneezy, U. (2009). Gender Differences in Preferences. *Journal of Economic Literature*, 47(2):448–74. doi: 10.1257/JEL.47.2.448.
- Cybinski, P. (2001). Description, Explanation, Prediction - the Evolution of Bankruptcy Studies? *Managerial Finance*, 27(4), 29–44. doi: 10.1108/03074350110767123/FULL/HTML.
- Dittmar, A., & Duchin, R. (2012). The concentration of cash: Cash policies of the richest firms. *Unpublished working paper. University of Michigan and University of Washington*, 1957-1990.
- Eagly, A. H., & Carli, L. L. (2003). The female leadership advantage: An evaluation of the evidence. *The Leadership Quarterly*, 14(6), 807–834. <https://doi.org/10.1016/j.leaqua.2003.09.004>
- Eckel, C., de Oliveira, A. C. M., & Grossman, P.J. (2008). Gender and Negotiation in the Small: Are Women (Perceived to Be) More Cooperative than Men? *Negotiation Journal* 24(4):429–45. doi: 10.1111/j.1571-9979.2008.00196. x.
- Eckel, C.C., & Grossman, P.J. (2008). Men, Women, and Risk Aversion: Experimental Evidence. *Handbook of Experimental Economics Results*, 1(1),1061–1073.
- Eversheds, L.L.P. (2011). International Law–General Académie de Droit International. *Recueil Des Cours: Collected Courses of the Hague Academy of Inter National Law 2009 IV (Tome 248 de la collection*. Boston, MA: Springer. ISBN 10: 9041101640 ISBN 13: 9789041101648
- Faccio, M., Marchica, M. T., & Mura, R. (2015). CEO Gender. *Corporate Risk-Taking, and the Efficiency of Capital Allocation*, 1(1), 34–45.
- Farag, H., & Mallin, C. (2018). The influence of CEO demographic characteristics on corporate risk-taking: evidence from Chinese IPOs. *The European Journal of Finance*, 24(16), 1528-1551
- Friedman, S. D., & Saul, K. (1991). A Leader's Wake: Organization Member Reactions to CEO Succession. *Journal of Management*, 17(3),619–42. doi: 10.1177/014920639101700306.



- Gathaiya, R. N. (2017). Analysis of issues affecting collapsed banks in Kenya from year 2015 to 2016. *International Journal of Management & Business Studies*, 7(3), 9-15.
- Gibbons, R., & Murphy, K. J. (1990). Relative Performance Evaluation for Chief Executive Officers. *ILR Review*, 43(3), 30-S-51-S. <https://doi.org/10.1177/001979399004300303>
- Gordon, M. J. (1971). Towards a Theory of Financial Distress. *The Journal of Finance*, 26(2), 347. doi: 10.2307/2326050.
- Görts, B. W. M. (2016). *The effects of CEO characteristics on corporate financial policy: An analysis of the effects of American CEOs on the corporate financial policy of public listed firms*. (MSc Thesis). Tilburg University, Warandelaan AB Tilburg, Netherlands
- Gottardo, P., & Moisello, A.M. (2018). *Family Influence, Leverage and Probability of Financial Distress*. Cham. doi: 10.1007/978-3-030-00344-9\_3.
- Greene, W. H. (2003). Econometric Analysis. In *search.proquest.com*. Pearson Education. <https://search.proquest.com/openview/6996e94212b7b9ea5c9fb84878b6292b/1?pq-origsite=gscholar&cbl=31177>
- GrusuwmyNidu, E. G. D. (2015). Assessment of Financial Distress Conditions of Commercial Banks in Ethiopia: A Case Study of Selected Private Commercial Banks. *Assessment*, 6(9).
- Gujurati, D. N. (2004). *Basic Econometrics*. McGraw Hill. [https://scholar.google.com/scholar?hl=en&as\\_sdt=0%2C5&q=gujurati+2004+basic+econometrics&btnG=&oq=gujurati+2004+basic+econ#d=gs\\_cit&t=1673781966833&u=%2Fscholar%3Fq%3Dinfo%3AW7mcZosaXwMJ%3Ascholar.google.com%2F%26output%3Dcite%26scirp%3D0%26hl%3Den](https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=gujurati+2004+basic+econometrics&btnG=&oq=gujurati+2004+basic+econ#d=gs_cit&t=1673781966833&u=%2Fscholar%3Fq%3Dinfo%3AW7mcZosaXwMJ%3Ascholar.google.com%2F%26output%3Dcite%26scirp%3D0%26hl%3Den)
- Gupta, N., & Mahakud, J. (2020). CEO Characteristics and Bank Performance: Evidence from India. *Managerial Auditing Journal*, 35(8), 1057–1093. doi: 10.1108/MAJ-03-2019-2224/FULL/HTML.
