CORPORATE GOVERNANCE AND FINANCIAL DISTRESS PREDICTION IN THE UK

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A Thesis Submitted in Partial Fulfilment of the Requirements of Bournemouth University for the Degree of Doctor of Philosophy

May 2019

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ABSTRACT

Prediction of financial distress has been a topic of much interest to companies and all interested stakeholders (Wanke et al. 2015). Investors, debt holders, creditors, employees, governments, auditors and the society in general, are all affected in one way or the other when firms become financially distressed and they eventually fail. Financial distress detection has been an important issue in the academic literature but since the 2007 financial crises, it has become a more relevant issue because of the increasing number of firms becoming financially distressed and bankrupt. From a report in the Guardian newspaper on 17th January 2018, almost half a million UK businesses begun 2018 in significant financial distress and according to the UK Insolvency Service, 17,439 firms in England and Wales went bust in 2018. The expectation is that with Brexit uncertainty, inflation and interest rate may rise which can lead to weaker consumer spending impacting on business financial performance.

Early studies (Beaver 1966, 1968; Altman 1968; Ohlson 1980; Taffler 1984) on financial distress used accounting and cash flow empirical-based variables to develop financial distress prediction models. Recent studies (Lee and Yeh 2004; Lajili and Zeghal 2010; Brédart 2014) indicate that the predictive power of these models is improved significantly by including corporate governance mechanisms. However, the role of corporate governance mechanisms in influencing financial distress may be moderated by firms' contextual factors. Hence, in determining the influence of corporate governance mechanisms on financial distress, firms' environment, resource, and technology need to be considered. The study, therefore, determines the moderating influence of firms' environment (complexity, dynamism, and munificence), resource (tangible and intangible), and technology on the relationship between corporate governance mechanisms and financial distress.

Also, Daily et al. (2003) have contested that taking a multi-theoretic approach to corporate governance is necessary to observe and understand how each corporate governance mechanism is viewed from each different theoretical perspective. This study uses the agency theory, the resource dependence theory, the stakeholder theory, and the stewardship theory to develop the research hypotheses to test the influence of corporate governance mechanisms on the likelihood of firms' financial distress because each of these theories may argue and prescribe different functions for each corporate governance mechanism.

The study has four main objectives. The first objective is to assess if the composition and structure of corporate boards are associated with the financial distress of UK firms. The second objective is to evaluate whether the different forms of firms' ownership have any influence on the financial distress of UK firms. The third objective is to determine the extent to which the disclosure and transparency components of corporate governance are related to the financial distress of UK firms. The final objective is to determine whether the environment, resources, and technology moderate the corporate governance and financial distress relationship of UK firms.

The data for the study is obtained from the annual reports of 100 financially distressed and 100 financially non-distressed firms listed on the London Stock Exchange for the period 2009 to 2016. The results of the study indicate that from the components of board composition and structure; board activity, board member qualification, audit committee independence, remuneration committee size, and the presence of a firm's chairperson on the audit committee are all significantly and negatively related to firms' financial distress. However, the board size, the proportion of independent directors, board member financial expertise, and audit committee size are significantly but positively related to firms' financial distress. In terms of the ownership structure variables, the directors' ownership, institutional ownership, as well as the concentrated ownership are all significant and have negative relationships with firms' financial distress. For disclosure and transparency variables, directors' remuneration, the presence of senior independent director, and disclosure of notice of annual general meeting in the annual reports are significantly and negatively related to firms' financial distress, but the disclosure of proxy voting arrangements in the annual reports has no significant relationship with firms' financial distress. On the control variables, firm size and firm age are all significant and have negative relationships with financial distress. In addition, the industry is ascertained to show significant effects. Regarding the moderating role of environment (complexity, dynamism, and munificence), resources (tangible and intangible), and technology, the results have provided evidence of some moderating influence of these factors on the relationship between the corporate governance mechanism and financial distress. Moreover, the results have shown that models with the interactions of the moderating factors have lower arithmetic values for Akaike's Information Criteria (AIC) indicating that these models are of best fit than the baseline model without the interactive terms. The results further show that technology has a more moderating influence on corporate governance and financial distress relationship, and this is followed by environmental

dynamism, environmental complexity, tangible resources, intangible resources, and environmental munificence.

Also, the results indicate that although the board composition and structure model, the ownership structure model, and the disclosure and transparency model have the best fit over the model with only the firm characteristics, the corporate governance model which combines all the corporate governance mechanisms has the best fit to determine firms' financial distress due to its lower AIC value. This means that corporate governance mechanisms are effective in determining firms' financial distress when all of them are put together. Based on the results, the study suggests the need for policy makers to ensure that firms comply with the mechanisms of corporate governance, pay attention to their environment and consider their resources and technological capabilities in the institution and implementation of their corporate governance structures to prevent their firms becoming financially distressed.

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ACKNOWLEDGEMENTS

To God be the glory whose manifold blessings have culminated in the successful completion of this study. Putting together a dissertation of this kind is a very demanding endeavour that requires the support of other persons to make it successful. I wish therefore to acknowledge the individuals whose immense guidance and patience helped me to complete my dissertation. Although I take full responsibilities for this dissertation, I owe them a debt of significant gratitude.

I would like to first express my sincere gratitude to my supervisors Dr. Suranjita Mukherjee, Dr. Phyllis Alexander, and Dr. Ishmael Tingbani, who despite their busy academic and professional duties, undertook to offer priceless supervision throughout the PhD journey. Thank you very much for being my advisors and mentors. I count myself lucky to have had you play significant roles at different stages of my dissertation. I would like to mention especially, Dr. Suranjita Mukherjee, who imbibed in me trust and confidence that have made the journey to my doctorate much smoother. I also wish to offer my sincere thanks to Professor Venancio Tauringana, who for the first few months of the study, was my main supervisor before moving on to another University. My deepest appreciation also goes to Professor Steve Letza and Dr. Frazer Ball for their positive feedback on my transfer viva. I am very grateful to the Graduate School of Bournemouth University for its funding support for me to attend the BAFA conference held at Edinburgh University to present my PhD work to a group of academic and professional audience. I appreciate the comments from the conference panel members because they have helped shape the work.

My deepest appreciation goes to my lovely wife Martha Chenchehene, who in her own special ways motivated me when the going became difficult. Her love, advice, encouragement, support, and compromise gave me hope to finish this dissertation. I am very grateful to my five children (Valentina Arko Chenchehene, Vania Konadu Chenchehene, Vincentia Kusi Chenchehene, Venetia Kusi Chenchehene and Joel Appiah Chenchehene) who gave the moral support needed and lavished their love on me despite my inability to show them the needed affection as a father because of the constraints and demands of the study. To Matthew Bediako, who spent sleepless nights proof reading this dissertation, I say a very big thank you.

I would like to extend my sincere appreciation to my parents Joseph Kyenkyehene and Alice Kwarteng for always investing, supporting, and encouraging me to get to this stage. Dad and Mum, you have always believed in me and I say God bless you all. I also thank

my four brothers and three sisters, Addai Dickson, Kofi Kyenkyehene, Danso Emmanuel, Alfred Kyenkyehene, Serwaa Vivian, Sarpong Linda, and Josephine Kyenkyehene for the constant support and prayers during my studies. Finally, I would like to thank the uncountable individuals who have had a part in making this dissertation possible, but I could not mention because of space. To all of you, I say a big thank you. I pray for God's blessing throughout your lives.

DECLARATION

This thesis is submitted in fulfilment of the requirements for the degree of Doctor of Philosophy (Accounting and Finance) at the Bournemouth University, United Kingdom. I declare that this thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that this thesis has not been previously or concurrently submitted, either in whole or in part, for any other qualification at the Bournemouth University or any other institutions.

Joseph Chenchehene

May 2019

DEDICATION

I dedicate this dissertation to my lovely wife Martha Chenchehene and my children Valentina Arko Chenchehene, Vania Konadu Chenchehene, Vincentia Kusi Chenchehene, Venetia Kusi Chenchehene and Joel Appiah Chenchehene for their continuous support, encouragement and amazing love throughout my research journey.

LIST OF ABBREVIATIONS AND ACRONYMS

ACIND	Audit Committee Independence
ACSZ	Audit Committee Size
AGM	Annual General Meeting
AIC	Akaike's Information Criterion
AIM	Alternative Investment Market
AMEDEUS	Analyse Major Databases from European Sources
BAC	Board Activity
BGD	Board Gender Diversity
BME	Board Member Financial Expertise
BMQ	Board Member Qualification
BSZ	Board Size
CAC	Firm's Chairperson on the Audit Committee
CEO	Chief Executive Officer
CFO	Chief Finance Officer
COWN	Concentrated Ownership
CPA	Certified Public Accountant
CRC	Firm's Chairperson on the Remuneration Committee
DOWN	Directors' Ownership
DREM	Directors' Remuneration
EBITDA	Earnings Before Interests Taxes Depreciation and Amortisation
EC	Environmental Complexity
ED	Environmental Dynamism
EM	Environmental Munificence
FAG	Firm Age
FRC	Financial Reporting Council
FSZ	Firm Size
INOWN	Institutional Ownership
ITR	Intangible Resource
LSE	London Stock Exchange
MBA	Master's in business administration
MN	Disclosure of notice of the annual general meeting in the annual reports

NAPF	National Association of Pension Funds
OECD	Organisation for Economic Cooperation and Development
PAR	Disclosure of proxy voting arrangements in the annual reports
PIND	Proportion of Independent directors
PRI	Principles for Responsible Investment
QCA	Quoted Companies Alliance
RCSZ	Remuneration Committee Size
SEC	Security and Exchange Commission
SIND	Senior Independent Director
SOX	Sarbanes Oxley
TEC	Technology Capability
TR	Tangible Resource

CHAPTER ONE

OBJECTIVES AND OVERVIEW OF THE RESEARCH

1.1 BACKGROUND OF THE STUDY

Financial distress detection is a major issue in the finance and accounting literature because of its impacts on many stakeholders (Brédart 2014). Investors, debt holders, creditors, employees, governments, auditors, and society, in general, are all affected in many ways when firms become financially distressed and ultimately fail. For instance, the collapse of the UK retail company, British Home Stores in April 2016 affected all stakeholders including the 11,000 individuals employed by the company and cost the taxpayer £35 million. Financial distress detection has become more relevant because of the 2007 financial crisis in which many firms became financially distressed and filed for bankruptcy (Li and Zhong 2013). In the UK, some firms continue to find themselves in financial distress. According to the Guardian newspaper's report on 17th January 2018, 493,296 UK businesses were experiencing significant financial distress in the final quarter of 2017. This figure was 36% higher than at the same time in 2016 and 10% higher than in the third quarter of 2017 according to the report. At the end of 2018, 17,439 companies entered insolvency, a rise of 0.7% on 2017 (Insolvency Service and Company House 2018). What is worrying is that with Brexit uncertainty, businesses especially the high-street retailers are expected to find it difficult because the Bank of England expects the level of business investment to be around 25 per cent lower by 2019 relative to its pre-referendum forecasts, which is damaging to the country's future productivity growth (Independent newspaper, 26th December 2017). It is therefore not surprising that some leading UK retailers including Tesco, Asda, Marks and Spencer, and Sainsbury's supermarkets are implementing cost-cutting measure to ensure survival.

According to Baldwin and Scott (1983), the financial distress of a firm occurs when the firm's business deteriorates to the point where it cannot meet its financial obligations. Traditionally, financial distress prediction models developed since the sixties (Beaver 1966, 1968; Altman 1968; Deakin 1972; Altman et al. 1977; Ohlson 1980) primarily focused on accounting and cash flow empirical-based variables. Generally, according to Parker et al. (2002), the components of financial distress or bankruptcy models revolve around six dimensions of the firm and these are; financial risk, operating risk, size, liquidity, profitability, and market perception. Although financial and accounting ratios have their own limitations, including the assertion that accounting information is subject to window dressing through earnings management which affects the reliability of the

accounting ratios (Lee and Yeh 2004), ratios obtained from financial statements are regarded as one of the most important information sources about a firm's affairs (Smith et al. 2011). Hence, studies on predictions of corporate financial distress continue to use financial and accounting ratios. However, researchers (Fich and Slezak 2008; Chang 2009; Platt and Platt 2012) have argued that models based on financial and accounting data alone do not provide enough predictive power for financial distress. Recently, researchers (Lajili and Zéghal 2010; Brédart 2014) investigated the link between financial distress and corporate governance and results of these studies indicate that corporate governance variables significantly improve the predictive power of the widely used model to predict financial distress. For instance, Donker et al. (2009) find that firms with higher levels of managerial shareholdings are less likely to experience financial distress and that the model with ownership variables represented a significant improvement over empirically derived prediction models that used financial ratios after sampling 177 firms in the Amsterdam Stock Exchange. However, the relationship between corporate governance and financial distress is likely to be moderated by the firms' environment, resources, and technological capability. It is important for corporate governance research to uncover firm contextual factors and to understand how the effectiveness of corporate governance practices is moderated by the firm's environment, resources, and technological capability. Hence, it is important to understand how these contextual factors moderate corporate governance and financial distress relationship.

Moreover, agency theory has dominated research on corporate governance (Daily et al. 2003), but critiques say, it is "under-contextualised" and therefore lacks the ability to accurately compare and explain the diversity of corporate governance arrangements across different institutional and national context (Aguilera et al. 2008). However, since corporate governance is a complex and diverse concept where various elements interact and could lead to various performance outcomes, a multi-theoretic approach is needed to address all aspects of governance, financial, and accounting decisions on firm value and performance (Lajili and Zéghal 2010).

The Financial Reporting Council (FRC), the Stock Exchange and the accountancy profession in response to increasing concern about standards of financial reporting and accountability, particularly in the light of the BCCI and Maxwell cases, the Cadbury report, which marked the beginning of UK's corporate governance code, was produced (Cadbury 1992). Since then reformers have recommended board diversity (Tyson 2003), a greater proportion of non-executive directors on boards (Higgs 2003), audit committees

(Smith 2003) and other mechanisms as necessary to enhance board effectiveness (Appiah 2013) to ensure continuing firms' survival. In addition, the FRC has been launching yearly public consultations on the UK corporate governance code, the most recent being the FRC's plans for a comprehensive review of the UK corporate governance code 2017/2018. However, despite the various amendments and consultation to the corporate governance code aimed at ensuring that it is in line with ongoing business environments, some firms continue to face financial distress while others end up in failure, the cause of which might be attributed to corporate governance. The UK corporate governance code is based on the principle of 'comply' or 'explain' which leaves some firms only to explain in their annual reports why some aspects of the code have not been complied with. Firms' board of directors is a significant corporate governance mechanism, hence, their role is very important because their ability to act effectively is a determinant of firms' financial health (Manzaneque et al. 2016a). The nomination, audit, and remuneration committees are equally significant corporate governance mechanisms that respectively improve board composition, accountability and the executive remuneration process.

Taking into consideration the different theories that include the agency, resource dependence, stakeholder, and stewardship, which complement one other in finding out the necessary corporate governance mechanisms that might affect firms' financial distress (Appiah 2013), this study determines whether corporate governance mechanisms have some relationships with firms' financial distress considering the various amendments to the code and whether the relationship is moderated by the firms' environment, resources, and/or technological capability.

1.2 MOTIVATION FOR THE STUDY

This study is motivated by the following. First, the recent corporate scandals including the accounting scandal by Tesco supermarket, the payment protection insurance and the LIBOR fixing which affected the banking industry; and the scandal surrounding the Co-operative Group of Companies; have reignited concerns regarding the effectiveness of corporate governance practices of UK firms. For instance, Tesco supermarket was accused of aggressively managing its accounts in the year leading to 2014 and that three former senior board members of the company were charged with fraud in relation to the £250 million accounting scandal between February and September 2014 by the Serious Fraud Office. Corporate governance structures, therefore, may potentially influence the accuracy of the financial and accounting disclosures used to measure the true condition of the firm (Fich and Slezak 2008). Although empirical results support the hypotheses

that weak corporate governance tends to reduce the corporate value, whether it will lead to a higher probability of financial distress remains an open question (Lee and Yeh 2004).

Second, in the UK, many firms continue to face financial distress, and some have ceased to operate due to their inability to generate enough funds to turnaround their operations. As noted earlier on page one of this study, 493,296 UK businesses were experiencing significant financial distress in the final quarter of 2017 meaning, almost half a million UK businesses started 2018 in significant financial distress (The Guardian newspaper's report on 2018). At the end of 2018, 17439 companies entered insolvency, a rise of 0.7% on 2017. The rate at which businesses are getting into financial distress situations has raised questions about how those businesses are governed. Woolworth, MFI, and the British Home Stores, which failed in 2008 and 2014 led to their stakeholders demanding answers from their board of directors about how those businesses were run, and how certain financial transactions were carried out.

Third, the UK corporate governance code is based on the principle of 'comply' or 'explain'. Since its establishment, there have been several amendments to the corporate governance code requiring firms to comply or explain. For instance, the Greenbury (1995) report requires remuneration committees to consist of non-executive directors who should be responsible for determining the level of executive directors' compensation packages, and that there should be full disclosure of each executive's pay package. The Higgs (2003) report also requires a firm's non-executive directors to possess the knowledge, experience, skills and time to perform their functions and that with the exception of the chairperson, at least, half of the board should be made up of non-executive directors, as well as the recommendation to nominate a senior independent director to ensure good relations among directors and efficient communication between shareholders and directors. On diversity, the Higgs (2003) report argues that diversity could enhance board effectiveness. In addition, the Combined Code (2003) requires the board of companies to be of enough and manageable size. The Corporate Governance Code (2014) also requires the board to establish audit committees of at least three independent non-executive directors. With these and other requirements from the UK corporate governance code which firms are required to comply or otherwise explain to ensure standard financial reporting and accountability, the question that needs answering is, whether firms comply with the corporate governance mechanisms, and if so, whether the corporate governance mechanisms have any influence on firms' financial distress. It is therefore important for

the study to determine whether the corporate governance mechanism prescribed by the code and the various amendments have any influence on firms' financial distress.

Fourth, the environment in which firms operate in, their resource capacity, as well as their technological capability are significant contextual factors that influence firms' activity and could have moderating influences on the relationship between corporate governance mechanisms and firms' financial distress. However, the extant literature (Fich and Slezak 2008; Chang 2009; Lajili and Zéghal 2010; Platt and Platt 2012; Brédart 2014) have not established whether the firms' environment, resource, and technological capability could moderate the corporate governance mechanisms and financial distress relationship of firms.

Fifth, the relationship between corporate governance and financial distress has been analysed by several studies the results of which are not homogeneous (Ciampi 2015). For instance, in terms of CEO duality, Simpson and Gleason (1999) find a lower probability of financial distress when one person is both the CEO and chairperson of the board, but Sharma (2001) finds that CEO duality is not associated with financially distressed status while CEO duality on the occurrence of financial distress did not lead to significant results in a study by Brédart (2014). Also, according to Nahar Abdullah (2006), his findings of board independence not associated with financial distress status contradicts the evidence of Elloumi and Gueyié (2001) but consistent with the findings by Chaganti et al. (1985). Due to these inconclusive outcomes of how corporate governance mechanisms influence corporate financial distress, it is essential that this study continues this investigation with a new dataset to find out if different and new conclusions can be drawn.

Lastly, sample sizes and sample periods of some studies including those by Wu et al. (2008), Chen and Du (2009), and Lajili and Zéghal (2010) are not large and long enough to draw generalised research conclusions. These studies, therefore, recommend a larger sample size and longer sample periods in future studies. For instance, Lajili and Zéghal (2010) indicate that the insignificance of the independence hypothesis in their study could be due in part to the short-term horizon adopted and therefore recommend that future research should consider both a longer time horizon and a larger number of firms to detect and systematically test whether and how board independence, turnover, and ownership structure impact financial distress.

It is from the above discussions that this study intends to close the gap by using a sample of UK firms to test the relationship between corporate governance mechanisms and

financial distress and to test if the relationship between corporate governance and financial distress is moderated by the firms' environment, resources, and technology.

1.3 AIM AND OBJECTIVE OF THE STUDY

The main aim of the study is to investigate the relationship between corporate governance mechanisms and firms' financial distress and determine whether the environment, resource, and technology have any moderating influence on the corporate governance and financial distress relationship of UK firms. The main aim will be achieved by aggregating the following individual objectives:

1. To assess if the composition and structure of corporate boards are associated with the financial distress of UK firms.
2. To evaluate whether the different forms of firms' ownership (directors, institutional and concentrated ownerships) have any influence on the financial distress of UK firms.
3. To establish the extent to which the disclosure and transparency components of corporate governance relate to the financial distress of UK firms.
4. To determine whether firms' environment, resources, and technological capability moderate the relationship between board composition and structure variables, ownership structure variables, and disclosure and transparency variables; and the financial distress of UK firms.

1.4 SUMMARY OF RESEARCH METHODOLOGY OF THIS STUDY

From the population of firms listed on the London Stock Exchange (LSE) for the period 2009-2016, the study obtains data from the annual reports for a sample of 200 firms. The rationales behind the selection of this population are that first; it provided the sample of distressed and non-distressed firms required for the study. Second, in addition to the requirement to prepare and publish their accounts, listed companies are required to report on how they have applied the principles of corporate governance in their annual reports. The period 2009-2016 is selected to ensure that the study results reflect the current corporate governance principles that firms are supposed to comply or explain. From the population, the study excludes firms that are specially regulated and these include banks and other financial institutions since they are subject to different regulatory standards, compliance, and institutional requirements (Manzaneque et al. 2016a). Banks and the other financial institutions also have a number of significant differences in terms of industrial characteristics as well as accounting reporting standards, such as income-

measuring accounting rules (Hsu and Wu 2014) and therefore their financial reporting, ratios, and cash flows are substantially different from the non-financial firms. These make analysis and comparison of their data with the other non-financial firms very difficult and impractical.

The variables in the study are grouped under dependent, independent, moderating and control variables. The dependent variable of the study is financial distress, which is a binary (0,1). Hence, the study adopts a dummy variable for financial distress with '1' representing financially distressed firms and '0' representing financially non-distressed firms. The extant literature (Elloumi and Gueyié 2001; Lee and Yeh 2004; Donker et al. 2009; Brédart 2014) describe financial distress as a dichotomous variable. The independent variables for the study are grouped under three main headings and these are: board composition and structure (board size, proportion of independent directors, board gender diversity, board activity, board member qualification, board member financial expertise, audit committee independence, audit committee size, a firm's chairperson on audit committee, remuneration committee size, and a firm's chairperson on remuneration committee); ownership structure (directors ownership, institutional ownership, and concentrated ownership); and disclosure and transparency (directors' remuneration, senior independent director, disclosure of notice of annual general meeting in the annual reports, and disclosure of proxy voting arrangements in the annual reports). The moderating variables are a technological capability, resources (tangible and intangible) and environment (munificence, complexity, and dynamism). Finally, the control variables for the study are firm size, firm age, and industry.

1.5 SUMMARY OF MAIN FINDINGS OF THIS STUDY

The regression results of this study fulfil the four main objectives set out in the study. The first objective was to assess if the composition and structure of corporate boards are associated with the financial distress of UK firms. This study identified eleven components of board composition and structure and the results associated with them are as follows:

1. The regression results of this study reveal board size to be significantly and positively related to financial distress, meaning the size of the board of directors has a direct influence on firms' financial distress. This result for board size is contrary to the hypothesis set for it.
2. For the proportion of independent directors, the regression results indicate that it has a significant and a positive relationship with financial distress, meaning the

more independent directors a firm has, the more likely the firm is to be financially distressed and vice versa. Again, this result does not support the hypothesis set for the proportion of independent directors.

3. With regards to board gender diversity, the results from the study reveal that it is insignificantly related to financial distress.
4. For board activity, the regression results of this study show that board activity is significantly and negatively associated with financial distress and confirms the hypothesis of this study. This result of board activity is consistent with the study by Vafeas (1999) who finds that firms respond to a poor performance by increasing their level of board activity which in turn is linked with improved operating performance in subsequent years.
5. Evidence from this study also demonstrates that board member educational qualification is significantly and negatively related to financial distress and this means that a firm is in a good position to avoid financial distress when board members have the right educational qualification.
6. On board member financial expertise, the evidence of the study shows that it has a significant and positive relationship with financial distress and this direct relationship does not support the hypothesis set for this study.
7. For audit committee independence the regression results show that it has a significant and negative relationship with financial distress indicating that the higher the levels of independence, the less likelihood firms become financially distressed.
8. For audit committee size, the evidence of this study shows that it has a significant and positive relationship with financial distress and the direct relationship does not support the hypothesis set for audit committee size.
9. With regards to the presence of a firm's chairperson on the audit committee, the regression results from this study demonstrate that it is significantly and negatively related to financial distress. This means that firms with their chairpersons being members on the audit committees are less likely to be financially distressed since firms' chairpersons with their knowledge of the firm are valuable resources that enhance the monitoring, as well as ensure the quality and transparency of the financial reporting process of the audit committee.
10. On remuneration committee size, the regression results from this study reveal that it is significantly and negatively related to financial distress supporting the

findings of Chan et al. (2015) but inconsistent with the results of Appiah and Chizema (2015).

11. Lastly, evidence of this study relating to the presence of a firm's chairperson on the remuneration committee has no significant relationship with financial distress.

Regarding the second objective, this study evaluated whether the different forms of firms' ownerships (directors, institutional and concentrated ownerships) have any influence on the financial distress of UK firms and the regression results reveal the following.

1. The regression results from this study indicate that directors' ownership has a significant and negative relationship with financial distress.
2. Wth regards to institutional investors, the results of this study demonstrate that institutional ownership is significantly and negatively related to financial distress. Due to their large shareholding, the institutional shareholders, as influential stakeholders have extra inscentive and the resources to monitor management to improve firm performance to avoid financial distress likelihood.
3. Finally, reagrding ownership structure variables, the findings of this study indicate that concentrated ownership is significantly and negatively related to financial distress and this result is consistent with that of Xiaolan et al. (2006), Donker et al. (2009), Ciampi (2015) and Hu and Zheng (2015) but inconsistent with that of Lajili and Zéghal (2010) and Manzaneque et al. (2016).

For the third objective of this study which evaluated the extent to which the disclosure and transparency components of corporate governance are related to the financial distress of UK firms, the following results are obtained from the regression analysis.

1. On directors' remuneration, the regression results of this study found that it is significantly and negatively related to financial distress.
2. With regards to the presence of senior independent director, the results from this study indicates that it has a significant and a negative relationship with financial distress and this means that a firm is not financially distressed if it has a senior independent director since the senior independent director plays an important role in monitoring the effectiveness of the chairperson, liaising with the non-executive directors and communicating with the major shareholders (Higgs 2003) issues and concerns that impact firms' operation, which improve their performance, and reduces the likelihood of financial distress.

3. On the disclosure of proxy voting arrangements in the annual reports, the findings from this study indicate that it has an insignificant association with financial distress.
4. Finally, regarding the third objective, this study found evidence that the disclosure of notice of the annual general meeting in the annual reports has a significant and negative relationship with financial distress.

With regards to objective one to objective three above, this study developed five models which are; the board composition and structure model; the ownership structure model; the disclosure and transparency model; the corporate governance model which incorporated board composition and structure variables, ownership structure variables, and disclosure and transparency variables; and the baseline model which was composed of firm characteristics. Using the Akaike's Information Criterion (AIC), this study finds evidence that the corporate governance model is the model of best fit and thus, predict financial distress better. This is followed by the disclosure and transparency model, the board structure and composition model and the ownership structure model. As expected, the baseline model is the model that has the least fit. The results of this study mean that a model predicts firms' financial distress better when all the corporate governance mechanisms are combined.

The last objective of this study was to determine whether the environment, resources, and technological capability moderate the corporate governance and financial distress relationship of UK firms. This study adopted the three dimensions of environment identified by Dess and Beard (1984) and these are; environmental complexity, environmental dynamism, and environmental munificence. Also, following Norman et al. (2013), the study categorises resources into tangible and intangible. Although the study found evidence of the interaction of each of the six moderating factors with each component of board composition and structure, ownership structure, and disclosure and transparency, only the overall findings are reported in this section. The regression results from the study indicate that from the six moderating models, the technology model shows evidence of best fit and this is followed by environmental dynamism model, environmental complexity model, tangible resource model, intangible resource model and then environmental munificence model. This means that firms' technological capability has a greater moderating influence on corporate governance-financial distress relationship. This is followed by environmental dynamism, environmental complexity, tangible resource, intangible resource, and then finally environmental munificence having

the least moderating influence on that relationship. The study also found evidence that when all the moderating models are compared with the baseline model, the results show that each of the moderating models performs better than the baseline model. Hence, the results support the argument that firm's contextual factors in the form of environment, resource, and technological capability play significant roles in the firms' efforts to use their corporate governance mechanisms to avoid financial distress.

1.6 CONTRIBUTION OF THIS STUDY

This study makes a number of contributions to the existing literature. The most important contribution is the provision of evidence, for the first time, that the influence of corporate governance mechanisms on financial distress is significantly moderated by the interactions of environment (complexity, dynamism, and munificence), resource (tangible and intangible) and technological capability. Eventhough existing studies (Fich and Slezak 2008; Chang 2009; Donker et al. 2009; Lajili and Zéghal 2010; Platt and Platt 2012; Brédart 2014) have significantly contributed both theoretically and empirically to the relationship between various elements of corporate governance and financial distress, none of these studies investigated whether the relationship could be moderated by firms' environment, resource, and technology.

Another important contribution of this research is that it shows that the impact of certain corporate governance mechanisms on firms' financial distress changes under different conditions. This is explained by the fact that the significance or the insignificance of some corporate governance elements change when they interact with environmental complexity, environmental dynamism, environmental munificence, tangible resource, intangible resource, and technological capability. This study found evidence that although the presence of senior independent director is significant, it lost its significance when interacted with technology. Likewise, this study found that institutional ownership became insignificant when it interacted with environmental complexity and environmental dynamism. These suggest that the impact of corporate governance mechanisms on firms' financial distress needs to be understood in the context of firms' environment (complexity, dynamism, munificence), resource (tangible and intangible), and technological capability. This will enable firms in compliance with the requirements of the corporate governance code, design, implement, and monitor their corporate governance structures that fit their environment, resource, and technology.

Moreover, this study makes a significant contribution to existing studies by showing that firms' financial distress can be as a result of the presence of senior independent director

and the disclosure of notice of the annual general meeting in the annual reports which have not been investigated by researchers such as Donker et al. (2009), Lajili and Zéghal (2010), Brédart (2014), Manzaneque et al. (2016a,b). Results from this current study reveal that the presence of the senior independent director and disclosure of notice of the annual general meeting in the annual reports are all significantly and negatively related to financial distress. These results, therefore, contribute to the existing literature on corporate governance and firms' financial distress.

Furthermore, this study contributes to the existing literature by demonstrating that corporate governance mechanisms are relatively more effective in predicting financial distress of firms listed in the AIM than firms listed in the Main Market. This is because evidence of this study reveals that the corporate governance model of firms in the AIM has a lower AIC arithmetic value than the corporate governance model of firms in the Main Market.

In addition, this study provides evidence of the relevance of using a multi-theoretical approach to address different roles of corporate governance mechanisms including those relating to board size, the proportion of independent directors, board activity, board member qualification, board member financial expertise, directors' ownership, institutional ownership, and concentrated ownership in the UK, where there is a limited evidence. Corporate governance is a complex and multi-faceted concept where various elements interact and could lead to different performance outcomes and therefore the multi-theoretic approach better explains the theoretical argument of the corporate governance mechanisms.

Finally, this study also contributes to the limited research evidence on the relationship between corporate governance mechanisms and financial distress in the UK, where current knowledge and understanding is limited. Previous studies (Elloumi and Gueyie 2001; Lee and Yeh 2004; Fich and Slezak 2007; Chang 2009; Donker et al. 2009; Lajili and Zeghal 2010; Bredart 2014) on corporate governance and financial distress occurred outside the UK and the few that occurred in the UK, Appiah (2013), Poletti-Hughes and Ozkan (2014), and Hsu and Wu (2014) focused on failed companies but these are characteristically different from financially distressed companies. Hence, the study's use of financially distressed companies instead of failed companies makes a significant contribution to the existing literature on corporate governance mechanisms and firms' financial distress literature.

1.7 OUTLINE OF THE RESEARCH

The thesis consists of nine chapters and it is structured as follows. Chapter Two presents the trend and development of corporate governance in the UK. The first part of the chapter concentrates on the developments of corporate governance in the UK. Corporate governance has undergone some developments and continues to be reviewed to respond to growing corporate scandals and financial distress. Leadership, effectiveness, accountability, remuneration, and relationship with shareholders, which are the principles of the corporate governance code are discussed in the chapter. The chapter also discusses corporate governance for Alternative Investment Market (AIM) companies and concludes with the legal definition of financial distress in the UK.

Chapter Three provides a literature review of the study. It reviews the empirical literature on the relationship between corporate governance mechanisms and financial distress. The logic is to determine whether there is any consistency in the findings of the effect of corporate governance mechanisms on firms' financial distress. It begins with the discussion of financial distress and how financially distressed firms are identified. It is followed by the discussion of how corporate governance mechanisms affect financial distress under three sections, which are board composition and structure, ownership structure, and disclosure and transparency. The chapter also has a section on the moderating variables. This is followed by a summary of the results of previous empirical studies and finally, concludes with the chapter summary.

Chapter Four presents the main theoretical foundations of the relationship between corporate governance mechanisms and financial distress. The theoretical framework enables prior identification of the appropriate research questions and the independent variables to direct the study (Tingbani 2015). The chapter discusses the agency, resource dependence, stewardship, and stakeholder theories to explain the association between corporate governance mechanisms and financial distress, and this leads to a section in the chapter that discusses the conceptual framework of the study. The chapter concludes with its summary.

Chapter Five of the study pulls together work covered in chapters two, three, and four. The chapter translates both the theoretical and empirical studies discussed on the relationship between corporate governance mechanisms and financial distress into testable hypotheses. The hypotheses are grouped into three sections. In the first section, the hypotheses relating to the direct relationship between corporate governance mechanisms and financial distress as determined by previous studies are discussed under

three sub-sections: board composition and structure, ownership structure, and disclosure and transparency. The second section discusses the hypotheses developed for the control variables based on prior studies deemed to have influence on the relationship between corporate governance mechanisms and firms' financial distress. In the final section, the hypotheses covering the moderating influence of the three dimensions of environment: complexity, dynamism, and munificence; the two types of resources: tangible and intangible; and technological capability on the relationship between corporate governance mechanisms and financial distress are discussed. Finally, the chapter concludes with its summary.

Chapter Six describes the research data and methodology. This chapter explains the research method used to answer the research hypotheses. It explains the research philosophies, research paradigms, research approaches as well as qualitative and quantitative research methods. It also discusses sampling procedure, types and sources of data used, financial distress identification as well as explanations of the variables of the study including the control variables and the moderating factors.

Chapter Seven presents the empirical results of the relationship between corporate governance mechanisms and financial distress. It reports the descriptive statistics, multicollinearity tests, and the results of the multivariate logistic regression analysis in the relevant sections.

Chapter Eight presents the empirical findings of the moderating role of environment, resources, and technological capability on the relationship between corporate governance and financial distress. The chapter has two sections. The first section discusses the empirical results of the interaction of environmental complexity, environmental dynamism, environmental munificence, tangible resource, intangible resource, and technology with the components of board composition and structure, ownership structure, and disclosure and transparency on the relationship between corporate governance and financial distress. This is to determine the extent to which firms' environment, resources, and technological capability moderate the relationship between corporate governance and financial distress. In the second section, further analysis of the relationship between corporate governance mechanisms and financial distress is estimated to enhance the robustness of the results.

Chapter Nine reports the final summary and conclusion of the study. It gives a summary of the research objective, methodology, and techniques adopted for the study. In addition,

the chapter summarises the policy implication, contributions, as well as the main limitations and recommendations for future research.

CHAPTER TWO

TREND AND DEVELOPMENT OF CORPORATE GOVERNANCE IN THE UK

2.1 INTRODUCTION

The recent financial crisis and corporate scandals have renewed concerns in corporate governance among stakeholders. Weak corporate governance may lead to a deteriorating firm performance which may affect the firm's survival. Hence, weaknesses in all aspects of corporate governance must be addressed for firms to avoid financial distress and their ultimate failure. Corporate governance must, therefore, aim at improving risk management and improve board quality, to enhance financial performance and prevent financial distress and its effects on all stakeholders. The chapter discusses corporate governance development in the UK since the Cadbury (1992) report. The chapter highlights the significant corporate governance mechanisms that comprise board composition and structure (board size, proportion of independent directors, board gender diversity, board activity, board member qualification, board member financial expertise, audit committee independence, audit committee size, a firm's chairperson on the audit committee, remuneration committee size, and a firm's chairperson on the remuneration committee). It also highlights ownership structure (directors' ownership, institutional ownership, and concentrated ownership), and disclosure and transparency (directors' remuneration, senior independent director, disclosure of proxy voting arrangement in the annual reports, and disclosure of notice of the annual general meeting in the annual reports). The identification of these corporate governance mechanisms resulting from the corporate governance development and its amendments would assist in establishing whether firms' financial distress may be linked to these corporate governance mechanisms. The chapter is structured as follows: Sections 2.2 and 2.3 discuss the definition and the developments of corporate governance in the UK respectively. Section 2.4 examines the 'comply' or 'explain' approach while the principles of corporate governance are described under section 2.5. Corporate governance for firms in the AIM is discussed in section 2.6 and the summary of the chapter is presented in section 2.7.

2.2 DEFINITION OF CORPORATE GOVERNANCE

Paragraph 2.5 of the Cadbury report (1992) defines corporate governance in the UK "as the system by which companies are directed and controlled. Boards of directors are responsible for the governance of their companies. The shareholders' role in governance is to appoint the directors and the auditors and to satisfy themselves that an appropriate governance structure is in place. The responsibilities of the board include setting the company's strategic aims, providing the leadership to put them into effect, supervising

the management of the business and reporting to shareholders on their stewardship. The board's actions are subject to laws, regulations and the shareholders in general meeting". Although other researchers including Shleifer and Vishny (1997a) have defined corporate governance as financial and legal institutions that can be altered through the political process, this study adopts the traditional definition of corporate governance as given in the Cadbury report (1992).

2.3 DEVELOPMENT OF UK CORPORATE GOVERNANCE

Concerns regarding the perceived low level of confidence both in financial reporting and in the ability of auditors to provide the safeguards which the users of company reports seek and expect are heightened by some unexpected failures of major companies in the late 1980s. The Financial Reporting Council (FRC), the London Stock Exchange (LSE) and the Accountancy Profession set up the Cadbury Committee in May 1992 to address the financial aspects of corporate governance (Cadbury 1992). The Cadbury (1992) came out with the Code of Best Practice which was directed to the boards of directors of all listed companies registered in the UK, but it also encouraged many companies to meet the Code's requirement. The Code was based on three main principles which included openness, integrity, and accountability. The Cadbury (1992) recommended that listed companies state in their reports and accounts whether they comply with the Code, identify and give reasons for any areas of non-compliance. The Cadbury (1992) report provided a yardstick against which standards of corporate governance in other economies were measured. The report, however, recommended that the FRC appointed a new committee by the end of June 1995 to examine how far compliance with the Code had progressed.

In 1995, the Greenbury committee in response to public and shareholder concerns about pay and other remuneration of company directors in the UK was set up to identify good practice in determining directors remuneration and prepare a Code of such practice for use by UK companies (Greenbury 1995). The Greenbury (1995) report recommended that boards of directors set up remuneration committee of non-executive directors to determine on their behalf, and on behalf of the shareholder, within agreed terms of reference, the company's policy on executive remuneration and specific remuneration packages for each of the executive directors, including pension rights and any compensation payments. The remuneration committee was to operate under five guidance which included accountability, responsibility, full disclosure, alignment of director and shareholder interests, and improved company performance. According to section 2.2 of the Code of Best Practice (Greenbury 1995), though the detailed provisions have been

prepared with large companies mainly in mind, however, the principles applied equally to smaller companies. The report, therefore, recommended the LSE to introduce an obligation to include in their annual remuneration committee reports to shareholders on their annual reports a general statement about their compliance with section 'A' of the Code (remuneration committee) which should explain and justify any areas of non-compliance.

Later, the Hampel committee was established to review the Cadbury (1992) Code and its implementation, to pursue any relevant matters arising from the Greenbury report, and to look afresh at the roles of directors, shareholders and auditors in corporate governance (Hampel 1998). The Hampel (1998) report endorsed the majority of the findings of both the Cadbury (1992) and Greenbury (1995) reports. While the Hampel committee found that most large listed companies implemented both codes fully, smaller companies though implemented most provisions, found it harder to comply with the Code. However, the report concluded that it would be a mistake to distinguish between the governance standards expected of larger and smaller companies. It, therefore, considered that high standards of governance are important for smaller listed companies as for larger ones (Hampel 1998). The Hampel (1998) report drew a distinction between principles of corporate governance and guidelines like the Cadbury (1992) and Greenbury (1995) reports. It recommended that companies must include in their annual reports and accounts a narrative statement of how they applied the relevant principles including directors, directors' remuneration, shareholders, and accountability and audit, to their circumstances. The report recognised however that corporate governance will continue to develop and that the FRC should keep under review the possible need in the future for further studies of corporate governance (Hampel 1998).

Although the Cadbury committee in 1992 established a framework for corporate governance which has become the basis for the arrangements whereby UK companies govern themselves (Page and Spira 2004), it did not resolve the risk management and internal control issues. The Turnbull (1999) committee, therefore, focused on the need for directors to review risk management and internal control systems and report on them since a firm's system of internal control has a significant role in the management of risks for the achievement of its objectives. Significantly, Turnbull (1999) recommended a framework for establishing systems of internal control.

According to Higgs (2003), when corporate strategies fail or governance lapses, attention rightly focuses on the contribution of the non-executive director and against the

background of corporate turbulence it was significant to clarify the role and increase the effectiveness of non-executive directors. Higgs (2003) believes that the way forward was not legislation but rather his review built on the 'comply' or 'explain' approach established by the Cadbury (1992) report. The Higgs (2003) report, therefore, recommends specific guidelines regarding the non-executive directors and their role. To determine behaviour changes, the Higgs (2003) report propose to the government and the FRC to review progress against the recommendations of the report in two years' time.

While the Higgs (2003) report focuses on the role and the effectiveness of non-executive directors, the Tyson (2003) report focuses on the recruitment and developments of non-executive directors. According to Tyson (2003), experts on corporate governance concur that the best boards consist of the right mix of personnel with different skills, experiences, and knowledge, and cites a quote from Conger and Lawler (2001) which states that "the best boards are composed of individuals with different skills, knowledge, information, power, and time to contribute. Given the diversity of expertise, information, and availability that is needed to understand and govern today's complex businesses, it is unrealistic to expect an individual director to be knowledgeable and informed about all phases of business. It is also unrealistic to expect individual directors to be available always and to influence all decisions. Thus, in staffing most boards, it is best to think of individuals contributing different pieces to the total picture that it takes to create an effective board. The report, therefore, provides three key recommendations in terms of additional guidance and these include rigorous and transparent non-executive director selection process, more and better evaluation and training for board members and research and measurement to encourage greater board diversity.

Following the dramatic corporate failures in the US in early 2002, the FRC on the request of the government set up the Smith committee to develop guidance on audit committees (Smith 2003). The Smith (2003) report issued guidance that included certain essential requirements that every audit committee should meet. However, it recognised that some of the requirements might be inappropriate for some small listed companies. For instance, many smaller companies may have fewer than three non-executive and independent directors. However, the report encouraged all listed companies to meet the requirements but where a requirement is inappropriate due to a company's circumstances, the right course is to explain the position (Smith 2003). It also recognised that best practice goes beyond meeting the essential requirements and that audit committee arrangements need

to be proportionate to the task and would depend on the size, complexity and risk profile of the company.

The Turnbull Review Group (2005) was established by the FRC to consider the impact of the Turnbull (1999) guidance on risk management and systems of internal control and the related disclosures, and to determine whether the guidance needed an update. It revealed that the principles-based approach required boards to think seriously about control issues and enabled them to apply the principles in a way that appropriately dealt with the circumstances of their business and that the guidance had very successfully gone a long way to meeting its original objectives. However, the Turnbull Review Group (2005) noted that establishing effective internal control systems is not a one-off exercise and that the system needed to consider new and emerging risks, control failures, market expectations or changes in the company's circumstances or business objectives to remain effective.

In 2006, the FRC proposed three minor changes and this led to the publication of the 2006 Code. The changes included board chair to sit on remuneration committee, supplementary provisions on 'vote withheld', and publishing the results of resolution on a show of hand while in 2007, 2008 and 2009, the FRC reassured the Code's content after a periodic review (Appiah 2013).

In 2009, considering the experience of critical losses and failures throughout the banking system, David Walker was asked to review corporate governance in UK banks. The review had 39 recommendations and these focused on: (i) board size, composition, and qualification (ii) functioning of the board and evaluation of performance (iii) communication and engagement (iv) the role of institutional shareholders (v) governance risk and (vi) remuneration. Overall, the code was found to be fit for purpose following the financial crisis (Walker 2009).

The FRC in 2010 assumed responsibility for the Stewardship Code. The Stewardship Code established principles for institutional investors, which must be followed, and these included public disclosure of their policy, robust policy on managing conflicts of interests, monitoring, establishing clear guidelines on when and how their activities would be escalated, and a clear policy on voting and disclosure of voting activity. In the same way as the UK Corporate Governance Code, the Stewardship Code must be applied on a 'comply' or 'explain' basis and that the FRC regarded the Stewardship Code as complimentary to the UK Corporate Governance Code for listed companies.

To date, the FRC has been carrying a yearly review on developments in the corporate governance and the stewardship codes. While it recognised that compliance with the Codes remained high and that despite the improvement in the quality and quantity of investor monitoring and engagement, there is the need to do more to promote best practice. Hence, going forward to future years, the FRC objective is to continue to promote corporate governance and corporate culture that support the long-term success of companies.

2.4 THE 'COMPLY' OR 'EXPLAIN' APPROACH

The 'comply' or 'explain' approach is the trademark of the UK corporate governance and it has been in operation since the Code's beginnings (FRC, 2014). According to the FRC (2014), it is the foundation of the Codes' flexibility and it is heavily supported by both companies and shareholders. The 'comply' or 'explain' is based on two premises and these are; for effective corporate governance, first, there is no 'one size fits all', and second, an explanation should be given to the shareholders if companies decide not to follow the Code (Miles and Proctor 2002). While the Code is not a rigid set of rules, it comprises main and supporting principles as well as provisions. Stock Exchange Listing Rules require companies to apply the main principles and communicate to shareholders how the principles have been applied. However, if a company decides not to follow a provision of the Code due to circumstances, then the reason for doing so should be explained to shareholders. For instance, smaller listed companies, particularly those new to the listing, may judge that some of the provisions are disproportionate or less relevant in their case and may choose not to apply them. In such circumstances, those companies should explain clearly and carefully to shareholders their reasons for doing so and the shareholders may wish to discuss their position with the company (FRC 2014). Whereas rules usually set out what is the minimum acceptable standard, " 'Comply or explain' codes complement rules by setting out higher and more aspirational standards, recognising that not all companies will achieve them immediately and that for some companies it may be more appropriate to take a different approach to protect the long-term interests of their owners" (Miles and Proctor 2002). Though there have been many changes to the corporate governance framework since 1992, the concept of 'comply' or 'explain', which has been widely adopted elsewhere, remains unchanged. Companies and shareholders both have responsibility for ensuring that 'comply' or 'explain' remains an effective alternative to a rule-based system (FRC, 2014).

2.5 THE PRINCIPLES OF CORPORATE GOVERNANCE IN THE UK

The Code (2014) mentions five fundamental principles which are important for firms to follow to avoid any issues surrounding governance to improve performance to avoid the likelihood of financial distress. These fundamental principles are discussed below.

2.5.1 BOARD LEADERSHIP IN THE UK

According to section 4.1 of Cadbury (1992), every public company must be headed by an effective board which can both leads and controls the business. The role of the board is to: (a) provide entrepreneurial leadership of the company within a framework of prudent and effective controls for the assessment and management of risk, (b) set the company's strategic aims and (c) set the company's values and standards (The Code 2014). The Code also makes it clear that the board must meet sufficiently and regularly to discharge its duties effectively. Within the context of the UK unitary board system, a company's board is made up of the combination of executive directors who have intimate knowledge of the business, non-executive directors who can bring a broader view to the company's activities and a chairperson who accepts the duties and responsibilities which the post entails (Cadbury 1992). There should be a clear division of responsibilities at the head of the company between the running of the board and the executive responsibility for the running of the company's business and that no one individual should have unfettered powers of decision (The Code 2014).

For the non-executive directors, the Cadbury (1992) report recommended that their number on the board and their calibre should be such that their views become very significant in the board's decisions. It, therefore, required all boards to have a minimum of three non-executive directors, one of whom may be the chairperson of the company provided he or she is not also its executive head. The Higgs (2003) report also require potential new non-executive directors to carry out due diligence on the board and on the company to satisfy themselves that they have the knowledge, skills, experience and time to make a positive contribution to the board. The chairperson is responsible for: (a) leadership of the board and ensures its effectiveness, (b) setting the board's agenda and ensuring that there is enough time to discuss all agenda items, (c) the promotion of the culture of openness and debate and (d) ensuring that directors receive accurate, timely and clear information (The Code, 2014). On his/her appointment, the Code (2014) specifies that the chairperson should meet the independence criteria set out in section B.1.1 of the 2014 Code. In addition, the chief executive should not become a chairperson

of the same company, meaning the code does not encourage CEO duality but in exceptional situations, the board should consult major shareholders in advance.

2.5.2 BOARD EFFECTIVENESS IN THE UK

The board and its committees should have the appropriate balance of skills, experience, independence, and knowledge of the company to enable them to discharge their respective duties and responsibilities effectively (Miles and Proctor 2002). The Code (2016) gives seven principles to strengthen board effectiveness of UK firms. These include board composition, appointments to the board, commitment, development, information and support, evaluation and re-election. These are discussed below.

2.5.2.1 BOARD COMPOSITION

The board and its committees should have the right balance of skills, experience, independence, and knowledge of the company to enable them to discharge their respective duties and responsibilities effectively. To meet the requirement of a company's business and changes to the board's composition as well as managing changes to its committees without undue disruption, the Code (2016) requires the board to be of enough size but warns that the size must not be so large as to be unmanageable. There should be an appropriate combination of executive and non-executive directors, particularly, independent non-executive directors on the board so that no individual or small group of individuals can dominate the decision taking of the board. According to the Code (2016), except for smaller companies which should have at least two independent non-executive directors, for FTSE100 and 350 companies, at least half the board apart from the chairperson should consist of non-executive directors determined to be independent by the board.

2.5.2.2 APPOINTMENTS TO THE BOARD

The Code (2016) requires a formal, rigorous, and transparent procedure for the appointment of new directors to the board. The appointment of board members should be made on merit against objective criteria and with due regard for the benefits of diversity on the board, including gender. It also makes it clear that to maintain an appropriate balance of skills and experience on the board, and to ensure progressive refreshing of the board, the board should satisfy itself that plans are in place, for an orderly succession for appointments to the board. Cadbury (1992) report, therefore, recommended the setting up of a nomination committee, with the responsibility of proposing to the board, in the first instance, any new appointments, whether of the executive or of non-executive directors.

According to the Code (2016), most members of the nomination committee should be independent non-executive directors.

2.5.2.3 BOARD TIME COMMITMENT

The Code (2016) requires all directors to allocate enough time to the company to discharge their responsibilities effectively. In appointing a chairperson, the nomination committee should prepare a job specification, including an assessment of the time commitment expected and disclose to the board significant commitments before the appointment. Any changes to such commitments should be reported to the board as they arise, and their impact explained in the next annual report.

For the non-executive directors: (a) the terms and conditions should be made available for inspection, (b) the letter of appointment must set out the expected time commitment, and (c) must make an undertaken that they will have enough time to meet what is expected of them (The Code, 2016).

2.5.2.4 BOARD DEVELOPMENT

Cadbury (1992) recognises that the training and development of directors are of importance to good governance. Given the varying backgrounds, qualifications, and experience of directors, it is highly desirable that they should all undertake some form of internal or external training. For directors to perform effectively, they need to have the appropriate knowledge of the company and access to its operations and staff. The Code (2016) specifies that in addition to receiving induction on joining the board of a company, all directors must also regularly update and refresh their skills and knowledge. The provisions of the Code make it clear that the chairperson should: (a) ensure that as part of the induction, directors make themselves available to meet the major shareholders and (b) regularly review and agree with each director their training and development needs.

2.5.2.5 INFORMATION AND SUPPORT

For information and support, the Code (2016) specifies that the board must be supplied in a timely manner with information in a form and of a quality appropriate to enable it to discharge its duties. Through the chairperson's direction, the company secretary must ensure that good information flows within the board and its committees and between senior management and non-executive directors to facilitate induction and help with professional development, as required. Cadbury (1992) recommended that where directors consider it necessary to take independent professional advice, they should be entitled to do so at the company's expense and this has been emphasised in section B.5.1 of the Code (2016).

2.5.2.6 BOARD EVALUATION

The main principle of section B.6 of the Code (2016) requires the board to undertake a formal and rigorous annual evaluation of its own performance and that of its committees and individual directors. The Code (2016) therefore requires the evaluation to consider the skills, experience, independence, and knowledge of the company on the board, its diversity, including gender, how the board works together as a unit, and other factors relevant to its effectiveness. While the non-executive directors, led by the senior independent director, should be responsible for performance evaluation of the chairperson, considering the views of executive directors, the evaluation of the board of FTSE 350 companies should be externally facilitated at least, every three years. However, the external facilitator must be identified in the annual report and a statement made as to whether they have any other connection with the company.

2.5.2.7 RE-ELECTION OF DIRECTORS

While all directors of FTSE 350 companies must be subject to annual election by shareholders, all other directors should be subject to election by shareholders at the first annual general meeting after their appointment, and to re-election thereafter at intervals of no more than three years (The Code, 2016). Further, the provisions of the Code make it clear that non-executive directors who have been in their positions for more than nine years must be subject to re-election and the board has a duty to set out to shareholders in the papers accompanying a resolution to elect a non-executive director why they believe an individual should be elected.

2.5.3 BOARD ACCOUNTABILITY IN THE UK

The UK Corporate Governance Codes discuss accountability under three main headings which are financial and business reporting, risk management and internal control, and audit committee and auditors.

2.5.3.1 FINANCIAL AND BUSINESS REPORTING

The main principle requires the board to present a fair, balanced, and understandable assessment of the company's position and prospects. The directors should make it known to the shareholders their responsibility for preparing the annual reports and accounts and the auditor should make a statement about their reporting responsibilities. As well as including in the annual report, an explanation of the business model and the strategy for delivering the objectives of the firm, the directors should report in annual and half-yearly financial statements that the business is a going concern, with supporting assumptions or qualifications as necessary (McNulty et al. 2012).

2.5.3.2 RISK MANAGEMENT AND INTERNAL CONTROL

The board of a company is responsible for determining the nature and extent of the principal risks it is willing to take in achieving its strategic objectives as well as maintaining sound risk management and internal control systems (The Code, 2016). The directors are also to confirm in the annual report that they have carried out a robust assessment of the principal risks facing the company and should also describe those risks and explain how they are being managed. The monitoring of the company's risk management and internal control systems by the directors must be carried out on a yearly basis and that it should cover all material controls, including financial, operational and compliance controls.

2.5.3.3 AUDIT COMMITTEE AND AUDITORS

The board of a company should establish formal and transparent arrangements for considering how they should apply the corporate reporting and risk management and internal control principles and for maintaining an appropriate relationship with the company's auditors (The Code, 2016). The board must form an audit committee whose duties include keeping under review the scope and results of the audit and its cost effectiveness, and the independence and objectivity of the auditors (Hampel 1998). The audit committee should comprise at least three, or in the case of smaller companies, two independent non-executive directors but in smaller companies the company chairperson may be a member of, but not chair the committee in addition to the independent non-executive directors, provided he or she was considered independent on appointment as chairperson (The Code 2016). The board should satisfy itself that at least one member of the audit committee has recent and relevant financial experience and the committee should have competence relevant to the sector in which the company operates.

2.5.4 DIRECTORS REMUNERATION

Hampel (1998) recommends that the levels of remuneration should be sufficient to attract and retain the directors needed to run the company successfully. The component parts of remuneration should, therefore, be structured to link rewards to corporate and individual performance. Section C of the Code (2014) discusses directors' remuneration under the following headings: (a) the level and components of remuneration and (b) the procedure for remuneration. With the level and components of remuneration, the UK Corporate Governance Codes require that executive directors' remuneration must be designed to promote the long-term success of the company. In addition, performance-related elements should be transparent, stretching, and rigorously applied. Although it is important for the

remuneration committees to consider where to position the company relative to other companies, this should be done with caution to avoid paying more than is necessary. The Code (2014) further obliges the remuneration committee to be sensitive to pay and employment conditions elsewhere in the group, especially when determining annual salary increases. In terms of procedure, it specifies that there must be a formal and transparent procedure for developing policy on executive remuneration and for fixing the remuneration packages of individual directors and that, no director should be involved in deciding his or her own remuneration. Cadbury (1992) and Greenbury (1995) both favoured the establishment of remuneration committees and made recommendations on their composition and on the scope of their limit. Thus, according to Greenbury (1995), to avoid potential conflicts of interest, boards of directors should set up remuneration committees of non-executive directors to determine on their behalf and on behalf of the shareholders, within agreed terms of reference, the company's policy on executive remuneration and specific remuneration packages for each of the executive directors, including pension rights, and any compensation payments. The remuneration committee should consist of at least three, but for smaller companies, two independent non-executive directors, and in addition, the membership may include chairperson of the company but not in the capacity to chair the committee if he or she was regarded as independent on appointment as chairperson (The Code, 2014). The remuneration committee must take care to recognise and manage conflicts of interests, be responsible for appointing any consultants in respect of executive director remuneration, and carefully consider what compensation commitments their directors' terms of appointments would entail in the event of early termination.

2.5.5 RELATIONS WITH SHAREHOLDERS

This focuses on first, the dialogue with shareholders and second, constructive use of general meetings. For dialogue with shareholders, the board has the responsibility to ensure that their companies and shareholders should each be ready, where practicable, to enter a dialogue based on the mutual understanding of objectives (Hampel 1998). The board chair should ensure that the views of shareholders are communicated to the board and in addition, should discuss governance and strategy with major shareholders. The Code (2014) requires the non-executive directors to be offered the opportunity to attend scheduled meetings with major shareholders and be expected to attend meetings if requested by major shareholders. The board must state in the annual report the steps they have taken to ensure that the members of the board, and the non-executive directors,

develop an understanding of the views of major shareholders about the company. For constructive use of general meetings, the board should use it to communicate with investors and to encourage their participation. At any general meeting, the company should propose a separate resolution on each substantially separate issue; a resolution at the Annual General Meeting (AGM) relating to the report and accounts; must ensure that all valid proxy appointments received for general meetings are properly recorded and counted; and arrange for the Notice of the AGM and related papers to be sent to shareholders at least twenty working days before the meeting. The chairperson must arrange for the chairpersons of the audit, remuneration, and nomination committees to be available to answer questions at the AGM and for all directors to attend.

2.6 CORPORATE GOVERNANCE FOR ALTERNATIVE INVESTMENT MARKET (AIM) COMPANIES

The London Stock Exchange (LSE) requires the UK Corporate Governance Code (The Code) to serves as a standard to which public companies should aspire, but full adherence should not necessarily be the expectation for all AIM companies. The AIM rules for companies do not include provisions that are equivalent to the Code. Instead, corporate governance measures are considered under the wider requirement for AIM companies to have in place sufficient procedures, resources and controls, and in the context of the responsibility of a company's nominated adviser (Nomad) to assess the ongoing suitability of their AIM company clients (Miles and Proctor 2012). AIM-quoted companies have more flexibility in the corporate governance regime that they can choose to adopt due to their circumstances and characteristics. This flexibility of the principles-based approach to corporate governance stems from the LSE's approach to the regulation of AIM in general, which recognises that a 'one size fits all' regime is not always appropriate for smaller and growing companies (Miles and Proctor 2012). However, this does not mean that corporate governance is less relevant for AIM companies. The LSE believes that good corporate governance is just as relevant and important for AIM companies as it is for those on the Main Market.

Given the current public and political concerns on corporate governance, it is significant to establish investor confidence in AIM in general and successful investor relations for individual AIM companies by having stronger and more effective governance systems that contribute to improved company performance, and ultimately help a company to avoid financial distress.

2.6.1 BEST PRACTICE IN KEY AREAS OF CORPORATE GOVERNANCE FOR AIM COMPANIES

According to Miles and Proctor (2012), there are some key areas of corporate governance with which AIM companies must seek to comply and these are:

2.6.1.1 THE ROLE OF THE CHAIRPERSON

The role of chairperson and chief executive should be separated and not be exercised by the same individual as per the Quoted Companies Alliance (QCA) guidelines. However, where the roles are combined, there should be an explanation as to how governance is protected, the exceptional circumstances that cause the roles to be combined, and the intentions for the separation of the roles. Further, the chief executive should not go on to become a chairperson of the same company. If exceptionally, this occurs, an appropriate explanation must be provided.

2.6.1.2 INDEPENDENT NON-EXECUTIVE DIRECTORS ON THE BOARD

The company must have at least two independent non-executive directors, one of whom may be the chairperson if regarded as independent at the time of appointment, and the board must not be dominated by one person, or a group of people according to the QCA Guidelines (Ward 2012).

2.6.1.3 APPOINTMENT OF SENIOR NON-EXECUTIVE DIRECTOR ON THE BOARD

The UK Corporate Governance Code requires one of the independent non-executive directors, other than the chairperson, to be appointed as a senior independent director. However, according to the National Association of Pension Funds (NAPF), the appointment of a senior independent director is required for an AIM company where the company has a combined chairperson and chief executive officer.

2.6.1.4 INDEPENDENCE OF NON-EXECUTIVE DIRECTORS

The criteria for assessing the independence of non-executive directors set out in the UK Corporate Governance Code are useful for adoption by AIM companies. Independence should be demonstrated if the criteria are not met and the test of independence should not be done by ticking the boxes as per the QCA guidelines (Ward 2012). From the QCA Guidelines, in assessing non-executive directors' independence, the following should be considered. First, payment of fees satisfied in shares of the company does not, of itself, impair independence if there are restrictions on how quickly those shares can be disposed of (Ward 2012). Second, the independence of a director may be compromised if a director has a beneficial or non-beneficial shareholding of more than three per cent of the companies issued share capital as per the NAPF Policy. Third, participation in the

company's share option scheme or performance-related pay scheme may compromise independence.

2.6.1.5 REMUNERATION COMMITTEE

The UK Corporate Governance Code recommends that the remuneration committee comprises three or in the case of smaller companies, two independent non-executive directors. The remuneration committee should be composed of non-executive directors, all of whom must be independent. If the chairperson is considered as independent, he/she may be a member of the committee, but it is a best practice that he/she does not chair the committee.

2.6.1.6 AUDIT COMMITTEE

The UK Corporate Governance Code recommends that the audit committee comprises three but for smaller companies, two independent non-executive directors. For smaller companies, the chairperson if deemed independent may be a member of, but not the chair of the audit committee in addition to two other independent non-executive directors. The QCA recommendations are that at least two independent non-executive directors should comprise the audit committee and that, if the board regards the chairperson as independent and non-executive, then the chairperson may be one of the two independent non-executive directors on the audit committee. In addition, at least one member of the audit committee should have recent and relevant financial experience. Therefore, given the flexibility, directors of AIM companies must approach the implementation of effective and appropriate corporate governance structures. They should aspire to compliance with the Code, use the QCA guidelines as the benchmark for an AIM company's corporate governance systems, actively consider what is appropriate for their company, consult with the company's Nomad on an ongoing basis, and regard effective corporate governance as positively contributing to long-term growth and delivery of value to shareholders.

2.7 DEFINITION OF FINANCIAL DISTRESS IN THE UK

Section 128(f) of the UK Companies Act 2008 defines financial distress as a situation that appears to be: (i) reasonably unlikely that the company will be able to pay all its debts as they fall due, and payable within the immediately ensuing six months, or (ii) reasonably likely that the company will become insolvent within the immediately ensuing six months. Section 123 of the UK Insolvency Act 1986 also explains that a company is deemed unable to pay its debts: (i) if it is proved to the satisfaction of the court that the company is unable to pay its debts as they fall due, and (ii) if it is proved to the satisfaction

of the court that the value of the company's assets is less than the value of its liabilities, considering its contingent and prospective liabilities.

Empirically, financial distress has been defined differently by different authors. For instance, Gilson (1989) defines it as a firm's inability to meet its fixed payment obligations on debts and thus within a given firm-year, a firm is financially unhealthy if it is in default on its debts, bankrupt or privately restructuring its debts to avoid bankruptcy. According to Baldwin and Scott (1983), when a firm's business deteriorates to the point where it cannot meet its financial obligations, the firm is said to have gone into a state of financial distress. Wruck (1990) identified that there are many stages that a firm can go through before it is stated as dead and these include financial distress, insolvency, the filing of bankruptcy, and administrative receivership. However, Platt and Platt (2002) believe that financial distress is a step decrease in financial condition that occurs prior to bankruptcy or liquidation. The main issue, therefore, in identifying firms facing financial distress is their inability to honour their contractual debt obligations. Thus, as long as the firm's cash flow exceeds current debt obligation, then the firm has enough funds to pay its creditors (Elloumi and Gueyie 2001).

2.8 CHAPTER SUMMARY

The chapter outlined the definitions of corporate governance and financial distress within the legal perspectives. It discussed the development of corporate governance in the UK as well as the principles in the code in the relevant sections and the sub-sections. Further, key areas of the corporate governance expected of AIM companies are discussed. In conclusion, the discussions in the various sections and the sub-sections of the chapter have provided the conceptual framework within which the hypotheses of the study are set and tested.

CHAPTER THREE
LITERATURE REVIEW

3.1 INTRODUCTION

This chapter reviews the literature on the relationship between corporate governance mechanisms and firms' financial distress. The prediction of firms' financial distress using corporate governance mechanisms has been a focus of much empirical research due to corporate scandals and the financial crisis such as the one that started in 2007. Empirical studies concentrate on different corporate governance mechanisms and how they affect firms' financial distress in different corporate governance environments. This is because the literature on corporate failure and corporate financial distress is dominated by the ad hoc selection of variables approach, without any theoretical underpinning (Appiah 2013). Also, according to Balcaen and Ooghe (2006), the selection of financial predictors for failure prediction models is usually left as an empirical question, as the theoretical foundation is weak or totally neglected. This literature review is carried out with the aim of determining consistency in the findings of the relationship between corporate governance and financial distress, as well as to identify gaps in the literature.

The rest of the chapter is structured as follows: Section 3.2 explains financial distress. Section 3.3 discusses corporate governance mechanisms. The moderating factors are briefly introduced in section 3.4 while the chapter summary is presented in section 3.5.

3.2 FINANCIAL DISTRESS

Financial distress can cause large economic and social losses for different groups of firms' stakeholders. Many firms fall into financial distress every year and the causes are many including the fact that their markets mature, new competitors and technologies emerge, management malfunctions and demand for what they sell declines. Although a financially distressed firm has trouble raising the cash to meet the payments on its current financial obligations, particularly concerning those with contractual agreements that are enforceable by law including that of loans, debts to suppliers, salaries of employees and interest payments, there is no commonly accepted definition of financial distress. Thus, different scholars give different definitions to the meaning of financial distress according to their own study purposes (Sun et al. 2014). It is therefore not surprising that early researchers on financial distress in the 1980s and 1990s defined financial distress differently. From Baldwin and Scott (1983), when a firm's business deteriorates to the point where it cannot meet its financial obligations, the firm is said to have gone into a state of financial distress. Gilson (1989) defines financial distress of a firm as the firm's

inability to meet its fixed payment obligations on debts and thus, within a given firm-year, a firm is financially unhealthy if it is in default on its debts, bankrupt or privately restructuring its debts to avoid bankruptcy. Earlier, Beaver (1966) stated that an enterprise is like a reservoir formed by the cash flow, composed of cash inflows and outflows and therefore an enterprise in financial distress is just like a reservoir whose water is drained. Beaver (1966) defines financial distress as the inability of a business firm to pay its financial obligations as they mature. According to Doumpos and Zopounidis (1999), financial distress does not only involve an inability to repay important obligatory payments due to inadequate cash but also include the situation of negative net asset value, which means a firm's total assets are less than its total liabilities from the view of accounting. Also, while Whitaker (1999) defines financial distress as the first year in which a firm's cash flow is less than the current maturities of long-term debt, Chen et al. (1995) define financial distress as the condition where a firm's liquidation of total assets is less than the value of creditors' claims.

Recent researchers do not significantly differ in terms of their definitions of financial distress. Wu et al. (2008) define the financial distress of a firm as a condition where obligations are not met or are met with difficulty. From Geng et al. (2015) financial distress of a company usually refers to the situation that operating cash flow of a company cannot supersede the negative net assets of the firm. According to Fawzi et al. (2015), financial distress occurs when companies suffer negative cash flows from operating, investing and financing activities and as a result, those companies default in loan payment due to the insufficient cash flow. However, Altman and Hotchkiss (2011) are of the view that corporate financial distress is a vague term which can be attributed to four generic terms commonly used in business research: failure, insolvency, bankruptcy, and default. These definitions indicate that there is no commonly accepted definition of financial distress but what is common is that when a firm lacks funds to pay its debts when due, then the firm is said to be in a state of financial distress.

The main issue in identifying firms facing financial distress is their inability to honour their contractual debt obligations. This is confirmed by the UK Insolvency Act 1986 (section 123) which states that a company is deemed unable to pay its debts: (i) if it is proved to the satisfaction of the court that the company is unable to pay its debts as they fall due and (ii) if it is proved to the satisfaction of the court that the value of the company's assets is less than the value of its liabilities, taking into account its contingent and prospective liabilities. However, as long as the firm's cash flow exceeds current debt

obligations, then the firm has enough funds to pay its creditors (Elloumi and Gueyie 2001). If a firm's financial distress situation is prolonged, it can lead to forced liquidation or bankruptcy and because of this, financial distress is often recognised as the likelihood of bankruptcy, which is dependent on the non-availability of liquidity and credit. It is not surprising that Wruck (1990) identified that there are many stages that a firm can go through before it is stated as dead and these include financial distress, insolvency, the filing of bankruptcy, and administrative receivership. Hence, financial distress is best outlined as a continuum ranging from being financially weak to bankrupt, with the possibility of various degrees of financial weakness. Financially distressed firms are different from failed firms in the sense that the failure of a firm to meet its financial obligations does not inevitably lead to a filing for bankruptcy and that bankruptcy is the widely used outcome of financial distress of a company (Geng et al. 2015). Although bankruptcy, failure, insolvency, and default are the most common terms use to describe financial distress situation, many financially distressed firms never file for bankruptcy.

From the above definitions and explanations, this study adopts the meaning of financial distress that explains a firm's inability to honour its contractual debt obligations when they fall due. The study neither considers distressed firms as bankrupt nor failed since these are the final stages of the firms' decline whereas financial distress is the beginning of a firm's decline.

3.2.1. FINANCIAL DISTRESS IDENTIFICATION BASED ON ACCOUNTING AND FINANCIAL INDICATORS

Balcaen and Ooghe (2006) acknowledged that the accounting and finance criteria that have been used in identifying firms as financially distressed include several years of negative net operating income, suspension of dividend payments, major restructuring or layoffs, low- interest coverage ratio, and negative earnings before interest and tax. The rest are negative net income before special items, losses, selling shares to private investors, entering into a capital restructuring or a reorganisation and a few years of negative shareholders' funds or accumulated losses. Empirical studies by some researchers on financial distress indicate that they use a combination of these criteria to classify firms as financially distressed. For instance, Manzaneque et al. (2016) in their research on the role of institutional shareholders as owners and directors and the financial distress likelihood in Spain, use the conceptual approach of financial distress, meaning a firm's lack of capacity to meet its financial obligation to identify their financially distressed firms. The criteria for identifying their financially distressed firms were defined

by two conditions: (i) earnings before interest and taxes, depreciation and amortisation (EBITDA) are lower than the firm's financial expenses for two consecutive years and (ii) a fall in the firm's markets value occuring between two consecutive periods. Using these criteria, their study sampled 70 financially distressed and 70 financially non-distressed firms from a sample population of 734 listed firms on the continuous market of Spanish computerised trading system from 2007 to 2012.

Also in a study of risk effects of acquiring distressed firms, Bruyland and de Maeseneire (2016) define financial distress as failure to meet financial obligations in line with Asquith et al. (1994), Rajan and Zingales (1995), Claessens et al. (2003) and Pindado et al. (2008). Their study identifies firms as financially distressed using a measure of interest coverage ratio calculated as the earnings before interest, taxes, depreciation, and amortisation divided by interest expense on debt. A firm was regarded as financially distressed if its interest coverage ratio was less than one in the first and the second year preceding the deal announcement and that this measure of identifying financially distressed firms was preferred since it proxied for distress and did not necessarily predict the event of bankruptcy. Using the interest coverage criterion, the study identified a subsample of 15.9% distressed targets and seemed huge compared to the 2% reported by Meier and Servaes (2014), who use a severe and ex-post measure of distress classifying target firms as distress if they are in bankruptcy or liquidation at the time of the transaction, if the target is undergoing a restructuring, or if bankruptcy court approval is needed for the transaction to be completed. Nonetheless, the percentage of distressed firms that were obtained in the study of Bruyland and de Maeseneire (2016) was reasonable when compared to other empirical work on the topic: Ang and Mauck (2011) classify 34.7% of their sample as distressed based on negative net income, while this is 18.7% in Eisdorfer (2008), who uses Altman Z-score.

In the UK, Poletti-Hughes and Ozkan (2014) studied the ultimate controllers, ownership and the probability of insolvency in financially distressed firms. The study focused on financially distressed firms and as such the analysis adopted the same criteria as that of Claessens et al. (2003), where financially distressed firms are those with an interest coverage ratio (earnings before interest and taxes divided by interest expense) of less than one. In addition, as in Asquith et al. (1994), to include a firm in the financial distress sample, their study required that financial distress should remain for at least two consecutive years during the period of analysis. Using the above criteria, their study obtained a final sample of an unbalanced panel of 3092 firm-year observations, consisting

of 484 different companies. Also, in another UK study of financial distress and bankruptcy prediction among listed companies using accounting, market and macroeconomic variables, Hernandez et al. (2013) define financial distress by focusing on the ability of a firm to repay its financial obligations. The study identifies financially distressed firms based on two conditions. First, a firm is regarded as financially distressed whenever its earnings before interest and taxes, depreciation, and amortisation are lower than its financial expenses for two consecutive years and second, whenever the firms suffer from negative growth in market value for two consecutive years. These two conditions justify the fact that, first, whenever earnings before interest and taxes, depreciation, and amortisation are lower than the interest expense on the firm's debt then it can be concluded that the operational profitability of the firm is not sufficient to cover its financial obligation. Second, the market as well as stakeholders are likely to judge negatively a firm that suffers from operational deficit until an improvement in the financial condition is perceived again and that the fall in market value for two consecutive years is interpreted as an indication that a firm is in effect in financial distress (Pindado et al. 2008). However, in order to complete the concept of financial distress and to enhance the scope and the discriminating power of the model for practical purposes, a definition based on Christidis and Gregory (2010) was used. With this, a firm was regarded as being in financial distress not only when it satisfies the two conditions above, but also when it is deemed to have formally defaulted on its obligations. With the above criteria, the study had 1254 firm-years observations.

In Australia, Miglani et al. (2015) examined the role of voluntary adoption of corporate governance mechanisms in mitigating the financial distress status of firms. The study identifies financially distressed firms as those experiencing five consecutive years of negative net income from 1999 to 2003, while the sample of financially healthy firms is identified as those which have experienced five consecutive years of positive net income within the same period. From a population of all Australian Securities Exchange listed firms as at June 1998, the study sampled 215 financially distressed firms and 123 financially healthy firms. Although using the negative net income to define financial distress has limitations including the fact that management may reduce reported earnings during labour negotiations to improve their bargaining position, generally, however, companies are more likely to increase rather than decrease earnings and to create value through earnings management. In using negative net income to classify financially distressed firms, the researchers are of the view that, a firm reporting loss is taken as a

sign of an important event and as such, the use of a very strict definition of consecutive negative net income for 5 years is likely to serve as a suitable proxy of financial distress.

3.3 CORPORATE GOVERNANCE MECHANISMS

Since the late 1980s and the 1990s, with corporate bankruptcy reaching epidemic proportions (Altman 1984; Gales and Kesner 1994), criticism relative to weaknesses of corporate governance structure has been commensurate (Elloumi and Gueyie 2001). Recently, Brédart (2014) noted that the number of filings for bankruptcy procedures exploded during and after the 2007 financial crisis and governance has been pointed out as one of the causes. To this end, empirical studies (Fich and Slezak 2008; Mangena and Chamisa 2008; Donker et al. 2009; Lajili and Zéghal 2010) have highlighted the significance of corporate governance mechanisms and their influence on the likelihood of firms' financial distress. According to Poletti-Hughes and Ozkan (2014), corporate governance mechanisms of firms are significant both in lowering the probability of financial distress in the first place and in preventing firms from becoming insolvent when in distress. Hence, if a firm's corporate governance structure were related to its probability of financial distress, the inclusion of corporate governance mechanisms in a prediction model for financial distress would provide better results (Lee and Yeh 2004). However, Ciampi (2015) noted that the relationship between corporate governance and company distress has been analysed by a limited number of studies, the results of which are not the same. There are different corporate governance mechanisms but based on Standard and Poor's (2002) corporate governance score this literature review focuses on some mechanisms which make up: (i) board composition and structure; (ii) ownership structure; and (iii) disclosure and transparency.

3.3.1 BOARD COMPOSITION AND STRUCTURE

3.3.1.1 BOARD SIZE

Board size represents the number of members of the board and it is a significant board characteristic that affects board functioning and subsequently firms' performance (Chaganti et al. 1985). A firm's board may be able to dedicate enough energies to multiple functions only if there are sufficient members on the board to take up those roles (O'Sullivan 2009). Researchers make strong arguments for both larger and smaller number of directors on the boards (Daily et al. 2003; Fich and Slezak 2008). According to Simpson and Gleason (1999), a CEO will find it difficult to influence a larger board of directors and therefore a larger board of directors is necessary to raise their disciplinary control over the CEO (Brédart 2014). Dalton et al. *(*1999) also argue that larger boards

offer better advice to the CEO. Moreover, larger boards offer different benefits link with the firm's ability to access the resources and information held by the directors and that might be needed to achieve firm objectives. These indicate that firms with a larger board size perform well to avoid financial distress. This is supported by Brédart (2014) who with a sample of 312 firms that were quoted on the AMEX, the NASDAQ and the New York Stock Exchange from mid-2007 to 2009 found that the size of the board was negatively related to financial distress occurrence. Also, Manzaneque et al. (2016b) between 2007 and 2012 using a matched-pairs research design with 308 observations, with each half classified as distressed and non-distressed in Spain, finds a negative relationship between board size and financial distress likelihood. Moreover, Fich and Slezak (2008) investigated whether bankruptcy forecast models that incorporate accounting, the stock market, and corporate governance characteristics are better able to predict bankruptcy than those that rely solely on financial and accounting information after sampling two groups of distressed firms (a Z-score sample of 508 and an ICR sample of 277). Using hazard models, the result shows that empirical analysis based on corporate governance features including board size significantly enhance the predictive power of bankruptcy hazards models.

However, larger boards may have problems with balance, resulting in greater discretion of its members to satisfy their interests to the disadvantage of the general interest of the firm (Chaganti et al. 1985) or lack of effectiveness when turbulent economic environment need a change in strategic direction (Goodstein et al. 1994). According to Jensen (1993), large boards result in less effective coordination, communication and decision making, and that it is likely for CEOs to control those boards. This argument is supported by Yermack (1996) and Eisenberg et al. (1998) who find that large boards are associated with lower firm value. This is because larger boards generally consume more pecuniary and non-pecuniary resources in the form of remuneration and perquisites than smaller boards (Jensen and Meckling 1976). Jensen (1993) therefore proposes that a smaller number of board members are more effective at monitoring firms' management. This is because in a firm where the board size is smaller, directors are personally more involved and the decision-taking process is more efficient and rapid which guarantees a more effective management monitoring activity (Ciampi 2015), thereby decreasing the chances of the firm to achieve unstable economic and financial situations (Fich and Slézak 2008). This is evidence by Gales and Kesner (1994) who examined a sample of 127 bankrupt firms along with an equal number of non-bankrupt firms during the crisis period in the

US. The result of the study shows that boards of companies that have filed for a bankruptcy protection chapter are characterised by a smaller number of directors. Nonetheless, some studies do not show any significant relationship between board size and financial distress. For instance, in a study to analyse how the relationship between corporate governance mechanisms and business failure changes in small enterprises in comparison to larger firms in Italy, Ciampi (2015) used a sample of 283 defaulting firms and 340 non-defaulting firms. Using corporate governance mechanisms including board size in logistic regression, the study finds that board size does not have a significant impact on the likelihood of small company default. In conclusion, Lipton and Lorsch (1992), and Jensen (1993) however, propose optimal board size, which must preferably fall between seven and nine directors, and argue that as the number of directors exceeds ten, there are higher additional costs linked with less cohesiveness, frank discussions, and slow decision-making than any marginal gains from intense monitoring of management activities (Ntim et al. 2015).

3.3.1.2 PROPORTION OF INDEPENDENT DIRECTORS

Board independence is determined by the degree to which the board consists of people who are not otherwise affiliated with the firm through employment or economic exchange relationships (Gordon 2007). A board has a high level of independence if the board has more independent members and if the chair of the board is not the same as the CEO of the firm (Gaur et al. 2015). According to Dowell et al. (2011), independent boards are generally considered beneficial because they are harder for top management to dominate and they may be more likely to encourage changes even in the face of management reluctance. The UK Corporate Governance Code (2012), recommends that a board be primarily composed of independent directors to ensure their effectiveness in exercising independent judgement in managerial oversight (Hsu and Wu 2014). Because independent directors do not have any relationship with the firm other than being part of the board, they are in a better position to monitor and control potential opportunism and avoid selfish behaviours of management to ensure that their decisions are consistent with the interests of shareholders (Fama and Jensen 1983; Jensen 1993). Fama and Jensen (1983) therefore assert that independent directors are in a better position to play supervisory roles since they have a lower probability of engaging in behaviours that damage shareholders' value. Fich and Slezak (2008) and Chang (2009) state that having independent directors on the board reduces the possible existence of information asymmetries and the agency costs between shareholders and management which impact

on firms' financial health. Firms with a higher proportion of independent directors on their boards are therefore less likely to experience financial distress since they are more efficient in imposing the necessary measures to overcome a possible distress situation (Pregio de la Cruz et al. 2014). A study by Elloumi and Gueyie (2001) with 92 companies divided equally between distressed and healthy companies in Canada finds that the percentage of independent directors on the board of directors of distressed firms is significantly lower than that of the matched healthy firms and board independence inversely influence the firm's financial healthiness. Also, Wang and Deng (2006) find that the proportion of independent directors have a negative correlation with default likelihood after applying logistic regression to a sample of 97 firms in distress and 97 non-distress firms. Daily and Dalton (1994) ascertain that large firms that experienced bankruptcy had fewer independent boards than a matched sample of healthy companies. In the UK, Hsu and Wu (2014) examine whether a firm's board structure is related to the likelihood of corporate failure by employing a matched-pairs research design with a sample of 234 companies comprising 117 failed firms and 117 non-failed control firms. Results from the study indicate that firms with a greater proportion of independent directors on their boards are less likely to fail. However, using publicly available data from the annual reports of a sample of 86 financially distressed firms listed on the Bursa Malaysia and a sample of matched 86 non-financially distressed firms for a period covering the 1999-2001 financial years, Nahar Abdullah (2006) examines whether board structure and ownership structure are associated with financial distress. Using pooled logistic regression analysis, the study results indicate that board independence is not associated with financial distress status.

Although empirical evidence (Weisbach 1998) indicates that independent directors represent the interests of the shareholders better, they are, however, characterised by a more superficial understanding of the specificities of the firm and that many independent directors representing different interests may reduce the economic flexibility of the firm. Patton and Bake (1987) also argue that independent directors serve on a part-time basis and typically serve as directors on multiple boards and as such are less likely to have enough time to understand how each business operates. This may lead to independent directors depending on their general knowledge rather than firm- specific knowledge in assessing managerial performance (Hsu and Wu 2014). The problem, however, is that shareholders cannot rely on the internal directors because their positions in the firm and the existence of possible inherent contracts, as well as their loyalty with the CEO, may

affect their ability to replace the CEO when necessary, especially when firms are financially distressed. It is, therefore, unlikely that inside directors will be able to perform the monitoring role of the board as required by the shareholders. Hence, it is significant that independent directors monitor, advise, and challenge managers, especially when the firm needs to make changes to survive (Weisbsch 1988).

Independent directors also bring access to different and varied sources of information, create alignment with the environment that improves firm performance, and avoids financial distress (Pfeffer and Salancik 1978; Hillman and Dalziel 2003). Firms obtain valuable technical and business counsel, information about the market, legitimacy and other resources from the independent directors (Pfeffer and Salancik 1978). Companies, therefore, appoint independent directors to their boards for the skills and knowledge they bring to the board and that they make it possible to widen the organisational knowledge of the firm (Cornett et al. 2008). Min and Bowman (2015) with a sample of 2842 firm-years found out that foreign investors place considerable value on the appointment of independent directors because of the knowledge they bring to the board. Contrarily, Baysinger and Hoskisson (1990) argue that independent directors do not have in their possession enough experience to do their jobs very well plunging firms into financial distress. This is because independent directors do not have enough knowledge of the strengths and weaknesses of their firms to give any useful advice (Davis et al. 1997). Nonetheless, the presence of independent directors on the board is significant because of the benefits they bring, especially to distressed firms including the fact that independent directors can challenge the CEO and top management whenever there are disagreements over the correct direction to take in times of distress (Dowell et al. 2011). Furthermore, independent directors are more likely to have the resources that are urgently needed by distressed firms, such as access to capital (Hillman and Dalziel 2003).

3.3.1.3 BOARD GENDER DIVERSITY

Board gender diversity has become a central focus of corporate governance rejuvenation efforts around the world, with firms being urged to appoint female directors to their boards (Adams and Ferreira 2009). The benefits of gender diverse boards including enhancing the legitimacy of corporate practices (Hillman et al. 2007), promoting greater monitoring of the CEO's performance (Kramer et al. 2006), facilitating working across cultures, race, and ethnicities (Tavanti and Werhane, 2013), as well as producing higher quality decisions (Cruz et al. 2012) have led to better monitoring role and company performance by fostering additional solutions to the challenges of the modern corporation

(Poletti-Hughes and Briano-Turrent 2019). In addition to the social and ethical reasons, the economic arguments have also stimulated the demands for increasing the number of women representations on corporate boards. A study by Nguyen et al. (2015) with a sample of 120 companies ascertains that board gender diversity appears to influence firm performance and financial health. Carter et al. (2003) find a positive relation between the percentage of women on the board of directors and firm value. Also, Perryman et al. (2015) equally find that firms with greater gender diversity in top management teams show lower risk and deliver better performance to avoid financial distress. Adams and Ferreira (2009) therefore suggest that weakly governed firms may benefit from including more women on their boards, enhancing additional monitoring, and improving firm value. Grosvold (2011) points out that the male-dominated nature of the corporate boardroom has been raised as a potential contributory factor to the collapse of WorldCom and Enron. Wilson and Altanlar (2009) find insolvency risk to be negatively related to the proportion of female directors. To this end, firms are encouraged to have more female representations on their boards, and that some countries including Belgium, Sweden, Italy, and Norway have laws that mandate more female representation on the board of directors for some firms. In the UK, the Corporate Governance Code incorporates recommendation for gender equality and that the Higgs (2003) report argues that diversity could enhance board effectiveness and specifically recommends that firms draw more actively from professional groups in which women are better represented (Adams and Ferreira 2009).

Gender diversity may allow organisational heads to effectively reach common goals and decisions, regardless of whether they share similar meanings or opinions and that heterogeneity in decision-making and problem-solving styles produces better decisions through the operation of a wider range of perspectives and a more thorough, critical analysis of issues (Perryman et al. 2015a). Female on corporate boards might, therefore, provide a diversity of perspectives and opinions to board deliberations and help develop policies that are more responsive. Thus, board gender diversity is assumed to avoid earnings management, which may enhance firm financial performance and avoid financial distress.

Greater gender diversity on corporate boards may provide better monitoring because female director representation assists in improving managerial accountability including that of board meeting attendance and CEO responsibility. Females on corporate boards might also make stronger existing control mechanisms over managers and executives because board gender diversity enhances board independence (Carter et al. 2010). Adams

and Ferreira (2009) find that female directors tend to have better monitoring ability since they think independently and are not influenced by the so-called old-boys' club syndrome. Prior evidence from Burgess and Tharenou (2002) indicates the positive effect of board gender diversity on fostering good corporate practice. However, according to Goodstein et al. (1994), board diversity leads to clashes within groups since others find it hard to identify with those of a different gender (Pelled et al. 1999) and the greater the diversity of the board of directors, the greater the potential that conflict of interests may arise. Further, from Adams and Ferreira (2009), board gender diversity seems to have a harmful effect on well-governed firms because of unnecessary, excessive monitoring.

Liu et al. (2014), indicates that more gender-diverse boards may also help to extend those firms important resources including the human capital of board members such as knowledge and skills, advice and counsel, channels of communication, and legitimacy. Thus, increasing the female representation on corporate boards may broaden the human capital and channels of communication of the board of directors by offering more insight into corporates' strategic issues, more importantly, those that concern female employees, consumers, and business partners (Daily et al. 1999). Adams and Ferreira (2009) find that board gender diversity has a significant effect on board inputs. Farrell and Hersch (2005) document insignificant abnormal returns on the announcement of a woman added to the board.

3.2.1.4 BOARD ACTIVITY

The level of board meetings has been used as a measure of board activity (Brédart 2014) and that board meeting frequency is a significant dimension of board operations (Vafeas 1999; Brick and Chidambaran 2010). Adams and Ferreira (2012) acknowledge that board meetings are fundamental for directors to acquire information, take part in decision making, avoid personal liability, and fulfil their monitoring and advisory roles. Conger et al. (1998) propose that board meeting time is an important resource in improving board effectiveness including the fact that directors meeting more frequently are more likely to counteract the entrenchment of managers (Linck et al. 2008). Board meetings, therefore, help the directors to obtain a better understanding and control of the company strategies that improve performance and avoid financial distress (Vafeas 1999). However, how frequently should the board meets has been topical, controversial, and has policy implications, yet, it is not directly covered by governance codes and the extant literature (Hahn and Lasfer 2016). Brick and Chidambaran (2010) assert that much of the regulatory and shareholder attention on the board of directors has assumed that board activity can

increase shareholder value. The UK Combined Code on corporate governance (2003), technically, recommends that the board should meet sufficiently regularly to discharge its duties effectively. Vafaes (1999) argues that the frequency of board meetings is a significant board characteristic that can have important implications for firm value. With a sample of 307 firms, Vafaes (1999) reported an inverse relationship between the number of annual board meetings and prior year performance proposing that the increase in board meeting happened due to poor performance. The study also ascertains that the operating performance improves following years of abnormal board's activity and that the overall results of the study indicate that board meeting frequency is an important aspect of board operations. Brick and Chidambaran (2010) also reported an inverse relationship between board meetings and firm value. Lorsch and Young (1990) in a survey and case-based study of US boards find that boards of directors increased their meeting frequency in times of crises and major challenges and poor performances. The increase in boards' activity in poorly performing firms may occur since directors may want to protect themselves from being blamed for not doing enough when needed. The board of directors of poorly performing firms may also increase their activity with the hope of turning performances around. Jensen (1993) however, has doubts about the effectiveness of board meetings on firms' financial health since the CEO sets the agenda of the meeting, and therefore, routine tasks take much of the meeting time and limit the opportunities for directors to exercise meaningful control over management. Brédart (2014), with a sample of 312 US firms in a study of financial distress and corporate governance concentrating on board configuration, finds that board activity does not lead to firms' financial distress. Directors are often criticised for not attending all board meetings since they take up directorship in different companies but there are costs associated with such meetings including travel expenses and directors' fees and these affect firms, especially, those struggling to meet their financial obligations (Vafeas 1999).

3.3.1.5 BOARD MEMBER QUALIFICATION

Board of directors makes ultimate decisions for firms (Fama and Jensen 1983) and as such, they are expected to have qualifications which are relevant to the firms' industry (Christy et al. 2013). According to Cox and Blake (1991), having more qualified members on the board would extend the knowledge base, stimulate board members to consider other alternatives and enhance more thoughtful processing of problems (Bathula 2008). Also, having boards with highly qualified members provide for ability and expertise necessary for the effective decision-making process (Milliken and Martins 1996), as well

as understanding the concerns of all stakeholder groups, and assist the firm to come out with strategies to deal with a different group of stakeholders. Board members with qualifications are probably more critical of the firm's financial reporting and are also in a better position to advise CEOs on firms' financial communication strategy and that their presence is likely to give assurances to potential investors as well as creditors (Jeanjean and Stolowy 2009). Westphal and Milton (2000) also maintain that board members with higher educational qualifications in general or research and analysis intensive qualification like PhD will provide a rich source of innovative ideas to develop policy initiatives with analytical depth and rigour that will provide unique perspectives on a strategic issue (Bathula 2008). Thus, when members of the board have higher qualification, it benefits the firm through a mix of competencies and capabilities (Carpenter and Westphal 2001). Contrarily, lack of competence on the board results in a lack of critical thinking, business analysis, and innovation which affect firms' financial health (Gaur et al. 2015).

The members of the board of directors also constitute the various committees including the audit, nominations and remuneration committees and as such their qualifications in specific accounting and financing, arrangements can help reduce corporate scandals and corporate financial distress. A study by Cunningham (2010) shows an inverse relationship between financial qualification and the likelihood of financial reporting irregularities, fraud and earnings management. This means that the more financial qualifications the board members have, the less likelihood of these corporate scandals occurring. Also, Mohid Rahmat et al. (2009) investigate whether there is any difference in the characteristics of audit committee between financially distressed and financially non-distressed companies listed on Bursa Malaysia. Data for the study are obtained from a sample of 73 financially distressed and the matched pair of 73 financially non-distressed companies. Results from the logistic regression analysis show that financial distress is significantly associated with the financial literacy of audit committee members. Qualification of the members on the audit committee would strengthen corporate governance by intensifying the ability of the board to protect shareholder interest thereby increasing shareholder value. According to Gaur et al. (2015), scholars find that the stock market reacts more favourably to announcements of professionally qualified directors on the board. Though there is limited literature linking board member's educational qualification to firms' financial distress, the literature suggests that educational qualification is associated with benefits for shareholders including lowering earnings

manipulation (Xie et al. 2003) and higher quality audit service. Carcello et al. (2006) found that both accounting and certain types of non-accounting financial expertise reduce earnings management for firms with weak corporate governance mechanisms, but that independent audit committee members with financial expertise are most effective in mitigating earnings management. A study by Li et al. (2010) on financial executive qualifications, financial executive turnover, and adverse Sarbanes Oxley 404 opinions found out that firms receiving initial adverse SOX 404 opinions in 2004 have less qualified Chief Finance Officers. Thus, firms are less likely to restate their earnings if their Chief Financial Officers have more years' experience, have an MBA (Master's in Business Administration) degree and/or have CPA (Chartered Public Accountant) credential. However, having members of the board who have the relevant and qualifications comes with a high cost since they are expensive to recruit and keep.

3.2.1.6 AUDIT COMMITTEE INDEPENDENCE

The audit committee interacts with the firm's auditors to ensure that the audited financial statements appropriately and accurately show the company's financial position (Platt and Platt 2012). The audit committee is regarded as one of the influential mechanisms of corporate governance as it helps the board members in discharging their duties in overseeing management (Bedard and Gendron 2010)). Although the responsibility for safeguarding the financial health of the firm is borne by the board of directors, the audit committee plays a prominent role in ensuring the integrity of firms' financial reports and that the monitoring role that the audit committee plays in firms' financial status makes this group particularly well positioned to protect shareholders' interest (Daily 1996). An effective audit committee leads to the enhancement of the financial reporting process thereby reducing information asymmetry between management and shareholders (Li et al. 2012). From the perspective of corporate governance, the audit committees are responsible for the financial reporting process, the internal control structure, the internal audit functions and the external audit activities of firms (Salloum et al. 2014). The audit committee also maintains and enhances public confidence in the credibility and the objectivity of the financial reporting through improving the disclosure practices of published information (Bedard and Gendron 2010; Kelton and Yang 2008). The role of the audit committee is therefore very important to stakeholders as better quality disclosed financial reporting improves firms' market performance and reduce the probability of financial distress (Wild 1996). Daily (1996) examines the impact of audit committee composition on the incidence and form of a bankruptcy reorganisation filing for the 5-

year period preceding the filing by sampling 53 bankrupt and 53 non-bankrupt US firms. Results from logistic regression analysis demonstrate that audit committee composition is significantly related to a pre-packaged filing and the length of time spent in reorganisation during the 5-year period preceding a bankruptcy filing. Also, in a study to examine the association between the voluntary adoption of corporate governance mechanisms and the likelihood of financial distress, Miglani et al. (2015b) sampled 171 financially distressed firms and 106 healthy firms listed in Australia over the 5-year period. Using logistic regression in the analysis, the study concludes that, the existence of a separate audit committee is associated with lower financial distress likelihood.

The independence of the audit committee is significant because the presence of the independent directors in the audit committee ensures corporate accountability, reduces the likelihood of a financial problem and protects the best interests of shareholders (Salloum et al. 2014). The independence of the audit committee is determined when the domination of the independent directors is considered. Carcello and Neal (2000) observe that the audit committee should consist of a higher proportion of independent directors. Corporate governance regulators are much concerned with the independence of the audit committee and in the UK, the Corporate Governance Code (2012) recommends that an audit committee is composed of a minimum of three independent directors. Where the audit committee is fully independent, that is, when all the members of the committee are independent, it provides better monitoring of management than the existence of the executive members with objective decisions (DeFond and Francis 2005). This is because, according to Fama and Jensen (1983), independent directors are free from economic interests or personal links with corporate managers and as such are better suited to exercising their monitoring role. Further, independent directors have a stronger motivation to maintain the value of their reputational capital in the external labour market (Fama 1980). Independent directors are, therefore, deemed likely to play a more effective monitoring role and to have greater incentive to enhance the quality and transparency of financial information released to shareholders (Wu et al. 2014). Beasley (1996) posits that the presence of an audit committee does not affect the likelihood of fraud, but a higher number of independent directors on the board should reduce the possibility of fraud. Likewise, McMullen and Raghunandan (1996) acknowledge that the presence of independent directors in an audit committee reduces the likelihood of a financial problem. Carcello and Neal (2003) examine the relation between audit committee independence and disclosure choice for a sample of 138 publicly held manufacturing firms experiencing

financial distress. Results from a logistic regression show a significant positive relation between the percentage of affiliated directors on the audit committee and optimistic disclosures for entities experiencing financial distress and that this relation holds regardless of whether the means of disclosure is financial statement notes or management discussion and analysis. Also in the US, Bronson et al. (2009) examine whether the regulatory requirements of a completely independent audit committee are necessary to obtain the monitoring benefits related to audit committee independence that has been documented in the prior literature. From the logistic regression analysis, the study establishes that the benefits of audit committee independence are consistently achieved only when the audit committee is completely independent and that these results provide support for the Sarbanes-Oxley requirement of 100% independent audit committees. The results further suggest that allowing even one non-independent member to serve on the audit committee appears to be problematic in the financial distress process. Chan and Li (2008) with a sample of Fortune 200 companies find that the independence of the audit committee results in a higher firm value when most expert-independent directors serve on the board. However, audit committee members are compensated by the company and in some cases, may be reliant on company management for their appointment (Bronson et al. 2009). Bronson et al. (2009) also find that audit committee effectiveness is reduced when the chief executive officer is involved in the director selection process after examining the relation between executive management involvement in the selection of board members and audit committee effectiveness. Moreover, having a fully independent audit committee may be costly which may place cash trap firms into disadvantageous positions.

3.3.1.7 BOARD MEMBER FINANCIAL EXPERTISE

The Security and Exchange Commission (SEC) explains a financial expert as a person who has the following attributes: an understanding of financial statements and generally accepted accounting principles; an ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves; experience in preparing, auditing, analysing or evaluating financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by the registrant's financial statements, or experience actively supervising one or more persons engaged in such activities; an understanding of internal controls and procedures for financial reporting; and an understanding of audit committee functions

(SEC 2003). The SEC, however, responded to the criticism of the definition of a financial expert for being narrow and only focuses on accounting related expertise by broadening the definition of financial expertise in its final version of the SOX provision. Abbott et al. (2004) define a financial expert as a CPA, investment banker, venture capitalist, CFO, controller, or someone who has held a senior management position with financial responsibilities. According to Christy et al. (2013), expertise can be either specific industry expertise, general business expertise or professional affiliations in such areas as accounting, finance, survey, taxation, banking, and law. Specific industry expertise which benefits small firms (Linck et al. 2008) refers to formal degrees in specific areas of study including pharmacy, medical science, and engineering whereas general business expertise which is significant for established firms (Coles et al. 2008) refers to qualifications such as MBA. The general business expertise assists board members to carry out their duties including oversight of the firm inputs to corporate strategy and monitoring of senior management. Using an unbalanced panel data from 1999 to 2012 from the United Kingdom's non-life insurance industry, Adams and Jiang (2017) examine the collective and individual impact on six performance indicators of three types of professionally qualified board-level financial expert accountants, actuaries, and underwriters. The study finds that, collectively, financial experts have a beneficial influence on the performance outcomes of insurers and it also observes that board-level qualified accountants and actuaries are linked with superior performance in all six of the selected financial outcome measures. Christy et al. (2013) use a hand-collected data that captures the directors' formal qualifications from the annual reports for every director, for each year and for those listed Australian Securities Exchange firms with a total of 2329 firm-year observation. Results from the regression analysis indicate that formal industry professional affiliations and MBAs provide benefits for the shareholders of large firms. There is, however, limited evidence from the study to show that financial expertise on the board systematically influences shareholders' risk assessments for small or large companies.

3.3.1.8 AUDIT COMMITTEE SIZE

The size of an audit committee is an essential variable for firms in delivering good corporate reporting. To be effective in their role, and due to the technical and complex issues in audit committees, members require adequate resources and authority to discharge their demanding responsibilities. A board with many directors may have a large committee than a board with fewer directors. As the size of the audit committee increases,

firms are more likely to include outside directors who bring in additional technical skills to the audit committee to enhance its effectiveness to improve firms' financial reporting process. The Code (2014) therefore requires the board to establish an audit committee of at least three, or in the case of smaller companies, two independent non-executive directors. Large members of the audit committee are more likely to bring a diversity of views, expertise, experiences, and skills to ensure effective monitoring (Bédard and Gendron 2010) which enhances the firm's survival. According to Bedard et al. (2004), the larger the size of the audit committee, the more likely to detect and resolve potential problems in the financial reporting process, because it is likely to provide the necessary strength and diversity of views and expertise to ensure effective monitoring. Also, the greater the need for effective linkage, the larger the board, and its committees should be (Appiah and Amon 2015) since during financial distress, firms with both smaller boards and committee sizes are regarded as ineffective due to lessened ability of directors to co-opt resources from their environment (Chaganti et al. 1985). In examining how the composition and characteristics of corporate boards relate to firms' success and solvency, Platt and Platt (2012) sampled 87 bankrupt and 205 non-bankrupt firms. The results of the study indicate that the size of the audit committee is related to the firms' financial status and that the audit committees of firms not filing for bankruptcy on average have 3.89 members compared with the size of bankrupt firms having a significantly lower number of 3.45 members. However, Mohid Rahmat et al. (2009) argue that an audit committee with a large number of members tends to lose focus and be less participative compared to those of a smaller size. Thus, when the size of the audit committee is large, it loses concentration and becomes less participative than the smaller one (Salloum et al. 2014). Jensen (1993), therefore, suggests that boards and their committees should be kept small to function more efficiently and not to be controlled by the CEO.

Mohid Rahmat et al. (2009) on the other hand argue that an audit committee with a small number of members lacks the diversity of skills and knowledge and hence becomes ineffective which can affect firms' survival. Also, smaller audit committee size may not have the required human resources to carefully monitor the CEO's performance and demand accountability (Chaganti et al. 1985). This creates a conducive environment for opportunistic CEOs to pursue corporate strategies in an effort to satisfy their own egos, but at the expenses of their firms' long-term success (Kets de Vries and Miller 1985) and this can plunge firms into financial distress. Some studies meanwhile have indicated no relationship between financial distress and audit committee size. For instance, in

examining whether audit committee characteristics have any effect on corporate insolvency, Appiah and Amon (2015) use 1,835 firm-year observations for 98 insolvent and 269 solvent UK-listed non-financial firms from 1994 to 2011. Using logistic regression, the study finds that the audit committee size is not related to corporate insolvency. Also, Salloum et al. (2014) had a sample which consisted of 149 firm years of data from financially distressed and financially non-distressed banks operating in various Lebanese territories during the period of 2009 to 2011. Results from logistic regression analysis indicate that there is no significant relationship between financial distress and audit committee size.

An audit committee, therefore, must have the right size that would allow members to use their resource linkage capacity, experience, and expertise for the best interest of all stakeholder groups.

3.3.1.9 PRESENCE OF A FIRM'S CHAIRPERSON ON AUDIT COMMITTEE

The chairperson is responsible for leadership of the board, ensuring its effectiveness in all aspects of its role and setting its agenda so that adequate time is available for substantive discussion on strategic issues. The chairperson should facilitate, encourage, and expect the informed and critical contribution of the directors in discussion and decision-taking on matters of risk and strategy, and should promote effective communication between the executive and non-executive directors. The chairperson is responsible for ensuring that the directors receive all information that is relevant to the discharge of their obligations in an accurate, timely and clear form (Walker 2009)**.** However, a firm's chairperson is not able to perform these roles because he/she is not allowed to become the chair of the audit committee although he/she can be a member of the audit committee if he/she was independent at the time of appointment as a chairperson. The firm's chairperson is responsible for the day-to-day running of the company and has a detailed knowledge of the firm and its operation, hence, the inclusion of the chairperson as a member of the audit committee improves the informational linkage between the board and the audit committee which may enhance firms' performance and improve their survival. The UK Corporate Governance Code, therefore, recommends that companies especially, for smaller companies, the chairperson if considered independent may be a member of but not chair the audit committee.

3.3.1.10 REMUNERATION COMMITTEE SIZE

Board sub-committees are established to help the board perform its role, particularly with increased responsibilities and pressures placed on the board, and one of such committees

is the remuneration committee (Tao and Hutchinson 2013). The remuneration committee is an important corporate governance mechanism that protects shareholders' interests by providing independent oversight of various board activities including overseeing remuneration practices which are designed to attract and retain employees (Harrison 1987). The remuneration committee is hence, responsible for evaluating management's performance and creating appropriate remuneration packages (Nelson et al. 2010). Therefore, given that the motive of the remuneration committee is to supervise the performance of the executive directors and to come out with suitable reward packages, its effectiveness is likely to be related to its structure and membership (Weir et al. 2001). The size of the remuneration committee may arguably have an impact on its monitoring function. Nelson et al. (2010) argue that a larger remuneration committee has more resources to construct, evaluate and monitor compensation and ensure its alignment with the goals of the shareholders and the performance of the company. Thus, large remuneration committee, due to enhanced status and increased resources, is more likely to improve the quality of its oversight responsibilities, relative to a smaller remuneration committee and the enhanced monitoring may reduce the likelihood of a firm's financial distress (Appiah and Chizema 2015). This is because, during financial distress, firms with smaller remuneration committee size are recognised as ineffective due to a reduced ability of directors to co-opt resources from its environment (Gales and Kesner 1994). The lack of resources especially, human resources may affect firms' ability to rigorously monitor the CEOs performance (Zahra and Pearce 1989), giving CEOs the opportunity to pursue corporate strategies in an effort to satisfy their own egos, but at the expense of their firm's long-term success (Appiah and Chizema 2015). Chan et al. (2015) with a sample of 134 bankrupt firms and 134 matched firms and using proportional hazard survival model conclude that bankrupt firms are likely to have smaller remuneration committee sizes. Also, using a final dataset which included 87 bankrupts and 205 non-bankrupt US companies from 1998 to 2009, Platt and Platt (2012) examine how the composition and characteristics of corporate boards relate to firms insolvency. Results from the study indicate that companies that avoided bankruptcy had on average 3.85 members on their remuneration committee while companies that sought protection from the bankruptcy courts had a significantly smaller compensation committee of just 3.49 members. Jensen (1993) however, proposes that boards and their committees should be kept small to function more efficiently and not to be controlled by the CEOs.

3.3.1.11 PRESENCE OF A FIRM'S CHAIRPERSON ON REMUNERATION COMMITTEE

Executive compensation plays a fundamental role in attracting and maintaining quality managers and provides motivation for directors to perform their duties to increase firm performance which may increase shareholders' value (Anderson and Bizjak 2003). The remuneration committee, which sets the executive remuneration plays a significant role in ensuring firms' survival since it concerns itself with setting and structuring the pay packages that attract and retain top management to provide the right incentives for managers to operate in the interest of the shareholder. For the remuneration committee to perform its functions efficiently, the chairperson and the other members of the remuneration committee must play a key role in shaping remuneration proposals through negotiations with management and staff in the company as well as remuneration consultants (Main et al. 2008). The chair of the remuneration committee must have the relational skills to lead through complex boardroom interactions, must be mindful of respecting yet being assertive with critical board members, must display a maturity of temperament in order not to appear as threatening to other committee members and executive management and must facilitate open communication (Roberts 2002). The contribution of the chairperson's perspective to the remuneration committee is regarded as essential. The Combined Code (2006) permits the chair to be a member of the remuneration committee. Anderson and Bizjak (2003) sample 90 firms to examine whether the CEO's presence on the compensation committee leads to opportunistic pay structure. The study finds no evidence that CEOs serving on the compensation committee act opportunistically in terms of pay structure. One finding from Main et al. (2008) whose study involved interviews conducted in late 2006, with 22 members of various UK remuneration committees emphasises the key role played by the chairperson of the remuneration committee and reveal that the strength of the remuneration committee chairperson is important. Though the role of the chairpersons of the remuneration committee is highly significant, they are not in the position to influence their own remuneration.

3.3.2 OWNERSHIP STRUCTURE

3.3.2.1 DIRECTORS OWNERSHIP

Directors' shareholding is another principal means of aligning the interest of both the shareholders and the management and provide a means to monitor the behaviour of managers (Fama 1980; Meckling 1976). Shleifer and Vishny (1997a) indicate that following the arguments of convergence theory the participation of the board of directors

in shareholding is also a powerful incentive to achieve the alignment of their interest with the interest of the other shareholders. Jensen (1993) suggests that many problems happen because neither managers nor directors normally own a substantial proportion of the firms' shares. This reduces the incentives of managers and directors to pursue the shareholders' interests, therefore, increasing firms' financial distress likelihood (Simpson and Gleason 1999). According to Jensen (1993), encouraging independent board members to hold substantial equity interests would provide a better incentive to monitor management. Beatty and Zajac (1994) further argue that the degree to which independent directors hold shares in companies is linked with their strength in monitoring management and in ensuring management pursue value-maximising activities. This is because, when board members have substantial holdings in the firm's shares, either through direct holdings of shares or options in the firm's shares, their decisions affect their own wealth. Booth et al. (2002) contend that the effect of the directors' decisions on their wealth is compounded when the receipt of shares or options is part of their compensation package and thus, the directors are less likely to embark on actions that would diminish shareholder wealth. Further, when independent directors have interests in shares, they help them to create incentives as well as make them become closer to the firm, thereby becoming more involved in their oversight and more generous in their time, attention, and effort. Jensen and Meckling (1976) therefore argue that substantial shareholdings by independent directors should provide greater incentives for them to monitor top management. A study by Manzaneque et al. (2016a) ascertains that in difficult situations prior to the bankruptcy, the impact of board ownership on business failure likelihood is like those exerted in more extreme situations. Fich and Slezak (2008) report a negative relationship between the proportion of shares held by the board and the probability of firm failure. Platt and Platt (2012) analyse a sample of 292 firms and find that non-bankrupt firms' independent directors own fewer shares. Empirical evidence from Nahar Abdullah (2006) further supports the contention that ownership by non-executive directors and outside block holders effectively increases their incentives to monitor management to improve performance and avoid financial distress, as well as ensuring that their wealth in the firm is intact. The non-executive directors are therefore expected to fight for the survival of the firms in which they hold shares (Pregio de la Cruz et al. 2014).

3.3.2.2 INSTITUTIONAL OWNERSHIP

Institutional investors including mutual funds, hedge funds, pension funds**,** insurance companies, and banks are leading players in the financial markets and primary owners of

UK equity. In addition to providing funds for firms' expansion or using their relationships to assist the firm's source of financing, institutional investors use their highly developed managerial skills, professional knowledge, and voting rights to influence managers to improve both firm efficiency and corporate governance (Lin and Fu 2017). Thus, Shleifer and Vishny (1997) regard institutional investors as actively monitoring firms' business, reducing information asymmetry and agency problem, and enhancing firm performance to avoid the likelihood of financial distress. Whereas some institutional investors may actively monitor firms' business to reduce information asymmetry and agency problems, others may either, consider short-term trading profit based on information advantages to satisfy their portfolio needs or may support management to exploit small shareholders and undermine firm performance which may affect its financial distress and survival likelihood. Hence, although, institutional shareholders have, generally, been considered as a large group in many studies, however, both theory (Jensen and Meckling 1976) and empirical findings (Chaganti and Damanpour 1991) advocate that shareholders are differentiable and pursue different agendas (Bhattacharya and Graham 2009) and as a result, may have different impacts on firms' financial distress likelihood. In investigating the relationship between the ownership structure of firms and the probability of insolvency, Poletti-Hughes and Ozkan (2014) sample 484 UK firms with an unbalanced panel of 3092 firm-year observations. Using a multiperiod logit model, the study provides strong evidence that firms controlled by financial institutions have a higher probability of insolvency when in financial distress. In the Netherlands, Donker et al. (2009) examine the impact of ownership structure on the likelihood of financial distress of 177 firms that are traded on the Amsterdam Stock Exchange over the period 1992-2002. Using logit-regression models, the study finds no evidence that high levels of institutional shareholdings are associated with a lower probability of financial distress. Also, in examining the role of institutional shareholders in business financial distress likelihood, Manzaneque et al. (2016) sampled 70 non-financial Spanish listed firms for a continuous period from 2007 to 2012. The findings of the study show that the role of institutional shareholders as owners is not associated with a lower likelihood of business failure. However, the results indicate that the role of pressure-resistant institutional shareholders as directors is associated with a lower likelihood of business failure.