- Hambrick, D. C. (2007). Upper Echelons Theory: An Update. *Academy of Management Review*, 32(2), 334–43. doi: 10.5465/AMR.2007.24345254.
- Hambrick, D. C., & Mason, P.A. (1984). Upper Echelons: The Organization as a Reflection of Its Top Managers. *Academy of Management Review*, 9(2), 193–206. doi: 10.5465/AMR.1984.4277628.
- Jahur, M. S., & Quadir, S. N. (2012). Financial distress in small and medium enterprises (SMEs) of Bangladesh: Determinants and remedial measures. *Economia. Seria Management*, 15(1), 46-61.
- Jianakoplos, N. A., & Bernasek, A. (1998). Are women more risk averse? *Economic Inquiry*, 36(4), 620–630. <https://doi.org/10.1111/J.1465-7295.1998.TB01740.X>
- Jiang, F., Zhu, B., & Huang, J. (2013). CEO's financial experience and earnings management. *Journal of Multinational Financial Management*, 23(3), 134-145.



- Koech, E., Akuno, N., & Mugo, R. (2018). Prediction of Financial Distress in the Light of financial crisis: A case of listed firms in Kenya. *International Journal of Economics, Commerce and Management, United Kingdom*, VI (6), 21.
- Krishnan, H.A., & Park, D. (2005). A Few Good Women—on Top Management Teams. *Journal of Business Research*, 58(12), 1712–20. doi: 10.1016/J.JBUSRES.2004.09.003.
- Kumar, P. (2015). An analytical study on Mintzberg’s framework: Managerial roles. *International Journal of Research in Management & Business Studies*, 2(3), 12-19.
- Leng, J., Ozkan, A., Ozkan, N., & Trzeciakiewicz, A. (2020). CEO Overconfidence and the Probability of Corporate Failure: Evidence from the UK. *SSRN Electronic Journal*, 1(1), 12–19. doi: 10.2139/SSRN.3184199.
- Li, F. (2016). Endogeneity in CEO power: A survey and experiment. *Investment Analysts Journal*, 45(3), 149–162. <https://journals.co.za/doi/abs/10.1080/10293523.2016.115198>
- Liu, L., Le, H., & Thompson, S. (2020). CEO Overconfidence and Bank Systemic Risk: Evidence from US Bank Holding Companies. *International Journal of Finance & Economics*, 27(3), 2977–2996. doi: 10.1002/ijfe.2308.
- Lund, D. B. (2008). Gender Differences in Ethics Judgment of Marketing Professionals in the United States. *Journal of Business Ethics*, 77(4), 501–515. doi: 10.1007/S10551-007-9362-Z.
- Madhushani, I. K. H. H., & Kawshala, B. A. H. (2018). The impact of financial distress on financial performance; Special reference to listed non-banking financial institutions in Sri Lanka. *International Journal of Scientific and Research Publications*, 8(2).
- Mahama, M., & Campus, T. (2015). Assessing the State of Financial Distress in Listed Companies in Ghana: Signs, Sources, Detection, and Elimination – A Test of Altman’s Z-Score. *European Journal of Business and Management*, 7(3), 11.
- Martin, A.D., Nishikawa, T., & Williams, M.A. (2009). CEO Gender: Effects on Valuation and Risk. *Quarterly Journal of Finance and Accounting*, 1(1), 23–40
- Miethe, T. D., & Rothschild, J. (1994). Whistleblowing and the Control of Organizational Misconduct. *Sociological Inquiry* 64(3):322–47. doi: 10.1111/J.1475-682X.1994.TB00395.X.
- Muijen, H.M., Nordin, S., & Badru, B.O. (2022). The Effect of CEO Reputation on Company Financial Distress: Evidence from Pakistan. *Global Business Management Review*, 14(1), 38–53.