Institutional investors due to the size of their investment may monitor management on its risk-taking activities which may influence firm performance and affect shareholder value. Using a final sample that consists of an unbalanced panel data set of 256 firms listed on

the Australian Securities Exchange for the years 2006 to 2008, Hutchinson et al. (2015) investigate whether institutional investors differ in their ability to influence management's pursuit of firm value. The result shows that increasing institutional ownership is associated with increasing accounting performance and firm value. The result further indicates that when firms are financially distressed, institutional investors engage in promoting the short-term performance or exit rather than supporting long-term value creation. Lin and Fu (2017) employ a simultaneous equation model with a GMM estimator to a new and large data sample of 2465 listed firms on the Shanghai Stock Exchange over the 2004–2014 period to provide additional evidence on whether all types of institutional investors act as active monitors and contribute equally to firm performance. The results generally indicate that institutional ownership significantly and positively affects firm performance. However, not all institutional investors act as active monitors and improve firm performance particularly, the results indicate that pressure-insensitive, foreign and large institutional shareholders have greater positive effects on firm performance than pressure-sensitive, domestic, and small institutions, respectively.

3.3.2.3 CONCENTRATED OWNERSHIP

Concentrated ownership is an internal governance mechanism that could potentially add or substitute from board independence and lead to active and more effective oversight of managerial actions and decisions consistent with agency theory predictions (Lajili and Zéghal 2010). Blair (1995) points out that this would be particularly the case when board independence and other composition elements are not in place in a firm. Concentrated owners utilise their knowledge and resources to improve the resource base of firms (Carney and Gedajlovic 2001). Also, a high degree of ownership concentration leads to positive effects on firm performance and reduce the likelihood of financial distress since large shareholders are incentivised and often possess the expertise to effectively monitor managers (Jensen and Meckling 1976; Shleifer and Vishny 1986). Lajili and Zéghal (2010) therefore note that block holding could be a positive and effective corporate governance mechanism to ensure objective and effective oversight of management. Large shareholders could suffer great losses due to their participation in financially distressed firms and as such, they are expected to exercise an important monitoring function on opportunistic management behaviour (Manzaneque et al. 2016b). This is because, according to Donker et al. (2009), the conflict of interests between management and other shareholders is more severe in financial distress situations. Management, therefore, could make decisions aimed at getting short-term personal advantage instead of dealing with

the firm's financial distress situation, due to the insecurity of their jobs. In such situations, a high degree of ownership concentration could contribute to lessening the management-shareholders conflict of interests. Cronqvist and Nilsson (2003) assert that whether equity ownership is concentrated in the hands of institutional investors, company founder, family members, and relatives, or banks and lending institutions could have varied effects on firm performance and financial distress occurrence. Donker et al. (2009) sample 33 firms in financial distress and 144 healthy firms that traded on the Amsterdam Stock Exchange between 1992 and 2002. Using logit regression analysis, the results indicate that large outside shareholders reduce the probability of financial distress. To answer the question of whether ownership structure affects the degree of corporate financial distress in China, Hu and Zheng (2015) sample 378 listed companies that got into financial distress between 2000 and 2008. The study uses three dimensions of ownership structure and these are; the ownership concentration, ownership component and separation of ownership as independent variables. Results from the regression analysis indicate that ownership concentration is negatively related to the degree of corporate financial distress. In Germany, to empirically investigate how ownership structures change when firms are in financial distress, Jostarndt and Sautner (2008) sample 267 firms that suffered from repeated interest coverage shortfall between 1996 and 2004. Using regression analysis, the study establishes a significant decrease in ownership concentration. Deng and Wang (2006) also find that ownership concentration has a negative correlation with default likelihood after applying logistic regression to a sample of 97 firms in distress and 97 non-distress firms. In the UK, Poletti-Hughes and Ozkan (2014) investigated the impact of corporate ownership and control on the outcome of financial distress. The research samples 484 firms, 81 of which filed for insolvency. Using multi-period logit analysis, findings of the study give strong evidence that firms controlled by family and financial institutions have a higher probability of insolvency when in financial distress but confirmed however that the probability of insolvency decreases significantly as the controllers' cash flow ownership increases beyond 10%.

However, notwithstanding the benefit, ownership concentration may create agency costs and information asymmetries between dispersed shareholders and the large or controlling shareholder group (Jensen and Meckling 1976; Jensen 1993). In addition, in situations where ownership concentration goes above certain thresholds, large shareholders tend to exercise their control rights thereby creating private benefits, sometimes expropriating minority shareholders (Shleifer and Vishny 1997).

3.3.3 DISCLOSURE AND TRANSPARENCY

3.3.3.1 DIRECTORS REMUNERATION

Directors remuneration packages are composed of the financial and other non-financial rewards and it is typically a mixture of salary, bonuses, shares or call options on the company's share, benefits, and perquisites received by directors from their firm for their service to the firm (Sari and Tjoe 2017). Directors' remuneration packages should be attractive enough to attract and retain the directors who have the capacity needed to manage the company successfully and that the structure of the packages for the executive directors should be linked to the corporate and individual performance (Nahar Abdullah 2006). Directors serve as agents for dispersed shareholders in monitoring management and as a result, they are also susceptible to the agency problem, which means that their pay should show sensitivity to firm performance and survival likelihood (Schultz et al. 2017). Thus, from the perspective of the agency theory, directors should be rewarded based on their performance to avoid agency conflict. However, high compensation packages may weaken the directors' judgement, giving managers the advantage of being able to pursue their own interests at the expense of performance (Afrifa and Tauringana 2015). Although remuneration should be enough to attract board members, high directors' remuneration may have an impact on firms' performance and survival likelihood. Citing from (Kang 2009), researchers including Belkaoui (1992), Sridharan (1996), Conyon (1998), Cordeiro et al. (2000), Ghosh (2003), Gu and Choi (2004), Cahan et al. (2005), Doucouliagos et al. (2007), Jobome (2006), Merhebi et al. (2006) Hijazi and Bhatti (2007) all find a significant positive relationship between corporate performance and executive compensation. However, Conyon and Gregg (1994), Ogden and Watson (1996), Veliyath and Ramaswamy (2000) Parthasarthy et al. (2006) find no significant relationship between corporate performance and executive compensation.

Using 76 US banks and 41 European banks (Vallascas and Hagendorff 2013) investigated the link between executive compensation in banking and risk-taking by providing the first cross-country evidence on the bonus-risk relationship in the banking industry. The study finds that increases in CEO cash bonuses lower the default risk of a bank. The study, however, finds no evidence of cash bonuses exerting a risk-reducing effect when banks are financially distressed. Also, from a sample of 51 viable but loss-making Bombay Stock Exchange listed companies in 2009-2011 financial years, Gill (2014) obtained remuneration and performance data in a study of a reward for failure. Results from the univariate and multivariate analyses highlight that both the remuneration-performance sensitivity and elasticity are weak.

3.3.3.2 DISCLOSURE OF ANNUAL GENERAL MEETING NOTICE IN THE ANNUAL REPORTS

The Annual General Meeting (AGM) is a compulsory yearly gathering of a firm's shareholders and form an important part of the UK's corporate governance. Hence, a notice of when and where an AGM is held can be communicated to the shareholders in the annual reports. It is the directors' responsibility to ensure that the date, location as well as any other information that is relevant for the AGM is communicated to the shareholders and one way to deliver such information is through the annual reports. Section 336 of the 2006 UK Companies Act requires firms to hold AGMs within six months of a public limited company's accounting reference date (Conyon and Sadler 2010) and that firms' directors are prosecuted if they fail to hold an AGM within this time limit.

Traditionally and legally, the core business of AGMs consists of three elements and these include legal formality, communication, and accountability. According to Apostolides and Boden (2005), it is the accountability that holds the key to the effectiveness of the AGM since it is less controllable or predictable than the other two elements. This is because accountability offers the shareholders and even sometimes their proxies to take the board to task on matters relating to certain resolutions such as appointing auditors, receiving the accounts, approving the dividend and electing directors. However, share ownership, which allows members to attend AGMs, is mainly dispersed amongst a very large number of private shareholders holding relatively few shares each and a small number of institutional investors holding most shares (Apostolides 2007) and their participation in AGMs has questioned the accountability issue of the AGM. To the institutional shareholders, the AGM may be of significantly less importance to them, as prior discussion and agreement are normally secured before the day of the AGM. Similarly, according to Apostolides and Boden (2005), agency theory indicates that the characteristics of private shareholders have decreased the accountability effectiveness of AGMs mainly due to the fact that the dominant voting power of institutional shareholders means that private investors have little or no opportunity to influence company strategy because it is unlikely that their votes will make a difference. AGMs may be remote geographically from the investor and involve opportunity and other financial costs that further deter participation, and the dispersal of private individuals' shareholdings amongst a numerically large group (Becht and Röell 1999) frustrates the concerted exercise of voice that an AGM in theory permits. These have therefore reduced the participation of institutional and private investors in AGMs. For instance, Strätling (2003) notes that on

average, only one in a thousand shareholders ever attends a meeting, with this proportion rising to only one in a hundred even when the company is in financial difficulties. Notwithstanding these, AGMs is recognised as an important UK legal requirement and forms one of the few occasions that all stakeholders in a firm can come together at one place to have their say in public in the full glare of both conventional company processes and the media (Apostolides 2007). Also, since AGMs are live events, shareholders can pursue a topic with further questions, an option that is not available in other modes of corporate communication (Carrington and Johed 2007). Hence, it is significant that directors disclose notice of AGM in the annual reports since a 2004 report of the Organisation for Economic Cooperation and Development (OECD) emphasized that shareholders should be provided with enough and timely information concerning the date, location, and agenda of general meetings, as well as full and timely information regarding the issues to be decided at the meeting.

3.3.3.3 DISCLOSURE OF PROXY VOTING ARRANGEMENTS IN THE ANNUAL REPORTS

Corporate governance mechanisms such as those relating to the board of directors, the ownership structure, and the executive compensation are aimed at reducing agency cost that results from the separation of ownership and control (Jensen and Meckling 1976). In addition to these mechanisms, shareholders can undertake certain activities to remedy agency costs and among them is the shareholders' voting which according to Easterbrook and Fischel (1983), is potentially the most powerful course of action. This is because shareholders may use their voting rights not only to veto value-destroying firms' actions (Hansmann and Kraakman 2004) but also to publicly express their dissent by voting against management (David et al. 2007). However, according to Shleifer and Vishny (1986), shareholders often lack the incentives to effectively use their voting rights to voice dissent, since they would bear the full costs of expressing dissent but can capture only a fraction of its benefits. Firms' shareholders are required to vote on matters such as the election of directors to the board, the approval of auditors' report, the approval of a merger or an acquisition, and approval of share compensation plan at the firms' AGM. Instead of being physically present at the AGM, shareholders may choose to vote by proxy whereby the shareholders elect someone else to vote in line with the shareholder's direction as stipulated on the proxy card. Aggarwal et al. (2015) argue that proxy voting is one of the key mechanisms used by institutional investors to exert their influence on corporate decision-making. Since proxy voting is one of the mechanisms that shareholders can use

to voice their concerns over firms' activities and performances, shareholders should be made aware of whether proxy materials are included in the annual report. In a study to investigate the nature of institutional shareholder activism in South Africa with a focus on proxy voting as a public form of shareholder discontent, Viviers and Smit (2015) analyse 24,510 votes cast by 17 local investment management companies in 2013. The evidence of the study suggests that all the 17 investment management companies had proxy voting policies at the end of 2013, just over half of these policies (53%) were available online. The results further indicate that very few of these investment management companies (41%) published their proxy voting results online, even though the United Nations' Principles for Responsible Investment (PRI) signatories are required to make their proxy voting results available to the public. In addition, a transparency report on proxy voting written to the US Senate, in 2004, discloses that even though conflict of interest in proxy voting can occur because of the existence of various business relationships, limited disclosure of proxy voting guidelines and votes may make proxy voting more vulnerable to such conflicts. Furthermore, due to limited transparency, concerned parties do not have the information necessary to raise questions regarding whether proxy votes were cast solely in the interest of plan participants and beneficiaries. It should be noted that firms that disclose proxy voting information improve their transparency and accountability, and that might go a long way to enhance public trust which could improve performance and reduce the likelihood of financial distress. Moreover, by disclosing proxy voting information in the annual reports, shareholders can vote on significant voting matters such as the election of directors, executive compensation packages, and mergers and acquisitions that may affect long-term share value and survival of firms.

3.3.3.4 PRESENCE OF SENIOR INDEPENDENT DIRECTOR

The senior independent director is appointed from the non-executive directors to support the chairperson on all governance issues, to provide an alternative communication channel between the chairperson and the board, and to provide a point of contact for principal shareholders to raise issues and concerns which contact through the normal channels of chairperson, chief executive or other executive directors has failed to resolve, or for which such contact is inappropriate (Sadan 2017). The senior independent director has the responsibility to improve the relations between directors and shareholders. This could enhance firms' governance relations and improve firms' performance because where firms fail to resolve misunderstandings between directors and the shareholders, it

creates an unstable investment environment which affects firms' performance and the likelihood of financial distress. The recommendation by the Higgs Review of the UK Combined Code in 2003 to appoint a senior independent director from the non-executive directors therefore aimed at enabling shareholders to have someone to report to when contact through the normal channels of the chairperson or chief executive has failed. For the senior independent director to fulfil his/her role, he/she needs healthy and actively maintained relationships with both fellow directors and investors. According to Sadan (2017), the role of the senior independent director as a highly skilful intermediary is indispensable on a well-run board and that at different times and from different perspectives, the senior independent director is sometimes an ambassador, a kingmaker, a counsellor, a senior prefect, and occasionally a self-appointed successor. Despite the significance and the responsibilities of the senior independent director at corporate boardrooms, for over fifteen years there has been no attempt in the literature to recognise the role of the senior independent director in firms' governance, performance, and survival. Although initially there was a concern that the position of a senior independent director would make governance difficult and weaken the position of the chairperson, currently the senior independent director is an established feature of UK corporate governance. However, researchers have paid little attention to the senior independent director as a corporate governance mechanism that could have a significant impact on firms' performance and financial distress likelihood. Hence, writing the literature on the senior independent director and its impacts on firms' financial distress in this study is limited by the empirical evidence from the literature.

3.4 MODERATING FACTORS

3.4.1 ENVIRONMENT

A firm's environment according to Duncan and Duncan (2016), is the totality of physical and social factors that are taken directly into consideration in the decision-making behaviour of individuals in the organisation. They also differentiate between the internal environment, which is composed of physical and social factors within the boundaries of an organisation, and the external environment, which is composed of social and physical factors outside the boundaries of an organisation. Firms external environment puts constraints on their strategic actions and the benefits they can derive from those actions (Dess and Beard 1984). Since the external environment is outside the parameters of a firm, it is almost unlikely for the firm to control it but to deal with it by creating some internal mechanisms. In conditions of environmental uncertainty, strategic flexibility is regarded as the basic method to adapt firms to environments and then contribute to

competitive advantage (Hitt et al. 1998). This is because strategic flexibility generates better firm performance by quickly responding to environments, efficiently using the resources and lowering survival threat (Lin et al. 2014). Both the organisational owners and top managers need to deal with the impact of the environment (Chaganti and Damanpour 1991). Organisational managers need to scan the environment constantly to acquire accurate and reliable information so that where necessary, strategies can be adjusted or changed entirely at a moment's notice, as unpredictable and uncertain conditions have a considerable impact on firms' survival likelihood (Krishnan et al. 2006). Although research indicates that environments are an important consideration for firms, there is a lack of evidence about how environmental dimensions which according to Dess and Beard (1984) include environmental dynamism, environmental complexity, and environmental munificence moderate corporate governance mechanisms and financial distress relationship (McArthur and Nystrom 1991). This is because a thorough literature search failed to locate any empirical studies using the environmental dimensions as moderators in the corporate governance and financial distress relationship. However, studies in other disciplines have established the moderating role of the environmental dimensions. For instance, Goll and Rasheed (1997) in examining the relationships between top management demographics, rational decision making (RDM), and firm performance as well as establishing the moderating effect of environmental munificence on the rational decision making and firm performance relationship found that environmental munificence moderates the relationship between decision making and organizational performance. Also, McArthur and Nystrom (1991) found that environmental munificence interacts with strategy to affect performance and this means that environmental munificence moderates strategy and performance relationships. that environmental dynamism appears to moderate this relationship. In a study to examine the moderating effect of environmental dynamism on the insider ownership and performance nexus, Li and Simerly (1998) found that for firms in the industry experiencing greater environmental dynamism, there exists a greater positive relationship between insider ownership and performance.

3.4.2 RESOURCES

Saji and Mishra (2013) acknowledge that there is a visible lack of consensus among researchers on what constitutes the firms resources. However, citing from Daft (1983), Barney (1991) defines a firm's resources to "include all assets, capabilities, organisational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable

the firm to conceive of to invest in systems for product improvements and new product development to respond to the challenges created by competitors (Gaur et al. 2011). A firm's competitive advantage is contingent on the bundle of resources held by the firm. Firms that have more resources at their disposal are likely to have good corporate governance structure to effectively monitor management to ensure improved firms' performance and financial health. However, the moderating role of resources which include tangible and intangible resources is lacking in the literature. Researches in other disciplines meanwhile have established the moderating role of resources. For instance, Gaur et al. (2012) found that firm resources and competitive intensity moderate the relationship between some of the sub-dimensions of market orientation and firm performance. Also, Pattnaik and Elango (2007) used 787 Indian manufacturing firms to capture the impact of firm resources on the internationalization and performance relationship and the results indicated that indicate that a firm's capabilities in cost efficiency and marketing have a moderating impact on this relationship.

3.4.3 TECHNOLOGICAL CAPABILITY

Technological capability "is the ability to perform any relevant technical function or volume of activity within the firm including the ability to develop new products and processes and to operate facilities effectively" (Teece et al. 1997: 521). Technological capabilities increase the ability of the firm to assess and use their internal resources in the development of new products (Zahra and George 2002) so that, with better technological capabilities, firms can identify new technology threats, experiment with new emerging designs and develop new product innovations (Zhou and Wu 2010) for their long term survival. Firms with superior technological competencies tend to be more innovative and this may lead to higher financial performance thereby reducing the likelihood of financial distress for the firm (Zahra et al. 2000). This is because, with better technological capability, firms can secure more efficiency gains by pioneering process innovation (Teece et al. 1997) and achieve higher differentiation by innovating products in response to the changing market environment (Teece and Pisano 1994). Using total expenditure on R&D and on-the-job training as surrogates for technological capability, Acha (2000) acsertains a positive correlation with firm efficiency (Ortega 2010) which may improve firm performance to reduce the likelihood of financial distress. Research on the moderating role of technological capability on the relationship between corporate governance mechanisms and financial distress is limited but studies in other discipline have established the moderating role of technological capability. For instance, in

examining the moderating effect of technology intensity on the relationship between executive compensation dispersion and firm performance in China manufacturing industry, Zhang et al. (2015) found that technology intensity negatively moderates the relationship between executive compensation dispersion and firm performance. Also, using a sample of 253 companies from the information and communications technology industry in Spain to evaluate the role of technological capabilities in moderating the relationship between competitive strategies and firm performance, Ortega (2008) found that technological capabilities enhance the relationships between quality orientation and performance, and cost orientation and performance, respectively. Wu (2013) in investigating the relationship between cooperation with competitors and product innovation performance along with the moderating effect of the innovating firm's technological capability and its alliances with universities found technological capability weaken the relationship.

TABLE I: A SUMMARY OF SOME PREVIOUS STUDIES ON CORPORATE GOVERNANCE AND FINANCIAL DISTRESS.

Author, Year and Country	Sample type and Sample Size	Variables Confirmed	Variables not Confirmed
Gales and Kesner (1994), US	127 bankrupts, 127 non-bankrupts	Board size, outside directors	Inside directors
Daily (1996), US	53 bankrupts, 53 non-bankrupts	Total directors, outside directors, return on assets, current ratio, equity/debt, working capital/sales, firm age	Affiliated director on the audit committee, institutional investor holdings, audit committee composition,
Simpson and Gleason (1999), US	287 banking firms	CEO duality, bank size, the riskiness of loan portfolio, financial leverage	Directors ownership, officer's ownership, the percentage of insiders on the board, number of directors on the board
Elloumi and Gueyie (2002), Canada	46 distressed, 46 healthy firms	Board composition, outside directors' ownership and directorship, CEO change, leverage	The audit committee, block holders, liquidity
Parker et al. (2002), US	176 distressed firms	Blockholder ownership, insider ownership, replacement of CEO with an outsider, firm size, liquidity, profitability	Creditor ownership, board size, financial risk (inconclusive)
Carcello and Neal (2003), US	138 distressed firms	Percentage of affiliated director on the audit committee, firm size	Zmijewski's (1984) financial condition index, going concern modified report
Lee and Yeh (2004), Taiwan	45 distressed, 88 non-distressed	Adjusted control rights, the ratio of cash flow to control rights, the percentage of board seats and supervisory seats, change in leadership, debt ratio	Institutional shareholding, second largest shareholder, directors held by the non-large shareholder, founder participation
Abdullah (2006), Malaysia	86 distressed, 86 non-distressed	Board size, management interest, non-executive directors' interests, gearing, liquidity	Board independence, CEO duality,
Charitou et al. (2007)	859 bankruptcy-filing firms	Top-level management turnover, qualified audit opinion, lower (higher) institutional ownership	

Fich and Slezak (2007), US	508 Z-score firms, 277 ICR firms	Board size, board composition, board ownership, number of outside directors, R&D expenditure to sales, stock-option reset	Firm's stock returns, a greater number of inside directors, CEO option compensation, institutional ownership, firm size
Li et al. (2007), China	404 distressed, 404 non-distressed	Ownership concentration, state ownership, ultimate owner, independent directors, auditors' opinion, administrative expense ratio	Managerial ownership
Jostarndt and Sautner (2008), Germany	267 interest coverage shortfalls	Ownership concentration, bank ownership, private ownership, executive director ownership, non-executive director ownership	Insider ownership
Chen and Du (2009), Taiwan	34 distressed, 34 non-distressed	Debt /equity, gearing ratio, debt to equity ratio, return on assets, earnings per share, return on equity, current ratio, acid-test ratio, current assets to total assets, cash flow to total debt ratio, cash flow ratio, inventory to total assets ratio, inventory to sales ratio	Margin before interest and tax, the turnover rate of fixed assets, the turnover rate of total assets, cash flow to short term and long-term debt ratio
Bronson et al. (2009), US	53 audit dismissals, 53 non-audit dismissals	Percentage of independent directors on the audit committee, 100% audit committee, only one audit committee member is not independent, going concern-modified report in the prior year	Firm size, a development stage
Donker et al. (2009), Netherlands	33 distressed, 144 healthy	Managerial shareholding, large outside shareholders, trustees' shareholding, leverage	Percentage of family shareholders, block holders, institutional shareholders, size, the book value of debt to total debt, pay-out ratio.
Rahmat et al. (2009), Malaysia	73 distressed, 73 non-distressed	Quality audit service, financial literacy	Frequency of audit committee meetings, audit committee size, audit committee composition

Lajili and Zéghal (2010), US	59 distressed, 59 healthy firms	Ownership structure, internal turnover, board changes, board composition	CEO, director turnover, board independence, duality structure (all significant when combined but not individually)
Dowell et al. (2011)	227 firms	Shareholders with higher proportions, independent board, CEO power, the smaller board size	Venture capital ownership, independent director proportion, sales growth, firm size
Aldamen et al. (2012), Australia	150 listed firms	Number of audit committee members, number of audit committee meetings, independence of committee member, blockholder committee member, committee member education, total assets, the expertise of committee member	Leverage, industry, grey directors, the directorship of an audit committee member, external director, the commitment of the audit committee
Lakshan et al. (2012), Sri Lanka	70 failed, 70 non-failed firms	Outside directors' ratio, audit committee presence, board member remuneration, CEO duality	Board size, auditor's opinion, outside ownership
Robinson et al. (2012), US	80 liquidate, 72 non-liquidated firms	Outside directors' stock ownership, CEO age, stock performance, ROA, liquidity, firm size	The proportion of outside directors, Industry,
Fan et al. (2013), China	67 defaulted companies	Private ownership, corporate ownership, government quality	State ownership, firm age, tangible assets, leverage, firm size
Brédart (2014), US	156 bankrupts, 156 non-bankrupt companies	Board size, board activity, solvency	Board independence, CEO duality
Gill (2014), India	51 loss-making Firms	Remuneration sensitivity, changes in cash remuneration, remuneration performance sensitivity, stock return volatility, changes in institutional ownership, family ownership	Executive remuneration, larger boards
Hsu and Wu (2014), UK	117 failed, 117 non-failed	A greater proportion of grey directors, independent directors, the ratio of grey directors to executive directors,	Executive directors on the board, the ratio of an independent director to

		profitability, leverage, firm size (little evidence)	executive directors, leadership duality, senior independent director, CEO tenure, external shareholding, firm age
Poletti-Hughes and Ozkan (2014), UK	484 companies of which 81 filed insolvency	Family-controllers, financial institutions controllers, leverage, firm size, stock return, return volatility	Other controllers,
Salloum et al. (2014), Lebanon	54 distressed, 54 non-distressed banks	Frequency of meetings	Bank size, composition, financial expertise
Wan et al. (2014), Malaysia	227 listed companies	The audit committee, internal audit effectiveness, independent non-executive directors' effectiveness	Board size, a board member with international experience
Appiah and Chizema (2015), UK	98 failed, 269 non-failed	Leverage, industry effects	Remuneration committee: effectiveness, size, meetings; board size, liquidity, firm size, chairman's independence, profitability, firm age
Ciampi (2015), Italy	283 default firms, 340 non-default firms, (validation sample:142 default, 169 non-default)	CEO duality, outside directors lower than or equal to 50%, outside directors equal to 50%, ownership concentration, inside director ownership	Board size, venture capital ownership, outside director ownership, firm size, the business sector
(Manzaneque et al. 2016b), Spain	154 distressed, 154 non-distressed	Board ownership, the proportion of independent directors, board size	Ownership concentration, institutional or non-institutional shareholding, CEO duality
Miglani et al. 2015b), Australia	171 distressed firms	Greater levels of block holders, director ownership, separate audit committee, voluntary adoption of governance structures	Board independence, CEO duality,
Min and Bowman (2015), South Korea	2842 firm-years	Outside directors, independent directors, firm size	Dividend pay outs,
Hu and Zheng (2015), China	378 distressed firms	Concentrated state ownership structure, separation of cash flow rights and control rights	

Schultz et al. (2015), Australia	222 unique firms	Inside ownership, executive remuneration, the proportion of non-executive directors on the board, board structure, ownership structure	Executive pay, board structure, ownership structure (at controlled endogeneity not significant)
Shahwan (2015), Egypt	86 non-financial firms,	ownership type, a current ratio	Corporate governance index, ownership concentration, institutional ownership, leverage, size, return on sales

3.5 CHAPTER SUMMARY AND CONCLUSIONS

The chapter concentrated on the literature relating to corporate governance mechanisms and financial distress prediction. What constitutes financial distress and how it is identified by different authors in different study environment was discussed in the chapter. The literature on corporate governance variables and their influence on financial distress were also reviewed in the chapter. The review indicates different results in different governance environment. By identifying the gaps in the literature, the chapter provides the platform upon which this study is established.

CHAPTER FOUR
THEORETICAL REVIEW

4.1 INTRODUCTION

Lajili and Zéghal (2010) maintain that given the complex nature of corporate governance, different and competing theories have been developed from the management and strategic literature to deal with the different requirements of corporate governance characteristics. These include the agency theory, the resource dependence theory, the stakeholder theory, and the stewardship theory. The chapter discusses these theories and their significance to corporate governance mechanisms and firms' financial distress. The discussion of these theories is motivated by the fact that in most cases, the corporate governance mechanisms could be looked at differently from each of the above-mentioned theories. Hence, the need for a multi-theoretic approach towards corporate governance is also examined in the chapter.

The chapter is structured as follows: section 4.2 discusses the agency theory and section 4.3 considers the resource dependence theory. In sections 4.4 and 4.5, the stewardship theory and the stakeholder theory are respectively explained. Finally, section 4.6 deliberates on the multi-theory approach to corporate governance, while the chapter summary is presented in section 4.7.

4.2 THE AGENCY THEORY

Companies are owned by shareholders, and especially in listed companies, the distribution of shareholding results in the separation of ownership and control, hence the agency problem. According to Eisenhardt (1989), the agency theory regards the universal agency relationship, in which the principal gives work to the agent. Jensen and Meckling (1976), explain that in terms of corporate organisations, agency theory involves a contract under which the shareholders engage the managers to perform some service on their behalf, which includes delegating some decision-making authority to the managers. Agency theory assumes that managers are opportunists who will self-satisfy rather than profit maximises on behalf of the shareholders (Eisenhardt 1989) but shareholders require the specialised knowledge of managers to generate wealth for those businesses in which they have invested. From the agency theory perspective, a firm's managers are responsible for conducting business in the interest of the firm, and that a manager's own self-interests will never align completely with the interests of the firm. Managers of a firm will sometimes experience conflicts of interest when conducting business on behalf of the firm (Bryant and Davis 2012). This gives the central argument of agency theory

which is that managers acting as agents are likely to pursue private objectives that deviate and even conflict with the goals of the shareholders if they are not monitored. Because there are conflicts between the interests of the shareholders and management (Fama and Jensen 1983), agency theory is concerned with aligning the interests of shareholders and managers (Jensen and Meckling 1976; Fama 1980; Fama and Jensen 1983). Consequently, firms must either increase the incentive structures that align the interests of shareholders and managers (Fama and Jensen 1983) or increase the monitoring, control, and oversight of managers by owner principal delegates such as the board of directors (Bryant and Davis 2012). Increasing the incentive alignment which is regarded as an internal governance mechanism involves two related components which are the financial alignment created with outcome-based contracts, share options, and alignment of preferences and actions, whereby the management's preferences become more aligned with those of the shareholders (Nyberg et al. 2010). Jensen and Meckling (1976) are of the view that when incentives are aligned with the interest of the shareholders, the board of directors becomes more effective monitors of management, which then leads to an improved firms' performance and consequently avoiding financial distress. In terms of monitoring and control, it is assumed that the board of directors monitor and control the opportunistic behaviours of managers. According to Fama and Jensen (1983), the board of directors are the main control mechanism for the organisations and are authorised for the control of organisational decisions. Other corporate governance mechanisms, including the audit committees, also monitor and control management's behaviour. Thus, shareholders may use a different range of corporate governance mechanisms, including monitoring by boards of directors and mutual monitoring by managers (Fama and Jensen 1983), as well as monitoring by large outside shareholders to control management opportunistic behaviour. The assumption here is that by managing the principal-agency problem between shareholders and managers, firms will operate more efficiently and perform better (Filatotchev 2007) to avoid the likelihood of financial distress. If the firm is to survive and avoid financial distress, the shareholder-management relationship should reflect an efficient form of organisation of information and risk-bearing cost (Jensen and Meckling 1976; Fama, 1980).

In conclusion, agency theory provides the theoretical foundation of the monitoring function, which refers to the responsibility of directors to monitor management, on shareholders' behalf and according to Bryant and Davis (2012), it has proven to be a popular theoretical framework from which to investigate the role of the board of directors.

Boards, especially, ones with most outside directors, monitor the actions of managers to protect the interests of owners (Jensen and Meckling 1976), thereby reducing the likelihood of financial distress. It is also a powerful tool for understanding and prescribing the compensation structures of top executives and the structures and actions of the board of directors. However, according to Wiseman et al. (2012), despite the considerable evidence in support of agency predictions, critics of agency theory have argued that the theory lacks validity outside a specific social context and they specifically contend that agency theory relies on an assumption of self-interested managers who seek to increase personal economic wealth while minimising personal effort. Critics of the theory, therefore, view it as being applied to settings in which managers and possibly shareholders hold little regard for others and have little compunction when it comes to one's responsibilities (Davis et al. 1997).

4.3 THE RESOURCE DEPENDENCY THEORY

From resource dependence theorists, a firm is an open system, dependent on external organisations and environmental contingencies and that a firm's survival is dependent on its ability to establish control over resources (Pfeffer and Salancik 1978). The core insight of resource dependence theory is that firms are dependent upon actors outside the firm for critical resources (Berman et al. 2005). The reliance of the firm on these external stakeholders is due to a disparity of power between the firm and these stakeholder groups (Frooman 1999). Since companies are not internally self-sufficient, they must acquire resources from other companies and that the need for resource acquisition renders the acquiring company dependent upon the supplying company (Peng and Beamish 2014). The external dependency creates uncertainty for the acquiring company which is harmful because it obscures the firm's control of resources and choice of strategies obstructing everyday functioning which affect the firm's financial health (Rivas 2012). Since firm interdependence with the environment can lead to a reduced firm's autonomy and to a less certain future for the firm, the acquiring company is motivated to enhance its autonomy by avoiding external dependence (Rivas 2012). Thus, firms seek to minimise uncertainty linked with the acquisition of significant resources by attempting to control the external environment and that when firms can cope effectively with uncertainty, it leads to power (Pfeffer and Salancik 1978) and increased firms' survival likelihood. Hence, from the resource dependence theory, firms attempt to exert control over their environment by co-opting the resources needed to survive (Pfeffer and Salancik 1978). Accordingly, this perspective views governance structure and the board composition as a

resource that can add value to the firm (Carpenter and Westphal 2001). Also, from Hillman and Dalziel (2003), boards of directors are a key source of various resources and that board members are selected based on their resource provision capabilities, which are important for the firm. According to Pfeffer and Salancik (1978), the boards'resource dependence role encourages access to the critical assets, capabilities, and knowledge that are critical and may be otherwise unavailable to the firm. Dalton et al. (1999) mention that the resource dependence roles of the board of directors, which forms a link to the firms' external environment are the basis for firm survival. Researchers have analysed board composition and its effect on firm performance using the resource dependence theory and have found support for the argument that boards have a larger role in terms of securing resources from the external environment than simply monitoring firm management (Hermalin and Weisbach 1988; Pearce and Zahra 1992). The resource dependence theory, therefore, considers the board of directors as a mechanism that reduces the environmental uncertainty (Pfeffer 1972), manages the external firm dependencies (Pfeffer and Salancik 1978), and increases organisational legitimacy (Pfeffer and Salancik 1978; Zahra and Pearce 1989).

4.4 THE STEWARDSHIP THEORY

Stewardship theory as defined by Hernandez (2012) is the extent to which an individual willingly subjugates his or her personal interests to act in protection of others' long-term welfare. According to Davis et al. (1997), given a choice between self-serving behaviour and pro-organisational behaviour, a steward's behaviour will not depart from the interests of his or her organisation and will also not substitute self-serving behaviours for cooperative behaviours. Stewardship theory holds that a manager when faced with a course of action seen as personally unrewarding, may comply based on a sense of duty and identification with the firm (Etzioni 1975). The stewardship model is one based on the manager as a steward instead of the entirely self-interested rational economic man of agency theory (Muth and Donaldson 1998). From Davis et al. (1997), the stewardship theory argues against the opportunistic self-interest assumption of the agency theory, claiming that managers are motivated by a need to achieve, to gain intrinsic satisfaction through successfully performing inherently challenging work, to exercise responsibility and authority, and thereby gain recognition from peers and bosses. In contrast to the agency theory, the stewardship theory proposes that managers are essentially trustworthy individuals and hence, are good stewards of the resources entrusted to them (Donaldson 1990; Donaldson and Davis 1991). The stewardship theory takes a broader view of human

behaviour, proposing that individuals are motivated not only by self-interest, but also by service to others, altruism, and generosity. Moreover, as opposed to people having homo economicus, and being motivated solely by economic considerations, stewardship theory proponents regard as pivotal higher-level needs, including self-actualisation, through the fulfilment of personal values and aspirations (Donaldson 1990). Stewards enjoy higher monetary rewards and are averse to risk, and effort. Also, stewardship theory regards a range of non-financial motives for managerial behaviour including the need for achievement and recognition, the intrinsic satisfaction of successful performance, respect for authority and the work ethic (Muth and Donaldson 1998). Agency conflicts are reduced under stewardship theory since the steward attaches positive marginal utility to the pursuit of firm collective ends (Nicholson and Kiel 2007) and stewards believe that their interest is aligned with that of the firm and its owners'. Steward's interests and motivations are therefore directed to organisational rather than personal objectives (Davis et al. 1997).

4.5 THE STAKEHOLDER THEORY

The stakeholder theory is a theory concerned with the relationship between a firm and its stakeholders. Since its introduction, the stakeholder approach has become a consistent dimension in corporate life and is henceforth difficult to discount in any corporate model (Andriof and Waddock 2002). Freeman (1984) defines stakeholders as any group or individual who can affect or is affected by the achievement of the firm's objectives while Donaldson and Preston (1995) define stakeholders as persons or groups with legitimate interests in procedural and/or substantive aspects of corporate activity (Shafiq et al. 2014). Chiu and Wang (2015) view stakeholders as those who have a stake in a firm and have something at risk and they normally include shareholders, creditors, employees, public interest groups, customers, suppliers, governmental agencies and the community. According to Sternberg (1997), due to the increasing internationalisation of modern life, and the global connections made possible by improved transportation, telecommunications, and computing power, those affected at least distantly and indirectly by a firm include almost everyone. From the stakeholder theory perspective, a firm must meet the multiple expectations of the different stakeholder groups instead of meeting only the expectations of shareholders as in the traditional shareholder theories because stakeholder theory emphasises firms' accountability beyond simple economic or financial performance. Stakeholder theory, therefore, offers a platform for identifying key groups to whom a firm should direct its social efforts and represents a foundation for discerning

the relationship between various indicators of firm performance (Jones 1995). Logdson and Wood (2000) argue that a major purpose of the stakeholder theory is to help corporate managers understand their stakeholder environments and manage more effectively within the nexus of relationships that exists for their companies. According to Mitchell et al. (1997), the concept of stakeholder theory is intended to broaden management's vision of its role and responsibilities beyond profit maximisation functions to include interests and claims of non-shareholder groups. Management is expected to be accountable to the firm's stakeholders by embarking on activities recognised as important by its stakeholders, and by reporting information. Managers should, therefore, balance the interests of all stakeholders, and maximising the welfare of all stakeholders requires that managers balance and integrate multiple stakeholders' interests with no prima facie priority of one group of stakeholders over another (Freeman et al. 2004). Two main branches of the stakeholder theory are evident in the literature and these are the ethical or normative branch and the managerial or positive branch (Deegan 2014).

In the ethical or normative perspective, corporate managers are required to manage the business for the benefit of all stakeholders irrespective of whether management of stakeholders leads to improved financial performance (Hasnas 1998). Thus, a firm is accountable to all its stakeholders rather than only to more powerful or financial stakeholders. However, unlike the ethical perspective, in the managerial perspective, a firm is expected to be accountable to its economically powerful stakeholders, instead of all its stakeholders. The managerial perspective of the stakeholder theory has similar views on the agency theory, that managers maximise shareholders' value, but firms' activities influence on their societies and therefore in maximising shareholders' value, the needs of the society must also be achieved. Therefore, in today's business operations, the normative or ethical perspective of the stakeholder theory is practical and relevant to achieving the overall business objectives not only the shareholder wealth maximisation as evident in the managerial perspective.

The stakeholder theory has played a significant role in championing corporate responsibility as it has urged firms to take the demands of stakeholders other than shareholders seriously as part of their financial and social performances (Fassin 2012). Stakeholder governance, with appropriate collaborative communication practices, can generate more creativity impacting on new product development, greater efficiency and effectiveness in personal and corporate goal attainment, higher levels of mutual commitment, and greater product and service customisation (Kooskora 2006). From

Kacperczyk (2009), attending to stakeholders' interests may benefit firms not only in the short term but also in the long run. This could be through an increase in customer base that will improve the firm's financial performance and that several theoretical reviews contend that firms that satisfy stakeholders' claims can secure intangible resources that enhance firms' ability to create value in the end to avoid financial distress. For firms to be successful and avoid financial distress, they need to achieve good social, environmental, and financial performances and to achieve that the different needs of the stakeholder group must be fulfilled. It is therefore not surprising that businesses of today report on their social, environmental as well as their financial performance.

However, the main difficulty with the stakeholder theory is that there is no unified concept defining the stakeholder (Kooskora 2006). This is because stakeholders include all those who can affect or are affected by the firm and that the number of people who benefit from the firm is unlimited, but the stakeholder theory gives no criteria as to how appropriate individuals or groups should be selected (Sternberg 1997). The stakeholder theory asserts that firms run for the benefit of all their stakeholders and that firms are accountable to all their stakeholders. However, in that case, the stakeholder theory is incompatible with business and all substantive objectives. Again, from the stakeholder theory, the duty of corporate managers to create value for their shareholders is undermined and that managers' responsibilities towards shareholders are contradictory to their responsibilities under the agency theory. Thus, while the stakeholder theory expects managers to fulfil the needs of all stakeholders of their firms, the agency theory regards managers as agents who have been appointed by the shareholders to look after their interests and maximise shareholder value. The stakeholder theory, therefore, requires that managers violate the prior duties or responsibilities to shareholders that they undertook in accepting their jobs (Sternberg 1997). According to Sternberg (1997) therefore, despite the sincere hopes which are so often attached to stakeholder theory; it is not likely to improve corporate performance.

4.6 CONCEPTUAL FRAMEWORK

The conceptual framework developed in figure 1 underpins the study. Based on Standard and Poor's (2002) corporate governance score, this study categorised corporate governance under disclosure and transparency (directors' remuneration, presence of senior independent director, disclosure of proxy voting arrangements in the annual reports, disclosure of notice of annual general meeting in the annual reports), ownership structure (directors' ownership, institutional ownership, concentrated ownership), and

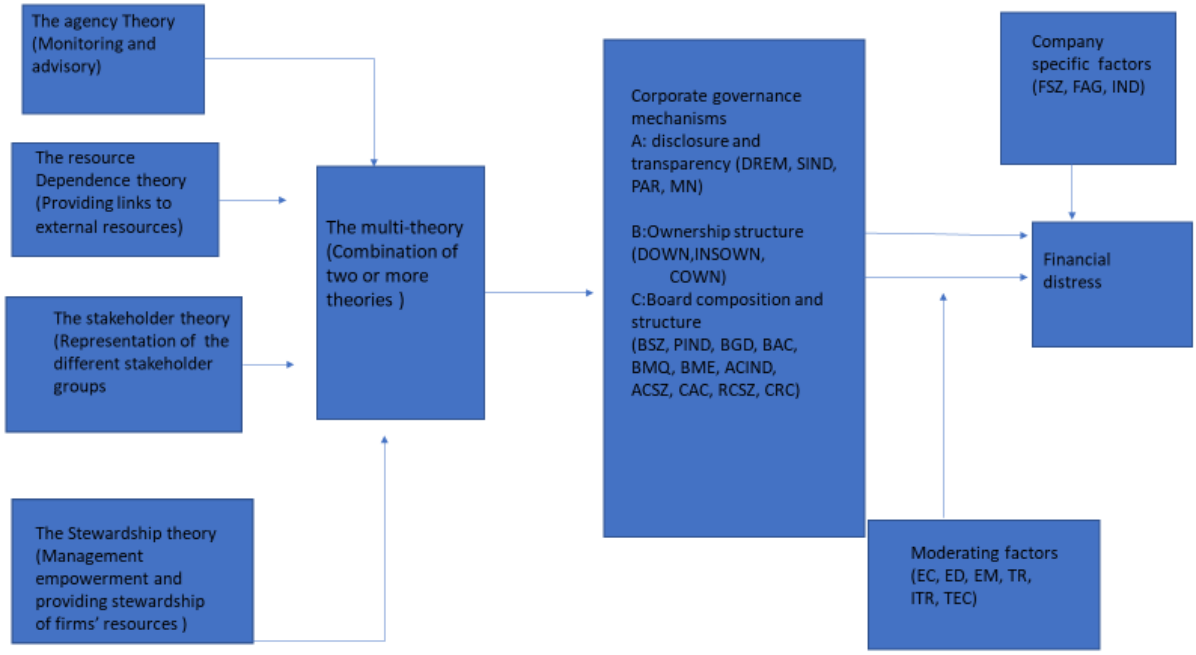
board composition and structure (board size, proportion of independent directors, board gender diversity, board activity, board member qualification, board member financial expertise, audit committee independence, audit committee size, a firm's chairperson on the audit committee, remuneration committee size, a firm's chairperson on the remuneration committee) to determine their influence on firms' financial distress. Taking the multi-theoretic approach which combines all the four theories, the influence of each corporate governance mechanisms on financial distress is determined. Zona et al. (2013) encourage researchers to discover and debate multi-theoretical approaches to the study of corporate governance instead of adopting a single theoretical perspective. Daily et al. (2003) also have concurred that taking a multi-theoretic approach to corporate governance is essential to observe and understand the interrelated mechanisms and structures that potentially enhance firm performance and reduce financial distress. The four theories in figure 1 below give credence to different functions of the board and other governance mechanisms. The agency theory concerns itself with the conflict of interests between principals and agents and therefore focusses on the monitoring and the control function of the board. The stakeholder theory explores the dilemma regarding the interests of different groups of stakeholders and views boards as representatives of different stakeholder groups. The stewardship theory regards managers as stewards and thus limits the role of the board to managerial empowerment and advice, while the resource dependency theory underscores the importance of the board as a resource and envisages a role of not only providing advice to the managers but also helping the firm secure access to resources (Mason-Jones and Towill 1999). It is therefore important from the conceptual framework that the multi-theoretic approach is used to understand the effects of each corporate governance on financial distress.

With regards to the corrporate governance mechanisms, each theory regards the role of each corporate governance mechanism differently. For instance, in terms of board size, the agency theory argues that for monitoring purposes, a smaller board may be needed. The resource dependent theory, however, argues for a larger board size since they bring in more and varied resources to the firm and may also have access to significant resources that are required by the firm and hence, the more directors a firm has, the more resources they bring to the firm. Likewise, the stakeholder theory calls for a larger board size in order to represent the different stakeholder group but the stewardship theory argues that the appointment of the board of directors as a monitoring body over management is irrelevant since managers are seen as stewards to take care of firms' resources. This means

that in developing the research hypotheses, it is important to recognise the arguments coming from each theoretical perspective regarding the role of each corporate governance mechanism.

The framework also shows that aside the corporate governance mechanisms, the company specific factors which are firm size, firm age, and industry are controlled to capture the full impact of corporate governance mechanisms on financial distress of UK listed companies. Further, the framework shows that the moderating factors which include environmental complexity, environmental dynamisms, environmental munificence, tangible resource, intangible resource, and technological capability interact with the corporate governance mechanisms to observe their moderating influence on the relationship between the corporate governance mechanisms and financial distress.

FIGURE 1: THE CONCEPTUAL FRAMEWORK OF THE STUDY



(Conceptual framework of the study developed by the author)

4.7 CHAPTER SUMMARY

The chapter discussed the agency, the resource dependence, the stakeholder and the stewardship theories in relation to corporate governance mechanisms and how they impact on firms' financial distress. In the discussions, while agency theory argues for boards monitoring role, the resource dependence theory regards boards as a resource that adds value to the firm and that board of directors' role brings more varied resources and competences which help to build more different and numerous relationships with external

sources of resources, and as a result give firms a wider range of possible solutions for their survival and development (Goodstein et al. 1994; Pearce and Zahra 1992). The chapter also considered the stakeholder theory, which argues that firms should focus on all the stakeholder groups not only the providers of capital. From the perspectives of the stewardship theory, the discussion ascertained that inside directors spend their working lives in the firm they govern, they, therefore, understand the firm better and as such can make a superior corporate decision. It regards managers as stewards who want to achieve higher corporate performance but not the self-interested rational economic man as claimed by the agency theory (Muth and Donaldson 1998). The conceptual framework which is the basis of this study was also explained.

CHAPTER FIVE

DEVELOPMENT OF HYPOTHESES

5.1 INTRODUCTION

This chapter brings together the work covered in the four preceding chapters which highlight: (i) the motivation and research problem of the study; (ii) the corporate governance environment in the UK; (iii) the review of the extant literature on corporate governance and financial distress; and (iv) the underlying theories to motivate hypotheses about corporate governance and the occurrence of firm financial distress. The main purpose of this chapter is to use a multi–theoretical approach to develop the research hypotheses to deepen our understanding of the relationship between corporate governance and financial distress phenomenon. Specifically, the study uses an integration of agency theory, stewardship theory, resource dependence theory, and stakeholder theory to develop the research hypotheses linking corporate governance mechanisms to firms' financial distress. In addition, the moderating role of the firms' environment, resource, and technological capability on the relationship between corporate governance and financial distress are also discussed.

The chapter proceeds as follows. Section 5.1 gives a summary of the motivation for developing the hypotheses from a multi-theoretical approach. Section 5.2 discusses the research hypotheses, while section 5.3 presents the chapter summary.

5.2 THE MOTIVATION FOR DEVELOPING THE RESEARCH HYPOTHESES FROM A MULTI-THEORETICAL APPROACH

Agency theory which has been developed to respond to the problems resulting from the separation of ownership and control of companies has dominated corporate governance research (Jensen and Meckling 1997; Daily et al. 2003). However, given the complex nature of corporate governance, different and competing theories including the resource dependence, stewardship, and stakeholder theories have also emerged from the management and strategic literature (Lajili and Zeghal 2010).

The agency theory regards the primary duty of boards as acting as an effective monitor of corporate management to ensure that management serves the best interests of the company's shareholders (Fama and Jensen 1983). Thus, according to Fama and Jensen (1983), directors perform a monitoring role, which refers to the extent to which the directors control managerial decisions on behalf of the shareholders so as to reduce top managers' opportunistic behaviours. Directors on the board can be executive directors, affiliate directors, or independent directors (Dalton et al. 1999) but according to the

agency theory, only independent directors who do not have any relationship with the firms except being part of the board, are truly effective in monitoring the decisions of the firms' management (Ashwin et al. 2016). Agency theory, therefore, regards boards of directors, particularly independent directors as those who prevent management from opportunism and their self-serving motives through effective monitoring. Monitoring by the board of directors lowers the agency problems, thereby limiting firms' likelihood of financial distress (Hillman and Dalziel 2003).

From the resource dependence theory, a firm's survival is dependent on its ability to establish control over its critical resources (Pfeffer and Salancik 1978). Where a firm lacks critical resources, it becomes reliant on the external environment, and this dependence creates uncertainty that is harmful because it obscures the firm's control of resources and choice of strategies obstructing everyday functioning thereby affecting the firm's performance and its likelihood of financial distress (Rivas 2012). When a firm can cope effectively with uncertainty, it leads to power (Pfeffer and Salancik 1978) and an increase in its survival likelihood. The resource dependence theorists suggest that one important function of the board of directors is its resource dependence role in providing resources and examine how board capital leads to the provision of resources for the firm which enhances its survival. According to the resource dependence theory, directors are expected to give advice and counsel, bring legitimacy and access to significant constituents outside the firm, serve as channels for communicating information between external companies and the firms, and help in strategic development (Haynes and Hillman 2010). Thus, from the resource dependence theory (Pfeffer 1973; Kiel and Nicholson 2003), the board of directors links their companies to the external environment, which reduces uncertainties and facilitates securing critical resources including finance, information, and reputation (Ntim et al. 2015).

The stakeholder theory considers the interests of all stakeholders in the governance of firms. Even though companies' boards of directors are responsible and accountable only to their shareholders, such accountability exists only in a strict and narrow sense. With the mounting, public pressure due to the recent corporate scandals and environmental concerns, the concept of the responsibilities of firms has changed and broader corporate governance guidelines have emerged and this has resulted in a broader interpretation of the directors' role and responsibilities (Pande and Ansari 2014). According to Gaur et al. (2015), to serve the interests of all the stakeholder groups, as the theory suggests, it is important to have representatives from the stakeholder group on the board, though

identifying all stakeholder group is very difficult and an unrealistic work for managers. Although it is not totally clear how relevant the stakeholder theory is, in analysing board composition and its performance results at the very basic level, stakeholder theory also points to a positive linkage between board size, board competence, and firm performance, with the assumption that a larger and more competent board may be better able to protect the interests of different stakeholder groups (Gaur et al. 2015).

The stewardship theory takes a completely different view from the agency theory by suggesting that managers are necessarily trustworthy and good stewards of the resources entrusted to them, which makes monitoring under agency theory unnecessary (Davis et al. 1997). The stewardship theory regards managers as stewards of firms' resources and sees the board of directors as the body that inspires and advises management. Proponents of stewardship theory assert that superior corporate performance is linked to a board that has many inside directors. This is because inside directors have a better understanding of the business, and view processes and decisions from a better location than outside directors who according to the stewardship theorists lack the knowledge, time and resources to monitor management effectively and this can affect firms' financial performance and survival (Donaldson 1990).

The agency, resource dependence, stakeholder, and stewardship theories prescribe different board functions. For instance, the agency theory focuses on the monitoring and control role of the board, while resource dependence theory regards board role as not only giving advice to management but also assisting the firm secure access to significant resources. The stakeholder theory regards boards as representatives of the different stakeholder group, and the stewardship theory limits boards role to managerial empowerment and advice (Gaur et al. 2015). Given that the above theories prescribe different roles for the board of directors and different functions for other corporate governance mechanisms, this study takes a multi-theoretic approach and uses some of the prescriptions and assumptions of these theories to develop the research hypotheses.

Generally, this study focuses on testing some agency, resource dependence, stakeholder, and stewardship theories assumptions to help predict the likelihood of firms' financial distress (Lajili and Zéghal 2010).

5.3 THE RESEARCH HYPOTHESES

This section discusses the research hypotheses developed for the study. Appiah (2013) indicates that prior studies in the prediction of corporate failure employ statistical

techniques in a search of predictors, without a clear philosophical base and that the literature on corporate failure is dominated by an ad hoc selection of variables approach, without any theoretical underpinnings. Also, Ong et al. (2011) agree that there is no theoretical approach in selecting variables for financial distress prediction models. Scott (1981) however, concludes that bankruptcy prediction is both empirically feasible and theoretically explainable. Hypotheses based on the components of (i) board composition and structure, (ii) ownership structure, and (iii) disclosure and transparency are developed for the study. Further hypotheses covering the moderating influences of resource, technology, and environment on the relationships between the components of board composition and structure, ownership structure, and disclosure and transparency are developed. Finally, hypotheses are also developed for the control variables that, based on prior studies, are deemed to have an influence on the relationship between corporate governance and firms' financial distress.

5.3.1 BOARD COMPOSITION AND STRUCTURE

The corporate governance variables used to formulate the hypotheses for board composition and structure are; board size, proportion of independent directors, board gender diversity, board member education, board member financial expertise, board activity, remuneration committee size, the presence of a firm's chairperson on the remuneration committee, audit committee independence, size of the audit committee, and the presence of a firm's chairperson on the audit committee.

5.3.1.1 BOARD SIZE

Agency theory regards the primary duty of the board of directors as acting as an effective monitor of corporate management to ensure that management serves the best interests of the company's shareholders (Fama and Jensen 1983). Jensen (1993) proposes that a smaller board size is more effective at monitoring firms' management. This is because in smaller boards, directors are personally more involved and the decision-taking process is more efficient and rapid which guarantees a more effective management monitoring activity (Ciampi 2015). This reduces the chances of the firm achieving unstable economic and financial situations (Fich and Slezak 2008). However, a smaller board might be easier for the CEO to influence (Simpson and Gleason 1999) and therefore a larger board is necessary to raise their disciplinary control over the CEO (Brédart 2014). Dalton et al. (1999) also argue that larger boards offer better advice to the CEO but Jensen (1993) states that large boards result in less effective coordination, communication and decision making, and are more likely to be controlled by the CEO. This is supported by Yermack

(1996) and Eisenberg et al. (1998) who find that large boards are associated with lower firm value. This is because larger boards generally consume more pecuniary and non-pecuniary resources in the form of remuneration and perquisites than smaller boards (Jensen and Meckling 1976).

In extending the resource dependence perspective to the context of financial distress and bankruptcy, Gales and Kesner (1994) argue that the more directors serving on the board, the better connected the firm is to critical resources and the less likelihood of financial distress and bankruptcy. The resource dependence theory argues that larger boards have a positive effect on firms since they bring more varied resources and competences, help to build more different and numerous relationships with external sources of resources and thus, give firms a wider range of possible solutions for their survival and development (Ciampi 2015). The resource dependence theory, therefore, maintains that larger boards offer advantages associated with the firm's ability to access the resources and information held by the directors that might be needed to achieve the company's objectives (Pearce and Zahra 1992). Chaganti et al. (1985) however, indicate that there are some problems associated with larger board size. They include greater discretion of board members to meet their interests to the detriment of the general interest of the company or lack of effectiveness when turbulent economic environments need a change in strategic direction to avoid distress and ensure survival (Goodstein et al. 1994).

Also, while the stakeholder theory calls for a larger board size to allow for the representation of different stakeholders of the firm (Gaur et al. 2015), stewardship theory limits the role of the board to managerial empowerment and advice and therefore not in favour of larger board size.

Empirical studies by Chaganti et al. (1985) and Gales and Kezner (1994) find that boards of companies which filed for a bankruptcy protection chapter are characterised by smaller board size. Studies by Manzaneque et al. (2016b) and Brédart (2014) indicate that board size is negatively related to firms' likelihood of financial distress. Other researchers including Simpson and Gleason (1999), Lakshan and Wijekoon (2012), and Ciampi (2015) however found no evidence between board size and the firm likelihood of financial distress. According to Ntim et al. (2015), it is still unclear within the extant literature as to whether larger boards also result in poor performance of the resource dependence role. However, the monitoring role of the board under the agency theory may demand a smaller board size. The resource provision role of the board from the resource dependence perspective and the stakeholder representation on the board under the stakeholder

perspective all require a larger board size, but the stewardship theory is not supportive of the board of directors as a management control mechanism. The impact of board size as a corporate control mechanism on firms' financial distress is however not clear, but the strongest arguments indicate that a smaller board would result in closer alignment with shareholder interest which would reduce risk taking (Simpson and Gleason 1999) and increase firm value. Accordingly, the study proposes the following hypothesis.

H1a: Board size is negatively related to firms' likelihood of financial distress.

5.3.1.2 PROPORTION OF INDEPENDENT DIRECTORS

Board independence is determined by the degree to which the board consists of people who are not otherwise affiliated with the firm through employment or economic exchange relationships (Gordon 2007). A board has a high level of independence if the board has more outside members and if the chair of the board is not the same as the CEO of the firm (Gaur et al. 2015). According to Dowell et al. (2011), independent boards are generally considered advantageous since they are harder for top management to dominate and they may be more likely to encourage changes even in the face of management reluctance. Agency theory recommends the independence of the board as a way of ensuring adequate control over the management (Manzaneque et al. 2016b). Since independent directors do not have any relationship with the firm other than being part of the board, they are in a better position to monitor and control potential opportunism and avoid selfish behaviours of management to ensure that their decisions are consistent with the interests of the shareholders (Fama and Jensen 1983; Jensen 1993). Fich and Slezak (2008) and Chang (2009) assert that having independent directors on the board reduces the possible existence of information asymmetries and the agency costs between shareholders and management. Although empirical evidence by Hermalin and Weisbach (1988) indicate that independent directors represent the interests of the shareholders better, they are characterised by a more superficial understanding of the specificities of the firm and that many independent directors representing different interests may reduce the economic flexibility of a firm resulting in conflicts between the board and top management (Chaganti et al. 1985). Nevertheless, the internal directors' position in the firm and the existence of possible inherent contracts as well as their loyalty with the CEO, may affect their ability to replace the CEO when necessary, especially when firms are financially distressed. It is therefore unlikely that inside directors will be able to perform the monitoring role of the board. Hence, from the agency theory perspective, independent

directors are more likely to monitor, advise, and challenge managers, especially when the firm needs to make changes to survive (Weisbsch 1988).

From the resource dependence theory perspective, appointing independent directors is regarded as a strategy for managing organisations' environmental relationships (Daily and Dalton 1994). Independent directors are considered as a strategic resource since they make it possible to widen the organisational knowledge of the company (Cornett et al. 2008). Independent directors provide resources to deal with external factors including the community, buyers, or suppliers but inside directors serve on boards primarily to provide firm-specific information (Fama and Jensen 1983). Hence, the resource dependence perspective stipulates that having independent directors is a crucial factor for a firm's survival, especially in a state of crisis since it allows greater access to external resources and specific competences (Dalton et al. 1998; Hillman and Dalziel 2003). Resource dependence theory, therefore, recognises independent directors as a critical link to the external environment (Abdullah 2006) especially the need for a high proportion of independent directors on the board when firms are financially distressed. Baysinger and Hoskisson (1990) however argue that independent directors do not have in their possession enough experience to do their jobs very well.

The stakeholder theory argues that independent directors, due to their non-affiliation with the firm, can articulate the views of all the stakeholder groups. Independent directors are also able to protect the interest of different stakeholder groups. The stewardship theory, however, argues that the presence of independent directors increases the chances of a conflict within the board, making the decision-making process less efficient (Gaur et al. 2015).

Meanwhile, the independent directors have advantages from both the agency and the resource dependence theories for distressed firms and these advantages include the fact that they can challenge the CEO and top management whenever there is a disagreement over the correct direction to take in times of distress (Dowell et al. 2011). In addition, independent directors are more likely to have the resources that are urgently needed by distressed firms, such as access to capital (Hillman and Dalziel 2003).

The empirical evidence regarding the relationship between independent directors and firms' distress is not unanimous. Elloumi and Gueyie (2001), Daily et al. (2003), and Wang and Deng (2006) find that firms with a large proportion of independent directors show a smaller probability to file for bankruptcy since they are more efficient in imposing

the necessary measures to overcome a possible failure situation. Further, research by Fich and Slezak (2008) that links board configuration to financial distress indicates that smaller boards with outside directors are more effective at avoiding bankruptcy. Moreover, on bankruptcy research, Platt and Platt (2012) find that for companies that do not go bankrupt, approximately 66% of directors are independent, which is significantly higher than the 60% of independent directors at bankrupt firms and that this finding is consistent with prior research (Daily and Dalton 1994a; Fich and Slezak 2008). Meanwhile, Chaganti et al. (1985) and Simpson and Gleason (1999) establish no relationship between the proportion of independent directors on the board and business failure. Independent directors, however, are better equipped to monitor management. This study, therefore, proposes the following hypothesis regarding the proportion of independent directors.

H1b: The proportion of independent directors is negatively related to firms' likelihood of financial distress.

5.3.1.3 BOARD GENDER DIVERSITY

In addition to the social and ethical reasons, economic arguments have also stimulated the demands for increasing the number of women representation on corporate boards (Saeed et al. 2016). "Considering that women bring different professional experiences and perspectives compared to men (Hillman et al. 2007; Ward and Forker 2017), it might be expected that the presence of women on the board will direct to more informed and strategic actions to identify better investment opportunities for the firm" (Poletti-Hughes and Briano-Turrent 2019, page 2). The corporate governance code incorporates recommendation for gender equality and that the Higgs (2003) report argues that diversity could improve board effectiveness and specifically recommends that firms draw more actively from professional groups in which women are better represented. Gender diversity may allow organisational heads to effectively reach common goals and decisions, regardless of whether they share similar meanings or opinions (Perryman et al. 2015b). According to Ye (2019), board gender diversity can influence board efficiency at both individual and team levels and at the individual level, researchers (Adams and Ferreira 2009) ascertain that females can differ from males in ways that can improve board efficiency. Although according to Carter et al. (2010), no single theory including the agency theory and the resource dependence theory predicts directly the link between board gender diversity and financial performance, these theories, however, give insight into the link and imply the possibility that board gender diversity impacts on firm performance and firm value.

From the agency theory, the monitoring role of the board plays a highly significant role in lessening the principal-agent conflicts, which ultimately influences firm performance and financial distress. According to Adams and Ferreira (2009), greater gender diversity on corporate boards may provide better monitoring because female director representation assists in improving managerial accountability including that of board meeting attendance and CEO responsibility. Consequently, agency theory proposes that females on corporate boards might make stronger existing control mechanisms over managers and executives because board gender diversity enhances board independence (Carter et al. 2010). Empirically, Adams and Ferreira (2009) find that female directors tend to have better monitoring ability since they think independently and are not influenced by the so-called old-boys' club syndrome and that, prior evidence from Burgess and Tharenou (2002) indicates the positive effect of board gender diversity on fostering good corporate practice.

The resource dependence theory proposes that an increase in the size and diversity of the board of directors improve the security of firms' significant resources and the linkage between firms and their external environment (Pfeffer 1973). The corporate governance literature indicates that more gender-diverse boards may help to extend those firms important resources including the human capital of board members such as knowledge and skills, advice and counsel, channels of communication, and legitimacy. Diversifying the board of directors by including more females would help firms to gain legitimacy, as gender equality becomes one of the accepted social norms. Also, increasing the female representation on corporate boards may broaden the human capital and channels of communication of the board of directors by offering more insight into corporates' strategic issues, more importantly, those that concern female employees, consumers, and business partners (Daily et al. 1999). However, according to Goodstein et al. (1994), board diversity leads to clashes within groups since others find it hard to identify with those of different gender and the greater the diversity of the board of directors, the greater the potential that conflict of interests may arise.

The stakeholder theory expects the board of directors to protect not only the interests of the shareholders but also the interests of all the stakeholder groups (Freeman 1984). Hillman et al. (2000) indicate that with board gender diversity, firms can understand and manage stakeholder relationships, which may guarantee the interests of different stakeholder groups. Female on corporate boards might provide a diversity of perspectives and opinions to board deliberations and help develop more responsive policies and thus,

board gender diversity is assumed to avoid earnings management that may enhance firm financial performance and consequently protect the interests of all stakeholder groups.

The stewardship theory argues that the monitoring mechanisms under the agency theory are irrelevant since managers are more motivated and therefore, behave as pro-organisational, trustworthy, and collectivists (Donaldson and Davis 1994; Davis et al. 1997). From the perspective of the stewardship theory, instead of the board of directors controlling and monitoring management, it must rather empower and facilitate the management. Female directors, therefore, behave as the stewards of the interests of companies and thus they are more proactive in cooperating with management thereby enhancing the effectiveness and efficiency of the board of directors. According to (Carter et al. 2010), theoretically, no single theory has predicted the link between board gender diversity and financial performance, although the resource dependence theory gives the most convincing theoretical arguments for a business case for board diversity. Thus, from Carter et al. (2003), until a theoretical framework that predicts the nature of the relationship is developed, examining the board gender diversity and financial performance nexus is an empirical issue.

Empirically, however, there is no consensus in the literature on the relationship between female representation on boards and financial performance (Sila et al. 2016) and the question that needs answering is: If there is a relationship between board gender diversity and financial performance, does female representation make the difference? Some studies, including Campbell and Mínguez-Vera (2008) and Carter et al. (2003) argue that the association between gender diversity and financial performance is positive. Whereas Adams and Ferreira (2009) argue for a negative relationship between board gender diversity and financial performance, Carter et al. (2010) find evidence of no significant relationship at all. On firms' risk-taking behaviour, Wilson and Altanlar (2009) find insolvency risk to be negatively associated with the proportion of female directors on corporate boards. Nonetheless, Nguyen et al. (2015) argue that, even if boards with more gender diversity do improve the monitoring function of the board, it does not necessarily follow that this improvement will result in a better financial performance because the potential impact of gender diversity on firm performance is dependent on the quality of firm governance. Adams and Ferreira (2009) therefore indicate that firms that are weakly governed may benefit more from female representation on their boards, enhancing additional monitoring, and improving firm value. However, if female directors provide greater monitoring expertise, which is more valuable in weak corporate governance

environment (Adams and Ferreira 2009) it may be expected that firms with more gender-diverse boards will enjoy the better financial performance to avoid financial distress (Nguyen et al. 2015). The study, therefore, proposes the following hypotheses.

H1c: *Board gender diversity is negatively related to firms' likelihood of financial distress.*

5.3.1.4 BOARD ACTIVITY

The level of board meetings has been used as a measure of the board activity and how frequently boards meet is topical, controversial, and has policy implications, yet, it is not directly covered by the corporate governance codes and the extant literature (Hahn and Lasfer 2016). The UK Combined Code on corporate governance (2003), technically, recommends that the board should meet sufficiently regularly to discharge its duties effectively. Brick and Chidambaran (2010b) assert that much of the regulatory and shareholder attention on the board of directors has assumed that board activity can increase shareholder value. Vafeas (1999) acknowledges that firm earnings, market performance, or investor issues, demand board to act and such actions may either increase or decrease board meeting frequency. Vafaes (1999), therefore, argues that the frequency of board meetings is a significant board characteristic that can have important implications for firm value. Conger et al. (1998) propose that board meeting time is an important resource in improving board effectiveness including the fact that directors meeting more frequently is more likely to counteract the entrenchment of managers.

From the agency theory perspective, corporate boards can perform their monitoring function if all the members attend board meetings. The frequency of board meetings matters when the board of directors wants to monitor closely firm managers to improve firm value. To this end, absence at board meetings may hamper board members from performing their duties effectively (Lin et al. 2014). This is because directors are expected to monitor the managers and assist them in designing value-enhancing long-term strategies and as such, any absence at board meeting implies that directors have less time to monitor managers and, thus, to discover managerial self-interest motives which impact firms' financial health. Jensen (1993) however has doubts about the effectiveness of board meetings in monitoring management since the agenda of the meetings are always set by the CEO and board meetings are more reactive than proactive.

From the resource dependence theory, Conger et al. (1998) advocate that board meeting time is an important resource for improving the effectiveness of the board. Lipton and Lorsch (1992) propose that the most widely shared problem faced by directors is a lack

of time to perform their duties. Directors spend a little time and sometime do not attend board meetings because they take up too many outside directorships. The resource dependence theory, however, regards board meeting time as a significant resource because directors on boards that meet more frequently are more likely to perform their duties in accordance with shareholders' interests (Vafeas, 1999).

The stakeholder theory also presumes that when firms' hold board meetings frequently, they address the interest and concerns of all the stakeholder groups.

Hahn and Lasfer (2016) admit that there is limited research on board activity and financial performance. Empirically, Vafeas (1999) and Adams (2005) find support for the inverse relationship between a board meeting and prior performance. This happens because poor prior performance requires a greater need for monitoring to turnaround the firm, therefore, boards may face increased pressure to be regarded as being engaged when the firm is performing badly. Brick and Chidambaram (2010), also find a positive relationship between board activity and firm value. They, however, assert that the danger of disagreement between board members increases when the firms perform badly, and this may result in an increase in the board's meeting frequency since directors may want to protect themselves from being blamed for not doing enough when their actions were needed. Brédart (2014) however, find no significant relationship between board activity and the occurrence of firms' financial distress. The board of directors of financially distressed firms are likely to face increase pressure and are therefore expected to be engaged in board meetings to discuss issues that improve the firm's performance. The following hypothesis is therefore proposed.

H1d: Board activity is negatively related to firms' likelihood of financial distress.

5.3.1.5 BOARD MEMBER QUALIFICATION

Fama and Jensen (1983) argue that the board of directors is the common head of decision control system. As such, they are expected to have qualifications relevant to the firm's industry. Adams and Ferreira (2007) classify the board's major functions into two; the monitoring and advisory functions. While the monitoring role of the board requires the directors to scrutinise management to prevent harmful behaviour ranging from shirking to fraud, the advisory role of the board requires the directors to help management in making good decisions about firms' strategy and actions (Linck et al. 2008). Directors are therefore expected to perform the monitoring and advisory roles better if they have the right qualification. From Platt and Platt (2012), if CEOs possess transferable

knowledge, then companies which have directors who currently serve as CEOs of other companies are expected to have a fewer incidence of bankruptcy. However, formal qualification, as a board characteristics, has received little attention to date outside financial expertise due to limited disclosure (Christy et al. 2013).

Consistent with the agency theory, board members with the relevant qualifications can perform their role of monitoring management to reduce agency costs (Jensen and Meckling 1976). Thus, board members with the relevant qualifications will be more critical of the firm's financial reporting, emphasising the board monitoring role, and will also advise the CEOs on financial communication strategy (Jeanjean and Stolowy 2009).

From the perspective of the resource dependence theory, board members with the relevant qualifications are an important resource for firms' strategic policies, analysis, and development. Board members with qualification is a rich source of innovative ideas to develop policy initiatives with analytical depth and rigor necessary for offering unique perspectives on strategic issues (Cox and Blake 1991). The presence of board members with the relevant qualifications is therefore likely to reassure the potential investors and/or creditors, which should make it easier to attract new financial resources (Jeanjean and Stolowy 2009).

The stakeholder theory argues that a more competent board satisfies the interest of many stakeholder groups and that board members with the relevant qualifications are in a better position to understand the concerns of all groups of stakeholders and assist the firm to come up with strategies to deal with different groups of stakeholders, as well as enhance the value of the resources and expertise brought by the board (Gaur et al. 2015).

However, the stewardship theory argues that insider-dominated boards contribute a depth of knowledge and expertise to the firm and this facilitates an active strategy role (Muth and Donaldson 1998). Proponents of stewardship theory contend that superior corporate performance is linked to many inside directors with the relevant qualification who naturally work to maximise profit for shareholders. With the right qualification, inside directors have a better understanding of the business, and view processes and decisions from a better location than outside directors who according to the stewardship theorists, lack the knowledge, time and resources to monitor management effectively thereby plunging firms into financial distress (Donaldson 1990; Donaldson and Davis 1994).

Empirical evidence regarding board member qualifications and financial distress are limited. Nonetheless, board members with qualifications are expected to influence firms' financial distress. The following hypothesis is proposed:

H1e: Board member educational qualification is negatively related to firms' likelihood of financial distress.

5.3.1.6 BOARD MEMBER FINANCIAL EXPERTISE

Expertise is the skilfulness by virtue of processing special knowledge and it is evaluated based on standards discussing the aptitude to perform a task (Sarwar et al. 2018). Adams and Jiang (2017) assert that board members who are professionally qualified financial experts are better in providing the supervisory and advisory functions that serve the interests of the shareholders. Custódio and Metzger (2014) argue that considering the complex financial transactions in modern day business, senior finance expert directors can communicate more effectively with capital markets than their non-financial expert counterparts. Financial literacy which can be acquired through both formal and self-guided education (Cohen et al. 2002) assists directors to understand the implications of basic financial decisions. Generally, financial literacy helps directors in monitoring management. Cohen et al. (2002) also acknowledge that it is significant for committee members to have accounting and financial expertise. Financial expertise on the audit committee strengthens corporate governance by enhancing the board's ability to protect shareholder interests and reduces the likelihood of financial distress thereby increasing shareholder value (Defond et al. 2005). Thus, the Smith Committee (2003) report contains the recommendation that at least one member of the audit committee should have significant, recent, and relevant financial experience. A board of members with financial expertise is a significant resource to the firm and that the financial expertise provides for ability and expertise necessary for the effective decision making process (Milliken and Martins 1996). Thus, according to the Blue Ribbon Committee Report (1999), in the US, a well-balanced and effective board should have directors with an array of talent, experience, and expertise that influence different aspects of the firm's activities; such diverse contributions are often made by different directors (Azim 2012). Carcello et al. (2015) find that both accounting and certain types of non-accounting financial expertise reduce earnings management for firms with weak alternative corporate governance mechanisms, but that independent audit committee members with financial expertise are most effective in mitigating earnings management. Firms with board members who have financial expertise are less likely to experience financial distress due to their ability to

foresee financial problems and take decisions to counteract those problems. The following hypothesis is therefore proposed.

H1f: Board member financial expertise is negatively related to firms' likelihood of financial distress.

5.3.1.7 AUDIT COMMITTEE INDEPENDENCE

The audit committee is an oversight committee to which the board of directors has delegated the responsibility of corporate reporting process (Bedard and Genderon 2010). According to Bedard and Genderon (2010), the audit committee is regarded as one of the significant and influential participants of corporate governance as it helps the board of directors in monitoring corporate management disclosure practices and internal control. An audit committee with independent directors ensures the quality and transparency of the financial reporting process because the independent directors have no economic or personal relationship with the management and as such are more likely to work independently and objectively from the influence of management (Bedard and Genderon 2010). The Code (2014) requires the board to establish an audit committee of at least three, or in the case of smaller companies, two independent non-executive directors.

From the perspective of the agency theory, Fama and Jensen (1983) argue that effective monitoring of the behaviour of management is likely to be influenced by independent directors. The audit committee is therefore seen as the core monitoring mechanism for shareholders especially in the light of the many accounting scandals including that of Enron and WorldCom (Aldamen et al. 2012).

The resource dependence theory recognises the audit committee and its independence as a body that adds more resource to the firm. The stakeholder theory also argues that the presence and independence of firms' audit committees are highly significant for all stakeholder groups as the committee gives assurances of the firms' financial reports. The role of the audit committee is therefore very important to stakeholders as quality disclosed financial reporting improves firms' market performance to avoid financial distress (Wild 1996). Thus, when firms do not comply with audit committee recommendations, financial irregularities and corporate failure occur, impacting on all stakeholder groups (Mangena and Pike 2005).

Empirically, Miglani et al. (2015b) find that the existence of a separate audit committee is associated with lower financial distress likelihood while Carcello and Neal (2003) find a significant positive relation between the percentage of affiliated directors on the audit

committee and optimistic disclosures for entities experiencing financial distress. Based on the theoretical and the empirical perspective, the following hypothesis is proposed for the study.

H1g: Audit committee independence is negatively associated with firms' likelihood of financial distress.

5.3.1.8 AUDIT COMMITTEE SIZE

This is represented by the number of members of the audit committee. Larger members of the audit committee enhance the internal governance practice and improve the resources of internal monitoring (Salloum et al. 2014). Ghosh et al. (2010a) also assert that larger audit committees are more efficient in monitoring the financial reporting process. However, large- sized audit committees may lose concentration and become less participative than the smaller ones since audit committee with a small number of members tends to be more participative in comparison to those of a larger size (Salloum et al. 2014). Therefore, from the agency theory perspective, Xie et al. (2003) argue that smaller boards monitor better than larger ones. But Allegrini and Greco (2011) argue from the perspective of the resource dependence theory that larger audit committees are willing to devote greater resources and authority to effectively carry out their responsibilities and that more directors on audit committee are more likely to bring diversity of views, expertise, experiences, and skills to ensure effective monitoring (Bédard and Gendron 2010). From the standpoint of the stakeholder theory, a large audit committee is significant to oversee the financial reporting process that will benefit the different groups of stakeholders.

Empirically, there is limited literature on audit committee size and financial distress, but results of prior research on the association of audit committee size and company performance are not conclusive (Dalton et al. 1998). Aldamen et al. (2012) reveal that smaller audit committees with more experience and financial expertise are more likely to be associated with positive firm performance in the market. Also, Pearce and Zahra (1992) find a positive relationship between the size of an audit committee and company financial performance. These results mean that audit committee size directly affect firm performance and therefore likely to reduce the likelifood of financial distress. In terms of cost, a small audit committee may have a lower cost due to the small number of members on the committee. Hence, the following hypothesis is proposed.

H1h: Audit committee size is negatively associated with firms' likelihood of financial distress.

5.3.1.9 REMUNERATION COMMITTEE SIZE

The size of the remuneration committee represents the number of directors who make up the remuneration committee. Since the remuneration committee is an efficient mechanism for focusing the firm on appropriate remuneration policies for senior executives (Azim 2012), it is imperative that the board ensures that the right number of members are on the committee to enable it performs its functions. The UK Corporate Governance Code (2014) requires the board to establish a remuneration committee of at least three, or in the case of smaller companies, two independent non-executive directors. However, the size of the board may determine the size of the remuneration committee since firms with large board size may have more members on the remuneration committee in comparison with firms with small board size. Jensen (1993) advocates that boards and their committees must be kept small for their efficient functioning over management but according to Zahra and Pearce (1989), smaller board committee may lack the required human resources to rigorously monitor the CEOs' performance which may give the CEOs opportunities to pursue strategies in an effort to satisfy their own ambitions at the expense of their firm's long-term survival (Appiah and Chizema 2015). However, Chan et al. (2015b) state that with the small remuneration committee, CEOs may attempt to coerce or influence their decision. On the contrary, the resource dependence theory argues for a larger remuneration committee to improve the quality of its oversight responsibilities as a result of increased resources.

Empirically, Chan et al. (2015) establish that the size of the remuneration committee significantly predicts corporate failure. Appiah and Chizema (2015) however, find no significant relationship between remuneration committee size and corporate failure. It is expected that a larger remuneration committee is related to more modest levels of compensation, and in turn, a lower likelihood of financial distress. The following hypothesis is therefore proposed:

H1i: Remuneration committee size is negatively associated with firms financial distress.

5.3.1.10 PRESENCE OF A FIRM'S CHAIRPERSON ON THE REMUNERATION COMMITTEE

The Combined Code (2006) allows a company's chairperson to be a member of, but not chair the remuneration committee if he or she was considered independent on appointment as chairperson. According to Main et al. (2008), the view of the CEO is

necessary for determining whether a particular design is one which promotes the desired behavior on the part of the executives. The input of the executive's perspective in the remuneration process is regarded as essential, though the involvement of executives in the remuneration process often goes beyond information gathering (Main et al. 2008). Anderson and Bizjak (2003) find that CEOs sitting on their own remuneration committees do not earn higher levels of salary or bonus, new grants, or have significantly more valuable full option portfolios but to the contrary, find that the value of new grants and the full option portfolio are significantly lower. Their study also ascertains that total compensation levels show only a marginal relation to the CEO's presence on the remuneration committee. Given that a CEO on the remuneration committee does not earn a higher level of salary or bonus but contribute to the process of determining fair salaries for firms survival, the following hypothesis is proposed:

H1j: The presence of a firm's chairperson on the remuneration committee is negatively related to firms' financial distress likelihood.

5.3.1.11 PRESENCE OF A FIRM'S CHAIRPERSON ON THE AUDIT COMMITTEE

Primarily, the role of the audit committee is to monitor management and oversee a firm's financial reporting process. The effectiveness of the audit committee is determined by many factors including the level of independence that the committee has which subsequently affects the level of monitoring. The presence of a firm's chairperson on audit committee could have effects on monitoring since although the chairperson could be independent at the time of appointment, being part of the audit committee would generally mean that the level of independence could be compromised because of his/her inside knwoledge of the firm's operation. This could subsequently undermine the credibility of financial reporting. Beasley and Salterio (2001) observed that a board chair or CEO on the audit committee reduces the effectiveness of the audit committee. The study concludes that the presence of a CEO on the audit committee has a negative impact on the independence of the audit committee and leads to less effective monitoring, although the study's findings related to determinants of the audit committee |membership and show no empirical link to monitoring effectiveness or performance. Although a firm's chairperson is considered as a valuable resource to the audit committee, his/her membership on the committee could raise doubt on the firms' financial reporting process and reduces the level of trust that the stakeholders place on the financial reports and ultimately, this could have impacts on performance and consequently, financial distress. Empirical evidence linking the presence of a firm's chairperson on the audit committee

is limited but the argument is that the chairperson's presence on the audit committee reduces its independence and subsequntly financial distress. The following hypothesis is therefore proposed:

H1k: The presence of a firms chairperson on audit committee has a positive relationship with financial distress.

5.3.2 OWNERSHIP STRUCTURE

The corporate governance mechanisms use to formulate the hypotheses under ownership structure are the directors' ownerships, institutional ownerships, and concentrated ownership.

5.3.2.1 DIRECTORS OWNERSHIP

Directors shareholding is the proportion of shares owned by the directors of a company. Jensen (1993) suggests that many problems happen because directors do not normally own a substantial proportion of the firms' shares, which reduces the incentives of the directors to pursue the shareholders' interests, which thereby affect firms' financial health (Simpson and Gleason 1999). Jensen and Meckling (1976) argue that firms should use share ownership to align the interests of the directors with the firm. Beasley (1996) suggests that the more shareholdings belonging to independent directors, the lower the possibility of fraud occurring in the company. Agency theory argues that shareholdings by directors would bring down agency cost thereby reducing the probability of firms' becoming financially distressed (Jensen and Meckling 1976). This is because when directors own shares in a firm, they apply more attention and effort to issues critical to the firm's strategic, operational, and financial well-being (Platt and Platt 2012). When directors have considerable holdings in a company's shares, their decisions impact their own wealth and that the impact of their decisions on their wealth is compounded when the receipt of shares or options is a component of their compensation package (Booth et al. 2002). Thus, when directors' own shares in their companies, they are more likely to embrace the interests of other shareholders and perform their monitoring role effectively (Jensen and Meckling 1976; Fama and Jensen 1983). Directors should, therefore, hold some amount of financial risk as shareholders, which will give them an incentive to act in the best interests of the shareholders (Li et al. 2008a). Nahar Abdullah (2006) and Elloumi and Gueyié (2001) in their investigation of financially distressed firms, indicated that director ownership in a firm reinforces incentives for directors to monitor management to prevent financial distress. Mehran (1995) reports that when director ownership tends to be higher, investors regard the company as a high-quality investment

target. However, a director owning a significant number of shares might encourage the firm to take an undue level of risk that might affect the financial health of the firm.

Empirically, Fich and Slezak (2008) report a negative relationship between the proportion of shares held by the board and the probability of firm failure. Also, Nahar Abdullah (2006) establishes that non-executive directors' interests are associated negatively with financial distress. Platt and Platt (2012) find that non-bankrupt firms' independent directors own fewer shares. However, Beltratti and Stulz (2012) find that banks with a higher proportion of board ownership operate worse than banks with less board ownership. Simpson and Gleason (1999) however, find no significant relationship between ownership by directors and officers and the probability of financial distress. Based on agency theory, firms with a higher proportion of directors' shareholding are less likely to be financially distressed. The following hypothesis is therefore proposed.

H2a: Directors' ownership is negatively associated with firms' likelihood of financial distress.

5.3.2.2 CONCENTRATED OWNERSHIP

Firms with concentrated ownership generally have large shareholders that own a substantial number of shares and that such large shareholders have a significant financial investment in the firm and are interested in increasing the value of their shareholdings if the need arises (Li et al. 2008). A high degree of ownership concentration creates positive effects on firm performance and reduces financial distress because large shareholders are incentivised and often have the expertise to monitor managers effectively (Shliefer and Vishny 1986). Concentrated ownership is important because the greater dispersion of ownership makes it less likely that any owner will have a sufficiently strong economic incentive to expend the resources necessary to heavily monitor the firm's performance and of top management (Gillian and Starks 2000). However, according to Lajili and Zéghal (2010), concentrated ownership may also create agency costs and information asymmetries between dispersed shareholders and the major shareholder group. Also, situations in which ownership concentration exceeds certain thresholds, large shareholders tend to exercise their control rights to create private benefits, sometimes expropriating minority shareholders (Shleifer and Vishny 1997) since large shareholders can use their voting power to make necessary changes more easily than the shareholders in widely-held firms (Li et al. 2008). In healthy firms, the large shareholders have the power to expropriate minority shareholders but can also use their private wealth to prop up distressed firms. When a firm becomes distressed, large shareholders must face the

risk and pressure of bankruptcy from creditors, investors, the government, and other related parties (Zheng 2015).

Empirically, Donker et al. (2009) find that large outside shareholders reduce the probability of financial distress. Hu and Zheng (2015) find that ownership concentration is negatively related to the degree of corporate financial distress. Deng and Wang (2006) also find that ownership concentration has a negative correlation with default likelihood. However, Lajili and Zéghal (2010) establish that the cumulative block holding ownership structure has a positive but not statistically significant impact on bankruptcy. Given the arguments for the impact of concentrated ownership on financial distress likelihood, the following hypothesis is proposed:

H2b: Concentrated ownership has a negative association with firms' likelihood of financial distress.

5.3.2.3 INSTITUTIONAL OWNERSHIP

This refers to the ownership of firms' shares by institutions such as investment advisers, investment companies, bank trust departments, insurance companies, foundations, and pension funds. In firms where institutions own shares, the ownership structure creates an economic incentive for informed behaviour and presents an opportunity for active shareholders to influence corporate policy and performance (Bhattacharya and Graham 2009). 'Shareholder activism', also known as 'relationship investing', has evolved to become an important characteristic of financial markets and the primary emphasis of activist shareholders have been to focus on the poorly performing firms in their portfolio and to pressure the management of such firms for improved performance, thereby enhancing shareholder value (Gillan and Starks 2000). Hence, the role of institutional shareholder activism is to focus on the long-term and helps management to improve its long-term performance. However, Romano (2001) reports that the influence of institutional shareholder activism on firm performance is doubtful. Agency theory suggests that due to their larger ownership stakes, institutional shareholders, as influential corporate stakeholders, have extra incentive to closely monitor management (Fung and Tsai 2012). In addition, large institutional shareholders have the opportunity, resources, and ability to monitor, discipline and influence managers (Cornett et al. 2007a). This is because large institutional shareholding's shares are less marketable and are thus kept for a longer period, which gives the institutional shareholders greater incentive to monitor firms' management. However, according to Cornett et al. (2007), when institutional shareholders hold relatively small shares, they can easily liquidate their shares when the

firms perform poorly and henceforth gives them less incentive to monitor management. Gillan and Starks (2000) argue that institutional investors lack expertise in advising management.

Empirically, Daily and Dalton (1994) establish that institutional shareholdings reduce the probability of bankruptcy. Also, Manzaneque et al. (2016) find that directors appointed by pressure resistant institutional shareholders, such as investment funds, pension funds, venture capital, and holding firms have a negative impact on the likelihood of business failure. However, Donker et al. (2009) find no evidence that high levels of institutional shareholdings are associated with a lower probability of financial distress. The following hypothesis is proposed:

H3c: Institutional ownership has a negative relationship with firms' likelihood of financial distress.

5.3.3 DISCLOSURE AND TRANSPARENCY

The corporate governance mechanisms use to formulate the hypotheses under disclosure and transparency are directors' remuneration, senior independent director, the disclosure of an arrangement for proxy voting in the annual reports, and disclosure of notice for the annual general meeting in the annual reports.

5.3.3.1 DIRECTORS REMUNERATION

Executive remuneration is another type of internal control mechanism proposed to achieve an alignment of interests between firm owners and managers (Ghosh 2002). The Code (2014) requires that the levels of remuneration should be sufficient to attract, retain and motivate directors of the quality required to run the company successfully. However, a company should avoid paying more than is necessary for this purpose. A significant proportion of executive directors' remuneration should, therefore, be structured so as to link rewards to corporate and individual performance (FRC 2014). To ensure this, firms must have a formal and transparent procedure for developing policy on executive remuneration and for fixing the remuneration packages of individual directors (FRC 2014). Directors' remuneration, especially involving executive directors' remuneration packages, are rewarded based on their individual and corporate performance (Nahar Abdullah 2006). Therefore, linking directors' remuneration to firm performance must be seen as fair to the shareholders. Afrifa and Tauringana (2015) find a significant association between directors' remuneration and firm performance. Main and Johnston (1993) find a positive and significant relation between the total board remuneration and the firm's performance. Also, Conyon and Peck (1998) establish evidence of a positive

and significant relation between performance and remuneration. However, since executive remuneration is a cost to a firm, any excessive payment of executive remuneration will plunge the firm into financial distress but a remuneration that is linked with financial performance may indirectly influence financial distress. Schultz et al. (2017) find a significant relationship between the probability of default and executive remuneration. All things being equal, executive remuneration is expected to improve performance and reduce the likelihood of firms' financial distress. Hence, the following hypothesis is proposed.

H3a: Directors remuneration has a negative relationship with firms' likelihood of financial distress.

5.3.3.2 DISCLOSURE OF ANNUAL GENERAL MEETING NOTICE IN THE ANNUAL REPORTS

The Annual general meetings (AGMs) are an essential aspect of corporate governance in the UK, although there is a minimal attempt to monitor the process of accountability evident on the part of the directors (Apostolides 2010). Even though according to section 366 of the UK Companies Act 1985 public limited companies are obliged to hold AGMs, the straightforward and indeed historic reason for this is founded in the notions of the agency theory which argues that AGMs represent opportunities for a shareholder to call their director to account. From the agency theory perspective, the AGM offers a platform where shareholders are informed, offered avenue to discuss and ask questions, they are involved in the decision-making and given the right to vote on matters including directors' remuneration, the appointment of directors and other resolutions, and as such help in mitigating the agency problems between shareholders and managers.

From the perspective of the stakeholder theory, firms' governance should be effectively exercised not just by the majority shareholders but also by all of those with some stake in the company. To some stakeholder groups, the AGMs may be important sites for the exercise of stakeholder's voice demanding corporate social accountability, even in the absence of legal power to directly control decision-making (Apostolides and Boden 2005).

The stewardship theory argues that managers are stewards who take responsibility for the firm's resources and accountable to shareholders. Based on these, the monitoring function of directors is irrelevant and that if there is the need to hold AGMs, they should serve as

important vehicles for the exercise and therefore reaffirmation of managerial power (Apostolides and Boden 2005).

Since the holding of AGMs are significant legal requirements and offer the shareholders the opportunity to vote on the firms' resolutions, it is relevant that firms disclose a notice of AGM in their annual reports. Such a disclosure enhances the transparency of the firm's operation and increases the level of trust that other groups of stakeholders have for the firm. Firms are therefore expected to have many stakeholder groups rather than only the shareholders attending their AGMs if notices of such meetings are disclosed in the annual reports that are published online. Firms are therefore in a better position to explain to all the stakeholder groups, their activities, and performances and this is likely to increase their customer base, which subsequently increases performance and reduce the likelihood of financial distress.

Empirical evidence linking the disclosure of AGM notice in the annual reports to financial distress is limited. However, it is expected that firms are likely to increase their performance if they can sell their operational activities to the wider stakeholder group who attend AGMs after reading the AGM notice in the annual reports. It is therefore expected that the disclosure of AGM notice in the annual report may reduce firms' likelihood of financial distress. The following hypothesis is proposed.

H3b: Disclosure of AGM notice in the annual reports has a negative relationship with firms' likelihood of financial distress.

5.3.3.3 DISCLOSURE OF PROXY VOTING ARRANGEMENTS IN THE ANNUAL REPORTS

Proxy voting occurs when shareholders who physically cannot be present at AGMs delegate their voting power to other individuals and groups including asset managers to vote on their behalf on issues such as the election and re-election of directors, mergers and acquisitions and proposed changes to the company's capital structure (Viviers and Smit 2015). Easterbrook and Fischel (1983) acknowledge that shareholder voting is potentially the most powerful control right that shareholders can use to secure their interests in a firm. This is because shareholders have mandatory consent rights in significant corporate decisions and they can publicly challenge the legitimacy of management and this is made possible through their rights to vote which can be exercised through proxy voting. The information regarding proxy voting when disclosed in the annual reports enhances transparency and shareholder engagement. Although shareholders may not be present at AGMs, information disclosed in the annual reports

enable them to allow proxies to take decisions on their behalf which may improve firms' performance thereby reducing the likelihood of financial distress. Also, shareholders may wish to become informed about the proposals put to the vote at the shareholder meeting (Yermack 2010) since lack of transparency does not allow participants to have the information needed to raise questions regarding whether proxy votes were cast solely in their interest.

Empirically, there is no literature that links the disclosure of proxy voting arrangements in the annual reports to firms' financial distress. However, it is expected that the disclosure of proxy voting arrangements in the annual reports enables the shareholders to be aware of and elect proxies who can take performance-enhancing decisions that are likely to reduce the occurrence of financial distress on their behalf. It is therefore proposed that:

H3c: The disclosure of proxy voting arrangements in the annual report is likely to have a negative relationship with firms' financial distress.

5.3.3.4 PRESENCE OF SENIOR INDEPENDENT DIRECTOR

The senior independent director is appointed to a firm's board to ensure a healthy relationship among the board members, between the board members and the chairperson and provide support for the shareholders. The UK corporate governance code (2014) requires a firm's board to appoint one of the independent non- executive directors to be the senior independent director to provide a sounding board for the chairperson and to serve as an intermediary for the other directors when necessary. The senior independent director should be available to shareholders if they have concerns which contact through the normal channels of the chairperson, chief executive, or other executive directors has failed to resolve or for which such contact is inappropriate. The primary duties and responsibilities of the senior independent director are to ensure that the chairperson, the other non-executive directors, and the board, as well as the shareholders, have cordial environments to operate. The senior independent director to the best of his/her ability is to ensure that any issue that may occur during periods of stress in the company are resolved. One cannot, therefore, underestimate the significance of the senior independent director in improving the performance and survival of firms. Thus, directors both the executive and the non-executives would be in the position to monitor management and develop strategies that would increase both financial performance and survival. Likewise, as the result of the senior independent director, shareholders could iron out any difference

with the directors and may encourage more investments that could enhance performance and reduce the likelihood of financial distress.

As indicated in the literature review section of the study, although the requirement to appoint a senior independent director has existed since 2003 and many firms have senior independent directors on their board, the academic literature has not paid attention to the senior independent director as a corporate governance mechanism and examined its influence on firms' performance and overall survival. Although there is a limited literature, considering the role of the senior independent director and the emphasis placed on it by the corporate governance code, the study considered it as significant corporate governance element that needed to be looked at. Even though there is no empirical evidence linking senior independent director to firms' financial distress and even firms' performance, it is expected that a firm with a senior independent director on its board is expected to increase performance and avoid the likelihood of financial distress due to improvements in relations among directors and enhanced shareholders' communication. The study, therefore, proposes the following hypothesis:

H3d: The presence of senior independent director is likely to have a negative relationship with firms' financial distress.

5.3.4 CONTROL VARIABLES

Control variables are those variables that may influence the relationship between corporate governance and financial distress if they are not controlled. Empirical studies (Elloumi and Gueyié 2001; Laitinen 2005; Donker et al. 2009) examining corporate governance and financial distress have controlled certain firm characteristics that are supposed to impact on the corporate governance and financial distress relationship. Based on prior research, the control variables discussed below are identified.

5.3.4.1 FIRM SIZE

Firm size plays a significant role in determining the kind of relationship a firm enjoys within and outside its operating environment and that the larger a firm is, the greater the influence it has on its stakeholders (Ezeoha 2008). The size of a firm can influence its financial distress process. This is because, first, large firms may have better management and corporate governance to generate more reliable information, to be followed by a large number of analysts, and to have greater liquidity on the trading floor (Molina and Preve 2012). Second, the resource base view of the firm argues that large firms can draw more resources (both tangible and intangible) than the small firms can. Third, because large

firms are well-established with a large asset base that can be used as collateral, they usually have better access to external sources of funds and are also able to avoid financial distress by using public equity markets (Polsiri and Sookhanaphibarn 2009). Banks are more willing to lend their funds to large firms partly because they are more diversified and partly because large firms usually request large amounts of debt capital than smaller firms (Eriotis et al. 2007). Thus, large companies have an advantage over small companies because they may have a longer history, more entrenched competitive positions, better access to credit, a more extensive bundle of assets that can be sold in the event of financial difficulty, and better diversification strategy (Kane et al. 2005). Hence, the effect of financial distress on trade payables should be less important for large firms that have better sources of financing. Due to these benefits enjoy by large firms, they are likely to fall into financial distress at a lower rate than small firms are. Thus, all things being equal, large firms, due to more resources and experience, tend to handle financial distress better than small companies (Pindado and Rodrigues 2005) and that the likelihood of financial distress is expected to reduce with increases in firm size. However, according to Parker et al. (2002), large firms seem to have greater difficulty in maintaining their ongoing operations during periods of financial distress. Laitinen and Suvas (2016) also argue that very small firms are flexible and can avoid high failure risk.

Empirically, Donker et al. (2009) find a statistically significant negative relationship between firm size and financial distress but Ciampi (2015) find no association between firm size and default. However, Parker et al. (2002) establish that firm size is significantly associated with the likelihood of bankruptcy but distressed firms exhibit an opposite association with the likelihood of bankruptcy than is expected. Hsu and Wu (2014) also find little evidence to show that there is a negative relationship between firm size and corporate failure. Given the resource accessibilities for large firms, they are less likely to be financially distressed when compared with small firms. The following hypothesis is therefore proposed for firm size.

H4a: *Firm size is expected to have a negative relationship with firms' likelihood of financial distress.*

5.2.4.2 FIRM AGE

From Gaur et al. (2015), firm age is a measure of the longevity of a firm and affects the types of decisions that firms make due to path dependency in strategic planning. The age of the firm is usually seen as an essential factor affecting the financial distress process (Laitinen 2005). This is because firms that are old, due to their long existence, are deemed

to have wider access to resources, finance, and link with well-established suppliers, as well as having a large customer base that may help them to perform better when compared with the young new firms. Also, Laitinen (1992) indicates that the financial distress process may be different for young businesses due to the lack of capital and cash flow generation. Firm age, together with experience and transparency, therefore, play a significant role for firms in gaining access to public equity or long-term debt financing (Uyar and Guzelyurt 2015). Hence, young new firms are likely to be distressed financially than old firms. According to Laitinen (1992), failure statistics show that over 50% of new ventures will fail during the first five years. Åstebro and Winter (2012) are also of the view that a standard result in the literature is that with increasing firm age the probability of failure decreases. However, Hsu and Wu (2014) find no significant association between firm age and the likelihood of corporate failure. Given that older businesses may have good links with suppliers, customers, and providers of finance and as such, are in a better position to handle financial difficulties than the new young ones, they are less likely to be financially distressed when compared with the new young businesses. The following hypothesis is therefore proposed.

H4b: *Firm age is expected to have a negative relationship with firms' likelihood of financial distress.*

5.3.4.3 INDUSTRY EFFECTS

Industry plays a key role in the financial distress process. Every firm deal with a similar set of forces in any industry including the supply-chain forces and the competitive forces but each industry is assumed to have a unique set of forces (Arend 2009). The industry in which a firm operates determines its success or failure especially when there is a general economic and financial downturn. For instance, during the 2007 financial crisis, firms in the manufacturing, construction, retail, and financial service industries had the greatest impacts. Although the firms' access to resources and their appropriate usage plays a key role in generating returns, firms placed in attractive industries can make even relatively more returns. Thus, the industry structure in which a firm operates is the main driver of performance variations (Hawawini et al. 2003) and the cause of some firms financial distress. The financial distress process may be different across industries and that El Hennawy and Morris (1983) and Platt and Platt (1990) have shown an industry effect when predicting firm failure. McGurr and Devaney (1998) apply failure prediction models developed on mixed industry samples to the retailing industry and observe low classification accuracy due to the industry effect. Laitinen (2005) find that the financial

distress process is shown to be affected by firms' industry. Given that some firms successes or otherwise come almost wholly from the industry in which they operate (Porter 1991), the following hypothesis is hereafter proposed.

H4c: *There is a negative relationship between industry and firms' likelihood of financial distress.*

5.3.5 THE MODERATING VARIABLES

This section discusses the hypotheses proposed regarding the moderating roles of firms' environment, resource, and technological capability on the relationship between the components of board composition and structure, the components of ownership structure, and the components of disclosure and transparency, and financial distress.

5.3.5.1 ENVIRONMENT

In an uncertain environment, the effectiveness of monitoring by owners of the behavior of top managers will be extremely difficult if not impossible which may impact on firms' survival likelihood. The degree of environmental uncertainty could have a moderating influence on corporate governance mechanisms and financial distress relationship. Dess and Beard (1984) specify three dimensions of the environment to include dynamism, complexity, and munificence. The hypotheses regarding the moderating influence of the environmental conditions are therefore formulated around these three environmental dimensions.

5.3.5.1.1 ENVIRONMENTAL DYNAMISM

Priem et al. (1995) explain dynamism as the instability in the environment, the rate of change and the unpredictability of the environmental factors. Put simply, environmental dynamism refers to the stability of the environment the firm operates in (Atinc and Ocal 2014). Dess and Beard (1984) note that dynamism should be limited to change that is difficult to predict and this increases uncertainty for key organisational members. As environmental dynamism is highly uncertain, firm executives are required to deal with constant change by implementing broader ranges of strategic options (Carpenter and Westphal 2001). According to Şener et al. (2011), the environment determines the composition of the characteristics of board members and as a consequence the firm performance. In a dynamic environment, firms are in need of more division of labour in top management teams to follow the rapidly changing segments of the environment (Dess and Origer 1987) and this requires the board to have the number of members who can effectively monitor management. During conditions of environmental uncertainty, firms are likely to appoint outsiders to the board, who have easy access to resources (Hillman

et al. 2000) and due to their independence, monitor management. Directors may be required to meet frequently to advise management to address business issues that may arise from an environment that has become dynamic. Under conditions of environmental dynamism, the effectiveness of monitoring by owners of the behavior of top managers will be extremely difficult if not impossible which may impact on firms' survival likelihood. In terms of firms' ownership, the institutional and the concentrated owners depending on the motives of their shareholding, which can be for short-term or long-term benefits in an environment that is dynamic are likely to dispose of their shareholding or monitor management. In situations where directors' own shares, they are motivated to increase monitoring in a dynamic environment that requires extraordinary commitment, focus, and effort. Zahra and Pearce (1989) establish that environmental uncertainty moderates the relationship between board composition and firm performance. Environmental dynamism could, therefore, have a moderating influence on corporate governance mechanisms and financial distress relationship. The following hypotheses are therefore proposed.

H5a: The negative relationship between board size and financial distress is moderated by environmental dynamism.

H5b: The negative relationship between the proportion of independent directors and financial distress is moderated by environmental dynamism.

H5c: The negative relationship between gender diversity and financial distress is moderated by environmental dynamism.

H5d: The negative relationship between board activity and financial distress is moderated by environmental dynamism.

H5e: The negative relationship between board member qualification and financial distress is moderated by environmental dynamism.

H5f: The negative relationship between board member financial expertise and financial distress is moderated by environmental dynamism.

H5g: The negative relationship between audit committee independence and financial distress is moderated by environmental dynamism.

H5i: The negative relationship between audit committee size and financial distress is moderated by environmental dynamism.

H5j: The positive relationship between a firm's chairperson on the audit committee and financial distress is moderated by environmental dynamism.

H5k: The negative relationship between remuneration committee size and financial distress is moderated by environmental dynamism.

H5l: The negative relationship between a firm's chairperson on the remuneration committee and financial distress is moderated by environmental dynamism.

H5m: The negative relationship between directors' ownership and financial distress is moderated by environmental dynamism.

H5n: The negative relationship between concentrated ownership and financial distress is moderated by environmental dynamism.

H5o: The negative relationship between institutional ownership and financial distress is moderated by environmental dynamism.

H5p: The negative relationship between directors remuneration and financial distress is moderated by environmental dynamism.

H5q: The negative relationship between senior independent director and financial distress is moderated by environmental dynamism.

H5r: The negative relationship between disclosure of arrangement of proxy voting in the annual report and financial distress is moderated by environmental dynamism.

H5s: The negative relationship between disclosure of notice of the annual general meeting in the annual report and financial distress is moderated by environmental dynamism.

5.3.5.1.2 ENVIRONMENTAL MUNIFICENCE

Environmental munificence is the extent to which the environment provides sufficient resources to support the established, as well as the new firms and to enable them to grow and prosper (Randolph and Dess 1984). In simple terms, environmental munificence is the ability of the environment to support sustained growth (Goll and Rasheed 1997). Baum and Wally (2003) acknowledge that munificent environments support the growth of resources within firms, providing a reserve against competitive and environmental threats. In a low munificent environment, firms face numerous challenges and find it difficult to function and, in that case, management needs to take strategic decisions to deal with external conditions to improve performance. The monitoring responsibility of

the board, therefore, becomes more significant. Further, in such an environment, firms need outside directors who could acquire the resources that are required for growth. Firms operating in a less munificent environment need more inputs from their directors. Conversely, in a high munificent environment where there are surplus resources (Castrogiovanni 1991), directors might meet to decide on possible options available in dealing with the surplus resources. Thus, in both low and high munificent environments, directors could advise management on the efficient use of resources to improve performance to avoid financial distress. Institutional and concentrated owners in firms that operate in the high munificent environment must monitor management to avoid taking excessive risks when investing in excess resources. Directors who own shares in such an environment could also lose their investment when excessive risk is taken and it is highly significant that they advise management on investments that carry greater risks since, in munificent environments, executives can use more discretion (Walters et al. 2010). Though Bantel (1998) find that munificence has a direct effect on firm performance, other researchers including McArthur and Nystrom (1991) and Atinc and Ocal (2014) have shown the moderating role of environmental munificence and hence it is expected that environmental munificence would moderate the corporate governance and financial distress relationship. The following hypotheses are therefore proposed.

H6a: The negative relationship between board size and financial distress is moderated by environmental munificence.

H6b: The negative relationship between the proportion of independent directors and financial distress is moderated by environmental munificence.

H6c: The negative relationship between gender diversity and financial distress is moderated by environmental munificence.

H6d: The negative relationship between board activity and financial distress is moderated by environmental munificence.

H6e: The negative relationship between board member qualification and financial distress is moderated by environmental munificence.

H6f: The negative relationship between board member financial expertise and financial distress is moderated by environmental munificence.

H6g: The negative relationship between audit committee independence and financial distress is moderated by environmental munificence.

H6i: The negative relationship between audit committee size and financial distress is moderated by environmental munificence.

H6j: The positive relationship between a firm's chairperson on the audit committee and financial distress is moderated by environmental munificence.

H6k: The negative relationship between remuneration committee size and financial distress is moderated by environmental munificence.

H6l: The negative relationship between a firm's chairperson on the remuneration committee and financial distress is moderated by environmental munificence.

H6m: The negative relationship between directors' ownership and financial distress is moderated by environmental munificence.

H6n: The negative relationship between concentrated ownership and financial distress is moderated by environmental munificence.

H6o: The negative relationship between institutional ownership and financial distress is moderated by environmental munificence.

H6p: The negative relationship between directors remuneration and financial distress is moderated by environmental munificence.

H6q: The negative relationship between senior independent director and financial distress is moderated by environmental munifence.

H6r: The negative relationship between disclosure of arrangement of proxy voting in the annual report and financial distress is moderated by environmental munificence.

H6s: The negative relationship between disclosure of notice of the annual general meeting in the annual report and financial distress is moderated by the environmental munificence

5.3.5.1.3 ENVIRONMENTAL COMPLEXITY

Environmental complexity describes the degree of heterogeneity or diversity and the dispersion of a firm's activities (Aldrich 1979; Duncan 1972). Complexity is as a result of the multiplicity of inputs (suppliers and materials) and outputs (customers and products) (Dess and Beard 1984). Firms in a complex environment find it difficult to identify, diagnose and respond to problems due to the interplay of inputs and outputs which reduce the firm's ability to identify, assess, and predict what factors affect its operations (Azadegan et al. 2013). Dess and Beard (1984) argue from the resource

dependence perspective that firms competing in industries that need many different inputs or that produce many different outputs must find resource acquisition or disposal of output more complex than firms competing in industries with fewer different inputs and outputs. One of the ways to deal with environmental complexity is to include the number of directors who can meet regularly to monitor management's efforts to handle issues posed by the complex environment. Also, under the conditions of environmental complexity, firms will like to have outside directors who have links for the provision of the resources required for the firms' activities (Şener et al. 2011). The long-term institutional and concentrated shareholders could do more in complex environments by increasing their advisory and monitoring responsibilities over management who would have to perform its environmental scanning duties and to acquire resources from beyond the boundaries of the firm (Dess and Beard 1984). McArthur and Nystrom (1991) indicate that environmental complexity has a moderating effect on the relationship between strategy and firm performance. Although empirical evidence of the moderating influence of environmental complexity on the relationship between board size, proportion of independent directors, board activity, institutional ownerships, and concentrated ownerships and the other corporate governance mechanisms and financial distress is limited, the degree of environmental complexity could have a moderating influence on the relationships between these corporate governance mechanisms and financial distress. The following hypotheses are proposed.

H7a: The negative relationship between board size and financial distress is moderated by environmental complexity.

H7b: The negative relationship between the proportion of independent directors and financial distress is moderated by environmental complexity.

H7c: The negative relationship between gender diversity and financial distress is moderated by environmental complexity.

H7d: The negative relationship between board activity and financial distress is moderated by environmental complexity.

H7e: The negative relationship between board member qualification and financial distress is moderated by environmental complexity.

H7f: The negative relationship between board member financial expertise and financial distress is moderated by environmental complexity.

H7g: The negative relationship between audit committee independence and financial distress is moderated by environmental complexity.

H7i: The negative relationship between audit committee size and financial distress is moderated by environmental complexity.

H7j: The negative relationship between a firm's chairperson on the audit committee and financial distress is moderated by environmental complexity.

H7k: The negative relationship between remuneration committee size and financial distress is moderated by environmental complexity.

H7l: The negative relationship between a firm's chairperson on the remuneration committee and financial distress is moderated by environmental complexity.

H7m: The negative relationship between directors' ownership and financial distress is moderated by environmental complexity.

H7n: The negative relationship between concentrated ownership and financial distress is moderated by environmental complexity.

H7o: The negative relationship between institutional ownership and financial distress is moderated by environmental complexity.

H7p: The negative relationship between directors remuneration and financial distress is moderated by environmental complexity.

H7q: The negative relationship between senior independent director and financial distress is moderated by environmental complexity.

H7r: The negative relationship between disclosure of arrangement of proxy voting in the annual report and financial distress is moderated by environmental complexity.

H7s: The negative relationship between disclosure of notice of the annual general meeting in the annual report and financial distress is moderated by environmental complexity.