- Muttakin, M.B., Khan, A., & Mihret, D.G. (2018). The effect of board capital and CEO power on corporate social responsibility disclosures. *Journal of Business Ethics*, 150(1), 41-56.
- Mwangi, Muathe, S., & Kosimbei, G. (2014). Relationship between capital structure and performance of non-financial companies listed in the Nairobi Securities Exchange,



- Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, 1(2), 72–90.
- Niederle, M., & Vesterlund, L. (2007). Do Women Shy Away from Competition? Do Men Compete Too Much? *The Quarterly Journal of Economics*, 122(3), 1067–1101.
- Ojeka, S., Adegboye, A., & Dahunsi, O. (2021). Audit Committee Characteristics and Non-Performing Loans in Nigerian Deposits Banks. *European Journal of Accounting, Auditing and Finance Research*, 9(4), 27-41.
- Powell, M., & Ansic, D. (1997). Gender differences in risk behaviour in financial decision-making: An experimental analysis. *Journal of Economic Psychology*, 18(6), 605–628. <https://www.sciencedirect.com/science/article/pii/S0167487097000263>
- Rono, J. C. (2018). *Effects of Chief Executive Officer attributes on financial distress in commercial banks in Kenya* (Master's Thesis). Strathmore University, Nairobi, Kenya. Retrieved from <https://su-plus.strathmore.edu/handle/11071/6150>
- Rothschild, J., & Miethe, T.D. 1999. Whistle-Blower Disclosures and Management Retaliation: The Battle to Control Information about Organization Corruption. *Work and Occupations* 26(1),107–128. doi: 10.1177/0730888499026001006.
- Sewpersadh, N. S. (2020). K-score categorisation of JSE listed sectors under the financial distress continuum theory: A quantitative approach. *Cogent Economics & Finance*. <https://doi.org/10.1080/23322039.2020.1748969>.
- Shefrin, H. (2001). Behavioral Corporate Finance. *Journal of Applied Corporate Finance*, 14(3), 113-126. <https://doi.org/10.1111/j.1745-6622.2001.tb00443.x>
- Shen, W., & Cannella, A.A. (2002). Revisiting the Performance Consequences of CEO Succession: The Impacts of Successor Type, Post succession Senior Executive Turnover, and Departing CEO Tenure. *Academy of Management Journal*, 45(4), 717–733. doi: 10.5465/3069306.
- Sunden, A., & Surette, B. J. (1998). Gender differences in the allocation of assets in retirement savings plans. *The American Economic Review*, 88(2), 207–211. <https://www.jstor.org/stable/116920>
- Valentine, S.R., & Rittenburg, T.L. (2004). Spanish and American Business Professionals' Ethical Evaluations in Global Situations. *Journal of Business Ethics*, 51(1), 1–14. doi: 10.1023/B:BUSI.0000032384.74020.A8.
- Van der Grift, D. & Yavas, A. (2009). Men, Women, and Competition: An Experimental Test of Behavior. *Journal of Economic Behavior and Organization* 72. 554-570.
- Vermeir, I., & van Kenhove, P. (2008). Gender Differences in Double Standards. *Journal of Business Ethics*, 81(2), 281–95. doi: 10.1007/S10551-007-9494-1.





- Viswanatha, R. (2012). *Analysis of Liquidity, Profitability, Risk and Financial Distress: A Case Study of Dr. Reddy's Laboratories Ltd*, 6(12).
- Yang, H., & Tate, M. (2012). A Descriptive Literature Review and Classification of Cloud Computing Research. *Communications of the Association for Information Systems*, 31(1), 2.
- Zahra, K., Khan, M.J., & Warraich, M.A. (2018). CEO Characteristics and the Probability of Financial Distress: Evidence from Pakistan. *NUML International Journal of Business & Management*, 13(2),117–12
- Zheng, C., Sarker, N., & Nahar, S. (2018). Factors affecting bank credit risk: An empirical insight. *Journal of Applied Finance and Banking*, 8(2), 45-67.
- Zmijewski, M. E. (1984). Methodological Issues Related to the Estimation of Financial Distress Prediction Models. *Journal of Accounting Research*, 1(1), 59.