5.3.5.2 TECHNOLOGICAL CAPABILITY

Technological capability is regarded as one of the most important sources of sustainable competitive advantage (Coombs and Bierly 2006). With good corporate governance structures, firms are in a better position to invest in technological capability that may improve firm performance to reduce the firms' likelihood of financial distress. Firm

managers are expected to take positive net present value decisions on firms' technological investments and directors with their responsibilities are also expected to monitor and advise managers on those investments so as to improve performance that may improve firms' financial health. Therefore, effective corporate governance structure ensures good scientific decisions (Sah and Stiglitz 1991) that improve firm performance to avoid the likelihood of financial distress. Also, when managers' and shareholders' interests are closely aligned, investment in technological innovations is expected to increase (Zahra et al. 2000), though, excessive investment can worsen the agency problem (Hitt et al. 1991), which would, in turn, affect the relationship between corporate governance and firm financial health. Lee and O'Neill (2003) admit that firm technological innovation is vulnerable to managerial opportunism. This is because: (i) technological innovation initiatives are highly risky and from the agency theory perspective, executives are considered to be risk averse and are therefore unlikely to make technological innovation a high priority and (ii) the benefits from technological innovation initiatives emerge only in the long run which the current executives may not witness. The influence of corporate governance mechanisms on firms' financial distress will change as technological capability denoted by research and development investment becomes stronger. Zhang et al. (2015) examined the moderating effect of technology intensity on the relationship between executive compensation dispersion and firm performance and confirm that the relationship between the two is sensitive to technology intensity. In another study, Zhang et al. (2014) confirm that research and development investment does not moderate the relationship between corporate governance and firm performance. Large boards may find it difficult to reach consensus, especially when deciding on risky investments, such as research and development (Dalton et al. 1999). It is expected that technology capability would moderate the relationship between corporate governance mechanisms and financial distress. The following hypotheses are therefore proposed.

H8a: The negative relationship between board size and financial distress is moderated by technological capability.

H8b: The negative relationship between the proportion of independent directors and financial distress is moderated by technological capability.

H8c: The negative relationship between gender diversity and financial distress is moderated by technological capability.

H8d: The negative relationship between board activity and financial distress is moderated by technological capability.

H8e: The negative relationship between board member qualification and financial distress is moderated by technological capability.

H8f: The negative relationship between board member financial expertise and financial distress is moderated by technological capability.

H8g: The negative relationship between audit committee independence and financial distress is moderated by technological capability.

H8i: The negative relationship between audit committee size and financial distress is moderated by technological capability.

H8j: The positive relationship between a firm's chairperson on the audit committee and financial distress is moderated by technological capability.

H8k: The negative relationship between remuneration committee size and financial distress is moderated by technological capability.

H8l: The negative relationship between a firm's chairperson on the remuneration committee and financial distress is moderated by technological capability.

H8m: The negative relationship between directors' ownership and financial distress is moderated by technological capability.

H8n: The negative relationship between concentrated ownership and financial distress is moderated by technological capability.

H8o: The negative relationship between institutional ownership and financial distress is moderated by technological capability.

H8p: The negative relationship between directors remuneration and financial distress is moderated by technological capability.

H8q: The negative relationship between senior independent director and financial distress is moderated by technological capability.

H8r: The negative relationship between disclosure of arrangement of proxy voting in the annual report and financial distress is moderated by technological capability.

H8s: The negative relationship between disclosure of notice of the annual general meeting in the annual report and financial distress is moderated by technological capability.

5.3.5.3 RESOURCES

From the perspective of the resource-based view, firms' have both tangible and intangible resources (Wernerfelt 1984).

5.3.5.3.1 TANGIBLE RESOURCE

According to Lev (2004), tangible resources are those that are physical or financial; these resources usually are accounted for on a firm's balance sheet and include assets such as land, buildings, machinery, motor vehicles and cash. Tangible resources can be valued and managed with little ambiguity (King 2007) and their ownership can easily be transferred which allow a firm to raise capital. Hence, a firm with greater tangible resources should have an increased survival likelihood since the firm can fall on the revenues that may be raised from the sale of tangible resources. Investment in tangible assets which include not only the acquisition of completely new tangible assets but also the upgrading of existing ones are important for a firm's ability to create value for customers and also with such investments, firms have an increased likelihood of remaining a going concern compared to declaring bankruptcy (Norman et al. 2013). Firms with limited tangible resources, however, may find it difficult to invest in systems for product improvements and new product development to respond to the challenges created by competitors and to ensure continued survival to avoid the likelihood of financial distress. Organisational directors are to monitor management to ensure that firms invest in the type and quantity of tangible resources that improve firms' performance since a lack of monitoring by the directors on management decision may affect firms' financial health. Also, directors are expected to monitor management to ensure that firms tangible resources are secured and are there only to be used for the firms' benefit. Hence, firms' survival may depend on the number of tangible resources at its disposal and how the managers' decisions on those tangible resources are monitored by the corporate governance mechanisms such as the board of directors. It, therefore, stands to reason that the components of board composition and structure, ownership structure and, disclosure and transparency; and financial distress relationships can be better understood by incorporating the firms' tangible resources. The following hypotheses are proposed.

H9a: The negative relationship between board size and financial distress is moderated by tangible resources.

H9b: The negative relationship between the proportion of independent directors and financial distress is moderated by tangible resources.

H9c: The negative relationship between gender diversity and financial distress is moderated by tangible resources.

H9d: The negative relationship between board activity and financial distress is moderated by tangible resources.

H9e: The negative relationship between board member qualification and financial distress is moderated by tangible resources.

H9f: The negative relationship between board member financial expertise and financial distress is moderated by tangible resources.

H9g: The negative relationship between audit committee independence and financial distress is moderated by tangible resources.

H9i: The negative relationship between audit committee size and financial distress is moderated by tangible resources.

H9j: The positive relationship between a firm's chairperson on the audit committee and financial distress is moderated by tangible resources.

H9k: The negative relationship between remuneration committee size and financial distress is moderated by tangible resources.

H9l: The negative relationship between a firm's chairperson on the remuneration committee and financial distress is moderated by tangible resources.

H9m: The negative relationship between directors' ownership and financial distress is moderated by tangible resources.

H9n: The negative relationship between concentrated ownership and financial distress is moderated by tangible resources.

H9o: The negative relationship between institutional ownership and financial distress is moderated by tangible resources.

H9p: The negative relationship between directors remuneration and financial distress is moderated by tangible resources.

H9q: The negative relationship between senior independent director and financial distress is moderated by tangible resources.

H9r: The negative relationship between disclosure of arrangement of proxy voting in the annual report and financial distress is moderated by tangible resources.

H9s: The negative relationship between disclosure of notice of the annual general meeting in the annual report and financial distress is moderated by tangible resources.

5.3.5.3.2 INTANGIBLE RESOURCE

Intangible resources are those resources that cannot be touched or easily quantified and are rarely accounted for on a firm's balance sheet (Hall 1992). While some intangible resources such as designs, blueprints, brand equity, and in-house software may be developed internally, others such as technology licence, patents, copyrights, and economic competencies acquired through purchases of management and consulting services may be acquired externally (Arrighetti et al. 2014). Firms with intangible resources are better positioned to remain a going concern rather than face bankruptcy because they usually possess many of the characteristics required to become sources of competitive advantage. Intangible resources enhance firms' ability to create value in the long term and this is confirmed by Sandner and Block (2011) who find that intangible assets significantly contribute to market value. Knowledge and skills are human resources which are significant for the successful running of businesses in the modern-day business environment. As such firms need to ensure that in recruiting members to the board especially, the outside directors, those who have the potential to improve as well as have the access to external resources are given the chance to join the board. Since firms' intangible resources are unique and have the advantage of using it to improve the firms' performance, directors are expected to ensure that management takes the necessary actions to protect the intangible resources so that their uniqueness remains with the firm. Thus, due to their relevance to long-term survival, all the organisational governance structures also need to ensure the firms' intangible resources are safeguarded. Though evidence linking the moderating role of intangible resources on the relationship between corporate governance mechanisms and financial distress are limited, Gau (2011) have indicated that firm resources moderate the relationship between some of the sub-dimensions of market orientation and firm performance. All things being equal, it is expected that intangible resources could have moderating influence on the relationship between the components of board composition and structure, components of ownership

structure, and components of disclosure and transparency; and financial distress. The following hypotheses are therefore proposed.

H10a: The negative relationship between board size and financial distress is moderated by intangible resources.

H10b: The negative relationship between the proportion of independent directors and financial distress is moderated by intangible resources.

H10c: The negative relationship between gender diversity and financial distress is moderated by intangible resources.

H10d: The negative relationship between board activity and financial distress is moderated by intangible resources.

H10e: The negative relationship between board member qualification and financial distress is moderated by intangible resources.

H10f: The negative relationship between board member financial expertise and financial distress is moderated by intangible resources.

H10g: The positive relationship between audit committee independence and financial distress is moderated by intangible resources.

H10i: The negative relationship between audit committee size and financial distress is moderated by intangible resources.

H10j: The negative relationship between a firm's chairperson on the audit committee and financial distress is moderated by intangible resources.

H10k: The negative relationship between remuneration committee size and financial distress is moderated by intangible resources.

H10l: The negative relationship between a firm's chairperson on the remuneration committee and financial distress is moderated by intangible resources.

H10m: The negative relationship between directors' ownership and financial distress is moderated by intangible resources.

H10n: The negative relationship between concentrated ownership and financial distress is moderated by intangible resources.

H10o: The negative relationship between institutional ownership and financial distress is moderated by intangible resources.

H10p: The negative relationship between directors remuneration and financial distress is moderated by intangible resources.

H10q: The negative relationship between senior independent director and financial distress is moderated by intangible resources.

H10r: The negative relationship between disclosure of arrangement of proxy voting in the annual report and financial distress is moderated by intangible resources.

H10s: The negative relationship between disclosure of notice of the annual general meeting in the annual report and financial distress is moderated by intangible resources.

5.4 CHAPTER SUMMARY

The chapter sets out the research hypotheses of the study. Specifically, the chapter proposes the hypotheses for the corporate governance mechanisms which are to test their influence on financial distress. In doing so, the chapter reviewed prior studies by scholars often cited and regarded to have added significantly to the literature on corporate governance and firms' financial distress. It also proposed the hypotheses for the control variables which prior studies have indicated their influence on corporate governance and financial distress. In addition, the moderating role of firms' environment (dynamism, munificence, and complexity), resource (tangible and intangible), and technology on the relationship between the components of board composition and structure, ownership structure, and disclosure and transparency; and financial distress were also hypothesised, though empirical evidence on some of them were limited.

CHAPTER SIX

RESEARCH METHODOLOGY

6.1 INTRODUCTION

This chapter explains the research method used to answer the research hypotheses formulated for the study. The chapter gives a detailed explanation of research philosophies, research paradigms, research approaches, as well as qualitative and quantitative research methods. It also discusses sampling procedure, types and sources of data used, financial distress identification, as well as explanations of the variables of the study including the control variables. The chapter further discusses the data analysis including panel logistic regression analysis.

The rest of the chapter is structured as follows: Section 6.2 describes the research methodology and research philosophy. Sections 6.3 and 6.4 discuss research paradigm and research approaches, respectively. Selecting a research philosophy is discussed in section 6.5. In section 6.6, quantitative and qualitative research methods are described. Section 6.7 examines sample and data. Selecting financially distressed and financially non-distressed firms is discussed in section 6.8. Section 6.9 examines the variables in the study while 6.10 discusses the data analysis. Finally, section 6.11 presents the chapter summary.

6.2 RESEARCH METHODOLOGY AND RESEARCH PHILOSOPHY

From Saunders et al. (2008), research methodology embodies the theory of how research should be undertaken, including the theoretical and philosophical assumptions upon which research is based and the implications of these for the methods adopted, while research philosophy is regarded as the development of knowledge and the nature of that knowledge in relation to research. According to Lopes (2015), scientific and academic research is traditionally structured around two different dimensions which are the ontological dimension and epistemological dimension. Ontology is a system of belief that reflects an interpretation of an individual about what constitutes a fact and in simple terms, it is associated with a key question of whether social entities need to be perceived as objective or subjective and hence form the two main aspects of ontology (Dudovskiy 2016). Epistemology, on the other hand, is a philosophical approach to theory building that investigates the nature, grounds, limits, and validity of human knowledge. Saunders (2008) regards epistemology as a branch of philosophy that studies the nature of knowledge and what constitutes acceptable knowledge in a field of study. Thus, while the ontology dimension is associated with the human beliefs about the natural and social

world, epistemology is linked to the search for new knowledge and the way that search is pursued. Epistemology has at least four different sources of knowledge and these include intuitive, authoritarian, logical and empirical (Dudovskiy 2014). In determining whether corporate governance mechanisms predict corporate financial distress in the UK, this study applied authoritarian knowledge from books, journals, research papers, as well as conference papers from experts; empirical knowledge from objective facts that have been established and demonstrated in corporate governance and financial distress; and logical knowledge where logical reasoning was applied to the study's observations to generate new research knowledge. However, this study did not apply intuitive knowledge that allows human feelings to play a significant role as compared to relying on facts.

6.3 RESEARCH PARADIGM

Positivism and interpretivism are the two main research paradigms. As a philosophy, positivism adheres to the view that only factual knowledge obtained through observation, including measurement, is trustworthy and its principle depends on quantifiable observations that lead themselves to statistical analysis (Dudovskiy 2014). Researchers warn that if a researcher assumes a positivist approach to a study, then it is the researcher's belief that he or she is independent of his or her research. Ramanathan (2008) summarises positivism as having the following characteristics; the observer must be independent, human interest should be irrelevant, explanations must demonstrate causality; research should progress through hypotheses and deductions, the analysis should be reduced to simplest terms, generalisation through statistical probability, and sampling requires large numbers selected randomly. However, positivism has been criticised due to its lack of regard for the subjective states of individuals.

Collis and Hussey (2014) regard interpretivism as characterised by qualitative data, uses small samples, generates theories, has rich and subjective data, has low reliability but has high validity. This current study tested hypotheses on whether corporate governance mechanisms predict firms' financial distress with data from a sample of 200 firms selected from the London Stock Exchange from the period 2009 to 2016. Conclusions were obtained from logistic regression analysis without the subjective influence of the researcher. The study, therefore, adopted the positivism paradigm instead of the interpretivism paradigm.

6.4 RESEARCH APPROACHES

Research approaches are of two types and these are the deductive and inductive approaches. The deductive approach involves the testing of a theoretical proposition by

the employment of a research strategy specifically designed for its testing. Deductive approach formulates hypotheses and tests them through empirical observations (Lancaster 2005). Gill and Johnson (1997) suggest that the process of deductive research approach involves theory or hypotheses formulation, and translation of abstract concepts into indications or measures that enable observations to be made. When a deductive approach is followed in a research study, a set of hypotheses are formulated that need to be tested, and then through the implementation of the relevant methodology, the formulated hypotheses are proven right or wrong. In the inductive approach, however, the researcher develops theories with a view to explaining the empirical observation of the real world and it does not require the establishment of a priori theories or hypotheses (Lancaster 2005).

6.5 SELECTING A RESEARCH PHILOSOPHY

Slevitch (2011) regards scientific investigation as characterised by a set of philosophical and meta-theoretical assumptions concerning the nature of reality (ontology) and knowledge (epistemology), the principles regulating scientific investigation (methodology), as well as by techniques or tools regarding the practical implementation of the study (research methods). According to Guba and Lincoln (1994), what we believe about reality defines what we construe as legitimate knowledge and how we obtain it, which in turn, defines our principles of scientific investigation, which sequentially defines the research techniques we apply. By adopting the objectivism ontology, the researcher needs to select positivism epistemology, which requires a deductive methodology that needs quantitative methods. On the other hand, by following constructivism ontology, the researcher needs to select interpretivism epistemology and follow an inductive methodology that requires qualitative methods.

This current study followed the ontological position of objectivism and avoided the influence of subjectivism by considering only data from the sampled firms. This led to the epistemological position of positivism that required the study to use a deductive approach through quantitative data from the annual reports of sampled firms and the quantitative techniques through panel logistic regression analysis.

6.6 QUALITATIVE AND QUANTITATIVE RESEARCH METHODS

Qualitative and quantitative methods are the two main research methods. The qualitative method does not pursue objectivity and generalisability because both conditions are regarded as unachievable from ontological and epistemological perspectives (Slevitch 2011). Due to its interpretative nature, qualitative methodology employs such methods

as case studies; and techniques such as observations, in-depth and focus group interviews, as well as participatory activities.

In the quantitative research method, however, positivist epistemology postulates that facts can be separated from values and therefore researchers can achieve truth to the extent that their work corresponds to facts (Slevitch 2011). The quantitative methodology can be described as experimental, where questions and hypotheses are proposed, tested, and verified while ensuring confounding conditions to prevent outcomes from being improperly influenced (Guba and Lincoln 1994). Quantitative methods are efficient with time and resources and have limited human interaction. Results from quantitative methods may apply to a large population and have the possibility of anonymity in data collection. It, however, may require thoughtful planning to be successful.

Considering these two research methods, the study does not use qualitative research because qualitative research is considered as exploratory and focuses mostly on a case study. However, given the number of cases and years (1600 observations), as well as many variables in the current study, it is significant that the study develops testable hypotheses to establish whether there is a relationship between the dependent variable (financial distress) and independent variables (corporate governance mechanisms). The study, therefore, adopts the quantitative method of research by gathering the data on the corporate governance mechanisms, the control variables, and the moderating variables from the annual reports of the sampled firms from the London Stock Exchange, which would have been extremely difficult if qualitative research was to be adopted.

6.7 SAMPLE AND DATA

6.7.1 SAMPLING PROCEDURE

The population for the study was all listed companies on the London Stock Exchange for the period 2009 to 2016. This population was selected because; first, it provided the sample of distressed and non-distressed companies required for the study using the criteria adopted (see section 6.7). Second, listed companies are required to report on how they have applied the principles of the corporate governance code. Third, listed companies are required to prepare and publish their annual reports and since this study uses secondary data, it makes it possible for the study to obtain the corporate governance data, the control variables data and the moderating variables data required for the study. Some empirical studies including Li et al. (2008), Donker et al. (2009), Brédart (2014), and Shahwan (2015) selected their samples of distressed and non-distressed companies from Stock Exchanges in China, Amsterdam, United States, and Egypt respectively. The

selection of the study period from 2009 to 2016 is based on two reasons. First, by selecting the year 2009, the study ensures that the impact of the 2007 financial crisis is minimised since by 2009 many of the firms that were affected during the crisis period were on the recovery. Second, by choosing 2016, the study ensures that the results reflect the current situations relating to the corporate governance environment, the business environment, and the industry characteristics. To arrive at the sample, the study excluded samples of companies that were specially regulated and these included banks and other financial institutions. These specially regulated companies are subject to different regulatory standards, compliance, and institutional requirements. Also, these companies have many significant differences in terms of industrial characteristics, as well as accounting reporting standards such as income-measuring accounting rules (Hsu and Wu 2014) and therefore their financial reporting, ratios, and cash flows are substantially different from the non-financial type of firms. This makes analysis and comparison of their data with other non-financial companies very difficult and impractical. As of 22nd August 2016, there were 1961 listed companies. After eliminating companies in the banking and other financial institutions, the number of companies remained was 1386.

6.7.2 TYPES AND SOURCES OF DATA

This research study used secondary data which according to Zikmund et al. (2013) are data gathered and recorded by someone else prior to the current needs of the researcher and that such data are usually historical, already assembled, and do not require access to respondents or subjects. The corporate governance data were obtained manually from the sampled firms' annual reports which were obtained from the firms' websites. The data for the control variables and that of the moderating variables were obtained from the AMADEUS database, a commercial database providing financial information on over ten million public and private firms. AMADEUS database is available at the University of Bournemouth library's website.

6.8 SELECTING FINANCIALLY DISTRESSED AND FINANCIALLY NON-DISTRESSED SAMPLES

Geng et al. (2015) are of the view that financially distressed firms are different from failed firms in the sense that the failure of a firm to meet its financial obligations does not inevitably lead to a filing for bankruptcy and that bankruptcy is the widely used outcome of financial distress. Unlike the bankrupt or the failed firms, the financially distressed firms are active and are in continuous business operations. This current study neither used the concept of failure nor bankruptcy to identify its sample of financially distressed firms. This is because obtaining data for firms that are no more active might

be difficult and more so, such data might be outdated and may not be of large numbers. This study identified financially distressed and financially non-distressed firms using the Altman's (1983) Z-Score model which he revisited in 2002 in his study of 'revisiting credit scoring models in Basel two environments.' Initially, Altman (1968) developed his original Z-Score model, which is stated as follows:

$Z'' = 1.2*X_1 + 1.4X_2 + 3.3*X_3 + 0.6*X_4 + 1.0*X_5$

where,

Z'' = Z-score

X_1 = Working capital/total assets

X_2 = Retained earnings/total assets

X_3 = Earnings before interest and taxes/total assets

X_4 = Market value of equity/book value of total liabilities.

X_5 = Sales/total assets.

However, in 1983, Altman modified his original Z-score by substituting the firm's book value of equity for the market value in (X_4) giving the Z-sore as follows;

$Z'' = 0.717*X_1 + 0.847X_2 + 3.107*X_3 + 0.42*X_4 + 0.998*X_5$

According to Altman et al. (2017) because of the unavailability of private firm database, this Z-score model was not tested on a secondary sample. Altman (1983) again estimated the following four-variable Z-score model that excluded the sales/total assets ratio, (X_5), from the revised model because of a potential industry effect that is more likely to take place when this kind of industry-sensitive variable (asset turnover) is included in the model. This revised model is intended for both privately held and publicly listed firms and for both manufacturing and non-manufacturing firms (Altman et al. 2017). The Altman (1983) revised model which he also revisited in 2002 is stated as follows;

$Z'' = 6.56*X_1 + 3.26X_2 + 6.72*X_3 + 1.05*X_4.$

The values for X_1, X_2, X_3, and X_4 measure the short-term liquidity and asset base, asset productivity, profitability over time, and the capital structure of the firms under consideration. According to Altman (1983, 2002), Z-score values higher than 2.6 are considered the "safe zone" and means that the possibility of bankruptcy is very low. Z-score Values between 1.1 and 2.6 are considered the "grey zone" or zone of ignorance

due to the susceptibility to error classification, and Z-score values below 1.10 are considered “distress zone”, it means that the possibility of bankruptcy is high. Using the Altman (1983, 2002) Z-score, this study computes the Z-Score for all the 1386 firms obtained after eliminating all the financial firms from a population of 1961 firms listed on the London Stock Exchange for the period 2009 to 2016. Companies with Z-Scores below 1.10 for four consecutive periods from 2009 to 2016 were selected as distressed companies. This is to ensure that firms have sustained period of financial distress and that the study’s sample included firms which for the half of the study period are regarded as financial distress. Previous studies (Asquith et al. 1994; Poletti-Hughes and Ozkan 2014) included firms whose financial distress condition remained for at least two consecutive years. Using the Altman’s (1983, 2002) criteria mentioned above (Z-scores of below 1.1 for distressed firms and above 2.6 for non-distressed firms), the study identified 113 financially distressed firms and 207 financially non-distressed firms from the final population of 1386 firms. From the 113 financially distressed firms, data for 13 of them were not available due to the unavailability of their annual reports for the study period. This gave a final sample of 100 financially distressed firms and these were matched with the 207 financially non-distressed firms using size, which was measured by total assets and obtained 100 financially non-distressed firms. Although Ooghe et al. (1995) argue that the estimation samples of distressed and non-distressed firms are not illustrative of the overall population of firms if the match sampling technique is used, the matched-pair approach, however, provides a systematic method for determining the sample of healthy companies and it is used in many studies in this research area (Mangena and Chamisa 2008; Hsu and Wu 2014). The total final sample for the study, therefore, included 100 firms in financial distress and 100 firms not in financial distress.

However, the Altman’s Z-score model has faced criticism as having a poor record as a predictor and this is because according to Moyer (1977), statistical models based on financial data are likely to describe events but not necessarily good at predicting outcomes. Grice and Ingram (2001) find inconsistent outcome when testing the Altman’s Z-Score in a more current business climate and that their result shows that the formula was not found to be as useful in predicting distress in more contemporary firms as when first developed, nor was it as effective in predicting bankruptcy for non-manufacturing as for manufacturing firms. On the high level of Type I errors displayed by the bankruptcy prediction models derived using multiple discriminant analysis such as the Z-score, Piesse and Wood (1992) examining the existing multiple discriminant analysis modules

conclude that the matched sample found to be convenient in model estimation, is unacceptable in evaluation, and if used, produces an overwhelming bias in favour of model acceptance. The models investigated were descriptive of past events to some extent, but as predictors, they performed poorly. Also, Letza (1994) concludes that both the Altman's and the DataStream models show that the use of MDA (Multiple Discriminant Analysis) models as predictors of bankruptcy can involve major understatements of classification errors.

Notwithstanding the criticisms, the Altman's Z-score has gained acceptance by auditors, management accountants, and database systems and it is one of the best known statistically derived predictive models used to forecast a firm's impending bankruptcy (Moyer 2005). It has been the dominant model applied in different countries all over the world for different purposes such as healthcare though with some modifications (Balcaen and Ooghe 2006b). Carton and Hofer (2006) also admit that the Altman's Z-score is more than a financial distress predictor; it is also efficacious as a performance management tool since it is an important multidimensional measure of strategic performance (Chakravarthy 1986).

As indicated, this study adopted the Altman's (1983, 2002) Z-score model to identify its sample of financially distressed and financially non-distressed companies. This is because it gives more robust results about the identification of firms in financial distress when compared with other criteria including net income, interest coverage ratio, operating margin, and negative cumulative earnings which are individual variables. The Altman's (1983, 2002) Z-score model was chosen over his original Z-score model of 1968 because the Altman's (1983, 2002) Z-score model represents the private non-manufacturing firms, it reduces the potential industry effects by excluding the sale/total assets ratio. In addition, it is more modern and therefore takes away some of the criticisms of the 1968 Z-score module including the fact that it is outdated and therefore not applicable in modern day business climate. The Altman's (2002) Z-Score has been used by researchers including Akhigbe et al. (2014), and Shahwan (2015) to identify their sample of financially distressed and financially non-distressed firms.

It must be noted that although this study used quantitative data to identify its sample of financially distressed and financially non-distressed firms, one should not underestimate the importance of qualitative measures in identifying distressed firms as put forward by Argenti (1976) who provided the symptoms of firm failure in his research on corporate planning and corporate collapse. Considering the 8-year study period and the number of

firms in the population sample as well as the duration of the study, it would have been a very time-consuming exercise if qualitative data was used to identify firms as distressed. Secondly, not all the firms in the population may report the indicators including the economic downturn, a sudden price reduction of products, the sudden departure of key board members, poor sales growth, and poor-quality products which can show the signs of financial distress and this can lead to sample bias. Conversely, quantitative data (which are the variables of the Altman's Z-score) are provided by the firms in their annual reports.

6.9 VARIABLES IN THE STUDY

6.9.1 DEPENDENT VARIABLE

A dependent variable is a variable that changes in response to changes in the other variable. Empirical studies (Elloumi and Gueyié 2001; Lee and Yeh 2004; Mohid Rahmat et al. 2009; Donker et al. 2009; Brédart 2014; Manzaneque et al. 2016a) relating to financial distress and corporate governance, have used financial distress as the dependent variable. These studies have described financial distress as a dichotomous variable. That is a variable containing data that has only two categories. These studies, therefore, used dummy variables one and zero where one represented financially distressed firms and zero represented financially non-distressed firms, in their studies.

This current study also used financial distress as a dependent variable with a value of one indicating financially distressed firms and zero representing financially non-distressed firms. This becomes more appropriate especially when the analytical method for the study is logistic regression which uses binary (0, 1) dependent variable. The implication for the dependent variable being dichotomous according to Lee and Yeh (2004) is that even companies that perform well are likely to get into financial trouble later if corporate governance is weakened.

6.9.2 INDEPENDENT VARIABLES

6.9.2.1 BOARD SIZE

Board size according to Gales and Kesner (1994) is viewed as a measure of the organisation's ability to form environmental linkages and presumably, the more directors serving on a board, the better connected the firm is to critical resources. Board size was measured as the number of members on the board of directors in studies of (Fich and Slézak 2007; Brédart 2014; Manzaneque et al. (2016a, b). This current study measured board size as the number of members who form the board, which is the count of members on the board.

6.9.2.2 PROPORTION OF INDEPENDENT DIRECTORS

One significant feature of the board of directors is its level of freedom from management. Board independence according to Gordon (2007), is assessed by the degree to which the board comprises people who are not otherwise affiliated with the company through employment or economic exchange relationships. Dowell et al. (2011) recognise that independent board members are generally considered advantageous because they are harder for top management to dominate and they may be more likely to encourage changes even in the face of management reluctance. Lajili and Zéghal (2010) and Manzaneque et al. (2016a, b) define the proportion of independent directors as the ratio of independent directors to the total board of directors. Christy et al. (2013) measure board independence as the proportion of the board that comprises independent directors. This study measured the proportion of independent directors as the ratio of independent directors to the total number of directors serving on a company's board.

6.9.2.3 BOARD GENDER DIVERSITY

Gender diversity in boards has a significant impact on boards' inputs and that there is direct evidence that more diverse boards are more likely to hold CEOs accountable for poor performance (Adams and Ferreira 2009). Saeed et al. (2016) measure board gender diversity as the number of female directors divided by the total number of board members in each year. Sila et al. (2016) also define the proportion of women on board as the number of female board members divided by all board members. However, Hillman et al. (2007) use a proxy for board gender diversity, a binary variable equal to '1', if there is at least a woman on the board, otherwise '0'and this study measured board gender diversity as such.

6.9.2.4 BOARD ACTIVITY

Brick and Chidambaran (2010b) claim that board activity is an important dimension of board operation. Boards are expected to increase their activity in poorly performing firms (Vafaes 1999) because directors may want to protect themselves from being blamed for not doing enough when needed. Brédart (2014) measures board activity as the number of board meetings held at the latest accounting fiscal year. This study measured board activity as in Vafaes (1999) and Chou et al. (2013), which is the number of board meetings held by the board of directors for a year.

6.9.2.5 BOARD MEMBER QUALIFICATION

Effective board functioning needs individual members with adequate qualifications in business management. A board whose members have higher academic qualifications can

make effective decisions as well as devise strategies that will benefit divergent groups of stakeholders. A lack of expertise and qualification from board members results in a deficiency in critical thinking and innovation for firms' overall development. Board members can perform their monitoring function if they have all round business and firm knowledge. Chairperson and other non-executives need to become sufficiently knowledgeable if they are to make a valued contribution (Roberts 2002). Gaur et al. (2015) define a professionally qualified director as one who has a specialised degree such as an MBA. Jermias and Gani (2014) use criteria such as a professor or government officer to proxy for high-quality board members. This study measured board qualification as the number of board members who have either a master's degree, a PhD, a professorship or a combination of any of the three.

6.9.2.6 BOARD MEMBER FINANCIAL EXPERTISE

Board members with financial expertise are those members with the standards of care, skill, and diligence required of accounting personnel such as professional accountants and non-accounting personnel including company presidents and CEOs. The effectiveness of a board depends not only on composition and structure but also on the will and skill of individual members (Roberts 2002). Board member financial expertise is necessary to ensure that board committees, including the audit committee, fulfil their primary obligations of overseeing the financial reporting process and ensuring high-quality financial reporting. Defond et al. (2005) classify financial expert into (i) accounting financial expert, which include all directors with experience as a public accountant, auditor, principal or chief financial officer, controller, or principal or chief accounting officer, and (ii) non-accounting financial expert comprising all directors with experience as the CEO or president of corporation. Adams and Jiang (2017) also identify board member financial expertise as the number of professionally qualified accountants, professionally qualified actuaries, and professionally qualified underwriters on the board divided by the board size. This study, however, identified its board member financial expertise as the number of board members who have professional qualifications in various disciplines such as accounting, banking, finance, insurance, etc. This measure of board financial expertise is used to differentiate it from board qualification, which is defined as board members with a master's degree, a PhD and a professorship.

6.9.2.7 AUDIT COMMITTEE INDEPENDENCE

The audit committee independence is considered when the domination of non-executive directors is considered (Salloum et al. 2014). Although the responsibility for safeguarding

the financial health of the firm is borne by the board of directors, the audit committee plays a prominent role in ensuring the integrity of firms' financial reports and that the monitoring role that the audit committee plays in firms' financial status makes this group particularly well positioned to protect shareholders' interest (Daily 1996). Poor financial performance may be an indication of ineffective management and therefore, a need for greater monitoring of management (Hermalin and Weisbach 1988). According to McMullen and Raghunandan (1996), the presence of non-executive directors on an audit committee reduces the likelihood of a financial problem. Salloum et al. (2014) measure audit committee independence as the ratio of non-executive directors over the entire number of directors on the audit committee. This study measured audit committee independence as the percentage of the number of independent directors over the total number of directors on the audit committee.

6.9.2.8 AUDIT COMMITTEE SIZE

The audit committee size represents the number of board members who form the committee. The audit committee must have enough members to perform its duties and that an audit committee of the right size would allow members to use their experience and expertise for the best interest of stakeholders (Mohid Rahmat et al. 2009). Previous studies on the audit committee and financial distress (Salloum et al. 2014; Mohid Rahmat et al. 2009; Appiah and Amon 2015) measured the size of the audit committee as the number of audit committee members and this study adopted this measure for the audit committee size variable.

6.9.2.9 PRESENCE OF A FIRM'S CHAIRPERSON ON AUDIT COMMITTEE

The presence of a firm's chairperson on the audit committee represents the situation whereby a firm's chairperson is a member of the audit committee. This study used a dummy variable coded '1' when the chairperson is a member of the audit committee and '0' as otherwise to measure the presence of a firm's chairperson on the audit committee variable as used in Aldamen et al. (2012).

6.9.2.10 REMUNERATION COMMITTEE SIZE

The remuneration committee size represents the number of board members forming the remuneration committee. A remuneration committee with the right number of members will have more resources to construct, evaluate and monitor remuneration and ensure its alignment with the goals of the shareholders and the performance of the firm (Nelson et al. 2010). Kanapathippillai et al. (2016) measure remuneration committee size using a dummy variable and that a value of '1' is given if the number of members in the

committee is greater than the median value; '0' otherwise. Also, Appiah and Chizema (2015) measure the remuneration committee size as a binary variable with '1' denoting membership of at least three independent non-executive directors '1' and '0' otherwise. However, Abeysekera (2012) measures the remuneration committee size as the number of independent directors on the remuneration committee. This study also measured the remuneration committee size as the number of independent directors on the remuneration committee.

6.9.2.11 PRESENCE OF A FIRM'S CHAIRPERSON ON REMUNERATION COMMITTEE

The presence of a firm's chairperson on the remuneration committee indicates a situation where a firm's chair is also a member of the remuneration committee and the Combined Code (2006) permits this by stating that a company's chairperson can be a member of, but not chair the remuneration committee if he or she was considered independent on appointment as chairperson. This study measured the presence of a firm's chairperson on the remuneration committee as a binary variable with a value of '1' when a firm's chairperson is on the remuneration committee and '0' otherwise.

6.9.2.12 DIRECTORS OWNERSHIP

Directors' shareholding represents the proportion of shares owned by a company's board of directors. The participation of the board of directors in shareholding is a powerful incentive to achieve the alignment of their interests with those of other shareholders (Shleifer and Vishny (1997), which is maximising the value of shares (Ciampi 2015). This is also supported by Jensen (1993), who suggests that many problems occur because directors do not normally own a substantial proportion of the firm's equity. This decreases their incentives to pursue the shareholders' interests (Simpson and Gleason 1999). Extant literature (Simpson and Gleason 1999; Donker et al. 2009; Manzaneque et al. 2016a,b) measure directors' ownership as the percentage of share owned by the board of a company and this study adopted this criterion in measuring directors' shareholding.

6.9.2.13 CONCENTRATED OWNERSHIP

Concentrated ownership represents the percentage of shares owned by large shareholders. Large shareholders have an opportunity to improve the strategy of the firm by advising or pressuring incumbent managers to undertake positive net present value investments and discourage managers from consuming perquisites and taking value-reducing managerial decisions (Donker et al. 2009). Different researchers use different criteria to measure ownership concentration. While Manzaneque et al. (2016a) measure ownership

concentration as large shareholders that own three percent or more of shares, Ciampi (2015) measures it as the number of owners who hold at least five percent of the shares. Elloumi and Gueyié (2001) measured ownership concentration as the cumulative percentage of common shares held by shareholders with more than twenty percent of shares and who are not affiliated with management. Also, Gaur et al. (2015) measure ownership concentration as the percentage of ownership held by the top shareholder. This study measured ownership concentration using the Herfindahl Index as found in Li et al. (2008) and Schultz et al. (2017). It was measured as the sum of the square of the percentage of shares held by the shareholders who hold at least three percent. The three percent threshold was selected due to the requirement that companies are to declare shareholding of three percent or more in their annual reports as a significant shareholding in the UK.

6.9.2.14 INSTITUTIONAL OWNERSHIP

Institutional ownership is the ownership of a firm's shares by institutions such as banks, insurance firms, pension funds and mutual or trust funds. Large institutional shareholders have the opportunity, resources, and ability to monitor, discipline, and influence management (Cornett et al. 2007a) and due to their shareholding, they have greater incentives to monitor managers than board members who may have little or no investment in the firm (Shleifer and Vishny 1986). Hutchinson et al. (2015) compute institutional investment as the proportion of institutional investors' shares of total shares outstanding, while Cornett et al. (2007a) calculate institutional shareholdings as the proportion of total institutional investor ownership in each firm. Mathew et al. (2016) compute institutional ownership as the percentage of the total of substantial institutional investors holding of more than three percent of shares in the firm. This study computed its institutional ownership variable as a percentage of shares owned by institutions.

6.9.2.15 DIRECTORS REMUNERATION

Directors remuneration represents the entire remuneration package that is paid to a firm's board of directors in the firm's financial year. Jensen and Murphy (1990) propose that ensuring executive pay is sensitive to firm performance reduces at least in part, the agency conflict within the firm. Greenbury (1995) requires that the disclosure by companies of each individual director should cover basic salary, the nature and value of benefits in kind, annual bonuses, and long-term incentive schemes including share options. Also included as soon as practicable, should be the value of pension and other benefit entitlements earned by individual directors during the year less any contributions they have made.

Recently, Schultz et al. (2017) consider directors' remuneration to include the fixed component of remuneration which are; salary, superannuation, allowances, fees, non-monetary benefits and accrued entitlements, and the variable component which includes cash bonuses, shares, rights, options and long-term incentive plans. Following Afrifa and Tauringana (2015), this study measured directors' remuneration as the natural logarithm of the total remuneration paid to a firm's directors for each financial year.

6.9.2.16 DISCLOSURE OF NOTICE OF ANNUAL GENERAL MEETING IN THE ANNUAL REPORTS

This is where a firm's notice of an annual general meeting is published in its annual reports. Companies are required to hold an annual general meeting to allow shareholders to express their rights on issues concerning the governing and operation of the company. Shareholders and other stakeholders need to have information on when and where the annual general meeting is held and one way of receiving such information is through the publication of notice in the annual reports. This study measured the disclosure of notice in the annual reports with a dummy variable with '1' representing the disclosure of notice of the annual general meeting in the annual reports and '0' for otherwise.

6.9.2.17 PRESENCE OF SENIOR INDEPENDENT DIRECTOR

The review by Higgs (2003) recommends that a firm appoints a non-executive director as a senior independent director who has the resposibility of improving the relaionship between a firm's major shareholders and the board of directors. The senior independent director has a dual role which is made clear by the distinction between the role at normal times and that of crisis time. For instance, at normal times, the senior independent director is expected to meet with the non-executive directors to appraise the chairperson's performance while at crisis times like the absence of a chairperson due to any unexpected reason, the senior independent director steps in as a chairperson until there is an appointment of another one. This current study used dummy variables to measure the presence of the senior independent director. With this, a firm with a senior independent director is given the value of '1' and a firm wthout a senior independent director is given a value of '0'.

6.9.2.18 DISCLOSURE OF PROXY VOTING ARRANGEMENTS IN THE ANNUAL REPORTS

A proxy voting gives a firm's shareholders the opportunity to vote at the firm's annual general meeting even though those shareholders cannot be physically present. One way of disclosing information on proxy voting arrangements to shareholders is through the annual reports. Disclosing such information in the annual reports gives assurances to the

shareholders that their proxy votes are as useful as those who physically attend and vote at the annual general meeting. The disclosure of proxy voting arrangement in the annual report variable is measured with a dummy variable with '1' representing the disclosure of proxy voting arrangement in the annual reports and '0' for otherwise.

6.9.3 CONTROL VARIABLES

6.9.3.1 FIRM SIZE

Firm size was used as a control variable in the study because the literature on financial distress suggests that firm size is a key factor that affects financial distress prediction. Fama and Jensen (1983) show that size is an indicator of complexity and could make more monitoring necessary. All things being equal large firms, due to their access to more resources, tend to handle financial distress better than small firms (Pindado and Rodrigues 2005). The most widely used proxies for firm size are the book value of sales, the number of employees and book value of total assets. Studies by Parker et al. (2002), Anderson and Bizjak (2003), Al-Bassam et al. (2015) and Bhatt and Bhattacharya (2015) measure firm size as the natural logarithm of the book value of a firm's total assets value. This study measured firm size as the natural logarithm of a firm's total asset value.

6.9.3.2 FIRM AGE

The age of the firm is often regarded as an important variable affecting the financial distress process because the financial distress process may be different for young firms due to the lack of capital and cash flow generation (Laitinen 2005). In comparison with the young firms, old firms due to their long existence, are deemed to have wider access to resources which can help them to have good corporate governance structures and this may help them perform better to avoid the likelihood of financial distress. Hsu and Wu (2014) measure firm age as the period between the incorporation date and failure date. Bhatt and Bhattacharya (2015) measure firm age as a firm's existence since the date of incorporation. This study also measured firm age as the period between the date of incorporation and the year of analysis in question.

6.9.3.3 INDUSTRY

Different industries represent different strategies and approaches to product development (Wang and Fang 2012). A firm's industry may affect its financial vulnerability especially when there is an economic or a financial crisis like the one that started in 2007. El Hennawy and Morris (1983) and Platt and Plat (1990) have shown an industry effect when predicting firm failure. Nguyen et al. (2015) used a dummy variable for each of the eight

industries in their study including Basic Materials; Consumer Goods; Consumer Services; Health Care; Industrials; Oil & Gas; Technology; and Utilities. This study used dummy variables for industry classification. These classifications include primary sector (1), other services (2), post and telecommunication (3), education and health (4), metals and metal products (5), wholesale and retail (6), printing and publishing (7), construction (8), chemical and rubber (9), hotels and restaurants(10), food and tobacco (11), transport (12), and machinery and furniture (13).

6.9.4 MODERATING VARIABLES

6.9.4.1 ENVIRONMENT

This study measured the firms' environment using the three broad dimensions of organisational environments specified by Dess and Beard (1984) which are munificence, dynamism, and complexity. Environmental munificence is the extent to which the environment provides sufficient resources to support the established as well the new firms and to enable them to grow and prosper (Randolph and Dess 1984). Environmental dynamism is the instability in the environment, the rate of change and the unpredictability of the environmental factors (Priem et al. 1995), while environmental complexity according to Dess and Beard (1984) is the diversity in the environment and the intensity of the resources. According to Atinc and Ocal (2014), studies including Carpenter and Westphal (2001) and Walters et al. (2010) have used many methods to calculate these three variables. This study, however, adopted the methods used by Palmer and Wiseman (1999), and Atinc and Ocal (2014) to compute environmental munificence, dynamism, and complexity. Environmental complexity was calculated by dividing the aggregate sales of the four largest firms in each industry by the total sales of that industry where the industry was identified by the major sectors. Environmental dynamism was calculated by dividing the aggregate of the sales figures reported for the four largest companies in an industry divided by the aggregate sales of the industry from the prior 2-year period where the industry was determined by the major sectors. Finally, environmental munificence was calculated as the average industry sales growth rate during the 8-year period where the industry was once again determined by the major sectors.

6.9.4.2 RESOURCES

Firms resources include all assets, capabilities, organisational processes, firm attributes, information, knowledge, etc. controlled by a firm that enables the firm to conceive of and implement strategies that improve its efficiency and effectiveness (Barney 1991). Firms with enough resources can implement growth strategies, have good corporate governance

structures, and operate efficiently to avoid financial distress. Firms have both tangible and intangible resources (Wernerfelt 1984). While tangible resources include buildings, cash, real estate, stock, plant, and machinery, intangible resources include reputation, brands, and knowledge. This study follows Norman et al. (2013) to measure tangible and intangible resources. The study used capital asset intensity as a proxy for a firm's tangible resources and this was calculated as a firm's total assets divided by its sales. For intangible resources, the study used market-to-book value as a proxy for a firm's intangible resources. The market-to-book ratio includes the extent to which the firm's value is attributable to intangible assets (Roberts and Dowling 2002), and hence, the excess of the market value of a firm's equity compared to its book value is considered to be the value of a firm's intangibles (Maritan and Schnatterly 2002).

6.9.4.3 TECHNOLOGICAL CAPABILITY

Technological innovation can help a firm to provide more valuable and differentiable products, which creates higher financial performance thereby reducing the likelihood of financial distress for the firm (Zahra et al. 2000). Zona et al. (2013) identify technological innovation using research and development cost. This current study also determined firms' technology using research and development cost since firms' expenditures on research and development cover their technological developments.

6.10 DATA ANALYSIS

Data analysis involves the identification and measurement of variation in a set of variables, either among themselves or between a dependent variable and one or more independent variables (Hair Jr et al. 2014). It is important that a researcher considers the number of variables and the scale of measurement when selecting the data analysis method. A researcher must determine the research objectives, the type of data needed, the data collection method and the method of analysing the data, and that the type of data collected determines not only whether quantitative techniques can be used but often determines the specific quantitative techniques to be used (Lancaster 2005). The levels of quantitative analysis include descriptive statistics, univariate, bivariate and multivariate analyses.

6.10.1 DESCRIPTIVE STATISTICS

Descriptive statistics describe the basic characteristics of data and summarise the data in a straightforward and understandable manner (Zikmund et al. 2013). In situations where the data is nominal or ordinal, descriptive statistics will relate to proportions, percentages, and ratios, whereas for the interval or ratio data, mean, median and mode can be analysed

(Lancaster 2005). This current study presented calculations of the mean, standard deviation, minimum, and maximum values of each independent variable and control variable as part of its descriptive statistics.

6.10.2 MULTIVARIATE ANALYSIS

Multivariate analysis refers to all statistical techniques that simultaneously analyse multiple measurements on individuals or objects under investigation (Hair Jr et al. 2014). Thus, in a research study where three or more variables are involved, multivariate analysis becomes the most appropriate statistical technique (Bryman and Bell 2007). The corporate governance mechanisms including ownership concentration, proportion of independent directors, board activity, board gender diversity, directors' ownership, board size, board member qualification, and audit committee independence, etc., and control variables could influence financial distress and to make sure the right results are obtained, it is important that these variables were analysed simultaneously through multivariate analysis.

6.10.2.1 PANEL DATA ANALYSIS

Panel data analysis, which represents a marriage of regression, and time-series analysis is an analysis of data sets composed of a cross section of many subjects observes over time. Observing a broad cross section of subjects over time allows the researcher to study dynamic, as well as cross-sectional aspects of a problem (Frees 2004). The cross-sectional dimension and time-series dimension, which form the two dimensions of panel data, enabled the researcher to construct complex models and conduct efficient statistical inferences, which may not be possible using pure cross-section data or time-series data (Hu et al. 2014).

In this study, the descriptor panel data came from a sample of firms and in this context, a "panel" represented 200 firms observed repeatedly over 8 years and this gave a total observation of 1600. Panel data set can also be balanced and unbalanced. In a balanced data set, all elements are observed in all time frames whereas in an unbalanced data set certain data category is not observed. The data for this current study was however unbalanced but the Stata statistical software could handle the unbalanced data. Panel data offers some benefits, and this includes the fact that it has many large data set with increased variability and less collinearity among the variables that leads to many reliable estimates (Baltagi 1995). Panel data sets are also able to control for observable and unobservable individual heterogeneity by tracking subjects over time to model subjects' behaviour. Moreover, panel data analysis accounts for relationships among a limited

number of different subjects (Frees 2004). Therefore, it offers the advantage of studying complex issues of dynamic behaviour. Despite these benefits, because the sampling structure is more complex, it can also fail in subtle ways. Measurement errors may arise due to faulty response, inappropriate informants, misreporting of responses and interviewer effects. However, these problems of panel data typical of primary data were avoided in the study because the study used secondary data.

6.10.2.2 LOGISTIC REGRESSION

Logistic regression is a specialised form of regression that is formulated to predict and explain a binary categorical variable rather than a metric dependent measure. It has a unique relationship between dependent and independent variables, however, it requires a different approach in estimating the variate, assessing goodness-of-fit, and interpreting the coefficients when compared to multiple regression (Hair Jr et al. 2014). According to Ciampi (2015), over the last 30 years, most academic literature (Platt and Platt 1990; Lee and Yeh 2004; Deng and Wang 2006; Altman and Sabato 2007) use the logit analysis in predicting default even though multiple discriminant analysis has for many years been the prevalent statistical technique applied to company default prediction models. Logistic regression was used in this current study based on the following reasons. First, logistic regression has the advantage of being less affected than discriminant analysis when the basic assumptions particularly normality of the variables, are not met (Hair Jr et al. 2014). Second, in logistic regression, the estimated coefficients can be interpreted separately as the significance of each of the predictive variables. Third, statistically, logistic regression seems to fit well with the features of the distress prediction problem, where the dependent variable is binary and with the groups being discrete, non-overlapping and identifiable (Ciampi 2015). Fourth, it has straightforward statistical tests, similar approaches to incorporating metric and non-metric variables and non-linear effects, and a wide range of diagnostics (Hair Jr et al. 2014). Fifth, logistic regression produces reliable results because of its ability to produce a nonlinear transformation of the input data that reduces the effects of outliers. Therefore, in line with existing literature on firms' financial distress prediction, logistic regression was used in this study.

Generally, logistic regression may be stated as follows:

$Y_{it} = \alpha_i + X_{it}\beta + U_{it}$,

$i = 1\ldots\ldots N$ and $t = 1\ldots\ldots, T$

Where Y_{it} is a response variable for the *i*th individual at the *t*th time period, α_{it} is a fixed constant varying across individuals, X_{it} is a *K*-vector of covariates and U_{it} is an error term with zero mean and known variance, β represents the regression coefficient (Rendon 2013). This general regression model was modified by including the corporate governance mechanisms, the control variables, as well as the moderating variables to find out the influence of corporate governance mechanisms on financial distress likelihood. Hence, the regression models for this current study are specified as follows: (see Table II for variables explanation)

The regression models are;

$$FD_{it} = \beta_0 + \beta_1 A_{it} + \beta_2 X_{it} + dt + \eta_{it} + \mu_{it} \quad (1)$$

$$FD_{it} = \beta_0 + \beta_1 B_{it} + \beta_2 X_{it} + dt + \eta_{it} + \mu_{it} \quad (2)$$

$$FD_{it} = \beta_0 + \beta_1 C_{it} + \beta_2 X_{it} + dt + \eta_{it} + \mu_{it} \quad (3)$$

$$FD_{it} = \beta_0 + \beta 1 ABCit + \beta_2 X_{it} + dt + \eta_{it} + \mu_{it} \quad (4)$$

$$FD_{it} = \beta_0 + \beta_1 A_{it} + \beta_2 X_{it} + \beta_3 YA_{it}\, dt + \eta_{it} + \mu_{it} \quad (5)$$

$$FD_{it} = \beta_0 + \beta_1 B_{it} + \beta_2 X_{it} + \beta_3 YB_{it}\, dt + \eta_{it} + \mu_{it} \quad (6)$$

$$FD_{it} = \beta_0 + \beta_1 C_{it} + \beta_2 X_{it} + \beta_3 YC_{it}\, dt + \eta_{it} + \mu_{it} \quad (7)$$

$$FD_{it} = \beta_0 + \beta_1 ABC_{it} + \beta_2 X_{it} + \beta_3 YABC_{it}\, dt + \eta_{it} + \mu_{it} \quad (8)$$

Where FD represents financial distress which is the dependent variable; "A" represents the components of board composition and structure, which are board size (BSZ), proportion of independent directors (PID), board gender diversity (BGD), board activity (BAC), board member qualification (BMQ), board member financial expertise (BME), audit committee independence (ACIND), audit committee size (ACSZ), presence of a firm's chairperson on the audit committee (CACM), remuneration committee size (RECSZ), and presence of a firm's chairperson on the remuneration committee (CREC); "B" represents the components of ownership structure, which are directors' ownership (DOWN), institutional ownership (INOWN) and concentrated ownership (CONOWN); "C" represents the components of disclosure and transparency, which are directors' remuneration (DREM), presence of senior independent director (SIND), disclosure of proxy voting arrangements in the annual reports (PAR), and disclosure of notice of annual general meeting in the annual reports (MN); "ABC" represents all the components of board composition and structure, ownership structure, and disclosure and transparency,

"X" represents the control variables which are firm age (FAG), firm size (FSZ) and industry effects (IND); "Y" represents the moderating factors which are technology (TEC), tangible resource (TR), intangible resource(ITR), environmental munificence (EM), environmental dynamism(ED), and environmental complexity (EC). "YA" represents the interactive term with board composition and structure components (YBSZ; YPID; YBGD; YBAC; YBMQ; YBME; YACIND; YCSZ; CACM; YRESZ; YCREC). "YB" represents the interactive term with ownership structure components (YDOWN; YINOWN; YHEF; YCONOWN); "YC" denotes the interactive term with disclosure and transparency components (YDREM; YSIND; YPAR; YMN); "YABC" denotes the interactive term with all the components of board composition and structure (A), ownership structure components (B) and disclosure and transparency components(C). i is the cross-sectional unit (firm, i = 1-200); t is the time period (year, t = 1-8); d_t is the time effect; η_i represents the individual effect and μ_{it} is the random disturbance.

The first equation (1) above, reports the relationship between the components of board composition and structure, and financial distress without any interactive effect, but the fifth equation (5) reports the interactive effect on that relationship. The second equation (2) reports the relationship between the components of ownership structure and financial distress without any interactive effect, while the seventh equation (6) describes the interactive effect. Moreover, third equation (3) describes the relationship between the components of disclosure and transparency and financial distress without any interactive effect, but the seventh equation (7) reports on the interactive effect on that relationship. Finally, the fourth equation (4) reports the relationship between all the corporate governance variables which include all the components of board composition and structure; ownership structure; and disclosure and transparency; and financial distress without any interactive effect, while the eighth equation (8) describes the interactive effect on that relationship.

TABLE II: VARIABLES AND THEIR MEASUREMENTS.

Variable	Acronym	Measurement
Dependent Variable Financial Distress	FD	This is the dependent variable coded 1 if a firm is financially distressed and 0 if a firm is not financially distressed based on empirical studies of Donker et al. (2009), Elloumi and Gueyié (2002), Brédart (2014), Lee and Yeh (2004) and Manzaneque et al. (2016a, b).
Independent Variables: ***Board structure and Composition (A):*** **1.** Board size	BSZ	This referred to the total number of directors serving on a company's board of directors. It is the count of members on the board.
2. The proportion of independent directors	PIND	This referred to the proportion of the total number of directors who are independent during a year.
3. Board gender diversity	BGD	This referred to the number of female directors serving on a company's board. A firm with a female board member was represented by '1' and '0' for otherwise.
4. Board activity	BAC	This referred to the number of meetings held by a company's board of directors during the year.
5. Board member financial expertise	BME	This referred to the number of board members who had a professional qualification in various disciplines such as accounting, banking, finance, insurance, etc.
6. Board member qualification	BMQ	This referred to the number of board members who had either a master's degree, a Ph.D. or a professorship.
7. Audit committee independence	ACIND	This represented the percentage of the number of independent directors over the total number of directors on the audit committee.
8. Audit committee size	ACSZ	This referred to the number of members on the audit committee.
9. A firm's chairman on the audit committee	CAC	This referred to the presence of a firm's chairperson on the audit committee. This is giving the value of '1' when the chairperson is on the audit committee and '0' when the chairperson is not on the audit committee.
10. Remuneration committee size	RCSZ	This referred to the count of members of the remuneration committee.

11. A firm's chairman on the remuneration committee	CRC	This referred to the presence of a firm's chairperson on the remuneration committee measured with the value of '1' when the chairperson is on the remuneration committee and '0' for otherwise.
Ownership Structure (B): 1. Directors' ownership	DOWN	This represented the natural logarithm of the percentage of a firm's shares owned by its directors.
2. Institutional ownership	INOWN	This represented the natural logarithm of the total percentage of a firm's shares owned by institutions.
3. Concentrated ownership	COWN	This measured the largest shareholders who owned at least 3% of a firm's shares calculated as the natural logarithm of the sum of the square of shareholders who owned 3% or more of the firm's shares (Herfindahl index).
Disclosure and Transparency (C): **1.** Directors Remuneration	DREM	This represented the natural logarithm of the total remuneration paid to a firm's directors.
2. Presence of senior independent director	SIND	This was measured with a dummy variable with a value of '1' when a firm had a senior independent director on the board and '0' for otherwise.
3. Disclosure of Proxy voting arrangements in the annual report	PAR	This was measured with a dummy variable with a value of '1' when a firm disclosed a proxy voting arrangement in its annual reports and '0' for otherwise
4. Disclosure of notice of the annual general meeting in the annual reports	MN	This was measured with a dummy variable with a value of '1' when a firm disclosed a notice of the annual general meeting in its annual reports and '0' for otherwise.
Control Variables: 1. Firm size	FSZ	This was measured as the natural logarithm of total assets.
2. Firm age	FAG	This was measured as the difference between the date of incorporation and the year of analysis
3. Industry	IND	This was measured by the sectors in which the firms are in with dummy variables.
Moderating Factors: 1. Tangible resources	TR	This was represented using capital asset intensity as a proxy for a firm's tangible resources and it was calculated as a firm's total assets divided by its sales as in Norman et al. (2013).

2. Intangible resources	ITR	This was represented with market-to-book value as a proxy for a firm's intangible resources as in Norman et al. (2013).
3. Technology capability	TEC	This was measured as the natural logarithm of a firm's research and development cost.
4. Environmental complexity	EC	This was calculated by dividing the aggregate sales of the four largest firms in each industry by the total sales of that industry where the industry was identified by the major sectors (Atnic and Ocal, 2014).
5. Environmental dynamism	ED	This was calculated by dividing the aggregate sales figures reported for the four largest firms in an industry by the aggregate sales of the industry from the prior 2-year period where the industry was determined by the major sectors (Atnic and Ocal, 2014; Carpenter and Westphal, 2001).
6. Environmental munificence	EM	This was calculated by the average industry sales growth rate during the 8-year period where the industry was determined by the major sectors (Atnic and Ocal, 2014; Carpenter & Westphal, 2001; Wierseman & Bantel, 1993).

6.11 CHAPTER SUMMARY

The chapter concentrated on the research methodology adopted in the study. The philosophical position, the sampling procedure, the sources and the type of data, the criterion for selecting financially distressed and financially non-distressed firms and the type of statistical data analysis technique were all discussed in the relevant sections and the sub-sections of the chapter. The chapter discussed the fact that the study adopts objectivism ontology that calls for positivism epistemology that requires deductive methodology with the need for quantitative methods. The sources of data, the dependent, the independent and the control variables, as well as the moderating variables and their measurements, were all discussed in the chapter. Panel logistic regression is also discussed in the chapter.

CHAPTER SEVEN

RESULTS AND ANALYSIS OF THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND FINANCIAL DISTRESS

7.1 INTRODUCTION

This chapter presents the empirical results on the relationship between corporate governance mechanisms and financial distress as examined by most existing studies. The objective of the chapter is to ascertain results for the hypotheses stated in chapter five. It also includes the control variables found to be necessary by previous studies to influence the relationship between corporate governance mechanisms and financial distress. Overall, the chapter presents the results of eighteen hypotheses relating to the independent variables and six hypotheses that relate to the control variables formulated in chapter five using the methodological framework presented in chapter six.

The rest of the chapter is structured as follows. Sections 7.2 and 7.3 discuss the descriptive statistics and the correlation analysis, respectively. The results of multivariate logistic regression analyses are presented in section 7.4. In section 7.5, the discussion of key findings is presented, while the chapter summary is presented in section 7.6.

7.2 DESCRIPTIVE STATISTICS

Table III describes the summary statistics of the total sample of 200 firms listed on the London Stock Exchange for the period 2009-2016. Table IV also presents the summary descriptive statistics for both distressed and non-distressed firms respectively. The mean, standard deviation, minimum, and maximum values of the dependent and each independent variable, as well as each control variable, are provided. The discussion of the summary statistics falls under three sub-headings and these are; the dependent variable, the independent variables, and the control variables.

7.2.1 DEPENDENT VARIABLE

The dependent variable in the study is financial distress measured as a binary variable with values of '1' representing distressed firms and '0' for non-distressed firms. From the overall observation of 1600 in Table III, and due to the binary nature of the dependent variable, there is no descriptive statistical difference between the distressed and non-distressed firms for the dependent variable.

TABLE III: SUMMARY STATISTICS FOR ALL CONTINUOUS VARIABLES

This table reports the descriptive statistics for all continuous variables adopted in estimating the relationship between corporate governance and financial distress on a sample of 200 firms listed on the London Stock Exchange for the period 2009 to 2016. It

is presented in three sub-sections. The first sub-section presents descriptive statistics of the dependent variable of the study which is measured using financial distress. The second sub-section presents an analysis of the main explanatory variables. Finally, the last subsection reports the control variables which are firm age, and firm size.

Variables	N	Mean	Sd	Min	Max
FD	1,600	0.500	0.500	0	1
DREM	1,600	13.55	1.186	8.112	16.73
SIND	1,600	0.444	0.497	0	1
PAR	1,600	0.491	0.500	0	1
MN	1,600	0.707	0.455	0	1
DOWN	1,600	12.72	14.98	0.00500	84.37
INOWN	1,600	35.25	15.63	3.520	78.01
COWN	1,600	48.50	19.30	3	90.35
BSZ	1,600	6.227	2.571	2	17
PIND	1,600	0.538	0.160	0.167	1
BGD	1,600	0.347	0.476	0	1
BAC	1,600	7.179	2.433	2	16
BMQ	1,597	2.924	1.701	1	12
BME	1,578	1.869	1.100	1	7
ACIND	1,600	92.49	17.94	33.33	100
ACSZ	1,600	2.823	0.981	1	9
CAC	1,600	0.347	0.476	0	1
RCSZ	1,600	2.946	1.075	1	9
CRC	1,600	0.462	0.499	0	1
FAG	1,600	26.61	27.55	3	136
FSZ	1,600	10.88	2.664	2.746	19.97

The acronyms in the table above are explained as follows: Observation (N), standard deviation (sd), financial distress (FD), directors remuneration (DREM), presence of senior independent director (SIND) , proxy arrangements (PAR), meeting notices (MN), directors' ownership, (DOWN), institutional ownership (INOWN), concentrated ownership (COWN), board size (BSZ), proportion of independent directors (PIND), board gender diversity (BGD), board activity (BAC), board member qualification (BMQ), board member financial expertise (BME), audit committee independence (ACIND), audit committee size (ACSZ), chairman on audit committee (CAC), remuneration committee size (RCSZ), chairman on remuneration committee (CRC), firm age (FAG), and firm size (FSZ).

7.2.2 INDEPENDENT VARIABLES

The independent variables in the summary statistics are the corporate governance variables which are grouped under disclosure and transparency, ownership structure, and board composition and structure. For disclosure and transparency variables, the results in Table III indicate that 44.4% of firms have senior independent directors on their boards. In terms of disclosing information regarding arrangements for proxy voting and notice of the annual general meeting, 49.2% of the firms disclose information for an arrangement for proxy voting while 70.7% of the firms disclose information on notice of the annual general meeting in their annual reports. Regarding the ownership variables, the results in

Table III indicate that the concentrated shareholders control 48.5% which is larger than the 35.25% and 12.72% of ownerships by institutions and directors respectively. This gives a concentrated ownership environment. Though the directors' ownership is comparatively small, it shows the alignment of directors' interests with that of the shareholders. These results are in line with the findings of Manzaneque et al. (2016) who recorded a higher mean for concentrated ownership of 46% and a lower mean of 23% for directors' ownership.

In terms of board composition and structure variables, the results in Table III show that the mean proportion of independent directors is 53.8% of total board members, meaning more than half of the board members are independent directors. For board size, on the average, the firms have 6 members on their boards. The firms also have a minimum of 2 and a maximum of 17 members on their boards. Considering board gender diversity, the firms have an average of 34.8%, giving a higher number of female directors on the firms' boards though this finding is comparatively lower than that of Adams and Ferreira (2009) who establish that female directors have a mean of 0.66. In addition, directors on average attend board meetings at least 7 times in a year. In terms of board qualification and board financial expertise, the results indicate that 29.24% of board members have the relevant qualification while 18.69% of the board members have expertise in finance. The results further show that the audit committee has an average of 3 members with the level of independence being 92.49%. There are also 3 members on the remuneration committee. These figures for the size and independence of the audit and remuneration committees are close to satisfying the requirements in the codes that at least both the audit and the remuneration committees should have at least 3 members who are independent.

TABLE IV: SUMMARY STATISTICS FOR ALL CONTINUOUS VARIABLES FOR NON-DISTRESSED AND DISTRESSED FIRMS

This table reports the descriptive statistics for all continuous variables adopted in estimating the relationship between corporate governance and financial distress on a sample of 200 firms listed on the London Stock Exchange for the period 2009 to 2016. The variables column which shows the dependent variable, independent variables, and the control variables are the same as that of Table III. The number of observations, mean, standard deviation, minimum, and maximum values are represented in column A for non-distressed firms and the same for column B for distressed firms as well as the mean difference for distress and non-distressed firms. The variables are as explained in Table III.

	A Non-distressed firms					B Distressed firms					
Variables	N	mean	Sd	Min	Max	N	Mean	Sd	Min	Max	Mean diff.
FD	800	0	0	0	0	800	1	0	1	1	
DREM	800	13.85	0.993	10.28	15.99	800	13.25	1.285	8.112	16.73	0.597***
SIND	800	0.614	0.487	0	1	800	0.275	0.447	0	1	0.340***
PAR	800	0.571	0.495	0	1	800	0.412	0.493	0	1	0.157***
MN	800	0.802	0.399	0	1	800	0.611	0.488	0	1	0.191***
DOWN	800	15.08	17.58	0.00500	84.37	800	10.36	11.36	0.0100	68.15	4.512***
INOWN	800	36.30	14.96	4.970	77.08	800	34.21	16.22	3.520	78.01	0.187***
COWN	800	47.61	20.13	3	88.55	800	49.38	18.37	7.370	90.35	0.210***
BSZ	800	6.558	2.223	2	15	800	5.896	2.841	2	17	0.665***
PIND	800	0.528	0.157	0.167	1	800	0.549	0.162	0.200	1	-0.021***
BGD	800	0.404	0.491	0	1	800	0.292	0.455	0	1	0.113***
BAC	800	7.829	2.520	3	16	800	6.530	2.156	2	14	1.281***
BMQ	800	3.064	1.816	1	12	797	2.784	1.566	1	9	0.282***
BME	798	1.860	1.047	1	6	780	1.878	1.153	1	7	-0.019
ACIND	800	94.14	16.03	33.33	100	800	90.84	19.54	33.33	100	3.369***
ACSZ	800	2.956	1.055	2	9	800	2.690	0.882	1	6	0.266***
CAC	800	0.360	0.480	0	1	800	0.334	0.472	0	1	0.246***
RCSZ	800	3.127	1.162	1	9	800	2.764	0.946	1	6	0.364***
CRC	800	0.511	0.500	0	1	800	0.412	0.493	0	1	0.098***
FAG	800	33.26	30.68	3	136	800	19.96	22.11	3	119	13.259***
FSZ	800	11.50	2.155	5.742	18.32	800	10.25	2.962	2.746	19.97	1.261***

*** p<0.01, ** p<0.05, * p<0.1

For the presence of a firm's chairperson as a member on the audit and the remuneration committees, the results show that 34.7% and 46.2% of the firms' have their chairpersons on the audit and the remuneration committees respectively.

The results from Table IV show that for disclosure and transparency variables, the results indicate that there is not much difference between the non-distressed and distressed firms for directors' remuneration since the non-distressed firms recorded a converted average logarithm value of 13.85 and that of the distressed firms of 13.25. There is a big difference regarding the mean value for the presence of the senior independent director. The non-distressed firms had a mean value of 0.614 meaning 61.4% of the non-distressed firms have senior independent directors on their boards compared with that of the distressed firms of 27.5%. Regarding the disclosure of proxy voting arrangement in the annual reports, 57.1% of the non-distressed firms disclose information regarding proxy voting compared with that of distressed firms of 41.2%. Further, for disclosure of notice for the annual general meeting in the annual reports, 80.2% of the non-distressed firms disclose information. In contrast, 61.1% of the distressed firms disclose information on the annual general meeting in their annual reports.

Regarding the ownership variables, directors and institutions own more shares in the non-distressed firms than the distressed firms do, but for concentrated ownership, the opposite is the case. Directors on the average own 15.08% of shares in the non-distressed firms with their maximum ownership reaching as high as 84.37% compared with the average of 10.36% ownership in the distressed firms and recording maximum ownership of 68.15%. In addition, institutions on the average own 36.3% shares in the non-distressed firms compared with that of the distressed firms of 34.21%. However, for concentrated ownership, there is more shareholding for the distressed firms with an average of 49.38% compared with that of the non-distressed firms that have a mean value of 47.61.

In terms of the board composition and structure variables, the results show that the mean proportion of the independent directors for non-distressed and distressed firms are 52.8% and 54.9% respectively. Meaning, more than half of the board members for both distressed and non-distressed firms are independent directors, but the distressed firms have more independent directors compared to the non-distressed firms. This result is, however, inconsistent with Fich and Slezak (2008), Lajili and Zéghal (2010) and Platt and Platt (2012). Platt and Platt (2012) find that non-bankrupt firms have an average of 66% of independent directors compared with the bankrupt firms which have a mean proportion of independent directors of 60%. Further, whereas on the average, there are

5.896 board members in distressed firms, the non-distressed firms have 6.558 members on their boards. This result is consistent with the findings of Brédart (2014) who ascertains that the board is smaller for financially distressed firms (8.07 directors) than for the non-distressed counterparts (8.47 directors). For board gender diversity, the non-distressed firms recorded a mean of 40.4%. Contrarily, the distressed firms recorded a mean of 29.2%, meaning there are more females directors on boards of non-distressed firms than that of the distressed firms. Further, on the average, 3 directors on the boards of non-distressed firms have the relevant qualification compared with that of the distressed firms which are 2. However, in terms of board members with financial expertise, there is not much difference between the two groups of firms with each group recording the mean of at least 1.9. For audit committee independence, the distressed firms on the average have 90.84% of the board members on the audit committee being independent, while for non-distressed firms, the level of independence for the audit committee is 94.14%. On average, there are 2.69 audit committee members, a minimum of 1 and a maximum of 6 members on the audit committee for the distressed firms. In contrast, there is an average of 2.956 members on the audit committee of non-distressed firms with 2 as the minimum and 9 as the maximum. These results are in line with the evidence of Salloum et al. (2014) whose findings indicate that non-distressed firms have 3.58 members compared with the distressed firms which have 3.3 members on their audit committee. On the remuneration committee, there is an average of 2.764 members with a minimum of 1 and a maximum of 6 members for the distressed firms. Contrarily, the non-distressed firms have 3.127 members on their remuneration committee with minimum and maximum values of 1 and 9, respectively. For the presence of a firm's chairperson on the audit committee, the results in Table IV indicate that 36% of the non-distressed firms have their chairpersons as members of the audit committee compared with that of the distressed firms which are 33.34%. Lastly, for the presence of a firm's chairperson as a member of the remuneration committee, 51.1% of the non-distressed firms have their chairpersons as members of the remuneration committee in comparison to that of the distressed of 41.2%.

Moreover, the column for the mean difference reveals that only board member financial expertise shows no significant difference between the means of financially distressed and financially non-distressed firms. In addition, the results from the mean difference column show that the proportion of independent directors and gearing are significant but are negative meaning that the financially distressed firms have higher mean especially, that

of gearing, than the financially non-distressed firms. Also, all the remaining independent and the control variables in the mean difference column are significant and show positive values indicating that the financially non-distressed firms have higher means than the financially distressed firms.

Overall, the results for the independent variables which are the corporate governance variables from Tables III and IV describe the statistical difference between the distressed and the non-distressed firms, confirming prior studies of Platt and Platt (2012) that overall, the non-distressed firms tend to have better corporate governance characteristics than the distressed firms.

7.2.3 CONTROL VARIABLES

From Table III, the results show that the firms have an average age of 26.61 years with the maximum age of the firms being 136 years. On firm size, the results from Table III reveal that it has an average value of 10.88 and minimum and maximum values of 2.75 and 19.97, respectively. From Table IV, the results show that for firms' age, the non-distressed firms are comparatively older with the average age of firms of 33.26 years and the minimum and maximum values of 3 and 136 years, however, the distressed firms recorded the average age of 19.96 with the minimum and maximum values of 3 and 119. Also, regarding firm size, the distressed firms are smaller with a mean of 10.25 compared with the non-distressed firms which have the mean value of 11.5 and confirms the results of Donker et al. (2009) who find that financially distressed firms are smaller.

7.3 CORRELATION ANALYSIS

The correlation matrix for all the continuous variables is presented in Table V to identify the possible presence of multicollinearity which is considered to be harmful in regression analysis (Hsu and Wu 2014). Table VI also presents the variance inflation factors (VIFs) for each independent variable to examine further, whether multicollinearity is problematic. To be included in the regression analysis, a variable's coefficient must not exceed the threshold of 0.97 as indicated by Field (2005) and the results from Table V show that none of the variable's coefficients exceeded 0.97. Additionally, results from Table VI indicate that all the VIFs are lower than the critical value of 10 as suggested by Tabachnick and Fidell (2007). Since these results allowed the study to rule out multicollinearity, all the variables indicated are included in the regression analyses.

Firstly, on the relationship between financial distress and the corporate governance variables, the following results are obtained. The results from Table V indicate a

significant negative correlation between financial distress and directors' remuneration. This is expected and is based on the premise that if directors are remunerated properly, they give their maximum efforts in monitoring management to ensure that firms perform better to avoid the likelihood of financial distress. However, since remuneration increases firms' costs, rewarding directors with excessive remuneration may plunge firms into financial distress, especially where firms are struggling financially as happened in Carillion, a UK based construction company which went bankrupt in January 2018. On the relationship between financial distress and the presence of the senior independent director, the results show a significant negative correlation because the availability of a senior independent director improves communication between directors, management and shareholders thereby ironing out any problems a firm might face to improve performance, which may reduce the likelihood of financial distress. The correlation results also find a significant negative correlation between financial distress and disclosure of arrangements for proxy voting information in annual reports. Similarly, the results indicate a significant negative correlation between financial distress and disclosure of notice of annual general meeting (-0.207) in the annual reports. All the disclosure and transparency variables in the correlation matrix exhibit significant negative correlations between them and financial distress implying that when firms become open in disclosing essential information in their annual reports, all the stakeholders gain trust and confidence in dealing with them, thereby improving performance to reduce financial distress likelihood. The results further show a negative correlation between financial distress and directors' ownership (-0.161) and this may result from the fact that when directors' own shares, their decisions impact on their investment, especially when the receipt of shares is based on their performance as argued by Booth et al. (2002). Consequently, directors are willing to take decisions and monitor management for efficient performance to reduce financial distress if they hold a significant number of shares. Again, there is a negative correlation between institutional ownership and financial distress (-0.0609), meaning the more institutions own shares the less likelihood firms become financially distressed since institutional owners have the resources and the ability to monitor, discipline and influence management (Cornett et al. 2007a). Also, on concentrated ownership and financial distress, the results show a negative correlation between the two. Further, the results show a significant and negative correlation between board size and financial distress. There is, however, a significant but positive correlation between the proportion of independent directors and financial distress from the correlation matrix. Regarding board gender diversity, the results from Table V show a significant negative correlation between board

gender diversity and financial distress (-0.113), meaning the more female directors a firm has, the less likelihood that the firm is financially distressed. This is because the presence of female directors on boards help to improve accountability and punctuality. Similarly, the result shows that board activity has a significant negative (-0.272) correlation with financial distress. Board meetings are held to take strategic decisions and especially in a fast-moving business environment, the more meetings the board hold the more likely they identify all types of risks and manage them to improve performance to avoid the likelihood of financial distress. This supports Vafeas (1999) argument that the frequency of board meeting can have significant implications on firm value. To sum up the correlation analysis from the correlation table, apart from board member expertise and a firm's chairperson on audit committee which have no significant correlations with financial distress, all the remaining corporate governance mechanisms have a significant and negative correlation with financial distress.

Although the correlation analyses indicate a bivariate relationship between financial distress and corporate governance variables, it does not consider each variable's correlation with the other independent variables, hence, it is important to do an in-depth multivariate analysis through panel logistic regression analysis.

Table V on the next page reports the correlation coefficients for all continuous variables adopted in estimating the relationship between corporate governance and financial distress. Variables are defined as follows: financial distress (FD), directors remuneration (DREM), presence of senior independent director (SIND), proxy arrangements (PAR), meeting notices (MN), directors' ownership, (DOWN), institutional ownership (INOWN), concentrated ownership (COWN), board size (BSZ), proportion of independent directors (PIND), board gender diversity (BGD), board activity (BAC), board member qualification (BMQ), board member financial expertise (BME), audit committee independence (ACIND), audit committee size (ACSZ), chairperson on audit committee (CAC), remuneration committee size (RCSZ), chairperson on remuneration committee (CRC), firm age (FAG), firm size (FSZ), and industry (IND).

TABLE V: CORRELATION COEFFICIENTS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1.FD	1																					
2.DREM	-0.242***	1																				
3. SIND	-0.336***	0.521***	1																			
4.PAR	-0.159***	-0.0430	-0.0721**	1																		
5.MN	-0.207***	-0.0695**	-0.102***	0.628***	1																	
6.DOWN	-0.161***	-0.130***	-0.132***	-0.0498*	0.0120	1																
7.INOWN	-0.0609*	0.105***	0.174***	0.0784**	0.0655**	-0.0961***	1															
8.COWN	-0.127***	-0.112***	-0.0545*	0.130***	0.122***	0.154***	0.229***	1														
9.BSZ	-0.118***	0.759***	0.497***	-0.0119	-0.0612*	-0.169***	0.0894***	-0.140***	1													
10.PIND	0.0604*	0.0773**	0.240***	-0.108***	-0.163***	-0.187***	0.00302	-0.0566*	0.200***	1												
11.BGD	-0.113***	0.380***	0.332***	0.0140	-0.0732**	-0.132***	0.0800**	-0.101***	0.470***	0.186***	1											
12.BAC	-0.272***	0.224***	0.281***	-0.0810**	-0.0343	-0.00405	0.0548*	-0.0761**	0.204***	0.103***	0.148***	1										
13.BMQ	-0.0721**	0.432***	0.382***	0.0330	0.0265	-0.150***	0.0836***	-0.114***	0.549***	0.150***	0.228***	0.194***	1									
14.BME	0.00887	0.400***	0.346***	-0.0507*	-0.0481	-0.123***	0.0668**	-0.171***	0.477***	0.142***	0.217***	0.151***	0.737***	1								
15.ACSZ	-0.130***	0.565***	0.510***	-0.162***	-0.203***	-0.182***	0.00836	-0.157***	0.629***	0.336***	0.376***	0.236***	0.403***	0.378***	1							
16.CAC	-0.0295	-0.234***	-0.169***	0.0205	0.0523*	0.0892***	0.0377	-0.0557*	-0.294***	-0.260***	-0.137***	0.00266	-0.110***	-0.130***	-0.137***	1						
17.RCIND	-0.0977***	0.327***	0.338***	0.00326	-0.0106	-0.197***	0.0501*	0.0225	0.405***	0.470***	0.229***	0.204***	0.271***	0.221***	0.265***	-0.445***	1					
18.RCSZ	-0.162***	0.567***	0.524***	-0.147***	-0.162***	-0.188***	0.00780	-0.155***	0.622***	0.354***	0.361***	0.223***	0.428***	0.391***	0.878***	-0.179***	0.285***	1				
19.CRC	-0.0990***	-0.0966***	0.00871	0.0367	0.102***	0.0274	0.0128	-0.137***	-0.145***	-0.188***	-0.0761**	0.0293	0.00811	-0.0358	-0.0310	0.692***	-0.343***	0.0630*	1			
20.FAG	-0.237***	0.171***	0.120***	-0.0810**	-0.0396	0.000552	-0.0402	0.0684**	0.173***	0.0178	0.122***	0.00486	-0.00212	0.0547*	0.284***	-0.127***	0.0506*	0.238***	-0.0169	1		
21.FSZ	-0.226***	0.799***	0.564***	-0.0950***	-0.154***	-0.165***	0.0712**	-0.133***	0.736***	0.193***	0.446***	0.255***	0.443***	0.431***	0.637***	-0.279***	0.327***	0.614***	-0.119***	0.232***	1	
22.IND	-0.346***	0.139***	0.254***	0.0808**	-0.00239	-0.0646*	-0.0204	-0.0138	0.0869***	-0.0534*	0.116***	0.152***	-0.0111	0.00809	0.124***	-0.00106	0.166***	0.119***	0.0428	0.178***	0.185***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table VI below reports the variance inflation factor for all continuous variables used in estimating the relationship between corporate governance and financial distress. Variables are defined as in Table V above. For a variable to be included in the regression analysis to avoid multicollnearity, its VIF according to Tabachnick and Fidell (2007), must be lower than 10 and the results suggest that none of the variables has a value of 10. The highest value according to the results from this table is 5.77, which means that multicollinearity is avoided.

TABLE VI: VARIANCE INFLATION FACTOR (VIF)

Variable	VIF	1/VIF
RCSZ	5.77	0.173232
ACSZ	5.60	0.178655
FSZ	3.70	0.270004
DREM	3.43	0.291489
BSZ	3.29	0.304199
BMQ	2.68	0.373619
CRC	2.36	0.423705
CAC	2.32	0.430176
BME	2.30	0.434684
ACIND	1.81	0.552831
MN	1.80	0.556248
PAR	1.76	0.568599
SIND	1.70	0.588454
PIND	1.65	0.604231
BGD	1.38	0.724632
COWN	1.32	0.759802
INOWN	1.26	0.794171
FAG	1.20	0.833632
DOWN	1.18	0.845643
BAC	1.14	0.876203
Mean VIF	2.22	

7.4 MULTIVARIATE LOGISTIC REGRESSION RESULTS

The study reports the results following prior studies by Donker et al. (2009), Hsu and Wu (2014), and Manzaneque et al. (2016). The motive is to explore the relationship between corporate governance mechanisms and firms' financial distress. In doing so, the study, without any moderating variables develops five models and the results are presented in Table VII. First, model 1a, which is the baseline model, considers only the control variables. Second, all the four disclosure and transparency variables, in addition to the control variables are considered in model 1b. Third, in model 1c, the three ownership variables and the control variables are included. Fourth, model 1d deals with all the eleven variables of board composition and structure as well as the control variables. Finally, in model 1e, all the components of disclosure and transparency, components of ownership structure, components of board composition and structure, and the control variables are dealt with. With STATA 13.0 and an unbalanced panel data, the results of the logistic regression are reported in Table VII.

7.4.1 CONTROL VARIABLES (THE BASELINE MODEL, MODEL 1a)

For the variable firm age, the study results from model 1a indicate a significant and a negative relationship between firm age and financial distress ($b = -0.0135$, $p < 0.01$), supporting *H4b* which states that firm age is expected to have a negative relationship with financial distress. This finding is consistent with the results of Akbar et al. (2017) but inconsistent with Hsu and Wu (2014) who find no significant relationship between the age of the firm and the likelihood of corporate failure. This result means that firms' longevity may be associated with wider access to resources, finance, link with well-established suppliers as well as having a large customer base which may help them to perform better thereby avoiding the likelihood of financial distress. Hence, older firms are less likely to be financially distressed than in newly established ones. Regarding firm size, *H4a*, which states that firm size is expected to have a negative relationship with firms' financial distress, is supported. This is because, from the results in model 1a, there is a significant and negative relationship ($b = -0.130$, $p < 0.01$) between firm size and financial distress. This result is inconsistent with that of Shahwan (2015) and Ciampi (2015) but consistent with the result of Donker et al. (2009). The result means that large firms are less likely to be financially distressed and vice versa. This is because large firms, due to their size, are expected to have the resources to recruit better management, have good corporate governance structures, disclose reliable information, and in addition have access to reliable suppliers and large customer base.

The table on the next page presents the results of the following panel data logistic regression on the relationship between corporate governance mechanisms and firms' financial distress: $FD_{it} = \beta_0 + \beta_1 A_{it} + \beta_2 X_{it} + dt + \eta_{it} + \mu_{it}$, where: FD is financial distress and it is the dependent variable; "A" variables include directors remuneration (DREM), presence of senior independent director (SIND), disclosure of proxy arrangements in the annual reports (PAR), disclosure of meeting notice of annual general meeting (MN) in the annual reports, directors' ownership, (DOWN), institutional ownership (INOWN), concentrated ownership (COWN), board size (BSZ), proportion of independent directors (PIND), board gender diversity (BGD), board activity (BAC), board member qualification (BMQ), board member financial expertise (BME), audit committee independence (ACIND), audit committee size (ACSZ), presence of a firm's chairperson on audit committee (CAC), remuneration committee size (RCSZ), presence of a firm's chairperson on remuneration committee (CRC). "X" represents the control variables that may influence financial distress and include firm age (FAG), firm size (FSZ), and industry effects (IND). β_1 and β_2 are coefficients to be estimated and i is the cross-sectional unit (company, i = 1-200); t is the time period (year, t = 1-8); d_t is the time effect; η_i represents the individual effect and μ_{it} is the random disturbance. Model 1a is the baseline model; model 1b represents the disclosure and transparency model; model 1c is the ownership model; model 1d represents board composition and structure model, and model 1e is the overall corporate governance model.

TABLE VII: LOGISTIC REGRESSION RESULTS OF THE RELATION BETWEEN CORPORATE GOVERNANCE AND FINANCIAL DISTRESS

Variables	Model 1a	model 1b	model 1c	model 1d	model 1e
FAG	-0.0135***	-0.0165***	-0.0105***	-0.0192***	-0.0177***
	(0.00219)	(0.00302)	(0.00228)	(0.00241)	(0.00306)
FSZ	-0.130***	0.0313	-0.202***	-0.193***	-0.189***
	(0.0231)	(0.0392)	(0.0255)	(0.0361)	(0.0521)
Industry effect	Yes	Yes	Yes	Yes	Yes
BSZ				0.101**	0.257***
				(0.0433)	(0.0523)
PIND				1.787***	1.105*
				(0.440)	(0.619)
BGD				-0.126	-0.0858
				(0.141)	(0.156)
BAC				-0.210***	-0.202***
				(0.0292)	(0.0330)
BMQ				-0.232***	-0.185***
				(0.0551)	(0.0541)
BME				0.468***	0.491***
				(0.0841)	(0.0873)
ACSZ				0.534***	0.556***
				(0.155)	(0.172)
CAC				-0.357*	-0.656***
				(0.213)	(0.247)
ACIND				-0.0110**	-0.00527
				(0.00433)	(0.00498)
RCSZ				-0.475***	-0.539***
				(0.141)	(0.162)
CRC				-0.185	0.132
				(0.197)	(0.239)
DREM		-0.216**			-0.438***
		(0.0898)			(0.114)
SIND		-1.319***			-1.509***
		(0.153)			(0.181)
PAR		-0.210			-0.498***
		(0.155)			(0.174)
MN		-1.327***			-1.333***
		(0.172)			(0.199)
DOWN			-0.0369***		-0.0459***
			(0.00424)		(0.00495)
INOWN			-0.863***		-0.427***
			(0.126)		(0.136)
COWN			-0.293***		-0.251***
			(0.0699)		(0.0798)
Constant	2.518***	5.357***	8.604***	4.147***	14.26***
	(0.245)	(0.952)	(0.694)	(0.464)	(1.447)
Log Pseudolikelihood	-959.07	-852.67	-882.71	-864.46	-699.23
Pseudo R-square	0.1325	0.2283	0.2016	0.2066	0.3578
AIC	1926.14	1721.34	1779.41	1758.92	1442.45
Observations	1,595	1,594	1,595	1,572	1,571

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Consequently, large firms are expected to generate enough revenue to meet their financial obligations when they become due. Hence, larger firms are not expected to be financially distressed. Finally, the results show that the industry dummies in model 1a indicate that there is a significant negative relationship between industry and financial distress. This result is consistent with that of Laitinen (2005) but it is inconsistent with that of Ciampi (2015) who find no significant effects of the industry dummy variables on firms' default. Since according to Hawawini et al. (2003), the industry structure is the main driver of performance variations and the main cause of some firms financial distress, firms located in certain industries are less likely to be financially distressed. The overall results in model 1a indicate that all the control variables show significant results and their coefficients show the expected directions. This confirms the existing evidence (Beaver 1968; Altman 1983,2002) that firm characteristics predict firms' financial distress.

7.4.2 DISCLOSURE AND TRANSPARENCY MODEL (MODEL 1b)

Model 1b tests the effects of the association between the disclosure and transparency variables on firms' financial distress. In the model, four disclosure and transparency variables together with the control variables in the baseline model are tested. First, the results indicate that the coefficient of directors remuneration is significantly and negatively ($b = -0.216$, $p < 0.05$) related to financial distress. This means that *H3a*, which states that directors remuneration has a negative relationship with firms' financial distress, is confirmed. This result on directors remuneration is not in line with the findings of Vallascas and Hagendorff (2013) but consistent with Schultz et al. (2017) who find a significant relationship between the probability of default and executive pay. This significant result indicates that the more directors are remunerated, the less likelihood firms become financially distressed. This is because with better remuneration directors are expected to devote their time to monitor managent to ensure that firms perform better to avoid financial distress. This is in line with agency theory which advocates that directors' remuneration should be based on their performance to avoid agency conflict. Second, for the variable the presence of the senior independent director, the results show that it has a significant and a negative relationship ($b = -1.319$, $p < 0.01$) with financial distress. This indicates that *H3b* which states that the presence of senior independent director is negatively associated with firms' financial distress, is confirmed. The result is not consistent with the results of Hsu and Wu (2014). This result means that a firm that nominates a senior independent director is not likely to be financially distressed because the presence of a senior independent director plays a significant role in monitoring the

effectiveness of the chairperson, liaising with the non-executive directors and communicating with the major shareholders (Higgs 2003) issues and concerns that impact firms' operation, thereby improving their performance and reducing the likelihood of financial distress. Third, the coefficient of the variable disclosure of proxy voting arrangements in the annual reports indicates that it has an insignificant and negative ($b = -0.210$, $p > 0.1$) association with firms' financial distress. This means that *H3c,* which states that the disclosure of proxy voting arrangement in the annual reports is negatively related to firms' financial distress, is not supported. Fourth, the coefficient of the variable disclosure of notice of the annual general meeting in the annual reports indicates that it has a significant and a negative relationship ($b = -1.327$, $p < 0.01$) with financial distress. This means that *H3d,* which states that the disclosure of meeting notice in the annual reports is negatively related to firms' financial distress, is supported. This result shows that by disclosing such information in the annual reports, the shareholders and the other stakeholders get to know when and where as well as the main agenda of the AGM. This improves the communication and relationship between the directors and the shareholders thereby ensuring continuous investements which improve firms' financial performance and reduce the likelihood of financial distress. Finally, the significance and the directions of the coefficients of the control variables in model 1b indicate that firm age and firm size show the expected results. However, firm size which was significant in the baseline model is, however, insignificant in the disclosure and transparency model.

In conclusion, the results of model 1b when compared with that of model 1a show that with almost similar observations, model 1b has the best fit. This is because its AIC arithmetic value of 1721.34 is lower than that of model 1a which is 1926.14. Also, the pseudo r-squared and the log pseudolikelihood of the two models indicate that model 1b is better than model 1a because, for the pseudo r-square, model 1b has a value of 0.2283 while that of model 1a is 0.1325. For the log pseudolikelihood, model 1b has a value of -852.67 compared with that of model 1a which is -959.07. The results of these two models (the baseline model and the disclosure and transparency model) show that although firm characteristics can predict firms likelihood of financial distress, the results are improved when the discloure and transperency variables are included in the model. These results add a significant contribution to the literature. That these variables, although are not often found in the literature, have significant roles in determining firms' financial distress and as such policy makers must ensure that firms are encouraged to follow the principles in the code regarding the presence of a senior independent director, the disclosure of proxy

voting arrangements in the annual reports, as well as the disclosure of the AGM notice in the annual reports so as to benefit from them.

7.4.3 OWNERSHIP STRUCTURE MODEL (MODEL 1c)

The results of model 1c show the influence of the three ownership structure variables and the control variables on financial distress. First, the results indicate that the coefficient of directors' ownership has a significant and negative relationship ($b = -0.0369$, $p < 0.01$) with financial distress. This means that *H2a,* which states that directors' ownership is negatively associated with financial distress, is confirmed. This result is consistent with the findings of Nahar Abdullah (2006), Fich and Slezak (2008), Platt and Platt (2012) and Manzaneque et al. (2016) but inconsistent with the result of Simpson and Gleason (1999). This evidence of the study implies that ownership by directors is an inscentive to monitor management to improve performance to avoid financial distress (Elloumi and Gueyié 2001; Nahar Abdullah 2006). Again, the results support Jensen and Meckling (1976) argument that firms must use share ownership to align the interests of the directors with that of the shareholders. Hence, the agency theory's arguments that shareholding by directors encourages them to align their interest with that of the shareholders, is confirmed by the results. Since directors decision impact on their own wealth when they own shares in the firm, it encourages them to take value-maximisung decisions that positvely affect the creation of business value thereby avoiding the likelihood of firms' financial distress. Thus, the more directors become firms' shareholders, the less likelihood those firms become financially distressed (Fich and Slezak 2008). Second, on institutional ownership, the coefficient from the results indicates a significant and a negative relationship ($b = -0.863$, $p < 0.01$) with financial distress which therefore implies that *H2c,* which states that institutional ownership has a negative relationship with financial distress, is supported. This result is in line with that of Daily and Dalton (1994) who find that institutional ownership has a significant and a negative relationship with financial distress but not with that of Mangena and Chamisa (2008), Donker et al. (2009) and Manzaneque et al. (2016). Theoretically, due to their large shareholding, the institutional shareholders as influential stakeholders have extra inscentive and the resources to monitor management to improve firm performance to avoid financial distress. Also, institutional shareholders focus on the long-term because due to their large shareholdings, the shares become less marketable and as such prefer to keep them for as long as possible. Hence, they are encouraged to monitor mangement to improve its long term performance to avoid the likelihood of financial distress. Institutional shareholders are also considered to possess resources in

the form of expertise and knowledge to monitor management to improve performance for the benefits of all the firms' stakeholders. Third, from the ownership model, the results show that concentrated ownership has a significant and a negative coefficient (b = -0.293, p<0.01), which means that concentrated ownership has a significant and a negative relationship with financial distress. This result confirms that *H2b*, which states that concentrated ownership has a negative relationship with firms' financial distress, is supported. This outcome is in line with the results of Xiaolan et al. (2006), Donker et al. (2009), Ciampi (2015), and Hu and Zheng (2015) but inconsistent with that of Lajili and Zéghal (2010), and Manzaneque et al. (2016). Theoretically, concentrated ownership due to the large shareholding are incentivised and usually have the expertise and resources to effectively monitor management to improve performance (Shliefer and Vishny 1986) and reduce financial distress likelihood. Lastly, the significance and the directions of the control variables in model 1c did not change from those in the baseline model (model 1a). The coefficient of firm size in model 1c indicates a significant and negative relationship (b = -0.202, p<0.01) with financial distress. This, therefore, indicates that large firms due to their resource capacity and their links with the external providers of finance are less likely to be financially distressed and that in firms where there are directors', institutional and concentrated ownership, the size of those firms matter in determining their likelihood of financial distress.

In all, the ownership variables indicate significant and negative coefficients signifying their inverse relationships with financial distress. Concurringly, the agency theory's argument for directors to own shares is supported. This shared ownership brings alignment of the directors' interests with that of the firms so that the directors' actions improve the firms' performance and the appointments of directors by institutional and concentrated owners who can monitor management effectively to enhance firms' performance to avoid the likelihood of financial distress. The results show that this model, when compared with model 1b, has less fit than model 1b which has the best fit since its AIC arithmetic value of 1721.34 is lower than that of model 1c which is 1779.41. Similarly, the results for the pseudo r-square and log pseudo likelihood for both models provide evidence that model 1b is the one of best fit than model 1c. These mean that the disclosure and transparency mechanisms better predict financial distress than the ownership mechanisms. However, when model 1c is compared with model 1a, the results indicate that model 1c has a better fit than model 1a. This further confirms that corporate governance mechanism improves the prediction of financial distress.

7.4.4 BOARD COMPOSITION AND STRUCTURE MODEL (MODEL 1d)

Model 1d tests the effects of the relationship between board composition and structure variables on firms' financial distress. In the model, eleven board composition and structure variables together with the control variables are tested. First, the results indicate that the coefficient of board size is significant but has a positive ($b = 0.101$, $p < 0.05$) relationship with financial distress which means that the size of the board of directors has a direct influence on firms' financial distress. The results mean that *H1a* which states that board size is negatively related to firms' financial distress is not supported. This finding is consistent with the results of Simpson and Gleason (1999), Lajili and Zéghal (2010) Lakshan and Wijekoon (2012) and Ciampi (2015) who establish board size to have a direct influence on firms financial distress. The result is, however, not consistent with Gales and Kesner (1994), Brédart (2014) and Manzaneque et al. (2016). The result means that board size has a direct effect on firms' financial distress and that the more directors a firm has on its board the more likely the firm becomes financially distressed and vice versa. The Code (2016) requires the board to be of sufficient size but warns that the size must not be so large as to be unmanageable, thus supporting the result that board size should not be large. This is because a large board consumes more pecuniary and non-pecuniary resources in the form of remuneration and perquisites. This significant and positive result supports the agency theory that requires the size of the board of directors to be of a smaller size for its monitoring role though a small board may be influenced by the CEO and may lack the resources to effectively monitor management. Contrarily, both the resource dependency theory and the stakeholder theory, which argue for large boards because large boards bring more varied resources and competences and allow for the representation of different stakeholders of the firm (Gaur et al. 2015), is not supported.

Second, the coefficient of the proportion of independent directors indicates that it is significant but has a positive relationship ($b = 1.787$, $p < 0.01$) with financial distress. This means that *H1b,* which states that the proportion of independent directors is negatively related to firms' financial distress, is not supported. The result is consistent with Chaganti et al. (1985) and Simpson and Gleason (1999), Lajili and Zéghal (2010) and Brédart (2014), who find that the proportion of independent directors is positively associated with the likelihood of financial distress. The result, however, is inconsistent with that of Elloumi and Gueyié (2001), Daily et al. (2003) and (Xiaolan et al. 2006). This result could be attributed to the fact that the firms' board of directors have included more independent directors to respond to the shareholder or regulatory pressures (Lajili

and Zéghal 2010). This is because the Code (2016) requires large companies to have at least half the board apart from the chairperson to consist of non-executive directors determined to be independent by the board. Theoretically, apart from the stewardship theory which argues that the presence of independent directors increases the chances of a conflict within the board, the agency, resource dependence, and stakeholder theories are not supported by the result. For instance, the agency theory argues that more independent directors due to their non-affiliation with the firm are in a better position to monitor and control potential opportunism and avoid the selfish behaviours of management. However, Chaganti et al. (1985) who found the proportion of independent directors to be insignificant argue that many independent directors representing different interests may reduce the economic flexibility of the firm resulting in conflicts between the board and top management. The resource dependence theory regards more independent directors as strategic resources who could broaden the firms' knowledge base, as well as develop links with other firms' directors but this is not supported by the results. From the stakeholder theory, large independent directors could serve the interest of many stakeholders which could consequently improve performance through improved demand. The results from model 1d however, do not support the stakeholder argument.

Third, on the variable board gender diversity, the coefficient in model 1d indicates that it is insignificant ($b = -0.126$, $p > 0.1$). This means that *H1c*, which states that board gender diversity is negatively related to firms' financial distress, is not confirmed. Even though the evidence of the effects of board gender diversity on financial distress is lacking, the result is consistent with Appiah (2013) who find that board gender diversity does not impact on the likelihood of corporate failure. This result from model 1d could be attributed to firms not including women on their boards despite the code's recommendation. Theoretically, no single theory predicts the link between female directors and financial distress. However, it is expected that the inclusion of female directors on firms' boards would improve their links with other resources outside the firm and broaden the resource base, as well as bringing discipline in the boardroom for effective monitoring, which could improve performance to reduce the likelihood of financial distress for the benefit of all stakeholders. These expected theoretical benefits are not supported by the result. The stewardship theory, however, regards the monitoring role of the board as unnecessary and that management, including female(s), must be empowered to be responsible for the firms' success to benefit all stakeholder groups, and thus, supporting the result.

Fourth, the results in model 1d further show that board activity is significantly and negatively ($b = -0.210$, $p < 0.01$) associated with financial distress. This result confirms *H1d,* which states that board activity is negatively related to firms' financial distress. The result means that the more boards meet to discuss issues, the less likelihood of the firms becoming financially distressed. This is because the ever-changing business climate may require directors to meet frequently to identify and discuss any risks facing the firm and to take strategic decisions to manage those risks to enhance performance that may subsequently reduce financial distress. Moreover, directors in poorly performing firms are under pressure to turn things around and may subsequently hold more meetings. The result of board activity in the models is consistent with the study by Vafeas (1999) who find that firms respond to a poor performance by increasing their level of board activity which in turn is linked with improved operating performance in subsequent years. Theoretically, this result supports the arguments of the agency, resource dependence, and stakeholder theories. Directors' monitoring responsibility is enhanced (agency theory) when they give more time which a significant resource is (resource dependence) to attend board meetings to discuss firms' strategic issues for the benefits and interest of all the stakeholder groups (stakeholder theory).

Fifth, board member educational qualification is another variable in model 1d which is found to be significantly and negatively ($b = -0.232$, $p < 0.01$) related to financial distress. This result implies that *H1e,* which states that board member educational qualification is negatively related to firms' financial distress, is supported. This result means that firms are in a good position to avoid financial distress when board members' have the required educational qualification. Due to the limited evidence on the effects of board member education on financial distress possibly because of limited disclosure (Christy et al. 2013), the result is not supported by studies on financial distress. The result is therefore compared with studies relating to firm performance. On that basis, the result is in line with that of Christy et al. (2013) who find that professional and formal industry degree qualifications on the board are associated with shareholders' risk assessment. Theoretically, the agency theory, which argues that board members with the right qualification perform their monitoring and advisory roles better and are critical of firms' financial reporting strategy, is supported. Board members' qualification serves as a significant resource for firms' strategic policies, analysis, and development such that the concerns of different stakeholder groups are dealt with, thus, confirming both the resource dependence and the stakeholder theories.

Sixth, for board member financial expertise, the results show that it has a significant but a positive ($b = 0.468$, $p < 0.01$) relationship with financial distress and this means that *H1f* is not supported. This result implies that firms with more financial experts are more likely to be financially distressed and vice versa. Financial experts due to their expertise in business management, financial accounting, and reporting are expected to monitor and advise management on value maximising decisions to ensure improved financial performance and avoid the likelihood of financial distress. However, the result in model 1d means that though financial experts are significant they have a direct influence on financial distress and this could be as the results of the fact that financial experts demand higher salary and benefits which could have a financial burden on firms' operational costs and influence their likelihood of financial distress.

Seventh, for the variable audit committee size, the result in model 1d shows that it has a significant and positive relationship ($b = 0.534$, $p<0.01$) with financial distress. Though the result is significant, the positive direction of the coefficient means that *H1h*, which states that audit committee size is negatively associated with firms' financial distress, is not confirmed. This relationship means that firms with large size of the audit committee are more likely to be financially distressed and vice versa. The positive association of audit committee size is not in line with the negative association of Platt and Platt (2012), Appiah (2013), and the significance of the coefficient is also not in line with Salloum et al. (2014). This result could be due to the code's provision that requires large firms to have at least three independent directors, giving firms the opportunity to have audit committees members as they deemed fit. For instance, from the descriptive statistics, some firms have nine members on their audit committees. The large audit committee size means that the effectiveness of audit committees in monitoring management could be affected since they may lose concentration and become less participative. Secondly, meeting the minimum standard does not by itself assure the effectiveness of the audit committee to avoid financial distress since factors such as the level of commitment of audit committee members, quality of discussions during meetings, and organisational work environment may have an influence on audit committee performance (Mohid Rahmat et al. 2009). Theoretically, the agency theory is supported since it requires small audit committees to fulfil their monitoring role for firms to avoid financial distress. However, the resource dependence theory is not supported due to its requirement that large audit committee is needed to bring a diversity of views, expertise, experiences, and skills to ensure effective monitoring to avoid financial distress. Likewise, the stakeholder

theory is not supported because it argues for large audit committees to monitor and oversee the financial reporting process for the benefits of all the stakeholder groups.

Eighth, the coefficient of the variable the presence of a firm's chairperson on the audit committee is significant and has a negative relationship ($b = -0.357$, $p < 0.1$) with financial distress, meaning firms with their chairpersons being members on the audit committees are less likely to be financially distressed. This result means that *H1k,* which states that the presence of a firm's chairperson on the audit committee is positively associated with firms' financial distress, is not confirmed. The code requires the chairperson to be independent at the time of appointment as chairperson but must not chair the audit committee if he/she becomes a member of the audit committee. This removes any influence and conflict of interest that the chairperson would have on the committee. Although, a firm's chairperson with his/her knowledge of the firm is a valuable resource that enhances the monitoring as well as ensuring the quality and transparency of the financial reporting process of the audit committee, his/her knowledge of the firm's operation could affect the committee's performance and consequently affecting financial performance. Hence, the direct relationship is not supported by the result.

Nineth, the result in model 1d further indicates that the remuneration committee size is significantly and negatively ($b = -0.475$, $p < 0.01$) related to firms' financial distress. This result means that *H1i,* which states that the remuneration committee size is negatively associated with firms' financial distress is supported. This remuneration committee size result is in line with Chan et al. (2016) who find that the size of a remuneration committee significantly predicts corporate failure, but inconsistent with the result of Appiah and Chizema (2015). This result means that at least three independent directors on the remuneration committee are required to perform its responsibilities of determining the appropriate remuneration packages for directors. This result does not support the arguments of the agency theory which requires small remuneration committee size to have an effective decision on directors remuneration as well as monitor management's operations. However, the resource dependence and the stakeholder theories which argue for large remuneration committee size are supported because, with large remuneration committee size, firms can have directors with varied qualifications and skills as well as establishing the link with external sources of resources. Large remuneration committee size provides the number of directors who can stand for the different groups of stakeholders. Tenth, for the coefficient the presence of a firm's chairperson on the remuneration committee in model 1d, the results indicate that it is insignificant but

negatively (-0.185, $p > 0.1$) related to financial distress. This means that *H1j,* which states that the presence of a firm's chairperson on the remuneration committee is negatively related to firms' financial distress, is not supported. This result could mean that the firm's chairperson is not needed in the remuneration committee to determine executives and non-executives remuneration packages since according to Anderson and Bizjak (2003), total compensation levels show only a marginal relation to the CEO's presence on the remuneration committee.

Eleventh, the coefficient of the variable audit committee independence in model 1d shows that it has a significant and negative relationship ($b = -0.0110$, $p < 0.05$) with financial distress. The result means that *H1g*, which states that audit committee independence is negatively associated with firms' financial distress, is supported. The result is in line with that of Carcello and Neal (2003), Platt and Platt (2012) and Miglani et al. (2015b) but inconsistent with Mohid Rahmat et al. (2009) and Salloum et al. (2014) who find that audit committee independence is not negatively related to the probability of financial distress. This evidence of the study means that the audit committee with its fully independent members is a significant resource for effective monitoring, giving assurance to financial reports to improve market performance for all the stakeholder groups (Bronson et al. 2009). The results of audit committee independence, therefore, support the monitoring (agency theory), resource provision (resource dependence theory), and stakeholder groups benefits (stakeholder theory). Finally, for the control variables in model 1d, the results indicate that the significance and the direction of the control variable remain the same as model 1a.

In conclusion, when model 1d and model 1a are compared, model 1d has the best fit than model 1a since the AIC arithmetic value of model 1d of 1758.92 is lower than that of model 1a which is 1926.14. Again, the pseudo r-square and the log pseudolikelihood of model 1d which are 0.2066 and -864.46 respectively, and that of model 1a which are 0.1325 and -959.07 show that model 1d predicts financial distress better than model 1a. This means that although a model with the financial variables can predict firms' financial distress, the inclusion of the board composition and structure mechanisms improves the model which implies that firms must ensure that having those board composition and structure variables is not just to follow the principles of the code but acknowledge that using them effectively prevent the firms from financial distress.

7.4.5 CORPORATE GOVERNANCE MODEL (MODEL 1e)

Model 1e in Table VII tests the relationship between all the independent variables, the control variables, and financial distress. The independent variables include the components of the ownership structure, the components of board composition and structure, and the components of disclosure and transparency. Since this model combines all the variables in the first four models, the discussion of the model 1e results focuses on comparing the results of the variables in model 1e with the results of those variables in their respective models and any differences identified. For instance, the results of board size in model 1e is compared with the results of board size in model 1d.

First, for the ownership structure variables, the results in model 1e indicate that directors shareholding and concentrated ownership are significantly and negatively ($b = -0.0459$, $p < 0.01$; $b = -0.251$, $p < 0.01$) related to financial distress, confirming *H2a* and *H2b*. These results are similar to the results found in model 1c in which significance and negative relationships with financial distress were recorded for the coefficients of directors ownership and concentrated ownership. Also, the results for institutional ownership in model 1e is significant and negative, the same as that of model 1c. Hence, *H2c* is supported in model 1e.

Second, all the disclosure and transparency variables which are directors' remuneration, presence of senior independent director, disclosure of proxy voting arrangements in the annual reports, and disclosure of notice of annual general meeting in the annual reports have significant and negative relationships ($b = -0.438$, $p < 0.01$; $b = -1.509$, $p < 0.01$; $b = -0.498$, $p < 0.01$; $b = -1.333$, $p < 0.01$) with financial distress. This means that *H3a*, *H3b*, *H3c*, and *H3d* are confirmed in model 1e. The difference between the results in model 1e and that of model 1c is that the disclosure of proxy voting arrangements in the annual reports which are not significant in model 1c is now significant in model 1e.

Third, for board composition and structure, the results in model 1e from Table VII indicates that board size has a significant but positive ($b = 0.257$, $p < 0.01$) relationship with financial distress and this means *H1a* is not confirmed. This result is similar to that of model 1d but the difference is that the level of significance improved from 0.05 to 0.01. The results for the proportion of independent directors is significant but the coefficient is positive and for board gender diversity in model 1e the results show that it has insignificant ($b = -0.0858$, $p > 0.1$) relationship with financial distress. These results mean that *H1b* and *H1c* are not supported. Also, from model 1e, the result shows that board activity has a significant and negative ($b = -0.202$, $p < 0.01$) relationship with financial

distress which means that *H1d* is confirmed. This result is similar to the one obtained in model 1d where a significant and a negative relationship is recorded. For the variables board member educational qualification and board member financial expertise, the results in model 1e are the same as those obtained in model 1d. In model 1e, board member educational qualification is significant and negatively related to financial distress confirming *H1e*. Board member financial expertise is also significant but has a positive association with financial distress, meaning *H1f* is not supported. The result of the audit committee independence in model 1e is insignificant unlike that found in model 1d which means *H1g* is not supported. For audit committee size, the results in model 1e show a significant but a positive ($b = 0.556$, $p < 0.01$) relationship with financial distress as in model 1d which has a significant but a positive ($b = 0.534$, $p < 0.01$) association with financial distress. The results in model 1e mean that *H1h* is not supported. In terms of a firm's chairperson as an audit committee member, a significant and negative association with financial distress is obtained in model 1e as obtained in model 1d. This result in model 1e means that H1i is not supported. The results from model 1e further indicate that both the remuneration committee size and a firm's chairperson on the remuneration committee have similar results as in model 1d. While the former is significant and has a negative relation ($b = -0.539$, $p < 0.01$) with financial distress, confirming *H1j*, the latter is insgnificant, indicating that *H1k* is not supported. The conclusion from model 1e is that except the audit committee independece, all the remaining components of board composition and structure in model 1e show similar results as in model 1d although the variables show minor differences in the coefficient values and the level of significance. Finally, regarding the control variables in model 1e, the results do not differ from those obtained in model 1a which is the baseline model. All the control variables show significant and negative relationships with financial distress.

Overall, Table VII provides the results for five models, which are the baseline model (model 1a), the disclosure and transparency model (model 1b), the ownership structure model (model 1c), the board composition and structure model (model 1c) and the corporate governance model (model 1e). Using the Akaike's Information Criterion (AIC) to identify the model of best fit, the results indicate that the corporate governance model is the model of best fit because its AIC arithmetic value is lower than those of the other models are. This is followed by the disclosure and transparency model, the board structure and composition model, and the ownership model. A similar sequence of models' importance is obtained when the results of the pseudo r-square and the log

pseudolikelihood in Table VII are used. The baseline model is the least of the five models in predicting financial distress. These results mean that corporate governance mechanisms predict firms' financial distress better when all the governance mechanism are combined in a model. The results also provide support for the evidence that though firm characteristics predict financial distress, the models become more effective when corporate governance mechanisms are added. From here, the study makes a significant contribution to the literature by providing evidence that each category of corporate governance (disclosure and transparency, ownership structure, board composition, and structure) predicts firms' financial distress. However, the evidence suggests that some of the categories predict financial distress better and as such policy should be directed at both the more and the less effective ones for firms to enjoy the same benefits of having all categories of corporate governance. It is also evidently clear from the results of the study that a model with all the categories of corporate governance is the best in predicting financial distress and this is a significant contribution to the literature. This evidence will guide policy makers to think of corporate governance in its entirety but not only consider certain aspects and that firms must not pick and choose which corporate governance mechanism to adopt if they would like to avoid financial distress.

7.6 CHAPTER SUMMARY AND CONCLUSIONS

The chapter sought to find evidence of whether the disclosure and transparency variables, ownership structure variables, and the board composition and structure variables could determine the financial distress of firms. The chapter obtained evidence that some of the variables have an influence on financial distress. For instance, directors' remuneration, the presence of the senior independent director, as well as the disclosure of notice of the annual general meeting in the annual reports, all in the disclosure and transparency model are significant and negatively related to financial distress. In the ownership structure model, the directors' ownership, institutional ownership, and concentrated ownership are also significantly and negatively related to financial distress. For the board composition and structure model, board activity, board member qualification, audit committee independence, and the presence of a firm's chairperson on the audit committee and the remuneration committee size are all found to be significantly and negatively related to financial distress. In the same model, the board size, the proportion of independent directors and board member financial expertise are significant but positively related to financial distress. There is also evidence that a model that is composed of all the corporate governance mechanisms because of its best fit is comparatively better than the models

representing the components of board composition and structure, ownership structure, and disclosure and transparency. More importantly, the chapter established that each of these models is better than a model that is consisted of only the firm characteristics.

CHAPTER EIGHT

CORPORATE GOVERNANCE MECHANISMS AND FINANCIAL DISTRESS: THE MODERATING ROLE OF ENVIRONMENT, RESOURCES, AND TECHNOLOGICAL CAPABILITY

8.1 INTRODUCTION

This chapter presents the empirical findings on the moderating role of environment, resources, and technology on the relationship between corporate governance mechanisms and financial distress. The objective of the chapter is to determine the extent to which firms' environment, resources, and technological capability moderate the relationship between corporate governance mechanisms and financial distress. As mentioned in the methodology section, the three dimensions of environment adopted in this study are environmental complexity, environmental dynamism, and environmental munificence (Dess and Beard 1984). Also, the study follows Norman et al. (2013) to categorise resources into tangible and intangible resources.

The rest of the chapter is as follows. Section 8.2 discusses the moderating influence of environment, resource, and technology on the relationship between board composition and structure variables and financial distress. In section 8.3, the moderating role of environment, resource, and technology on the relationship between ownership structure variables and financial distress are examined. The moderating influence of the environment, resource, and technology on the relationship between disclosure and transparency variables and financial distress are discussed in section 8.4. Section 8.5 examines the moderating influence of environment, resource, and technology on the relationship between the overall corporate governance variables and financial distress. The discussion of the robustness test is presented in section 8.6 while the chapter summary and conclusion is found in section 8.7.

8.2 BOARD COMPOSITION AND STRUCTURE: THE MODERATING ROLE OF ENVIRONMENT, RESOURCE, AND TECHNOLOGICAL CAPABILITY

In this section, each moderating factor interacts with the components of the board composition and structure to establish the moderating effects. The evidence on the interaction of the moderating factors which include environmental complexity (EC), environmental dynamism (ED), environmental munificence (EM), tangible resources (TR), intangible resources (ITR), and technology (TEC) on the relationship between the components of board composition and structure, and financial distress (FD) is presented in models 4b (EC model), 4c (ED model), 4d (EM model), 4e (TR model), 4f (ITR model), and 4g (TEC model) in Table VIII.

The table on the next page presents the regression results of the interactions between the moderating factors and board structure and composition variables. Model 4a is the baseline model for board composition and structure. Models 4b to 4g are respectively the interaction models for environmental complexity (EC), environmental dynamism (ED), environmental munificence (EM), tangible resource (TR), intangible resource (IR) and technology (TEC). Model 4b therefore, exhibits the interactions between environmental complexity and board composition and structure variables (EC*BSZ; EC*PIND; EC*BGD; EC*BAC; EC*BMQ; EC*BME; EC*ACIND; EC*ACSZ; EC*CAC; EC*RCSZ; EC*CRC), model 4c shows the interaction between environmental dynamism and board composition and structure variables (ED*BSZ; ED*PIND; ED*BGD; ED*BAC; ED*BMQ; ED*BME; ED*ACIND; ED*ACSZ; ED*CAC; ED*RCSZ; ED*CRC), model 4d represents the interaction between environmental munificence and board composition and structure variables (EM*BSZ; EM*PIND; EM*BGD; EM*BAC; EM*BMQ; EM*BME; EM*ACIND; EM*ACSZ; EM*CAC; EM*RCSZ; EM*CRC), model 4e shows the interaction between tangible resources and board composition and structure variables (TR*BSZ; TR*PIND; TR*BGD; TR*BAC; TR*BMQ; TR*BME; TR*ACIND; TR*ACSZ; TR*CAC; TR*RCSZ; TR*CRC), model 4f represents the interaction between intangible resources and board structure composition variables (IR*BSZ; IR*PIND; IR*BGD; IR*BAC; IR*BMQ; IR*BME; IR*ACIND; IR*ACSZ; IR*CAC; IR*RCSZ; IR*CRC), and model 4g is the result of the interaction between technology and board composition and structure variables (TEC*BSZ; TEC*PIND; TEC*BGD; TEC*BAC; TEC*BMQ; TEC*BME; TEC*ACIND; TEC*ACSZ; TEC*CAC; TEC*RCSZ; TEC*CRC.

TABLE VIII: LOGISTIC REGRESSION RESULTS FOR THE INTERACTION OF THE MODERATING FACTORS AND BOARD COMPOSITION AND STRUCTURE VARIABLES

Variables	Model 4a	Model 4b	EC	Model 4c	ED	Model 4d	EM	Model 4e	TR	Model 4f	ITR	Model 4g	TEC
FAG	-0.0192***	-0.0167***		-0.0174***		-0.0201***		-0.0189***		-0.0201***		-0.0184***	
	(0.00241)	(0.00260)		(0.00271)		(0.00259)		(0.00252)		(0.00255)		(0.00321)	
FSZ	-0.193***	-0.202***		-0.181***		-0.202***		-0.182***		-0.167***		-0.135***	
	(0.0361)	(0.0389)		(0.0388)		(0.0357)		(0.0381)		(0.0385)		(0.0397)	
Industry effects	Yes	Yes		Yes		Yes		Yes		Yes		Yes	
BSZ	0.101**	0.466	-0.383	0.456	-0.362	0.110**	0.000267	0.0246	0.0408	-0.125	0.0336**	0.736***	0.0336**
	(0.0433)	(0.682)	(0.735)	(0.634)	(0.684)	(0.0476)	(0.000371)	(0.0833)	(0.0396)	(0.102)	(0.0141)	(0.224)	(0.0141)
PIND	1.787***	-5.645	7.075	-24.68***	26.98***	1.959***	-0.00202	0.0951	-0.161	4.268**	-0.286	3.517	-0.286
	(0.440)	(9.765)	(10.26)	(8.405)	(8.894)	(0.470)	(0.00580)	(0.795)	(0.118)	(1.732)	(0.246)	(2.627)	(0.246)
BGD	-0.126	6.906***	-7.585***	5.334**	-5.968**	-13.16***	13.87***	0.0721	1.200***	-0.321	0.0284	-3.585***	0.0284
	(0.141)	(2.367)	(2.510)	(2.231)	(2.377)	(1.496)	(1.585)	(0.233)	(0.455)	(0.509)	(0.0701)	(0.749)	(0.0701)
BAC	-0.210***	-1.487***	1.375***	-1.202**	1.065**	-0.226***	0.000268	-0.149***	1.4505	-0.480***	0.0382**	-0.217*	0.0382**
	(0.0292)	(0.477)	(0.506)	(0.478)	(0.508)	(0.0309)	(0.000267)	(0.0483)	(0.000209)	(0.110)	(0.0153)	(0.126)	(0.0153)
BMQ	-0.232***	1.590	-2.078*	3.195***	-3.781***	-0.294***	-0.000674	-0.185*	-0.0391**	-0.403*	0.0193	-0.937**	0.0193
	(0.0551)	(1.012)	(1.063)	(1.010)	(1.060)	(0.0601)	(0.000546)	(0.101)	(0.0189)	(0.233)	(0.0322)	(0.377)	(0.0322)
BME	0.468***	-3.897***	4.837***	-4.977***	5.989***	0.548***	0.00105	0.355**	-0.00917	1.328***	-0.119**	1.558***	-0.119**
	(0.0841)	(1.242)	(1.323)	(1.191)	(1.286)	(0.0897)	(0.00103)	(0.142)	(0.0410)	(0.339)	(0.0496)	(0.537)	(0.0496)
ACSZ	0.534***	-0.662	1.378	1.257	-0.606	0.526***	-0.00122	0.286	0.0368	1.844***	-0.182***	2.944***	-0.182***
	(0.155)	(2.377)	(2.542)	(2.799)	(2.982)	(0.164)	(0.00122)	(0.274)	(0.0614)	(0.483)	(0.0690)	(0.969)	(0.0690)
CAC	-0.357*	-4.792	4.249	-1.167	0.339	-0.329	4.5405*	-0.0588	0.160	-2.265***	0.265***	-0.739	0.265***
	(0.213)	(3.400)	(3.625)	(3.918)	(4.169)	(0.233)	(2.5005)	(0.338)	(0.130)	(0.614)	(0.0871)	(1.247)	(0.0871)
ACIND	-0.0110**	-0.0852	0.0811	-0.128**	0.126**	-0.0109**	-0.000818	-0.0127**	-0.252*	-0.0147	-2.1305	-0.0618***	-2.1305
	(0.00433)	(0.0535)	(0.0564)	(0.0563)	(0.0597)	(0.00450)	(0.000789)	(0.00634)	(0.149)	(0.0126)	(0.00171)	(0.0199)	(0.00171)
RCSZ	-0.475***	1.937	-2.561	2.440	-3.144	-0.420***	-0.00114	0.101	-0.000800	-2.023***	0.215***	0.186	0.215***
	(0.141)	(2.289)	(2.444)	(2.371)	(2.554)	(0.151)	(0.00109)	(0.258)	(0.00268)	(0.526)	(0.0733)	(0.869)	(0.0733)
CRC	-0.185	-0.381	0.368	-1.790	1.949	-0.158	0.330**	-0.701**	-0.371***	1.387**	-0.236***	-0.202	-0.236***
	(0.197)	(3.056)	(3.276)	(3.404)	(3.649)	(0.216)	(0.158)	(0.341)	(0.136)	(0.627)	(0.0871)	(1.153)	(0.0871)
Constant	4.147***	4.553***		4.563***		4.228***		4.413***		4.102***		3.236***	
	(0.464)	(0.523)		(0.539)		(0.475)		(0.480)		(0.508)		(0.574)	
Log Pseudolikelihood	-846.46	-708.75		-676.88		-810.04		-844.07		-779.32		-619.73	
Pseudo R-square	0.2066	0.3462		0.3756		0.2489		0.2214		0.2597		0.4066	
AIC	1758.92	1469.49		1405.77		1670.09		1742.14		1610.64		1291.45	
Observations	1,572	1,564		1,564		1,556		1,564		1,521		1,508	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

8.2.1 ENVIRONMENT

First, for board size (BSZ), the results from the baseline model (model 4a) indicate that it has a significant and positive relationship with financial distress. The results in model 4b indicate that for the main effect, BSZ is not significant. The results from the interaction of environmental complexity (EC) and BSZ (EC*BSZ) is also not significant ($b = -0.383$, $p > 0.1$) meaning EC does not moderate the relationship between BSZ and FD, hence *H7a,* which states that the negative relationship between BSZ and FD is moderated by EC is rejected. In model 4c, the results show that on the main effect, BSZ is not significant. The interaction of BSZ and environmental dynamism (ED) exhibits insignificant results which mean that ED does not moderate the relationship between BSZ and FD, hence, *H5a* which states that the negative relationship between BSZ and FD is moderated by ED is rejected. In model 4d the results reveal that for the main effect, BSZ is significant and positively ($b = 0.110$, $p < 0.05$) related to FD. However, the results from the interaction of BSZ and environmental munificence (EM) (BSZ*EM) is insignificant, meaning EM has no moderating influence on the relationship between BSZ and FD, hence, *H6a* which states that the negative relationship between BSZ and FD is moderated by EM, is not supported. Thus, the results indicate that neither EC, ED nor EM has a moderating influence on the relationship between BSZ and FD. This means that the firms' environment has no moderating influence on BSZ hence, firms in considering their board sizes must not consider the impact of the environment.

Second, for the proportion of independent directors (PIND), the results in the baseline model reveal that it is significantly and positively ($b = 1.787$, $p < 0.01$) related to FD. In model 4b, the results for the direct effect show that the PIND has no significant relationship with FD. The results of the interaction of the PIND and EC (PIND*EC) show no significant results which mean that *H7b,* which states that the negative relationship between the PIND and FD is moderated by EC is not supported. The results in model 4c also reveal that for the main effect, the PIND is significantly and negatively ($b = -24.68$ $p < 0.1$) related to FD. The interaction of PIND and ED (PIND*ED) show a significant result ($b = 26.98$, $p < 0.01$) indicating that ED has a more moderating influence on the relationship between the PIND and FD meaning *H5b,* which states that the negative relationship between the PIND and FD is moderated by ED is supported. The net effect of the main result and the interaction result ($-24.68 + 26.98 = 2.3$), therefore, shows that in a more dynamic environment, firms require more independent directors. In model 4d, the results for the main effect show a significant and a positive ($b = 1.959$, $p < 0.01$)

relationship with FD. However, no significant result is obtained from the interaction of PIND and EM (PIND*EM) that means *H6b,* which states that the negative relationship between the PIND and FD is moderated by EM is rejected. These results, therefore, reveal that only ED has a moderating influence on the relationship between the PIND and financial distress and that the evidence indicates a more moderating influence. Hence, in a dynamic environment, firms need more independent directors to assess and deal with the constant change that such environment brings. Although the result from the baseline model indicates a significant and a direct relationship between the PIND and FD, the net result from the ED model means that firms require more independent directors in a dynamic environment and this is a significant contribution of the study.

Third, for board gender diversity (BGD), the result from the baseline model reveals that BGD is insignificantly related to FD. In model 4b, the results from the main effect show that BGD is significantly and positively ($b = 6.906$, $p < 0.01$) related to FD. This indicates that the more female directors there are on a firm's board, the more likely the firm would be financially distressed and vice versa. The interaction of BGD and EC (BGD*EC) reveals a significant and negative interaction result ($b = -7.585$, $p < 0.01$). This result means that EC has a moderating influence on the relationship between BGD and FD. However, since the direction of the coefficient of the main effect is positive, it means that *H7c,* which states that the negative relationship between BGD and FD is moderated by EC is not confirmed. In all, the results of the net effect of the coefficient of the main effect and the interaction effect in model 4b (6.906 + -7.585 = -0.679) indicate a less moderating influence. Regarding model 4c, for the main effect, the results indicate that BGD is significantly and positively ($b = 5.334$, $p > 0.01$) related to FD and the interaction of BGD and ED (BGD*ED) shows a significant ($b = -5.968$, $p < 0.05$) results. The results of model 4c, therefore, indicate that *H5c,* which states that the negative relationship between BGD and FD is moderated by ED is not supported since the coefficient of the main result is positive. From model 4d, the results show that BGD has a significant and a negative ($b = -13.16$, $p < 0.01$) relationtionship with financial distress indicating firms with more female directors are less likely to be financially distressed. The interaction of BGD and EM (BGD*EM) shows a significant and positive result ($b = 13.87$, $p < 0.01$) indicating that EM has a moderating influence on the relationship between board gender diversity and FD, and that the net effect of the results (-13.16 + 13.87 = 0.71) show a more moderating influence. These results mean that *H6c* which states that the negative relationship between BGD and FD is moderated by EM is supported. Altogether, the

evidence of the interaction results suggests that firms operating in a munificent environment need more female directors to avoid FD but firms operating in a complex environment must hire less female directors.

Fourth, for board activity (BAC), the results from the baseline model indicate a significant and a negative (b = -0.210, p < 0.01) relationship with FD. In model 4b the results for the main effects show that BAC is significantly and negatively (b = -1.487, p < 0.01) related to FD. The results from the interaction of BAC and EC (BAC*EC) indicates that the interaction term is significant (b = 1.375, p > 0.01) which means that BAC has a moderating influence on the relationship between BAC and FD. This result supports *H7d,* which states that the negative relationship between BAC and FD is moderated by EC. In model 4c, the results for the main effect indicates that BAC is significantly and negatively (b = -1.202 p < 0.05 related to FD and the interaction of BAC and ED (BAC*ED) shows that ED has a moderating influence on the relationship between BAC and FD meaning *H5d* is supported. For the same BAC, the results from model 4d reveal that for the main effect, BAC is significantly and negatively (b = -0.266, p < 0.01) related to FD. On the interaction terms, the results show that the interaction between BAC and EM is insignificant, implying that EM does not moderate the relationship between BAC and FD. Hence, these results mean that *H6d,* which states that the negative relationship between BAC and FD is moderated by EM is not supported.

Fifth, for board member qualification (BMQ), the results from the baseline model indicate that it has a significant and negative relationship with FD. The results from model 4b show that for the main effect, BMQ has no significant relationship with financial distress, but the interaction results from the interaction of BMQ and EC (BMQ*EC) shows a significant and a negative result, indicating that BMQ has a moderating influence on the relationship between BMQ and FD. These results mean that *H7e,* which states that the negative relationship between BMQ and FD is moderated by EC is not supported. In model 4c, the direct result indicates that BMQ has a significant and a positive (b = 3.195, p < 0.01) relationship with FD. On the interaction terms, the results from the interaction of BMQ and ED (BMQ*ED) indicate a significant and a negative (b = -3.781, p < 0.01) result which reveals that ED has a moderating influence on the relationship between BMQ and FD but due to the positive direction of the coefficient of the main effect, *H5e* is not supported. However, the net effect of the two results regarding BMQ in model 4c shows that ED has a less moderating influence (3.195 + -3.781 = -0.586) on the relationship between BMQ and FD. From model 4d, the result for the main effect shows that BMQ

has a significant and a negative (b = -0.294, p < 0.01) relationship with FD. However, the interaction of board member qualification and environmental munificence (BMQ*EM) shows an insignificant result which means that EM does not moderate the relationship between BMQ and FD. This result does not support *H6e,* which states that the negative relationship between BMQ and FD is moderated by EM. The evidence suggests that in a dynamic environment, firms need fewer board members with the relevant qualifications.

Sixth, from Table VIII above, the result for board member financial expertise (BME) from the baseline model indicate that it has a significant and a positive (b = 0.468, p < 0.01) relationship with FD. In model 4b, the results for the main effect show a significant and a negative (b = -3.897, p < 0.01) relationship between BME and FD. The result of the interaction of BME with EC (BME*EC) is significant (b = 4.837, p < 0.01). This means that EC has a moderating influence on the relationship between BME and EC and these results mean that *H7f* is supported. From model 4c, the result for the direct effect indicates that BME is significantly and negtively (b = -4.977, p < 0.01) related to FD. On the interaction of BME and ED, the significant and positve (b = 5.989, p < 0.01) results means that ED has a more moderating influence (-4.977 + 5.989 = 1.012) on the relationship between BME and FD and this result confirms *H5g* which states that the negative relationship between BME and financial distress is moderated by ED. In model 4d, the results from the main effect show that BME is significantly and positively (b = 0.548, p < 0.01) related to FD. In terms of the interaction of BME with EM (BME*EM), the interaction term reveals an insignificant result which implies that EM does not moderate the relationship between BME and FD. These results from model 4d mean that *H6f,* which states that the negative relationship between board member financial expertise and financial distress is moderated by environmental munificence is not supported. Thus, the results indicate that for BME and its interactions with the environmental dimensions, EC and ED have more moderating influences on the relationship bewteen BME and FD suggesting that firms need more financial experts in complex and dynamic evironments.

Seventh, for the audit committee independene (ACIND), the results from the baseline model in Table VIII show that it is significantly and negatively related to FD. In model 4b, the results for the main effect show that it is insignificantly related to FD. On the interaction of ACIND and EC (ACIND*EC), the interaction result is insignificant which means that EC has no moderating influence on ACIND and FD relationship. This result indicates that *H7g,* which states that the negative relationship between ACIND and FD is moderated by EC, is not supported. From model 4c, the results for the main effect show

that ACIND is significantly and negatively (b = -0.128, p < 0.05) related to FD. The coefficient of the interaction of ACIND and ED (ACIND*ED) is significant (b = 0.126, p <0.05) indicating that ED has a moderating influence on the relationship between ACIND and FD and hence, *H5g* is supported. In model 4d, the results for the main effect show that ACIND has a significant and negative (b = -0.0109, p < 0.05) relationship with FD. Considering the interaction of ACIND with EM (ACIND*EM), the result is insignifcant. The results from model 4d thus, suggest that *H6g* is not supported. The evidence of ACIND and the interactions of the environmental dimensions results, therefore, concludes that firms operating in the dynamic environment require less independence of the audit committee.

Eighth, regarding audit committee size, the results from the baseline model in Table VIII suggest that audit committee size (ACSZ) is significantly and positively related to FD, meaning firms with large ACSZ are more likely to be financially distressed, and vice versa. In model 4b the results for the main effect show that ACSZ is insignificantly (b = -0.662, p > 0.1) related to FD. The interation of ACSZ and EC (ACSZ*EC) shows an insignificant result (b = 1.378, p > 0.1) implying that EC has no moderating influence on the relationship between ACSZ and FD. These results mean that *H7i*, which states that the negative relationship between ACSZ and FD is moderated by EC is not supported. For model 4c, the result for the main effect reveals an insignificant relationship between ACSZ and FD. On the interaction of ACSZ and ED (ACSZ*ED), the interactive term shows an insignificant result indicating that ED does not moderate the ACSZ and FD relationship meaning that *H5i* is not supported. In model 4d, the direct result shows that ACSZ is significantly and positively (b = 0.526, p < 0.01) associated with FD, similar to the result obtained in the baseline model. For the interaction of ACSZ with EM (ACSZ*EM), the result indicates that EM has no moderating influence on the relationship between ACSZ and FD since the interactive term is insignificant. The result, therefore, means that *H6i* is not supported. The evidence of the audit committee size suggests that none of the environmental dimensions has a moderating influence on the relationship between ACSZ and FD.

Nineth, the results for the variable a firm's chairperson on the audit committeee (CAC) in Table VIII indicate that in the baseline model, it has a significant and a negative (b = -0.357, p < 0.1) relationship with FD. In model 4b the results show that in both the main and the interactive effects, the coefficients are insignificant. This means that in model 4b, CAC is not significantly related to FD and EC does not moderate the relationship between

CAC and FD. The result means that *H7j,* which states that the negative relationship between CAC and FD is moderated by EC is not supported. Similar results of insignificant coefficients of the main and the interactive effects are obtained in model 4c which means that *H7k* is not supported. Also, the results of the main effect in model 4d reveals an insignificant (b = -0.329, p > 0.1) relationship between EM and FD. The interaction of CAC and ED shows a significant result meaning ED has a moderating influence on the relationship between CAC and FD.

Tenth, for remuneration committee size (RCSZ), the results in Table VIII show that in the baseline model, RCSZ is significantly and negatively (b = -0.475, p < 0.01) related to FD. In models 4b the results reveal that for the main effects, RCSZ is insignificantly related to FD. The results further reveal that the interaction between RCSZ and EC (RSZ*EC) is insignificant. Similar insignificant results are found in the main results and the interaction of RCSZ and ED. These mean that neither EC nor ED moderates the relationship between RCSZ and FD. These results mean that *H5k* and *H6k* are not supported. In model 4d the results for the main effect indicate that RCSZ is significantly and negatively (b = -0.420, p < 0.01) related to FD. Contrarily, the result of the interaction between RCSZ and EM (RSZ*EM) show that EM has no moderating influence on the association between RCSZ and FD. This result indicates that *H6k,* which states that the negative relationship between remuneration committee size and FD is moderated by environmental munificence is rejected. The evidence again suggests that none of the environmental dimensions moderates the relationship between RCSZ and FD.

Finally, for the variable, the presence of a firm chairperson on the remuneration committee CRC, the results from Table VIII indicate that neither model 4b, model 4c nor model 4d has significant results for the main effect but for the interactive terms, only EM is significant. These results mean that *H7l, H5l,* and *H6l* are not supported.

In conclusion, by comparing the three environmental models using their AIC, pseudo r-square and the log pseudolikelihood the evidence suggests that model 4c is better than model 4b which is also better than model 4d. This means that ED has a more moderating influence on the relationship between board composition and structure and FD than EC which also has a more moderating influence on the relationship between board composition and structure and FD than EM. Also, when these models are compared with the baseline model using the same criteria, the evidence suggests that evironment moderates the relationship between board composition and structure and FD. This evidence is likely to creat awareness for firms to consider the environmental dimensions

in assessing the effect of board composition and structure and FD likelihood and this is a significant contribution of the study. Hence, policy makers must consider the environment on policies regarding principles involving board composition and structure mechanisms.

8.2.2 RESOURCE

First, for BSZ, the results from the baseline model show a significant and positive relationship with FD. In model 4e for the main effect, the results from Table VIII indicate that BSZ is insignificant. The result also shows that the interaction of BSZ and tangible resource (TR) (BSZ*TR) is insignificant, meaning TR has no moderating influence on the relationship between BSZ and FD and therefore *H9a* is not supported. For model 4f, the main results show that BSZ is not significantly related to FD. On the interaction of BSZ and intangible resource (ITR), (BSX*ITR), the results reveal that it is significant. This means that ITR has a moderate influence on the relationship between BSZ and FD but *H10a*, which states that the negative relationship between BSZ and FD is moderated by ITR is not supported since the coefficient of the main effect is insignificant.

Second, for the PIND, the results in the baseline model show that it is significantly and positively ($b = 1.787$, $p < 0.01$) related to FD. From model 4e, the results for the main effect show that the PIND is insignificatly ($b = 0.951$, $p > 0.1$) related to FD. On the interaction between the PIND and TR (PIND*TR), the results show an insignificant interaction effect which indicates that TR has no moderating influence on the relationship between the PIND and FD meaning *H9b* is rejected. In model 4f, the results for the main effect reveal that the PIND is significantly and positively related to FD and the interaction between the PIND and ITR (PIND*ITR) also show an insignificant result which means that ITR has no moderating influence on the relationship between PIND and FD, therefore, *H10b* is not supported. The evidence, consequently, shows that resource has no moderating influence on the relationship between the PIND and FD.

Third, from the baseline model, the results for BGD reveals an insignificant relationship between BGD and FD. In model 4e, the main results show that BGD has an insignificant relationship with FD. However, the interaction of BGD and TR (BGD*TR) has a significant result which indicates that TR moderates the BGD and FD relationship but *H9c* is not supported. In model 4f, for the main effect, the results reveal that BGD is insignificantly related to FD. The results from the interaction of BGD and ITR (BGD*ITR) is insignificant which means ITR has no moderating effect on the relationship between BGD and FD, hence, *H10c* is not supported. These results provide

evidence that resource has no moderating influence on the relationship between BGD and FD.

Fourth, regarding BAC, the results from the baseline model reveal a significant and a negative ($b = -0.210$, $p < 0.01$) relationship with FD. In model 4e, the results for the main effect show that BAC is significantly and negatively ($b = -0.149$, $p < 0.01$) but the interaction results from the interaction of BAC and TR (BAC*TR) indicate that TR does not moderate the relationship between BAC and FD. In model 4f the results for the main effect indicate that BAC is significantly and negatively ($b = -0.480$, $p < 0.01$) related to FD. The results of the interaction of BAC and ITR (BAC*ITR) means that ITR moderates the relationship between BAC and FD. Hence, the results in model 4d mean that *H10d* is supported. The evidence, therefore, shows that ITR resource moderates the relationship between BAC and FD.

Fifth, for BMQ, the results from the baseline model show that it has a significant and negative relationship with FD. In model 4e, the main result shows that BMQ is significantly and negatively ($b = -0.185$, $p < 0.1$) related to FD and the interaction terms reveal a significant result from the interaction of BMQ and TR (BMQ*TR). The results from model 4e, therefore, mean that *H9e* is confirmed. From model 4f, for the main effects, the results are significant but the interaction of ITR and BMQ is insignificant which means that ITR has no moderating influence on BMQ and FD relationship. These results mean that *H10e* is not supported.

Sixth, the result of BME from the baseline model shows that it has a significant and a positive ($b = 0.468$, $p < 0.01$) relationship with financial distress meaning that the fewer the members who have financial expertise, the less likely a firm becomes financially distressed. Regarding model 4e, the results for the main effect indicate that BME is significantly and positively ($b = 0.355$, $p < 0.01$) related to FD, similar to the results obtained from the baseline model. The results from the interaction of BME and TR is, however, insignificant which means that TR has no moderating influence on the relationship between BME and TR and hence, *H9f* is not supported. In model 4f, the main results for BME indicate that it is significantly and positively ($b = 1.328$, $p < 0.01$) related to FD. The significant result of the interaction of BME and ITR means that ITR moderates BME and FD relationship. These results mean that *H10f,* which states that the negative relationship between BME and FD is moderated by intangible resources, is not supported.

Seventh, for ACIND, the results from the baseline model reveal that it is significantly and negatively related to FD. In model 4e, the main result indicates that ACIND is significantly and negatively ($b = -0.0127$, $p < 0.05$) associated with FD which is similar to the result obtained from the baseline model. Considering the interaction of ACIND and TR (ACIND*TR), the result for the interaction term indicates that TR has a moderating impact on the relationship between ACIND and finanial distress, thus, confirming *H9g*. From model 4f, the results indicate that both the main and the interaction effects are not significant. This means that audit committee independence is not associated with the likelihood of financial distress, and the ITR has no moderating influence on the relationship between the ACIND and FD which means that *H10g* is not supported.

Eighth, in terms of ACSZ, the results show that in the baseline model, ACSZ is significantly and positively related to FD. Considering the main effect of ACSZ on FD in model 4e, the results show that it has an insignificant ($b = -0.286$, $p > 0.1$) relationship with FD. For the interaction of ACSZ with the TR (ACSZ*TR), the result indicates that TR has no moderating influence on ACSZ and FD relationship since the interaction term shows an insignificant ($b = 0.0368$, $p > 0.1$) result. In model 4f, the results for the main effect of ACSZ indicate that it has a significant and a positive ($b = 1.844$, $p < 0.01$) relationship with FD. The interaction of ACSZ and intangible resource (ACSZ*IR) indicates a significant and a negative ($b = -0.182$, $p < 0.01$) result which means that intangible resource moderates the relationship between audit committee size and financial distress. This result means that *H10i* is not supported due to the direction of the coefficient of the main effect.

Nineth, the results for CAC in the baseline model indicate that it has a significant and a negative ($b = -0.357$, $p < 0.1$) relationship with FD. In model 4e the results indicate insignificant coefficients for the main and the interaction effects meaning that TR does not moderate the relationship between CAC and financial distress. However, in model 4f, the results show that for the main effect, the CAC is significantly and negatively ($b = -2.265$, $p < 0.01$) associated with financial distress. The results for the interaction term (CAC*ITR) in model 4f indicates ($b = 0.265$, $p < 0.01$) that intangible resource moderates the relationship between CAC and FD which means that *H10j* is supported and the net effect ($-0.459 + 0.317 = -0.142$) shows that the moderating influence is less.

Tenth, for RCSZ, the results show that in the baseline model, the remuneration committee size is significantly and negatively related to financial distress. Regarding model 4e, the result for the main effect reveals that RCSZ has no significant relationship with FD. On

the interaction effect, the results show that the interaction of RCSZ and TR (RSZ*TR) show that TR has no moderating influence on the RCSZ and FD relationship, hence, *H9k* is not supported. In model 4f, the result for the main effect indicates a significant and a negative ($b = -2.023$, $p < 0.01$) relationship between RCSZ and FD. The result of the interaction term (RSC*ITR) means ($b = 0.215$, $p < 0.01$) that ITR moderates the relationship between RCSZ and FD and this means that *H10k* is supported. The evidence, therefore, reveals that ITR has a moderating role of the RCSZ and FD relationship.

Lastly, for CRC, the results for the baseline model indicate that it has an insignificant relationship with FD. The results from Table VIII further indicate significant results for the main and the interaction effect. In models 4e meaning that TR has a moderating influence on the relationship between CRC and FD. In model 4f, the result for the main effect is significantly and positively related FD and the result of the interaction of CRC and ITR is significant. However, due to the positive coefficient of the main effect, it means that ITR has no koderating influence on the CRC and FD relationship.

In conclusion, the evidence shows that ITR has a more moderating influence on board composition and structure and FD than TR, and both TR model and the ITR model compare better than the baseline model using the AIC, the pseudo r-square, and the log psuedolikelihood. This means that resource overall, moderates the relationship between board composition and structure and FD. However, comparing the resource and the environment with the same criteria, the evidence reveals that the environment has a more moderating influence on board composition and structure and FD than the resource. This gives firms the advantage of knowing where to prioritise their strategies when dealing with board composition and structure mechanisms with challenges existing in the environment, as well as the resource capability and this is a significant contribution of the study to the academic literature.

8.2.3 TECHNOLOGICAL CAPABILITY

First, the results in model 4g indicate that for the main effect in model 4g, BSZ is significantly and positively ($b = 0.736$, $p < 0.01$) related to FD as in the baseline model. The result from the interaction of BSZ and technology (TEC) (BSZ*TEC) indicates a significant and a positive ($b = -0.0336$, $p < 0.01$) result. This means that technology has a more ($0.736 + -0.0336 = 0.7024$) moderating influence on the relationship between BSZ and FD. However, *H8a* which states that the negative relationship between BSZ and FD is moderated by TEC is not confirmed since the main effect indicates a positive relationship.

Second, regarding the PIND in model 4g, the main result shows that it has an insignificant (b = 3.517, p > 0.1) relationship with financial distress. There is also an insignificant result for the interaction between the PIND and TEC (PIND*TEC). The results in model 4g mean that *H8b*, which states that the negative relationship between the PIND and FD is moderated by TEC is not supported.

Third, in model 4g, the results for the main effects show that BGD is significantly and negatively (b = -3.585, p < 0.01) related to the likelihood of firms' FD. On the interaction of BGD and TEC (BGD*TEC), the interaction term reveals an insignificant result which means that TEC has no moderating effect on the relationship between BGD and FD meaning that *H8c* is not supported.

Fourth, for BAC the results from model 4g show that for the main effect, BAC is significantly and negatively related to FD and on the interaction between BAC and TEC (BAC*TEC), the result reveals that TEC has a moderate influence on the relationship between BAC and FD which means that *H8d* is supported.

Fifth, for BMQ the result for the main effect in model 4g reveals that BMQ is significantly and negatively (b = -0.937, p < 0.05) related to FD. The result from the interaction of BMQ and TEC (BMQ*TEC) reveals that the interaction term is not significant (b = 0.0193, p > 0.1) which means that TEC has no moderating influence on the relationship between BMQ and FD. These results indicate that *H8e*, which states that the negative relationship between BMQ and FD is moderated by TEC is not supported.

Sixth, regarding BME, the results from model 4g indicate that for the main effect, BME has a significant and a positive (b = 1.558, p < 0.01) relationship with FD. For the interaction of BMQ and TEC (BME*TEC), the result (b = -0.119, p < 0.05) means that TEC has a moderating influence on BME and FD but the positive coefficient of the main effect means that *H8f* is not supported.

Seventh, for ACIND, the results in model 4g reveals that for the main effect ACIND is significantly and negatively (b = -0.168, p < 0.01) related to financial distress. The result of the interaction of ACIND and TEC reveals that TEC has no moderating influence on the ACIND and FD relationship. These results, therefore, mean that *H8g* is not supported.

Eighth, for ACSZ in model 4g the result indicates that for the main effect, ACSZ is significantly and positively (b = 2.944, p < 0.01) related to FD. On the interactive terms, the result of the interaction of ACSZ and TEC (ACSZ*TEC) reveals that TEC has a

moderating influence on the relationship between ACSZ and FD. However, this result means that *H8i* is not supported.

Nineth, for the variables CAC, the results in model 4g reveal that for the main effect, it has an insignificant relationship with FD. On the results of the interaction term, it showsTEC has a moderating influence on the CAC and FD relationship meaning that *H8j* is not confirmed. Finally, for the variables RCSZ and CRC, the results for the main effects show that each of them has an insignificantl relationship with FD. Similarly, the results of the interaction effect show that TEC has no moderating influence on the relationship between each of these variables and FD though interaction results show significant results. These mean that *H8k* and *H8l* are not confirmed due to the insignificant of the coefficient of the main effects.

The conclusion drawn from Table VIII is that when all the six moderating factors are compared to determine the one that has a more moderating influence on the relationship between board composition and structure and FD using the criteria mentioned in the previous sections, the evidence suggests that TEC has a more moderating influence and this is followed by ED, EC, EM, ITR, and TR. This is a significant contribution that this study makes to the academic literature. This will guide firms to know how to implement the principles of board composition and structure mechanisms taking into consideration their technology, environment, and resource.

8.3 OWNERSHIP STRUCTURE: THE MODERATING ROLE OF ENVIRONMENT, RESOURCE, AND TECHNOLOGICAL CAPABILITY

In this section, each moderating factor interacts with the components of the ownership structure. The evidence on the interaction of the moderating factors, which include environmental complexity (EC), environmental dynamism (ED), environmental munificence (EM), tangible resources (TR), intangible resources (ITR), and technology (TEC) on the relationship between the components of ownership structure, and financial distress is presented in models 3b (EC model), 3c (ED model), 3d (EM model), 3e (TR model), 3f (ITR model), and 3g (TEC model) in Table IX.

8.3.1 ENVIRONMENT

First, for directors' ownership (DOWN), the results from the baseline model indicate that it is significantly and negatively ($b = -0.0369$, $p < 0.01$) related to FD. The results in model 3b show that for the main effect, DOWN is significantly and negatively ($b = -0.352$, $p < 0.01$) related to FD. The results from the interaction of EC and DOWN (DOWN*EC) is also significant, meaning EC moderates the relationship between DOWN

and FD, hence *H7m,* which states that the negative relationship between DOWN and FD is moderated by EC is confirmed. In model 3c the results show that for the main effect, DOWN is significantly and negatively ($b = -0.312$, $p > 0.01$) related to FD. The result of the interaction of DOWN with ED (DOWN*ED) shows that it is significant meaning that ED moderates the relationship between DOWN and FD. This result means that *H5m* not supported. Considering model 3d where DOWN interacts with EM, the result of the main effect indicates that DOWN has a significant and a negative ($b = -0.0373$, $p < 0.01$) influence on FD. However, the result of the interactive term indicates that EM does not have any moderating influence on the relationship between DOWN and FD which thereby means that *H5m* is not confirmed. The evidence of the environmental dimensions, therefore, indicate that EC and ED have moderating influences on the relationship between DOWN and FD.

The table on the next page presents the results of the logistic regression of the interactions of the moderating factors and ownership structure variables. Model 3a is the baseline model for the ownership structure. Models 3b to 3g are respectively, the interaction models for environmental complexity (EC), environmental dynamism (ED), environmental munificence (EM), tangible resource (TR), intangible resource (IR) and technology (TEC). Model 3b therefore, exhibits the interactions between environmental complexity and ownership structure variables (EC*DOWN; EC*INOWN; EC*COWN), model 3c shows the interaction between environmental dynamism and ownership structure variables (ED*DOWN; ED*INOWN; ED*COWN), model 3d represents the interaction between environmental munificence and ownership structure variables (EM*DOWN; EM*INOWN; EM*COWN), model 3e shows the interaction between tangible resources and ownership structure variables (TR*DOWN; TR*INOWN; TR*COWN), model 3f represents the interaction between intangible resources and ownership structure variables (IR*DOWN; IR*INOWN; IR*COWN), and model 3g is the result of the interaction between technology and ownership structure variables(TEC*DOWN;

TEC*INOWN; TEC*COWN).

TABLE IX: LOGISTIC REGRESSION RESULTS OF THE INTERACTIONS OF THE MODERATING FACTORS AND OWNERSHIP STRUCTURE VARIABLES.

Variables	Model 3a	Model 3b	EC	Model 3c	ED	Model 3d	EM	Model 3e	TR	Model 3f	ITR	Model 3g	TEC
FAG	-0.0105***	-0.00835***		-0.00821***		-0.0106***		-0.0111***		-0.0103***		-0.00598**	
	(0.00228)	(0.00229)		(0.00233)		(0.00229)		(0.00235)		(0.00234)		(0.00238)	
FSZ	-0.202***	-0.182***		-0.169***		-0.204***		-0.209***		-0.168***		-0.134***	
	(0.0255)	(0.0262)		(0.0259)		(0.0256)		(0.0259)		(0.0254)		(0.0276)	
Industry effects	Yes	Yes		Yes		Yes		Yes		Yes		Yes	
DOWN	-0.0369***	-0.352***	0.347***	-0.312***	0.306***	-0.0373***	2.1006	-0.0293***	-0.00402	-0.0545***	0.00282*	-0.0614**	0.00343
	(0.00424)	(0.0606)	(0.0657)	(0.0621)	(0.0678)	(0.00431)	(7.5306)	(0.00696)	(0.00288)	(0.0116)	(0.00163)	(0.0273)	(0.00345)
INOWN	-0.863***	-0.422	-0.410	-1.020	0.247	-0.823***	-0.000255	-0.338**	-0.280***	-0.611**	-0.0310	0.0164	-0.154***
	(0.126)	(1.405)	(1.488)	(1.411)	(1.481)	(0.129)	(0.000396)	(0.168)	(0.0642)	(0.237)	(0.0332)	(0.462)	(0.0594)
COWN	-0.293***	-2.076**	1.840**	-2.052**	1.845**	-0.296***	0.000157	-0.588***	0.147***	-0.601***	0.0470***	-0.0551	-0.0373
	(0.0699)	(0.816)	(0.878)	(0.797)	(0.854)	(0.0717)	(0.000237)	(0.104)	(0.0368)	(0.135)	(0.0181)	(0.278)	(0.0327)
Constant	8.604***	8.599***		8.262***		8.517***		8.863***		7.976***		8.799***	
	(0.694)	(0.754)		(0.747)		(0.695)		(0.719)		(0.720)		(0.823)	
Log Pseudolikelihood	-882.71	-750.69		-731.03		-875.84		-867.95		-825.04		-689.46	
Pseudo R-square	0.2016	0.3176		0.3354		0.2038		0.2149		0.2285		0.3501	
AIC	1779.41	1521.37		1482.05		1771.68		1755.89		1670.09		1398.93	
Observations	1,595	1,587		1,587		1,587		1,595		1,544		1,531	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Second, for institutional ownership (INOWN), the results from Table IX indicate that in the baseline model, it has a significant and a negative ($b = -0.863$, $p < 0.01$) relationship with FD. In model 3b, the results reveal that for the main effect, INOWN has no significant relationship with FD. Regarding the interaction of INOWN and EC (INOWN*EC), the results indicate that EC does not moderate the relationship between INOWN and FD. These results mean that *H7o* is not supported. Similarly, in model 3c the results show that on the main effect INOWN has an insignificant ($b = -1.020$, $p > 0.1$) relationship with FD. On the interaction of INOWN and ED (INOWN*ED), the result reveals that ED has no moderating role on the relationship between INOWN and FD and this means that *H5o*, which states that the negative relationship between INOWN and FD is moderated by ED is rejected. From model 3d where INOWN interacts with EM, the result for the main effect shows that INOWN is significantly and negatively ($b = -0.823$, $p < 0.01$) related to FD. However, on the interactive terms (INOWN*EM), the result indicates that the relationship between INOWN and FD is not moderated by EM which means that *H6o* is not supported.

Third, on concentrated ownership (COWN), the results from the baseline model in Table IX show that it is significantly and negatively ($b = -0.293$, $p < 0.01$) related to FD. From model 3b, the results show that on the main effect, COWN is significantly and negatively ($b = -2.076$, $p < 0.05$) related to FD. On the interaction of COWN with EC (COWN*EC), the result ($b = 1.840$, $p < 0.05$) indicates that EC has a less ($-2.871 + 2.659 = -0.236$) moderating influence on the relationship between COWN and FD. These results mean that *H7n*, which states that the negative relationship between COWN and FD by EC is confirmed. In model 3c, the main result show that COWN has a significant and a negative ($b = -2.052$, $p < 0.1$) relationship with FD. Also, the result of the interactive term (COWN*ED) is significant indicating that ED has a moderating influence on the COWN and FD relationship, which means that *H5n* is confirmed. With regards to model 3d, the results indicate that on the main effects, COWN is significantly and negatively ($b = -0.296$, $p < 0.01$) associated with FD but on the interaction of COWN and EM (COWN*EM), the result reveals that EM has no moderating influence on the relationship between COWN and FD. These results mean that *H6n*, which states that the negative relationship between COWN and FD is moderated by EM is not supported.

In conclusion, the evidence of the environmental dimension models shows that ED has a more moderating influence on ownership structure mechanisms and FD and this is followed by EC and then EM. The result indicates that each of the environmental

dimension models compares better than the baseline model providing further evidence that the environment is a significant contextual factor that firms should consider in their effort to avoid FD when implementing ownership structure mechanisms.

8.3.2 RESOURCES

First, for DOWN in model 3e, the result of the main effect indicates that DOWN is significantly and negatively ($b = -0.0293$, $p < 0.1$) related to FD as in the baseline model but the result of the interactive term (DOWN*TR) indicates that TR has no moderating influence on the relationship between DOWN and FD. Hence, *H9m* is not supported. In model 3f, the result shows that DOWN has a significant and a negative ($b = -0.0545$, $p < 0.01$) relationship with FD for the main effect. Also, the interaction of DOWN and ITR indicates a significant and a negative ($b = 0.00282$, $p < 0.1$) result and this means that ITR moderates the relationship between DOWN and FD. These results mean that *H10m*, which states that the negative relationship between directors' ownership and financial distress is moderated by intangible resources, is supported.

Second, for INOWN in model 3e, the result for the main effect reveals that INOWN has a significant and a negative relationship with FD similar to the result of the baseline model and for the interactive term (INOWN*TR), the result indicates that TR has a moderating role on the relationship between INOWN and FD indicating that *H9o* is supported. The results in model 3f show that for the main effect, INOWN is significantly and negatively related to FD. However, for the interactive effects, the coefficient is insignificant which means that ITR has no moderating role on the relationship between INOWN and FD which means that *H10o* is not supported.

Third, in model 3e where COWN interacts with the TR, the results show that COWN for the main effect, is significantly and negatively ($b = -0.588$, $p < 0.01$) related to FD. There is also a significant result of the interactive term (COWN*TR) meaning TR moderates COWN and FD relationship thereby supporting *H9n*. Regarding model 3f, the results show that for the main effect, COWN has a significant and a negative ($b = -0.601$, $p < 0.01$) association with FD. Also, on the interaction of COWN with the ITR (COWN*ITR), the result indicates that ITR moderates the relationship between COWN and FD which means that *H10n* is confirmed.

In all, the evidence of the resource models shows that ITR has a more moderating influence than the TR when their AICs are compared. The evidence also reveals that when the resource models are compared with the evironmental models, the results show that all

the environmental models perform better than the resource models. This means that the environment has a more moderating influence on the relationship between ownership structure mechanisms and FD than the resource and this is a significant contribution that the study makes to the academic literature.

8.3.3 TECHNOLOGICAL CAPABILITY

Firstly, in model 3g where DOWN interacts with TEC, the result of the main effect indicates a significant and a negative ($b = -0.0614$, $p < 0.01$) relationship between directors' ownership and financial distress. However, the result of the interactive term shows that technology has no moderating influence on DOWN and FD relationship and this means that *H8m* is not supported.

Secondly, in the same model, INOWN interacts with TEC and the result reveals that for the main effect, INOWN is insignificantly ($b = 0.0164$, $p > 0.1$) related to FD. On the interaction of INOWN and TEC, the result reveals that TEC has a moderating influence on the relationship between INOWN and FD but due to the insignificance of the coefficient of the main effect, *H8o* which states that the negative relationship between INOWN and FD is moderated by technology, is not confirmed.

Finally, for COWN the results in model 3g show that both the coefficients of the main and the interaction effects are insignificant. These results mean that on the main effect, COWN has no significant influence on FD and the interaction of COWN and TEC (COWN*TEC) also reveals that TEC does not moderate the relationship between COWN and FD. These insignificant results from models 3g mean that *H8n* is not confirmed.

The conclusion that is drawn from the six models obtained as a result of the interaction of the six moderating factors with the components of ownership structure is that TEC has a more moderating influence on the relationship between the ownership structure mechanisms and FD. This is followed by ED, EC, ITR, EM, and TR. Also, all the interaction models compared better than the baseline model providing evidence that although ownership structure mechanisms significatly relate to FD, such relationship is affected by the interaction of these moderating factors which either increase or decrease the ownership structure mechanisms' coefficient values, and these are important contributions of the study.

8.4 DISCLOSURE AND TRANSPARENCY: THE MODERATING ROLE OF ENVIRONMENT, RESOURCE, AND TECHNOLOGICAL CAPABILITY

In this section, each moderating factor interacts with the components of disclosure and transparency. The evidence of the interaction of the moderating factors which include environmental complexity (EC), environmental dynamism (ED), environmental munificence (EM), tangible resources (TR), intangible resources (ITR), and technology (TEC) on the relationship between the components of disclosure and transparency, and financial distress is presented in models 2b (EC model), 2c (ED model), 2d (EM model), 2e (TR model), 2f (ITR model, and 2g (TEC model) respectively, in Table X.

8.4.1 ENVIRONMENT

First, for directors' remuneration (DREM), the results from the baseline model in Table X indicate that it is insignificantly ($b = -0.216$, $p > 0.05$) related to FD. In model 2b the result for the main effect shows that DREM, like in the baseline model, is significantly and negatively ($b = -1.183$, $p < 0.01$) related to FD. For the interaction of DREM and EC (DREM*EC), the result indicates that the relationship between DREM and FD is moderated by EC since the result of the interaction effect is significant ($b = 1.069$, $p < 0.01$). The net effect is that EC has a less ($-1.183 + 1.069 = -0.114$) moderating influence. The result of the interaction term means that *H7p,* which states that the negative relationship between DREM and FD is moderated by EC is supported. Like model 2b, the result for the main effect in model 2c shows that DREM has a significant and a negative ($b = -1.792$, $p < 0.01$) relationship with FD. On the interaction of DREM and ED (DREM*ED), the result of the interaction term indicates that ED has a moderating influence on the relationship between DREM and FD and this means that *H5p* is confirmed. For model 2d, similar results are obtained for the main effect and interactive effect. This means that EM has a moderating role in the relationship between DREM and FD which means that *H6p* is confirmed.

The table on the next page presents the results of the logistic regression of the interactions of the moderating factors and disclosure and transparency variables. Model 2a is the baseline model for disclosure and transparency. Models 2b to 2g are respectively the interaction models for environmental complexity (EC), environmental dynamism (ED), environmental munificence (EM), tangible resource (TR), intangible resource (IR) and technology (TEC). Model 2b therefore, exhibits the interactions between environmental complexity and disclosure and transparency variables (EC*DREM; EC*SIND; EC*PAR; EC*MN), model 2c shows the interaction between environmental dynamism and disclosure and transparency variables (ED*DREM; ED*SIND; ED*PAR; ED*MN), model 2d represents the interaction between environmental munificence and disclosure and transparency variables (EM*DREM; EM*SIND; EM*PAR; EM*MN), model 2e shows the interaction between tangible resources and disclosure and transparency variables (TR*DREM; TR*SIND; TR*PAR; IR*MN), model 2f represents the interaction between intangible resources and disclosure and transparency variables (IR*DREM; IR*SIND; IR*PAR; IR*MN), and model 2g is the result of the interaction between technology and disclosure and transparency variables (TEC*DREM; TEC*SIND; TEC*PAR; TEC*MN).

TABLE X: LOGISTIC REGRESSION RESULTS OF THE INTERACTIONS OF THE MODERATING FACTORS AND DISCLOSURE AND TRANSPARENCY VARIABLES

Variables	Model 2a	Model 2b	EC	Model 2c	ED	Model 2d	EM	Model 2e	TR	Model 2f	ITR	Model 2g	TEC
FAG	-0.0165***	-0.0112***		-0.0103***		-0.0165***		-0.0175***		-0.0161***		-0.0124***	
	(0.00302)	(0.00276)		(0.00284)		(0.00302)		(0.00316)		(0.00294)		(0.00302)	
FSZ	0.0313	0.0221		0.0416		0.0356		0.0482		0.0825**		0.0276	
	(0.0392)	(0.0442)		(0.0464)		(0.0396)		(0.0416)		(0.0412)		(0.0531)	
Industry effects	Yes	Yes		Yes		Yes		Yes		Yes		Yes	
DREM	-0.216**	-1.183***	1.069***	-1.792***	1.688***	-0.237***	0.000101***	-0.256***	0.00317	-0.334***	0.00653	0.232*	-0.0576***
	(0.0898)	(0.226)	(0.223)	(0.184)	(0.188)	(0.0915)	(3.6605)	(0.0956)	(0.00710)	(0.0940)	(0.00452)	(0.123)	(0.00951)
SIND	-1.319***	5.160**	-6.826***	9.215***	-11.11***	-1.273***	-0.00136***	-0.558**	-0.921***	-1.291***	0.00834	0.182	-0.154
	(0.153)	(2.248)	(2.404)	(1.949)	(2.118)	(0.155)	(0.000502)	(0.235)	(0.162)	(0.405)	(0.0570)	(0.906)	(0.122)
PAR	-0.210	-2.928	3.344	-3.603*	4.075*	-0.241	0.00191***	-0.268*	-0.416**	-0.691	0.0655	-2.368**	0.272*
	(0.155)	(2.188)	(2.353)	(2.132)	(2.316)	(0.157)	(0.000665)	(0.157)	(0.181)	(0.442)	(0.0665)	(1.058)	(0.144)
MN	-1.327***	-3.552	2.091	2.596	-4.358*	-1.281***	-0.00183***	-1.239***	0.268	-2.235***	0.142**	-1.048	-0.0365
	(0.172)	(2.750)	(2.903)	(2.399)	(2.560)	(0.172)	(0.000621)	(0.238)	(0.168)	(0.471)	(0.0715)	(1.382)	(0.184)
Constant	5.357***	5.177***		5.290***		5.584***		5.798***		5.692***		4.900***	
	(0.952)	(1.074)		(1.086)		(0.971)		(0.992)		(0.960)		(0.966)	
Log Pseudolikelihood	-852.67	-719.86		-694.60		-843.16		-831.89		-789.46		-664.41	
Pseudo R-square	0.2283	0.3452		0.3681		0.2330		0.2471		0.2613		0.3733	
AIC	1721.34	1463.71		1413.20		1710.32		1685.79		1605.92		1352.82	
Observations	1,594	1,586		1,586		1,586		1,594		1,543		1,530	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Second, regarding the presence of senior independent director (SIND), the result from the baseline model shows that it is significantly and negatively (b = -1.319, p < 0.01) related to FD. In model 2b where SIND interacts with EC, the results show that in the main effect, the SIND is significant but positively (b = 5.160, p < 0.05) related to FD. Regarding the interaction of SIND and EC (SIND*EC), the result shows that EC moderates the relationship between SIND and FD but due to the positive coefficient of the main effect, *H7q* is not supported. In model 2c, a similar result as in model 2b is obtained. The result shows that for the main effect, the SIND has a significant and a positive relationship with FD and for the interactive term (SIND*ED), the significant of the coefficient means that ED has a moderating influence on the relationship between SIND and FD, but *H5q* is not confirmed. In model 2d, the results from Table X show that for the main effect, the SIND has a significant and a negative (b = -1.273, p < 0.01) relationship with FD. The result of the interactive term (SIND*EM) means that EM has a moderating influence on the relationship between SIND and FD and these mean that *H6q,* which states that the negative relationship between SIND and FD is moderated by environmental munifence is supported.

Third, for the variable disclosure of proxy voting arrangements in the annual reports (PAR), the result from the baseline model in Table X indicates that it is insignificantly (b = -0.210, p > 0.1) related to FD. In model 2b the result for the main effect shows that the PAR has an insignificant (b = -2.298, p > 0.1) relationship with financial distress. The result of the interaction of PAR and EC (PAR*EC) in model 2b indicates that the relationship between the PAR and FD is not moderated by EC. The results in model 2b mean that *H7r,* which states that the negative relationship between PAR and FD is moderated by EC is not confirmed. From model 2c, the result of the main effect of the PAR on FD reveals that it is significantly and negatively (b = -3.603, p < 0.1) related to FD. The result of the interactive term (PAR*ED) in model 2c reveals that ED has a moderating influenece on the relationship between the PAR and FD which means that *H5r is* confirmed. In model 2d where the PAR interacts with EM, the result for the main effect shows that the PAR is insignificantly (b = -0.241, p > 0.1) related to FD. However, the result for the interactive term (PAR*EM) indicates that EM moderates the relationship between the PAR and FD, but these results mean that *H6r* is not supported.

Finally, for the variable MN, the results from the baseline model in Table X shows that the MN is significantly and negatively related (b = -1.327, p < 0.01) to FD. In model 2b the results for the main effect show that the MN is insignificantly (b = -3.552, p > 0.1)

related to FD. For the interactive term (MN*EM), the result indicates that the relationship between the MN is not moderated by the EC and this means that *H7s* is not supported. In model 2c, the results do not differ from that of model 2b. On the main effect, the results of model 2c show that the MN has no significant relationship with FD. From the interaction term (MN*ED), the result reveals that ED has a moderating influence on the relationship between the MN and FD. These results in model 2c mean that *H5s* is not supported. With regards to model 2d, the result for the main effect indicates that the MN is significantly and negatively ($b = -1.281$, $p < 0.01$) related to FD. On the interactive term (MN*EM), the results mean that EC moderates the relationship between the MN and financial distress and these results mean that *H6s* is supported.

The evidence obtained from the disclosure and transparency mechanisms' interactions with EC, ED, and EM, reveals that ED has a more moderating influence followed by EC and EM and that these model are better than the baseline model.

8.4.2 RESOURCE

Firstly, in model 2e, the result for the main effect shows that DREM has a significant ($b = -0.256$, $p < 0.01$) and a negative relationship with FD. For the interaction effect (DREM*TR), the result indicates that TR has no moderating role of the relationship between DREM and FD which means that *H9p*, which states that the negative relationship between DREM and FD is moderated by tangible resources is not supported. Regarding, model 2f where directors' remuneration interacts with the ITR, the result of the main effect shows that directors' remuneration is significantly and negatively ($b = -0.334$, $p < 0.01$) related to FD. However, the result of the interaction of DREM and ITR reveals that ITR does not moderate the relationship between DREM and financial distress and this means that *H10p* is not supported.

Secondly, regarding the SIND, the result for the main effect in model 2e reveals that SIND is significantly and negatively associated with FD. The result of the interaction of SIND and TR (SIND*TR) is also significant and negative, which means that TR has a moderating role on the relationship between SIND and FD and this means that *H9q* is confirmed. For model 2f, the main result indicates that SIND is significantly and negatively ($b = -1.291$, $p < 0.01$) related to FD but the result of the interaction term (SIND*ITR) means that ITR has no moderating influence on the relationship between SIND and FD and these results imply that *H10q* is not supported.

Thirdly, regarding PAR, the results in model 2e show that for the main effect the PAR has a significant and a negative relationship with financial distress. Also, the interaction of the PAR and TR (PAR*TR) indicates a significant and a negative result effect meanning *H9r*, which states that the negative relationship between the PAR and FD is moderated by TR is supported. In model 2f, the results for the main effect show that PAR has no significant relationship with FD. Similarly, the interactive effect indicates an insignificant result which means that ITR has no moderating influence on the relationship between the PAR and FD, These suggest that *H10r* is not supported.

Finally, for MN, the model 2e result indicate that for the main effect the MN has a significant and a negative ($b = -1.239$, $p < 0.01$) relationship with FD but the result of the interactive term (MN*TR) indicates that TR has no moderating influence on the relationship between the MN and FD. These results in model 2e suggest that *H9s* is not confirmed. In model 2f, the result for the main effect shows that the MN is significantly and negatively ($b = -2.235$, $p < 0.01$) related to FD. On the interactive term (MN*ITR), the significant result implies that *H10s*, which states that the negative relationship between the MN and FD is moderated by ITR is confirmed.

The evidence of the resource models shows that when they are compared with the environment models, ED and EC are better than the TR and ITR but they are, however, better than EM. The results also show that all the resource models perform better than the baseline model.

8.4.3 TECHNOLOGICAL CAPABILITY

Firstly, for DREM, the results in model 2g show that for the main effect DREM has a significant but a positive ($b = 0.232$, $p < 0.05$) relationship with FD. On the interaction of DREM and TEC (DREM*TEC), the result indicates that TEC moderates the relationship between DREM and FD. This result means that H8p, which states that the negative relationship between DREM and FD is moderated by TEC is not supported because the direction of the coefficient of the main effect is positive.

Second, in model 2g, for the main effect, the result indicates that SIND has no significant relationship with FD. Also, the interaction term (SIND*TEC) is insignificant implying that TEC has no moderating influence on the relationship between SIND and FD, hence, *H8q* which states that the negative relationship between SIND and FD is moderated by TEC is not confirmed.

Third, in model 2g where PAR interacts with TEC, the result for the main effect shows that the PAR is significantly and negatively related to FD. The interaction effect (PAR*TEC) also shows a significant result which means that TEC moderates the relationship between the PAR and FD, hence, *H8r* is supported.

Finally, regarding MN, the results in model 2g indicate that for the main effect, the MN is insignificantly ($b = -1.048$, $p > 0.1$) associated with FD. On the interaction of the MN and TEC, the insignificance ($b = 0.0365$, $p > 0.1$) of the results mean that TEC has no moderating influence on the relationship between the MN and FD. The results in model 2g mean that *H8s,* which states that the negative relationship between the disclosure of notice of the annual general meeting in the annual report and financial distress is moderated by technology is not supported.

In drawaing conclusions from Table X the evidence obtained as the result of the interaction of the six moderating factors with the components of disclosure and transparency is that TEC has more moderating influence on the relationship between the disclosure and transparency mechanisms and FD and that all the other interaction models are of best fit than the baseline model. This provides further evidence that although disclosure and transparency mechanisms significatly relate to FD, such relationship is affected by the interaction of these moderating factors which either increase or decrease the disclosure and transparency mechanisms' coefficient values and these make significant contributions from the study.

8.5 THE INTERACTION OF THE MODERATING FACTORS WITH ALL THE CORPORATE GOVERNANCE VARIABLES

Under sections 8.2, 8.3, and 8.4, each of the moderating factors interacted with each of the components of board composition and structure, each of the components of ownership structure, and each of the components of disclosure and transparency. This was to determine the moderating influence of each moderating factor on the relationship between each component of board structure and composition, each component of ownership structure, and each component of disclosure and transparency, and financial distress. Thus, the moderating role of each moderating factor on the relationship between each corporate governance mechanism (independent variables) and financial distress has already been analysed in the preceding sections and sub-sections.

In this section, however, each of the six moderating factors is interacted with all the corporate governance mechanisms in a model to determine the model's effectiveness in predicting the relationship between corporate governance mechanisms and financial distress. The results are presented in Table XI. First, model 5a presents the results of the corporate governance variables and the control variables without any moderating factors. Second, model 5b demonstrates the results of the interaction of environmental complexity and the corporate governance variables and the control variables. Third, model 5c shows the results of the interaction of environmental dynamism and the corporate goveranace variables and the control variables. Fourth, model 5d reveals the results of the interaction of environmental munificence and the corporate governance variables and the control variables. Fifth, model 5e displays the results of the interaction of tangible resources with the corporate governance variables and the control variables. Sixth, model 5f unveils the results of the interaction of intangible resource with the corporate governance variables and the control variables. Lastly, model 5g shows the interaction of technology with corporate governance and control variables.

In comparing the models, Akaike's Information Criterion (AIC) is used. According to the AIC, a lower arithmetic value indicates a model best fit. First, AIC is used to compare the environmental dimension models (models 5b, 5c, and 5d), and the results from Table XI shows that model 5c is the model of best fit than models 5b and 5d. For models 5b and 5d, model 5b is the one of best fit. These translate that for the three environmental dimensions, firms should consider their dynamic environment followed by complexity and munificence as being significant in their corporate governance to ensure continuous survival and avoid the likelihood of financial distress.

The table on the next page presents the results of the logistic regression of the interactions between the moderating factors and all the corporate governance variables. Model 5a is the baseline model for all the corporate governance variables and the control variables. Models 5b to 5g are respectively, the interaction models for environmental complexity (EC), environmental dynamism (ED), environmental munificence (EM), tangible resource (TR), intangible resource (ITR) and technology (TEC). Model 5b therefore, exhibits the interactions of environmental complexity and all the corporate governance variables (EC*BSZ; EC*PIND; EC*BGD; EC*BAC; EC*BMQ; EC*BME; EC*ACIND; EC*ACSZ; EC*CAC; EC*RCSZ; EC*CRC; EC*DOWN; EC*INOWN; EC*COWN; EC*DREM; EC*SIND; EC*PAR; EC*MN). Model 5c shows the interaction of environmental dynamism and all the corporate governance variables (ED*BSZ; ED*PIND; ED*BGD; ED*BAC; ED*BMQ; ED*BME; ED*ACIND; ED*ACSZ; ED*CAC; ED*RCSZ; ED*CRC; ED*DOWN; ED*INOWN; ED*COWN; ED*DREM; ED*SIND; ED*PAR; ED*MN). Model 5d also represents the interaction between environmental munificence and all the corporate governance variables (EM*BSZ; EM*PIND; EM*BGD; EM*BAC; EM*BMQ; EM*BME; EM*ACIND; EM*ACSZ; EM*CAC; EM*RCSZ; EM*CRC; EM*DOWN; EM*INOWN; EM*COWN; EM*DREM; EM*SIND; EM*PAR; EM*MN). Likewise, model 5e shows the interaction of tangible resources and all the corporate governance variables (TR*BSZ; TR*PIND; TR*BGD; TR*BAC; TR*BMQ; TR*BME; TR*ACIND; TR*ACSZ; TR*CAC; TR*RCSZ; TR*CRC; TR*DOWN; TR*INOWN; TR*COWN; TR*DREM; TR*SIND; TR*PAR; IR*MN). Model 5f represents the interaction of intangible resources and all the corporate governance variables (ITR*BSZ; ITR*PIND; ITR*BGD; ITR*BAC; ITR*BMQ; ITR*BME; ITR*ACIND; ITR*ACSZ; ITR*CAC; ITR*RCSZ; ITR*CRC; ITR*DOWN; ITR*INOWN; ITR*COWN; ITR*DREM; ITR*SIND; ITR*PAR; ITR*MN). Finally, model 5g is the result of the interaction of technology and all the corporate governance variables (TEC*BSZ; TEC*PIND; TEC*BGD; TEC*BAC; TEC*BMQ; TEC*BME; TEC*ACIND; TEC*ACSZ; TEC*CAC; TEC*RCSZ; TEC*CRC; TEC*DOWN; TEC*INOWN; TEC*COWN; TEC*DREM; TEC*SIND; TEC*PAR; TEC*MN).

TABLE XI: LOGISTIC REGRESSION RESULTS OF THE INTERACTIONS BETWEEN THE MODERATING VARIABLES AND ALL THE CORPORATE GOVERNANCE VARIABLES.

Variables	Model 5a	Model 5b	EC	Model 5c	ED	Model 5d	EM	Model 5e	TR	Model 5f	ITR	Model 5g	TEC
FAG	-0.0177***	-0.0131***		-0.0110***		-0.0178***		-0.0152***		-0.0189***		-0.0177***	
	(0.00306)	(0.00289)		(0.00294)		(0.00316)		(0.00357)		(0.00334)		(0.00388)	
FSZ	-0.189***	-0.108*		-0.0858		-0.191***		-0.144**		-0.129**		-0.144**	
	(0.0521)	(0.0582)		(0.0596)		(0.0552)		(0.0589)		(0.0537)		(0.0721)	
Industry effect	Yes	Yes		Yes		Yes		Yes		Yes		Yes	
DREM	-0.438***	-3.881***	3.430***	-4.526***	4.077***	-0.458***	0.00109	-0.546***	-0.0647	0.0313	-0.0918	1.235***	-0.218***
	(0.114)	(0.893)	(0.945)	(0.929)	(0.990)	(0.119)	(0.000767)	(0.157)	(0.0513)	(0.529)	(0.0682)	(0.372)	(0.0480)
SIND	-1.509***	-1.952	0.268	-0.137	-1.632	-1.368***	-0.00105	0.699*	-1.664***	-2.699***	0.185	-1.518	0.0183
	(0.181)	(3.348)	(3.512)	(3.713)	(3.906)	(0.185)	(0.00448)	(0.390)	(0.273)	(0.843)	(0.116)	(1.097)	(0.155)
PAR	-0.498***	-18.00***	19.22***	-15.78***	17.00***	-0.489***	0.00818***	-0.650***	-0.668***	0.460	-0.124	-0.821	0.00761
	(0.174)	(3.786)	(3.941)	(3.437)	(3.600)	(0.188)	(0.00308)	(0.187)	(0.153)	(0.855)	(0.124)	(1.145)	(0.155)
MN	-1.333***	0.873	-2.805	6.497*	-8.795**	-1.270***	-0.00292	-0.523*	-0.0298***	-5.223***	0.547***	-0.902	-0.0370
	(0.199)	(3.693)	(3.847)	(3.762)	(3.957)	(0.201)	(0.00392)	(0.304)	(0.00644)	(1.292)	(0.173)	(1.386)	(0.187)
DOWN	-0.0459***	-0.388***	0.375***	-0.297***	0.279***	-0.0453***	2.5905	-0.0109	-0.210	-0.143***	0.0140***	-0.0782***	0.00539
	(0.00495)	(0.0836)	(0.0894)	(0.0806)	(0.0876)	(0.00522)	(0.000246)	(0.0103)	(0.146)	(0.0249)	(0.00343)	(0.0291)	(0.00362)
INOWN	-0.427***	7.749**	-8.340***	6.462**	-6.971**	-0.416***	-0.00683**	-0.0287	0.254***	-0.513	0.00652	-2.516**	0.230*
	(0.136)	(3.028)	(3.171)	(3.008)	(3.160)	(0.138)	(0.00344)	(0.250)	(0.0903)	(0.745)	(0.101)	(0.999)	(0.133)
COWN	-0.251***	0.0583	-0.458	-0.340	-0.0148	-0.276***	0.00333	-0.669***	0.217***	-1.396***	0.152***	-0.881*	0.0693
	(0.0798)	(1.108)	(1.165)	(1.073)	(1.135)	(0.0786)	(0.00239)	(0.166)	(0.0516)	(0.423)	(0.0576)	(0.510)	(0.0654)
BSZ	0.257***	2.841***	-2.769***	2.529***	-2.410***	0.261***	0.000395	0.00222	-0.354*	0.306	0.00539	0.464*	-0.0565
	(0.0523)	(0.882)	(0.936)	(0.823)	(0.872)	(0.0564)	(0.00122)	(0.104)	(0.205)	(0.214)	(0.0296)	(0.258)	(0.0397)
PIND	1.105*	-14.19*	15.82*	-21.14**	23.14**	1.110*	-0.00120	-4.132***	4.479***	4.378	-0.405	2.861	-0.230
	(0.619)	(8.287)	(8.737)	(8.744)	(9.294)	(0.650)	(0.0213)	(1.041)	(0.757)	(2.822)	(0.382)	(3.038)	(0.422)
BGD	-0.0858	9.076***	-9.786***	6.623**	-7.330***	-9.609***	12.17***	0.403	0.000275	-1.618**	0.230**	-3.009***	0.434***
	(0.156)	(2.729)	(2.860)	(2.658)	(2.804)	(1.573)	(2.200)	(0.308)	(0.000337)	(0.800)	(0.110)	(0.899)	(0.128)
BAC	-0.202***	-1.891***	1.778**	-1.520**	1.396**	-0.216***	-0.000661	-0.200***	-0.0229	-0.506**	0.0432	-0.267*	0.00777
	(0.0330)	(0.662)	(0.692)	(0.649)	(0.683)	(0.0350)	(0.00125)	(0.0652)	(0.0300)	(0.201)	(0.0266)	(0.156)	(0.0215)
BMQ	-0.185***	3.292***	-3.824***	3.579***	-4.168***	-0.238***	0.000995	-0.0440	-0.0683	-0.776***	0.0699*	-0.795**	0.111**
	(0.0541)	(1.194)	(1.237)	(1.118)	(1.161)	(0.0586)	(0.00130)	(0.127)	(0.0630)	(0.301)	(0.0399)	(0.371)	(0.0520)
BME	0.491***	-5.185***	6.271***	-5.052***	6.168***	0.584***	-0.00163	0.504***	-0.0711	2.357***	-0.250***	1.210*	-0.104
	(0.0873)	(1.364)	(1.438)	(1.303)	(1.392)	(0.0921)	(0.00164)	(0.165)	(0.0772)	(0.456)	(0.0614)	(0.650)	(0.0883)
ACSZ	0.556***	2.995	-2.366	6.219**	-5.812**	0.535***	1.5605	0.511	-0.0769	1.504**	-0.122	3.247**	-0.328*
	(0.172)	(2.767)	(2.928)	(2.593)	(2.763)	(0.183)	(0.000142)	(0.330)	(0.169)	(0.633)	(0.0857)	(1.284)	(0.173)
CAC	-0.656***	-0.412	-0.911	1.965	-3.494	-0.571**	0.000275	-0.517	-0.132	-1.568	0.116	-1.827	0.164
	(0.247)	(3.415)	(3.632)	(3.581)	(3.805)	(0.265)	(0.00299)	(0.465)	(0.279)	(1.122)	(0.150)	(1.268)	(0.178)
ACIND	-0.00527	0.130	-0.141	0.137	3.543	-0.00497	0.00319	0.000655	-0.00854	0.00209	-0.00213	-0.129***	0.0182***
	(0.00498)	(0.0956)	(0.101)	(0.0874)	(2.523)	(0.00519)	(0.00520)	(0.00999)	(0.00563)	(0.0226)	(0.00321)	(0.0276)	(0.00402)
RCSZ	-0.539***	-3.344	2.914	-3.923*	-0.150	-0.467***	-0.00436*	-0.145	-0.252*	-1.980***	0.187*	-0.374	-0.0118
	(0.162)	(2.431)	(2.589)	(2.347)	(0.0928)	(0.169)	(0.00225)	(0.300)	(0.152)	(0.760)	(0.102)	(1.076)	(0.149)
CRC	0.132	1.270	-0.964	0.901	-0.485	0.0780	-0.00593	-0.0279	0.106	0.979	-0.127	-0.505	0.0498
	(0.239)	(3.304)	(3.507)	(3.442)	(3.664)	(0.254)	(0.00520)	(0.443)	(0.262)	(1.075)	(0.145)	(1.228)	(0.175)
Constant	14.26***	16.38***		16.49***		14.58***		17.14***		16.74***		13.86***	
	(1.447)	(1.832)		(1.835)		(1.516)		(1.737)		(1.674)		(1.766)	
Log Pseudolikelihood	-699.23	-548.29		-535.86		-659.13		-620.34		-621.13		-493.60	
Pseudo R-square	0.3578	0.4939		0.5054		0.3885		0.4274		0.4096		0.5270	
AIC	1442.45	1176.58		1151.72		1396.26		1320.69		1322.27		1067.21	
Observations	1,571	1,563		1,563		1,555		1,563		1,520		1,507	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The results indicate that firms' environment plays a key role in the relationship between corporate governance and financial distress. This is because the results show that when all the environmental dimension models (models 5b, 5c, and 5d) are compared with model 5a, which is the baseline model, the results show that each of the environmental models exhibits an improvement upon the baseline model indicating the significance of a firm's environmemt moderating the relationship between corporate governance and financial distress. Hence, the results from models 5a, 5b, 5c, and 5d suggest that firms operating in a dynamic, complex and munificence environments need to respond with appropriate corporate governance mechanisms to ensure continued survival.

Second, in comparing models 5e and 5f using the AIC, the results reveal that model 5e is the model of best fit than model 5f. That is, the interaction between tangible resource and corporate governance mechanisms have a more moderating influence on financial distress than the interaction between intangible resource and corporate governance variables. However, when models 5e and 5f are compared with model 5a using the same criterium, the results indicate that models 5e and 5f show the best fit than model 5a. The results from models 5a, 5e, and 5f suggest that firms' tangible and intangible resources are very significant in moderating the corporate governance and financial distress relationship. Hence, in using corporate governance mechanisms to avoid financial distress, firms should not neglect the role of their resources.

Finally, comparing all the moderating models (models 5b, 5c, 5d, 5e, 5f, and 5g) using the AIC, the results from Table XI show that model 5g is comparatively the one with the best fit and this is followed by model 5c, then models 5b, 5e, 5f, and model 5d being the model with the least fit but even shown to be a better model when compared with the baseline model (model 5a). These results suggest that from the six moderating factors, firms' technology has a greater influence on corporate governance and financial distress relationship. This is followed by environmental dynamism, environmental complexity, tangible resource, intangible resource, and then finally environmental munificence having the least influence on the relationship between corporate governance and financial distress. It must be noted that when all the moderating models are compared with the baseline model, the results show that each of the moderating models performs better than tha baseline model. In conclusion, since the models with the moderating factors are better than the model without any moderating factor, the study confirms that firms' environment, resource, and technology moderate the relationship between corporate governace and financial distress. Hence, these results support the argument that a firm's

contextual factors in the form of environment, resource, and technology play significant roles in their efforts to use their corporate governance mechanisms to avoid financial distress.

8.5.1 CONTROL VARIABLES

The evidence presented in Table XI also shows the results of the control variables included in all the models. The results indicate that the control variables do not differ much from that of the baseline model when the moderating factors interact with the corporate governance mechanisms. From the results in model 5b to model 5g, except for firm size which lost its significance in model 5c, the other control variables maintain their coefficients' direction as the results in model 5a. The results from Table XI therefore indicate that the interaction of the moderating factors with the corporate governance mechanisms did not change the entire directions and significant levels of the control variables suggesting that although contextual factors (environment, resource, and technology) moderate the corporate governance and financial distress relationship, control variables that could influence the relationship between corporate governance and financial distress needed to be considered.

8.6 ROBUSTNESS TESTS

To enhance the robustness of the results, further analysis of the relationship between corporate governance mechanisms and financial distress was estimated. To achieve this, the sample of the study which consisted of 100 financially distressed and 100 financially non-distressed firms, based on their listing on the LSE was divided into firms listed on the Alternative Investment Market (AIM) and firms listed on the Main Market. From the 100 financially distressed firms in the sample, there were 65 firms in the AIM and 35 firms in the Main Market. In addition, from the 100 non- financially distressed firms in the sample, there were 35 firms in the AIM and 65 firms in the Main Market. This means that for firms in the AIM, there were 65 distressed firms and 35 non-distressed firms and for firms in the Main Market there were 35 distressed and 65 non-distressed firms.

8.6.1 MULTIVARIATE LOGISTIC RESULTS OF FIRMS IN THE AIM

From Table XII, the study reports evidence of the relationship between corporate governance mechanisms and financial distress of firms in the AIM in five models. First, model 7a, which is the baseline model reports evidence of the control variables only. Second, all the four disclosure and transparency variables together, with the control variables are reported in model 7b. Third, in model 7c, the three ownership variables and the control variables are presented. Fourth, model 7d reports on all the eleven variables

of board composition and structure, as well as the control variables. Finally, in model 7e, all the variables of disclosure and transparency, ownership structure, board composition and structure, and the control variables are presented. Although the relationship of each individual variable with financial distress was determined, the priority was to use Akaike's Information Criterion (AIC) as a decision criterion for the model of best fit.

The table on the next page presents the results of the following panel data logistic regression on the relationship between corporate governance mechanisms and financial distress of firms on the Alternative Investment Market (AIM): $FD_{it} = \beta_0 + \beta_1 A_{it} + \beta_2 X_{it} + dt + \eta_{it} + \mu_{it}$, where: FD is financial distress and it is the dependent variable measured as a binary variable with 1 representing financially distressed firms and 0 representing financially non-distressed firms. "A" variables include directors remuneration (DREM), presence of senior independent director (SIND) , proxy arrangements (PAR), meeting notices (MN), directors' ownership, (DOWN), institutional ownership (INOWN), concentrated ownership (COWN), board size (BSZ), proportion of independent directors (PIND), board gender diversity (BGD), board activity (BAC), board member qualification (BMQ), board member financial expertise (BME), audit committee independence (ACIND), audit committee size (ACSZ), chairperson on audit committee (CAC), remuneration committee size (RCSZ), chairperson on remuneration committee (CRC). "X" represents the control variables that may influence financial distress and they include firm age (FAG), firm size (FSZ), and industry (IND). β_1 and β_2 are coefficients to be estimated and i is the cross-sectional unit (company, i = 1-200); t is the time period (year, t = 1-8); d_t is the time effect; η_i represents the individual effect and μ_{it} is the random disturbance. Model 1a is the baseline model; model 1b represents the disclosure and transparency model; model 1c is the ownership model; model 1d represents board composition and structure model, whereas model 1e is the overall corporate governance model.

TABLE XII: **LOGISTIC REGRESSION RESULTS OF THE RELATION BETWEENCORPORATE GOVERNANCE AND FINANCIAL DISTRESS OF FIRMS LISTED ON THE ALTERNATIVE INVESTMENT MARKET (AIM FIRMS).**

Variables	Model 7a	Model 7b	Model 7c	Model 7d	Model 7e
FAG	-0.0194***	-0.0167**	-0.0132***	-0.0369***	-0.0241***
	(0.00476)	(0.00671)	(0.00494)	(0.00710)	(0.00729)
FSZ	-0.331***	-0.0638	-0.380***	-0.189**	-0.246**
	(0.0563)	(0.0727)	(0.0684)	(0.0815)	(0.114)
Industry effect	Yes	Yes	Yes	Yes	Yes
BSZ				-0.136	0.261**
				(0.0855)	(0.112)
PIND				5.821***	5.227***
				(0.881)	(1.107)
BGD				-0.453*	-0.218
				(0.238)	(0.240)
BAC				-0.312***	-0.322***
				(0.0455)	(0.0523)
BMQ				-0.0495	-0.000737
				(0.0958)	(0.109)
BME				0.568***	0.406**
				(0.159)	(0.179)
ACSZ				0.320	0.823**
				(0.301)	(0.411)
CAC				0.685*	0.181
				(0.380)	(0.450)
ACIND				-0.0322***	-0.0412***
				(0.00716)	(0.00885)
RCSZ				-0.0794	-0.348
				(0.253)	(0.292)
CRC				-0.964***	-0.835*
				(0.367)	(0.456)
DREM		-0.520***			-0.493**
		(0.140)			(0.202)
SIND		-1.157***			-1.504***
		(0.253)			(0.305)
PAR		-0.328			-0.986***
		(0.225)			(0.301)
MN		-2.150***			-1.978***
		(0.350)			(0.415)
DOWN			-0.0473***		-0.0386***
			(0.00827)		(0.00984)
INOWN			-0.978***		-0.793***
			(0.180)		(0.211)
COWN			-0.423***		-0.571***
			(0.150)		(0.179)
Constant	5.161***	11.56***	12.35***	5.847***	20.79***
	(0.555)	(1.555)	(1.296)	(0.914)	(3.026)
Log Pseudolikelihood	-412.48	-359.15	-366.05	-328.48	-258.57
Pseudo R-square	0.2036	0.3052	0.2933	0.3566	0.4925
AIC	832.96	734.30	746.10	686.97	561.13
Observations	800	799	800	783	782

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

First, in model 7a which is the baseline model and represents the control variables, the evidence indicates that firm age, firm size and industry are all significant and negatively related to financial distress and these results are as expected.

Second, the results in model 7b from Table XII indicate that except for the disclosure of proxy voting arrangements in the annual reports, the result demonstrates that directors' remuneration, the presence of senior independent director, as well as the disclosure of notice of the annual general meeting in the annual reports, all have significant and negative relationships with financial distress.

Third, the evidence presented in model 7c reveals that directors' ownership, institutional ownership, and concentrated ownership as expected, are all significantly and negatively related to financial distress, indicating that the more these group of investors and directors' own shares, the more effective is their monitoring responsibility and this improves profitability and reduces the likelihood of financial distress.

Fourth, from model 7d the result shows that board gender diversity, board activity, audit committee independence, and a firm's chairperson on the remuneration committee as expected are significant and have negative relationships with financial distress. Also, board member financial expertise and the proportion of independent directors although are significant, their positive relationships with financial distress mean that they are not in line with expectations. The remaining components of model 7d which are board size, board member qualification, audit committee size, a firm's chairperson on the audit committee, and remuneration committee size are insignificantly related to financial distress.

Fifth, the results from model 7e that represent all the corporate governance mechanisms and the control variables show that all the components of disclosure and transparency are significant and negatively related to financial distress. Further, from model 7e, all the ownership structure variables are significant and have negative relationships with financial distress as found in model 7c. The results in model 7e additionally demonstrate that board size and audit committee size that were insignificant in model 7c are now significant but positively related to financial distress. Board gender diversity, remuneration committee size, board member education, and a firm's chairperson on the audit committee are insignificant. For the control variables in model 7e, the result demonstrates that firm size, firm age and industry are all significant and negatively related to financial distress.

Finally, in using the AIC to determine which of the models has the best fit, the results from Table XII show that model 7e is the model that fits the data since it has a lower arithmetic value. This is followed by model 7d, then model 7b, 7c, and 7a. These results, therefore, indicate that although the board composition and structure variables, ownership structure variables, and disclosure and transparency variables all predict firms' financial distress than the firm characteristics, a model that combines all the corporate governance mechanisms is the one that has the best fit and therefore likely to predict financial distress better. The results further demonstrate that corporate governance mechanisms do not work in isolation and that firms should put all the corporate governance mechanisms together to avoid the likelihood of financial distress.

8.6.2 MULTIVARIATE LOGISTIC RESULTS OF FIRMS IN THE MAIN MARKET

From Table XIII, the study reports evidence of the relationship between corporate governance mechanisms and financial distress of firms in the Main Market in five models. First, model 8a, which is the baseline model reports evidence of the control variables. Second, all the four disclosure and transparency variables, together with the control variables are reported in model 8b. Third, in model 8c, the three ownership variables and the control variables are presented. Fourth, model 8d reports on all the eleven variables of board composition and structure as well as the control variables. Finally, in model 8e, all the components of disclosure and transparency, ownership structure, board composition and structure, and the control variables are presented.

The table on the next page presents the results of the following panel data logistic regression on the relationship between corporate governance mechanisms and financial distress of firms listed on the Main Market: $FD_{it} = \beta_0 + \beta_1 A_{it} + \beta_2 X_{it} + dt + \eta_{it} + \mu_{it}$, where: FD is in financial distress and it is the dependent variable measured as a binary variable with 1 representing financially distressed firms and 0 representing financially non-distressed firms. "A" variables include directors remuneration (DREM), the presence of senior independent director (SIND), proxy arrangements (PAR), meeting notices (MN), directors' ownership, (DOWN), institutional ownership (INOWN), concentrated ownership (COWN), board size (BSZ), proportion of independent directors (PIND), board gender diversity (BGD), board activity (BAC), board member qualification (BMQ), board member financial expertise (BME), audit committee independence (ACIND), audit committee size (ACSZ), chairperson on audit committee (CAC), remuneration committee size (RCSZ), and chairperson on remuneration committee (CRC). "X" represents the control variables that may influence financial distress and include firm size (FSZ), firm age (FAG), and industry (IND). β_1 and β_2 are coefficients to be estimated and i is the cross-sectional unit (company, i = 1-200); t is the time period (year, t = 1-8); d_t is the time effect; η_i represents the individual effect and μ_{it} is the random disturbance. Model 1a is the baseline model; model 1b represents the disclosure and transparency model; model 1c is the ownership model; model 1d represents board composition and structure model, and model 1e is the overall corporate governance model.

TABLE XIII: LOGISTIC REGRESSION RESULTS OF THE RELATION BETWEENCORPORATE GOVERNANCE AND FINANCIAL DISTRESS OF FIRMS LISTED ON THE MAIN MARKET.

Variables	Model 8a	Model 8b	Model 8c	Model 8d	Model 8e
FAG	-0.00718***	-0.0120***	-0.00654**	-0.0136***	-0.0151***
	(0.00250)	(0.00325)	(0.00257)	(0.00298)	(0.00379)
FSZ	0.0237	0.0442	-0.0373	-0.115***	-0.0729
	(0.0281)	(0.0523)	(0.0292)	(0.0437)	(0.0622)
Industry effects	Yes	Yes	Yes	Yes	Yes
BSZ				0.188***	0.314***
				(0.0470)	(0.0612)
PIND				-0.916	-1.683**
				(0.675)	(0.818)
BGD				0.243	0.369*
				(0.203)	(0.224)
BAC				-0.0455	-0.0874*
				(0.0402)	(0.0472)
BMQ				-0.502***	-0.426***
				(0.0795)	(0.0791)
BME				0.765***	0.758***
				(0.116)	(0.120)
ACSZ				0.710***	0.684***
				(0.193)	(0.215)
CAC				-0.966***	-1.007***
				(0.287)	(0.324)
ACIND				-0.799***	-0.795***
				(0.189)	(0.199)
RCSZ				0.0291***	0.0337***
				(0.0103)	(0.0101)
CRC				0.220	0.475*
				(0.221)	(0.274)
DREM		0.141			-0.419***
		(0.131)			(0.154)
SIND		-1.148***			-1.320***
		(0.215)			(0.256)
PAR		-0.0693			-0.209
		(0.247)			(0.279)
MN		-1.302***			-1.481***
		(0.228)			(0.284)
DOWN			-0.0223***		-0.0296***
			(0.00514)		(0.00739)
INOWN			-0.505***		0.214
			(0.195)		(0.196)
COWN			-0.223***		-0.199*
			(0.0818)		(0.113)
Constant	-0.112	-0.612	4.061***	-1.126	6.075***
	(0.360)	(1.410)	(0.921)	(1.075)	(2.178)
Pseudolikelihood	-489.36	-441.69	-472.69	-413.60	-352.28
Pseudo R-square	0.0442	0.1373	0.0767	0.1841	0.3051
AIC	986.73	899.37	959.38	857.19	748.56
Observations	789	789	789	783	783

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Although the relationship of each individual variable with financial distress was determined, the priority was to use Akaike's Information Criterion (AIC) as a decision criterion to determine the model of best fit.

Firstly, the results from model 8a in Table XIII indicate that firm age is significantly and negatively related to financial distress. There is also a significant industry effect from the results. However, firm size is insignificantly related to financial distress.

Secondly, the evidence from Table XIII demonstrates that from the four variables in the disclosure and transparency model in model 8b, the presence of senior independent director and disclosure of proxy voting arrangement in the annual reports are significantly and negatively related to financial distress. The other two variables, which are directors' remuneration and disclosure of notice of the annual general meeting in the annual reports in model 8a, are however insignificantly related to financial distress.

Thirdly, the result in model 8c shows that concentrated ownership, institutional ownership, and directors' ownership are significantly and negatively related to financial distress.

Fourthly, for board composition and structure variables, the evidence of the study in model 8d demonstrates that board gender diversity, board activity, the proportion of independent directors, and a firm's chairperson on the remuneration committee have insignificant and influence on financial distress. The result from the model further demonstrates that board member qualification, a firm's chairperson on the audit committee have a significant and negative relationship with financial distress. However, the board size, audit committee size, and remuneration committee size are significant but have a positive relationship with financial distress.

Fifthly, the results from model 8e, that combines all the corporate governance mechanisms demonstrate that only disclosure of proxy voting arrangements in the annual reports and institutional ownership is not significantly related to financial distress. Further, the results from the model indicate that the proportion of independent directors, board activity, board member qualification, a firm's chairperson on the audit committee, remuneration committee size, directors' remuneration, presence of senior independent director, disclosure of meeting notice in the annual reports, directors' ownership, and concentrated ownership are all significant and negatively related to financial distress.

Sixthly, using the AIC to compare the models to determine the model that has the best fit, the results from Table XIII indicates that model 8e is the one that has the best fit. This further confirms that a model that combines all the corporate governance mechanisms predicts financial distress better.

Finally, using the AIC to compare the result in model 7e from Table XII which represents firms in the AIM and that of model 8e from Table XIII which also represents firms in the Main Market, the evidence indicates that model 7e has lower AIC value (561.13) than the AIC value of model 8e which is 748.56 This result indicates that corporate governance mechanisms are more effective in predicting financial distress of firms in the AIM than firms in the Main Market.

8.7 CHAPTER SUMMARY

The chapter concentrates on the moderating influence of firms' environment (complexity, dynamism, and munificence), resource (tangible resource and intangible resource), and technology on the relationship between board composition and structure variables, ownership structure variables, disclosure and transparency variables, and the overall corporate governance variables; and financial distress. The chapter finds that the significance or the insignificance of the corporate governance mechanisms change when they interact with the moderating variables. The evidence of the chapter reveals that for the moderating role of environment, consistently, environmental dynamism has a more moderating influence. This is followed by environmental complexity and then the environmental munificence. For the moderating role of resource, the evidence of the chapter shows that intangible resource has more moderating influence than the tangible resource in the interaction of board composition and structure as well as the ownership structure variables. However, the chapter finds evidence that in the interaction of resource with the disclosure and transparency and the overall corporate governance variables, the tangible resource has more moderating influence than the intangible resource. For the interaction of the overall corporate governance mechanisms and all the moderating variables, technology has more moderating influence and this followed by environmental dynamism, environmental complexity, tangible resource, intangible resource and then the environmental munificence. The chapter concludes that although the corporate governance mechanisms had influences on firms' financial distress, models incorporating the moderating role of technology, the three environmental dimensions, and the tangible and intangible resource are found to be of best fit indicating that these contextual factors have moderating roles on the relationship between corporate governance mechanisms and

financial distress. Also, the chapter concludes with the evidence that corporate governance mechanisms are more effective in determining the financial distress of firms in the Main market than firms in the AIM.

CHAPTER NINE

SUMMARY AND CONCLUSION

9.1 INTRODUCTION

This chapter presents the summary and conclusion of this study. The chapter also discusses some of the policy implications, limitations of the study and possible insight for future research. The subsequent sections of the chapter are structured as follows. Section 9.2 gives the research objective, Section 9.3 presents a summary of the methodology adopted for the study, whereas Section 9.4 gives a summary of the policy implication of the study. In section 9.5, the contribution of the study is summarised, while the main limitations of the study are presented under section 9.6. Finally, the recommendation for future research and improvements is given in section 9.7.

9.2 RESEARCH OBJECTIVES

The aim of this current study was to enhance the understanding of the relationship between corporate governance mechanisms and firms' financial distress and improve upon the understanding of the moderating role of environment, resource, and technology on the relationship between corporate governance mechanisms and financial distress using a panel of 200 UK listed firms. To realise this general objective, the study developed four specific and distinct objectives, and these include:

1. Assessing whether the composition and structure of corporate boards are associated with the financial distress of UK firms.
2. Evaluating whether the different forms of firms' ownership (directors, institutional and concentrated ownerships) have any influence on the financial distress of UK firms.
3. Determining the extent to which disclosure and transparency components of corporate governance are related to the financial distress of UK firms.
4. Determining whether the environment, resources, and technological capability moderate the relationship between board composition and structure variables, ownership structure variables, and disclosure and transparency variables, and the financial distress of UK firms.

9.3 RESEARCH METHODS AND METHODOLOGY

The population for the study was all listed companies on the London Stock Exchange for the period 2009 to 2016. This population was selected as it provided a good source to obtain the sample of distressed and non-distressed firms required for the study because it is a requirement for listed firms to report on how they have applied the main principles

of the corporate governance code and prepare and publish their annual reports. This current study used secondary data and as such, it was possible to obtain the corporate governance data: data for the control variables, as well as the data for the moderating factors required for the study. To ensure that the results reflected the current corporate governance environment, and the reviews and developments in corporate governance, an eight-year period from 2009 to 2016 were used.

In arriving at the sample, the study eliminated samples of banks and other financial institutions from the population because this sample of companies is subject to different regulatory standards, compliance and institutional requirements. Therefore, to make an analysis and comparison uniform across all samples, the study sample only included non-financial firms. As of 22nd August 2016, there were 1961 listed firms. After eliminating firms in the banking and other financial institutions, the number of non-financial firms was 1386. Using Altman's (1983) Z-Score model which he reviewed in 2002 in his study of 'revisiting credit scoring models in Basel two environments, the study selected a sample of 100 financially distressed and 100 financially non-distressed listed UK firms.

9.4 RECOMMENDATIONS/POLICY IMPLICATIONS

The results of the study present many implications. The evidence of this study shows the significance of including firms' contextual factors in determining the impacts of corporate governance on firms' financial distress.

1. The evidence of the study suggests that the effect of corporate governance on financial distress is moderated by firms' technological capability. This clearly shows that as technology continues to develop and drive businesses in areas such as product development, production, marketing, and delivery, policy makers need to incorporate technology in the design of corporate governance structures to ensure that firms consider technology as a significant contextual factor in their effort to use corporate governance mechanisms to avoid financial distress since the influence of corporate governance on firms' financial distress change as research and development investment intensity becomes stronger. Hence, the study recommends that firms nominate a technical director to oversee the firm's technological needs.
2. The evidence of the study demonstrates that environmental dynamism has a moderating influence on corporate governance and financial distress relationship. In an environment which is dynamic, firms need more division of labour at top management teams to follow the rapidly changing segments of the environment

(Dess and Origer 1987) and this requires the board to have the number of members who can effectively monitor management to improve performance to avoid financial distress. Also, directors especially, those whose firms are more susceptible to the dynamic environment need to have adequate knowledge of the dynamic environment to have strategic policies that enable firms to deal with the dynamics in the environment to avoid the likelihood of financial distress. It is therefore important for policy makers to align their corporate governance strategy with the instability of the environment to avoid the negative impacts on performance.

3. The results from the study indicate that environmental complexity has an influence on corporate governance and financial distress relationship. In a complex environment, firms find it difficult to identify, diagnose and respond to problems due to the interplay of inputs and outputs so one of the ways to deal with environmental complexity is to include the number of directors who can meet regularly to monitor management's efforts to handle issues posed by the complex environment. It is therefore important for policy makers to recognise the impacts of a complex environment and align the corporate governance strategy with it to improve performance to avoid financial distress.
4. From the evidence of the study, the models with the interactions of tangible and intangible resources are comparatively models of best fit than the model without. The availability of these resources increases firms' financial health, enable the firms to compete thereby enhancing their survival because firms with limited resources may find it difficult to invest in systems for product improvements and new product development to respond to the challenges created by competitors. The study recommends that firms' focus on ensuring that both tangible and intangible resources are safeguarded and used accordingly. Hence, due to their relevance, firms in designing their corporate governance structure policy to ensure continuous survival must focus on aligning such a policy that meets their resource capability.

Moreover, the study finds evidence of the significance of some corporate governance mechanisms and these have policy implications.

1. The evidence of the study indicates an indirect relationship of directors remuneration with financial distress. This is important as any excessive payments put firms in financial difficulty. Although remunerating directors with high

remuneration attract and keep the best qualified directors, policy makers must focus on ensuring that policies such as linking remuneration with individual and firm performance should be encouraged so that directors would not reward themselves exccessively when firms are performing badly. Policy must also be put in place to ensure that remuneration is not paid from non-operating income source as happened in Carillion Constuction Limited where directors remuneration was paid from borrowed money.

2. The evidence of the study showing the significant and indirect relationship of the presence of the senior independent director and financial distress. This confirms the benefits that senior independent directors bring to the firm, such as improving the communication between the firm, directors and the shareholders. Hence, the policy recommendation is that firms should nominate one of their independent directors as a senior independent director for them to enjoy the benefits that such a director brings to the firms and their shareholders as many firms do not have senior independent directors.
3. The results from the study show that firms that disclose a notice of an annual general meeting in their annual reports avoid being financially distressed. This, therefore, highlights the significance of the disclosure of such information to the shareholders and all the stakeholder groups. Policies should, therefore, aim at encouraging many firms to disclose such information clearly in their annual reports that are easily recognisable not at the end of the annual reports.
4. The study finds an indirect relationship between directors' ownership and financial distress. This consequently leads to the recommendation that firms should give their directors the opportunity to own shares. Many directors do not own shares but when directors become shareholders, any decision they make impacts on their investment.
5. The study also provides evidence of an indirect relationship between concentrated ownership and financial distress and recommends concentrated ownership because it is beneficial for firms to reduce the likelihood of financial distress since large shareholders are incentivised and often have the expertise and resources to monitor effectively the behaviour of management.
6. From the results of this study, board size is significantly and directly related to financial distress which then indicates that large board size leads to firms' financial distress. This raises the question of the optimal number of directors a firm should have on its board? Hence, this evidence will help policy makers come

up with board size that fits a firm's size since the corporate governance code is not specific to the size of a firm's board.

7. Resulting from the significant and indirect relationship between board activity and financial distress, the study recommends that firms should encourage their board members to attend board meetings. However, the study recommends that the code establish a cap on the number of directorships a director should engage in. This is because some board members take up many directorships and may therefore not attend all board meetings during the year. Policy regarding the appointing process of directorship of firms should include a cap on directorship such that if someone is already engaged as a director of a certain number of firms he/she cannot take additional responsibilities in new firms. This will enable directors to attend all their meetings during the year.
8. From the evidence of the study, board member qualification is significantly and indirectly related to firms' financial distress since having directors with the right qualifications increase the firms' resources, improve its access to outside resources, as well as enhance monitoring. Policy makers, therefore, need to ensure that firms hire and keep directors who have the qualifications that fit their business requirements.
9. The results further show the significance and direct influence of financial expertise on financial distress. Although financial experts enhance the quality of firms' financial reports and reporting, financial experts are expensive to have, hence firms' policy must focus on having only the required board members with financial expertise.
10. The audit committee size is evidently shown in the study to have a direct relationship with financial distress. Audit committees enhance the internal governance practice and improve the resources of internal monitoring. The policy recommendation is that for firms to enjoy the benefits of their audit committees and avoid financial distress, the size of the audit committee should be kept smaller since large- sized audit committees may lose concentration and become less participative.
11. The evidence of the study further indicates that the remuneration committee size is significantly and indirectly associated with financial distress. This means that having an efficient mechanism such as the remuneration committee to focus the firm on appropriate remuneration policies for the executive and the non-executive directors enhances the firm survivability. It is therefore important for policy

makers to ensure that the right number of board members are on the remuneration committee to enable it performs its functions appropriately without incurring excessive costs to the firms' operations.

Finally, the evidence of the study confirms the effect of specific company characteristics such as firm age and firm size on the financial distress of firms. Results of this study indicate that all the control variables have been found significant and have negative in estimating the relationship between corporate governance and financial distress. As a result, the study suggests the need for policy makers to identify the specific firm characteristics to work towards improving those areas to improve profitability and avoid financial distress.

9.5 CONTRIBUTION TO KNOWLEDGE

The primary contribution of this study to the literature is the provision of evidence, for the first time that in the order of significance; technology, environmental dynamism, environmemtal complexity, tangible resource, intangible resource, and environmental munificence moderate the relationship between corporate governance mechanisms and firms' financial distress. Empirical studies (Fich and Slezak 2008; Chang 2009; Donker et al. 2009; Lajili and Zéghal 2010; Platt and Platt 2012; Brédart 2014; Manzaneque et al. 2016b) have made significant contributions both theoretically and empirically to the relationship between various mechanisms of corporate governance and financial distress. Although Dedman and Filatotchev (2008) acknowledge that the role of corporate governance is likely to change in ways contingent on the firms' internal and external contextual factors, extant studies have not investigated whether the relationship between corporate governance and financial distress could be moderated by the firms' contextual factors such as the environment, resource, and technology. This study has provided evidence that firms' financial distress is not only the results of financial variables, firm characteristics, and corporate governance mechanisms but also that the relationship is moderated by the firms' technology, environment, and resources.

Another important contribution of the research is that it demonstrates that the impact of certain corporate governance elements on firms' financial distress changes under different conditions. This is explained by the fact that the significance or the insignificance of some corporate governance elements change when they interact with environmental complexity, environmental dynamism, environmental munificence, tangible resource, intangible resource, and technology. The study finds evidence that although the senior independent director is significant, it lost its significance when it interacts with the

environmental complexity, environmental dynamism, and technology. Likewise, the study finds evidence that concentrated ownership became insignificant when it interacted with environmental complexity and environmental dynamism. This suggests that the impact of corporate governance mechanisms on firms' financial distress needs to be understood in the context of firms' environmental complexity, environmental dynamism, environmental munificence, tangible resource, intangible resource, and technological capability. This will enable firms' in compliance with the requirements of the corporate governance code design, implement, and monitor their corporate governance structures that will fit the needs of their environment, resource, and technological capability.

Another significant contribution of the study is that it reveals that corporate governance mechanisms are relatively more effective in predicting financial distress of firms in the AIM than the firms in the Main market. This is because evidence of the study reveals that the corporate governance model of firms in the Main market has a higher AIC arithmetic value than the corporate governance model of firms in the AIM. This evidence confirms that although all listed firms are expected to comply or explain the principles of corporate governance, firms in the AIM follow different corporate governance requirements than firms in the Main market.

Moreover, the study makes a significant contribution to existing studies by demonstrating that firms' financial distress can be as a result of the presence of the senior independent director and the disclosure of notice of the annual general meeting in the annual reports which have been hardly investigated. Empirically, corporate governance variables such as board size, the proportion of independent directors, audit committee independence, and institutional ownership have been studied to ascertain their impact on financial distress. For instance, Lajili and Zéghal (2010) investigated ownership structure, internal turnover, board changes, and board composition, while Brédart (2014) studied board size, the proportion of independent directors, and board activity. Results from this current study demonstrate that the presence of senior independent director and disclosure of notice of the annual general meeting in the annual reports are all significantly and negatively related to financial distress. These results, therefore, underline the contribution that these variables make in corporate governance and firms' financial distress studies.

Furthermore, the study contributes to the limited research evidence on the relationship between corporate governance mechanisms and financial distress in the UK where current knowledge and understanding is limited. Previous studies (Elloumi and Gueyie 2001; Lee and Yeh 2004; Fich and Slezak 2007; Chang 2009; Donker et al. 2009; Lajili and Zeghal

2010; Bredart 2014) on corporate governance and financial distress occurred outside the UK and the very ones that were studied in the UK (Appiah 2013; Poletti-Hughes and Ozkan 2014; Hsu and Wu 2014) focused on failed firms which are characteristically different from financially distressed companies. Corporate governance arrangements are diverse, showing differences across firms, sectors, and countries (Dedman and Filatotchev 2008). Although the UK is often regarded as having similar institutional and financial characteristics as the US and other major countries, the necessity for country specific models of corporate financial distress prediction is well-established (Taffler and Abassi 1984), because of differences in legal, cultural and regulatory systems (Smith and Liou 2007). As a result, one cannot simply extrapolate empirical findings from the US and the other major countries' studies to the UK settings, no matter how similar the environment may initially appear (Dedman and Filatotchev 2008). The study, therefore, adds evidence to the significance of corporate governance mechanisms to UK firms' financial distress by using corporate governance data from UK firms.

Finally, the study adds evidence to the relevance of using a multi-theoretical approach (Lajili and Zeghal 2010) to address different aspects and requirements of corporate governance mechanisms including those relating to board size, the proportion of independent directors, board activity, board member qualification, board member financial expertise, directors' ownership, institutional ownership, and concentrated ownership in the UK where there is a limited evidence. The multi-theoretic approach enables each corporate governance mechanism to be understood from a different theoretical perspective.

9.6 LIMITATIONS OF THE RESEARCH

The study identified some limitations despite the implications discussed above.

1. The first limitation noted is the criteria used in the sample selection. The study used Altman (1983, 2002) Z-score to select its sample of both financially distressed and financially non-distressed firms. The Altman's Z-score has faced some criticisms which include the fact that it has a poor record as a predictor since statistical models based on financial data are likely to describe events but not necessarily good at predicting outcomes. Also, Letza (1994) concludes that Altman's model shows that the use of MDA models as a predictor of bankruptcy can involve major understatements of classification errors. Another criticism of the Altman's Z-score especially, the 1968 Z-score is that it is outdated, and it is not as effective in predicting bankruptcy for non-manufacturing, as for

manufacturing firms. In a response to this criticism, Altman (1983) estimated the Z-score model that excluded the variable sales/total assets ratio, due to the potential industry effect that is more likely to take place when this kind of industry-sensitive variable (asset turnover) is included in the model, and that the 1983 revised model is intended for both privately held and publicly listed firms, and for both manufacturing and non-manufacturing firms (Altman et al. 2017). Although Altman's Z-score has been criticised, it has gained acceptance by auditors, management accountants, and database systems, and it is one of the best-known, statistically derived predictive models used to forecast a firm's impending bankruptcy (Moyer 2005). Altman's Z-score was adopted in this study because it considered the multivariate effects of the variables as compared to existing studies that used accounting and financial indicators. For instance, as indicated earlier, interest coverage ratio was used by Asquith et al. (1994), Claessens et al. (2003), Fich and Slezak (2008), Pindado et al. (2008), and Poletti-Hughes and Ozka 2014). Negative cumulative earning, on the other hand, was adopted by Gilbert et al. (1990), whereas operating margin was used by Theodossiou et al. (1996). Net income was also used by Ang and Mauck (2011) and Miglani et al. (2015b), while market value was adopted by Pindado et al. (2008) and Manzaneque et al. (2016a,b).

2. Another limitation of the study is the use of a matched sample approach. In this study, 100 distressed firms were matched with 207 non-distressed firms using size measured by total assets. Although both the distressed and the non-distressed firms were identified using the Altman's criteria, matching based on firm size led to the selection of those non-distressed firms that matched the distressed firms. This approach meant that the remaining 107 non-distressed firms were not included in the sample. Thus, those non-distressed firms whose sizes did not match that of the distressed firms were dropped. This could mean that the estimation samples of the distressed and non-distressed firms were not illustrative of the overall population of firms as argue by Ooghe et al. (1995) that the estimation samples of distressed and non-distressed firms are not illustrative of the overall population of firms if the match sampling technique is used. This study, however, used the matched-pair approach because it provides a systematic method for determining the sample of healthy companies and is used in many studies in this research area (Mangena and Chamisa 2008; Hsu and Wu 2014).

3. The relatively small sample size is another limitation identified in the study. Although the study identified 1386 firms after excluding the financial firms from the firms listed on the London Stock Exchange, the further exclusion of firms without full eight years data to compute the Z-score, and the use of four consecutive years criterion for identifying whether a firm is distressed or non-distressed limited the sample of firms to 113 firms and 207 firms for distressed and non-distressed firms, respectively. After excluding 13 firms from the 113 distressed firms due to the unavailability of data for the variables in the study, and using the matched pair approach indicated, it meant the study sample was 200 firms divided equally between distressed and non-distressed firms. The sample of 200 firms is relatively small and this could impact on the stability of the models (Platt and Platt 1990) and this may further imply that the estimated model's predictive accuracy is misleading (Hambrick and D'Aveni 1988). However, in comparison with the extant literature (Daily 1996; Elloumi and Gueyié 2001; Lee and Yeh 2004; Nahar Abdullah 2006; Bronson et al. 2009), a sample of 200 firms in the study was relatively high and that the study's use of an 8-year panel data meant that a total of 1600 observation were analysed.
4. The source of data is another limitation identified in the study. The data for the computation of the Z-score, the data for the control variables as well as that of the moderating variables were obtained from AMADEUS database, a commercial database providing financial information on over ten million public and private firms. The main weakness of using this data source is that any major error identified in the data could influence the results of the study. The corporate governance data was, however, extracted manually from the firms' annual reports that were downloaded from the firms' websites. Although this was very time consuming, it ensured that the data was not subjected to errors which could have occurred at database sources had this data been obtained from those sources. However, to reduce the errors that could have happened in obtaining data from AMADEUS database, most of the variables were verified when the corporate governance data was manually extracted. Notwithstanding the limitation that could be associated with obtaining data from the AMADEUS database, researchers including Afrifa and Tauringana (2015) and Tingbani (2015) have sourced the data for their studies from this source.
5. Moreover, the study identified that the definition and measurement of some independent variables, the control variables, and the moderating factors could

undermine the results of the study. For instance, the definition and measure for board gender diversity, board member qualification, board member financial expertise, firm size, and that of all control variables could produce different outcomes if different definitions and measurements are adopted.

6. In addition, the study is limited by the fact that some of the variables including the senior independent director, the presence of a firm's chairperson on the audit committee, the presence of a firm's chairperson on the remuneration committee, and the disclosure of notice of annual general meeting in the annual reports lack the empirical background. Although the study found it difficult to obtain the empirical literature for these variables, it was significant to bring these variables into the corporate governance and financial distress study, in addition to the already known variables like board size, the proportion of independent directors and audit committee size.
7. Finally, the study is limited by the fact that the sample was drawn from only one source, the LSE. The population of the study was all listed firms on the LSE during August 2016. This meant that firms that could be financially distressed but were not listed were excluded from the analysis. Although data obtained from listed firms is comparatively trusted and reliable due to the high standards of reporting expected of listed firms, drawing a sample from only one source limits the results to that source. This translates that one should exercise caution when generalising the results of the study. Notwithstanding this, studies by Hong-xia et al. (2008), Donker et al. (2009), Brédart (2014), and Shahwan (2015) respectively, selected their samples of distressed and non-distressed firms from Stock Exchanges in China, Amsterdam, United States, and Egypt.

9.7 FURTHER RESEARCH

The limitations of the study discussed above open several avenues for further studies and improvement and these are:

1. The study used Altman (1983, 2002) Z-score to identify its sample of financially distressed and financially non-distressed firms. Since there is no well accepted definition of financial distress and that researchers select their sample of distressed and non-distressed firms based on their study purpose, different criteria could be used to select these samples to observe if similar outcomes could be achieved.

2. The study adopted a matched pair sample approach that led to some non-distressed firms identified by the criteria being left out and this reduced the sample size. Different sample approach such as the random sample, which could prevent misclassification biases associated with the matched pair approach, could be adopted in a further study to determine if sample size could be increased. Related to the sample size, is the study's use of four consecutive years to identify a firm as distressed or non-distressed, as well as a firm having full eight years accounts to be included in the Z-score computation. A different approach could be used to relax some of the sample selection criteria to avoid cases where many of the firms were dropped from the sample due to the non-availability of financial data for the entire period under consideration in a further study to realise if the sample size could be improved to enhance the reliability of the outcome.
3. The study used data from the AMADEUS database for the control variables, the moderating factors as well to compute the Z-score values. This database has inputed the data from firms' annual reports onto its website and since any major error that occurred in the process could affect the data which invariably could affect the results, different data sources such as obtaining the data manually from the firms' annual reports could be adopted to determine if similar results could be achieved.
4. The sample for the study was obtained from the London Stock Exchange. Corporate governance arrangements are different across different countries. In addition, different Stock Exchanges have different reporting requirements and economic and fiscal conditions in different economies could affect the performance of firms that operate in those countries. It would be significant for further studies to replicate this study using different Stock Exchanges and countries to ascertain if similar evidence could be obtained.
5. Also, further studies can be carried out to include other corporate governance mechanisms such as directors' and CEOs characteristics including age, length of service, number of board meeting attended by each director, and directorship in other companies to explore their relationships with financial distress.
6. Similarly, different financial variables and firm characteristics such as investment and market ratios, and location of firms can also be explored in further studies to measure their influence on firms' financial distress.

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